

CONSERVING BIOLOGICAL DIVERSITY IN WA

It is difficult to exaggerate the environmental impact we have had on the natural biological diversity of Western Australia. While human activity has been changing Australian ecosystems for approximately 50,000 years, the pace and extent of change has increased since European settlement about 200 years ago. Coastal ecosystems have been extensively altered, many wetlands have been degraded, and most other parts of the bush have been modified to some extent by various factors, including introduced animals and plants. The result has been dramatic declines in the distribution and abundance of many species.

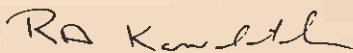
The latest scientific information we have is that a total of 502 wildlife species and subspecies are considered to be threatened or extinct in Western Australia. This includes 13 presumed extinct animals and 17 presumed extinct plants. The encouraging news is that Western Australia is having success in preventing the extinction of native wildlife through the conservation work of individuals, organisations, governments, and the private sector and community groups.

In the last issue of LANDSCOPE, we reported on conserving the genetic diversity of our unique and diverse flora. In this issue, we provide insights into conserving biological diversity at the species and ecosystem levels.

There is little that's more Western Australian than the numbat. Just 40 years ago, the State's mammal emblem was common in WA, but by 1985, loss of habitat and predation by introduced foxes had caused this dainty, termite-eating and day-active marsupial to dwindle to two small populations-on the edge of extinction. In 'Numbats Forever!', Tony Friend and Neil Thomas take us through the research, experimental management and collaboration that has now produced more than 10 self-sustaining populations of numbats in three states.

In 'Saving Threatened Communities', Sheila Hamilton-Brown and Sally Black from the department's WA Threatened Species and Communities Unit, describe how, all over the State, recovery teams, community groups, landowners and wildlife enthusiasts are helping to save threatened ecological communities. By conserving ecological communities, or groups of species that inhabit a particular area, we can eliminate some of the difficulties inherent in preserving numerous individual species.

Once again, we hope you'll find some encouragement and inspiration in this issue of LANDSCOPE. And some delight in the natural biological diversity of our State. Enjoy the spring and we'll see you in summer.



Ron Kawalilak

Executive Editor

DIBBLERS 'ESCAPE' TO ISLAND



The threatened dabbler is a small marsupial found only in Western Australia.

Populations of these attractive carnivores are known only from Fitzgerald River National Park, and Boullanger and Whitlock Islands nature reserves near Jurien. As part of the recovery of this species, and because of the high risk to the island populations associated with high house mouse numbers and people visiting these islands, it was considered important to establish a secure population on Escape Island, also near Jurien.

The Native Species Breeding Program at Perth Zoo has successfully bred about 90 dabbles in captivity. These dabbles were released in three stages onto Escape Island from 1998 to 2000, and their progress between breeding and non-breeding seasons has been monitored by Dr Dorian Moro, formerly from the Department of Conservation and Land Management and now at Edith Cowan University, using radio-tracking and trapping techniques.

Escape Island was considered to be an optimal place to establish another

Dorian Moro holding one of the dabbles born on Escape Island.

Photo - Ute Goeft

population of dabbles because of its close proximity to the other islands, and because it has a very similar vegetation type. The island is also free from disturbance, exotic predators or competitors. After the first breeding season in 1999, females were found to have given birth on the island, indicating that conditions there were suitable for breeding.

In 2000, the results were even more promising. In addition to the original dabbles placed on the island, those born on the island were also found to have bred and produced young. Now, in 2001, recent field trips have confirmed that breeding by the first and second generations of dabbles is continuing.

With the knowledge gained from the success of captive breeding and release of dabbles on to Escape Island, the Recovery Team can now focus its efforts on protecting and expanding the population of dabbles found in Fitzgerald River National Park.

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

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DEPARTMENT OF
Conservation
 AND LAND MANAGEMENT
Conserving the nature of WA



Within 40 years, the numbat has risen from near extinction to endangered with 10 populations in WA and interstate. See 'Numbats Forever' (page 17).



The forces that shaped the geology and landforms of the south-west began more than 3,500 million years ago. Read the fascinating story on page 10.



The Marine Community Monitoring Program is a new and ambitious program to involve the community in keeping our oceans clean. See page 35.



Shark Bay Marine Park provides spectacular opportunities for divers and snorkellers. No wonder it is called Bay of Delights. See page 23.



The history of Aboriginal occupation in the Leeuwin-Naturaliste region spans 50,000 years. Find out more in 'History from the Caves' (page 40).

C O V E R

Leschenaultias are some of the most widely known and recognisable plants in Western Australia. They have fantastic horticultural value and provide glorious floral