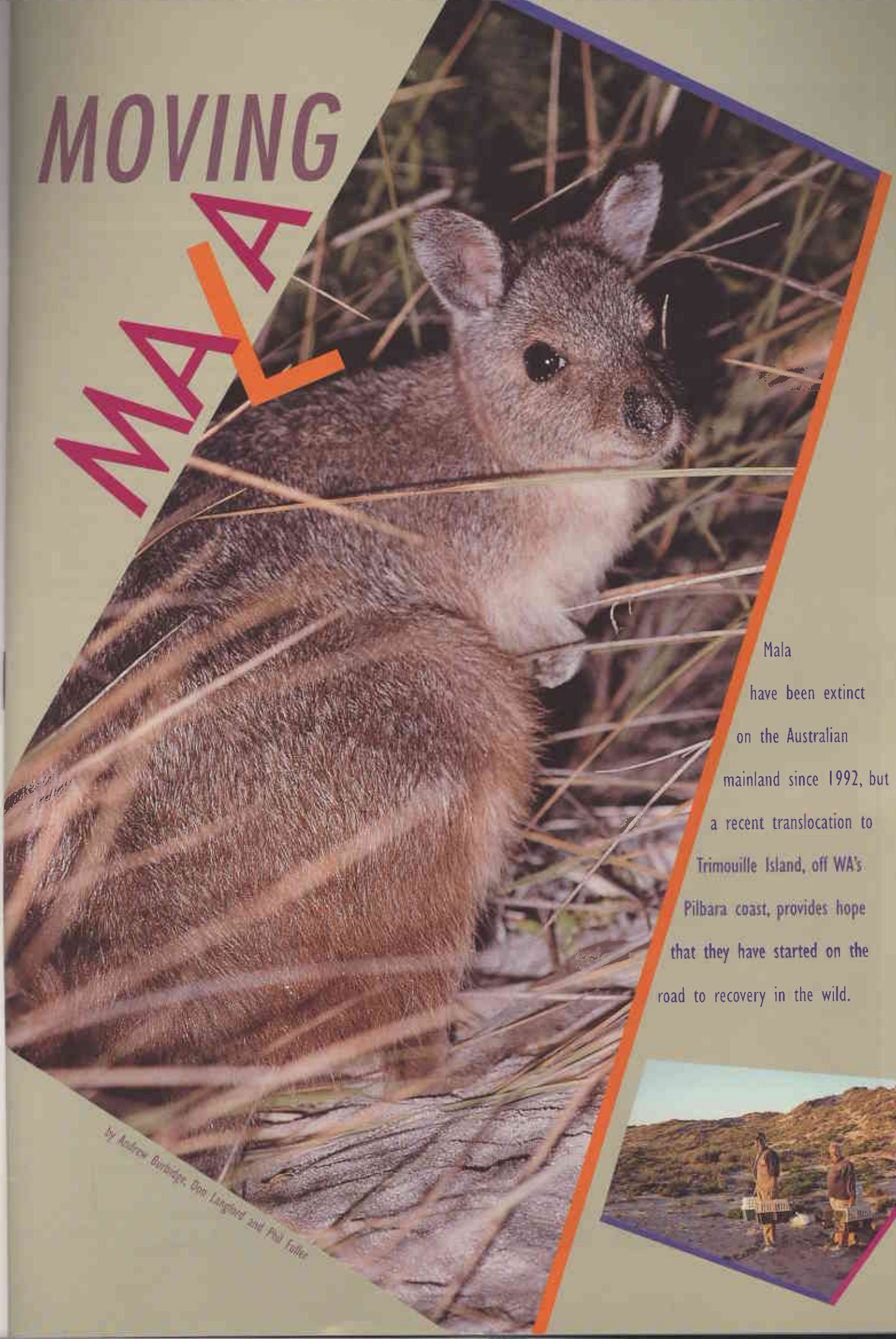
MOVING MALA



Mala have been extinct on the Australian mainland since 1992, but a recent translocation to Trimouille Island, off WA's Pilbara coast, provides hope that they have started on the road to recovery in the wild.

By Andrew Burbidge, Don Langford and Phil Fuller

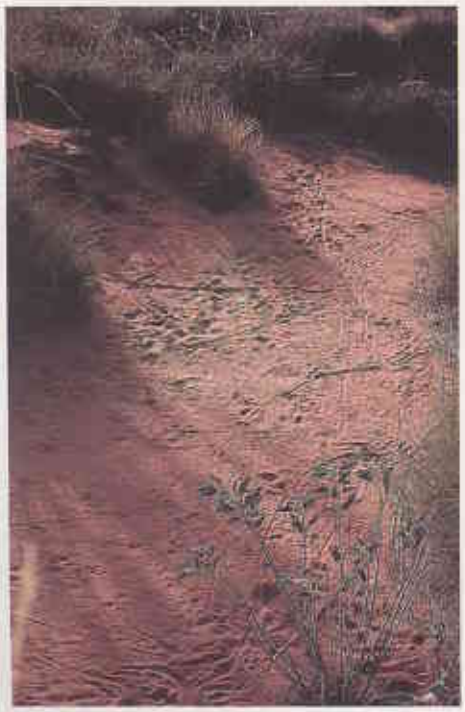
Mala, the name now widely used by all Australians, is a Western Desert Aboriginal name for central Australian populations of the rufous hare-wallaby (*Lagorchestes hirsutus*). These animals once roamed commonly throughout the Great Sandy, Gibson, Great Victoria and Tanami Deserts and surrounding areas, and were important to Western Desert Aboriginal people, both as a food source and as a cultural and mythological icon. As has been the case with most of the critical weight-range mammals of arid Australia, mala declined after the introduction of cats and foxes, and by the 1960s, most zoologists thought them to be extinct. The only places where the species was known to exist in the wild were Bernier and Dorre Islands in Shark Bay, Western Australia, but these populations may be of a different subspecies from those of the central deserts, and are known to be inbred.

Unexpectedly, in 1959, Dr Alan Newsome of CSIRO found a small colony near the Tanami Track, in the Tanami Desert, Northern Territory. Further searching located another colony nearby, at Sangsters Bore, but despite many additional searches in the Northern Territory, South Australia and Western Australia, no further colonies were found. Helicopter and ground searches in 1985 by scientists from the Department of Conservation and Land Management (CALM) concentrated on areas near salt lake chains in the Great Sandy Desert, but also failed to locate any colonies.

EARLY STUDIES

The two wild populations in the Tanami Desert were studied and monitored by scientists from the Parks and Wildlife Commission of the Northern Territory (PWCNT) throughout the 1970s and 1980s. During these studies, a captive breeding colony was established in PWCNT facilities at Alice Springs by wildlife scientist Dr Ken Johnson. The small Sangsters Bore colony suddenly disappeared in late 1987. A single fox was responsible for the extinction of that colony. Then, in October 1991, a wildfire, probably lit by people travelling the nearby Tanami Highway, burnt out the entire area occupied by the surviving colony, and the mala became extinct in the wild.

Meanwhile, the Alice Springs captive colony had prospered, and in 1986, a new captive colony was established on Aboriginal land near



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Main: Rufous hare-wallabies on Bernier and Dorre Islands, Shark Bay, have a much greyer fur than the mala from central Australia.
Photo – Jiri Lochman

Inset: Don Langford and Phil Fuller ready mala for release on Trimouille Island.
Photo – Andrew Burbuidge/CALM

Above: Don Langford radio-tracking mala after their release.

Far left: Mala tracks and tail-drag marks at Sangster's Bore, Tanami Desert, 1980.

Left: The morning after the release—Mala tracks on Trimouille Island, 1998.
Photos – Andrew Burbidge/CALM

Lake Surprise, in the Tanami Desert, about 500 kilometres north-west of Alice Springs. The new colony was in a one-kilometre-square fox-proof fenced area that became known as the 'mala paddock'. Local Warlpiri Aboriginal people helped build the mala paddock and have helped maintain the colony since. By 1992, there were about 150 mala in the paddock and another 50 at the Alice Springs colony.

The following year, a recovery team was set up to coordinate the conservation of the mala. It was decided to attempt to reintroduce them in the Tanami Desert, adjacent to the mala paddock, in an area where foxes were thought to be scarce. Between September 1990 and September 1992, a total of 79 mala were radio-collared and released. However, it soon became apparent that the reintroduction was threatened by feral cats and, to a lesser extent, by foxes. PWCNT researchers, assisted by Aboriginal trackers, began to discover dead mala. Evidence 'written in the sand' pointed overwhelmingly to predation by feral cats. Though efforts were made to control predators at the site (more than 30 feral cats were trapped and killed in 14 months) the release program was abandoned as cats, which could not be sufficiently controlled, continued to take mala.

When the 1996 Action Plan for Australian Marsupials and Monotremes was written ('Marsupial Conservation Status Updated', *LANDSCOPE*, Winter 1997), mala were listed as 'Critically Endangered', as some reintroduced animals were thought to have survived; however, it soon became clear that feral cats had completely eliminated any remaining animals. Mainland mala were again extinct in the wild.

In 1994, as a hedge against extinction, the recovery team started looking for a predator-free island where a population of mala could be established. The *Mammals on Australian Islands* database, developed by CALM scientists Ian Abbott and Andrew Burbidge, was used to identify possible introduction sites. This desktop study identified several islands in Western Australia and South Australia, but after consultation with South Australian authorities, it became clear that the only real possibilities were Trimouille and North West Islands in the Montebello group, off WA's Pilbara coast.

Right: Although feral cats were reported on Trimouille Island in the 1970s, there has been no evidence of cats on the island during annual surveys since 1994.
Photo – Jiri Lochman

Below right: The Mala were transported to the island in pet packs and released soon after dark.
Photo – Don Langford

Unfortunately these islands were infested with black rats (*Rattus rattus*), and feral cats (*Felis catus*) had also been reported on Trimouille in the 1970s. Trimouille Island's environment had been degraded, not only by the rats and cats, but also by three nuclear weapon tests carried out by the British in 1952 and 1956. CALM's Montebello Renewal was already in the planning stage and would have to be successful before the translocation could take place.

MONTEBELLO RENEWAL

Phase 1 of Montebello Renewal was a major project lasting from late May to early September 1996, involving over 40 people (see *Montebello Renewal*, *LANDSCOPE*, Summer 1996-97). Monitoring during the winter of 1997 revealed no sign of rats, and the many visits to Trimouille Island during 1994 to 1997 showed that the feral cats had also disappeared. Radiation levels on Trimouille Island are now low enough not to present a significant health hazard to native mammals, so planning for a mala translocation began.

With sponsorship from the Australian Customs Service, Apache Energy, Mermaid Marine, Woodside Petroleum and West Australian Petroleum, PWCNT's Don Langford visited Trimouille and North West Islands with CALM staff in July 1997. They reported back to the recovery team that Trimouille Island provided excellent mala habitat, but that North West Island was only marginally suitable. The recovery team decided to go ahead with a translocation to Trimouille and planning for the move, including the preparation of a detailed translocation proposal, as required under CALM policy, began. The translocation proposal was completed, refereed by independent scientists and approved by CALM and PWCNT. CALM's Animal Ethics Committee, which includes independent scientists and animal welfare experts, also gave its approval.

The proposed translocation was discussed with the Aboriginal traditional owners of the area where the mala paddock is located. These people,

Left: Phil Fuller carrying mala in their pet packs to the release site, Trimouille Island.
Photo – Don Langford

Below Left: After release, the mala moved only a few metres and started feeding.
Photo – Andrew Burbidge/CALM

who have taken a keen interest in the conservation of mala, gave their permission for mala to be moved to Western Australia.

THE JOURNAL BEGINS

In June 1998, CALM staff Phil Fuller, Peter Speldewinde, Ian Gale and Andrew Burbidge travelled to the Montebellos to clean up the remaining rodenticide from Trimouille Island. Some 160 kilograms of weathered, rotted bait were picked up from about 2,300 bait stations and destroyed. At the same time, further checks for the presence of rats were made. No sign was found. Recent rains had ensured that there was plenty of lush, green mala food, and the island was declared 'mala friendly' on 15 June.

The same day, Don Langford and a team of Parks and Wildlife Commission staff, including Geoff McKenzie, Rebecca Smith, Belinda Briscoe, Jeff Cole, Steve Eldridge, and Aboriginal helpers left for the mala paddock. Over the next few nights, they captured 20 female and 10 male mala, fitted them with radio-collars and placed them in temporary holding pens.

At 4 am (NT time) on 19 June, the 30 mala were safely installed in hessian bags inside 15 pet packs and driven in four-wheel-drive vehicles for three hours to Willowra airstrip. Here, they were loaded into a twin-engine aircraft, which flew them to Karratha, with one refuelling stop at the Aboriginal settlement of Kiwirrkurra, in the southern Great Sandy Desert. Reflecting the importance of mala and the translocation to Warlpiri people, several Aboriginal elder were at Willowra airstrip to farewell the mala on the trip to their new home. At Karratha, they were transferred to a Bell Long-Ranger helicopter, provided by Apache Energy, and flown to Trimouille Island. They arrived at 4.40 pm, WA time.

We believe that this was probably the most logistically complicated animal translocation yet undertaken in Australia. Naturally, we were most concerned about the welfare of the animals that were taken from the middle of the Tanami Desert and transported in noisy vehicles and aircraft. While every care was taken, it was with some trepidation that we started opening the pet packs around 7 pm that evening. Much to our relief, all the animals were alive and well, although one appeared a little weak. We had provided fresh lucerne chaff and apples, as well as drinking water, at the release site, and once released, all the mala moved only a few metres and started feeding.

FOLLOW-UP STUDIES

Over the next ten days, we monitored their dispersal on Trimouille Island. Importantly, we did not have to disturb the mala to know that they were still alive, as the miniature radio transmitters were fitted with a 'mortality circuit' that changes the transmitter's pulse rate if the collar is not moved for more than 10 hours. Radio-tracking showed that most animals remained within 100 metres of the release point. Some moved a short distance away, only to return a few days later. Three or four more adventurous mala ventured up to 400 metres away, and one was found almost a kilometre from the release point.

At night, mala feed on green shoots and seeds. During the day, they retreat to hides, known as *wanku* by Warlpiri people. These are usually short tunnels under dense vegetation–in the summer, however, they may dig trenches under shrubs, or even short burrows to escape the heat. They will not leave the wanku unless disturbed, often 'exploding' into

flight from almost under an observer's feet. It was this habit that gave them their English name 'hare-wallabies', as European hares show similar behaviour patterns. On Trimouille Island, mala started constructing wanku on the first night.

On 28 June, we finished the first stage of monitoring. At that time 28 of the animals were known to be alive and two transmitters could not be located (although both had been located on 26 June and both animals were alive).

We returned to Trimouille on 8 and 9 August and were able to find 29 transmitters, including both of the ones that could not be located on 28 June. Twenty-eight animals were alive and one was dead. The dead animal was one of the two that could not be located on 18 June. It had apparently died at the end of June but its remains bore no evidence of predation. Most mala were still within 100 metres of the release site; only four had moved more than 200 metres away, with two moving about three kilometres northwards.

To lose only one mala in the first seven weeks after release is an excellent result. Mala, like many medium-sized and large marsupials, tend to suffer from 'capture-myopathy', a stress-related condition that can kill captured wild animals. The considerable experience of PWCNT staff in capturing and handling mala prevented this occurring in this translocation, except perhaps in one animal.

A brief visit to Trimouille Island by Keith Morris in January 1999 located many live mala and confirmed that the translocation was proceeding smoothly.

Monitoring will continue, with the next trip planned for May 1999. The transmitters have a battery life of about 14 months, and after they fail, monitoring of tracks and scats will provide an indirect method of measuring activity and dispersal.

The 1998 work, under Montebello Renewal, was again a partnership between government agencies and local industry. Environment Australia provided supporting funding for the implementation of the mala recovery plan, and CALM and PWCNT carried out the work. Apache Energy sponsored the project by providing staff transport between the Montebellos and Perth, providing the helicopter that flew the mala from Karratha to Trimouille Island and organising our August monitoring visit. Faraday Pearls, who operate a pearl farm in the Montebellos, helped the project by transporting people within the Montebello group.

Of the 20 female mala that were flown from the Tanami Desert to the Montebellos, 12 had small pouch young, so the founder population at Trimouille Island was probably about 40 rather than 30. In April 1998, another group of 20 mala were taken from the mala paddock to holding pens at Dryandra National Park. Here, a new captive breeding colony will provide animals for reintroductions to national parks and nature reserves in the south-west of WA—places where foxes are now controlled under CALM's Western Shield.

The future is looking good for the Trimouille mala. If further monitoring shows that they have established and are breeding, mainland mala will once again be no longer extinct in the wild.

Top right: Mala habitat in the Tanami Desert.
Photo – Andrew Burbidge/CALM

Centre right: Central Australian mala have the rufous colour that gives the animal its English name—rufous hare-wallaby.
Photo – Stanley Breeden

Bottom right: Trimouille Island, Montebello Islands.
Photo – Don Langford

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The authors acknowledge help from Apache Energy and Faraday Pearls at the Montebellos and from the Warlpiri Aboriginal people, especially Sandy Japangardi, George Jungarrai, Benjamin Jangala Martin, Ritchie Japanunga Williams, Vernon Jangala Martin, Clayton Japaljarri Martin and David Japaljarri Forrester, as well as the Central Land Council, at the 'mala paddock'.

Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting.

LANDSCOPE

VOLUME FOURTEEN NUMBER 3, AUTUMN 1999

Western Everlasting, see page 22, follows the same successful approach to protecting threatened plants as Western Shield did for mammals.

Beneath its black and burnt exterior, the common balga is giving up its secrets. See 'Believing the Balga' on page 10.

For 25 years, CALM's Wildlife Research Centre in Woodvale has been 'A Centre of Diversity'. See page 36.

The spectacular coastline of Torndirrup National Park has been years in the making. See page 28.

Read how locals, CALM and other agencies are working together to save the Lake Muir-Unicup wetlands. See page 49.

FEATURES

REGULARS

COVER

'Moving Mala' (page 17) tells the story of the translocation of these endangered mammals from Australia's Central Desert Region to a small island off WA's north coast.

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Colour Separation by Colourbox Digital
Printed in Western Australia by Lamb Print

Visit *LANDSCOPE* online on our award-winning Internet site NatureBase at http://www.calm.wa.gov.au

Published by Dr S Shea, Executive Director
Department of Conservation and Land Management,
50 Hayman Road, Como, Western Australia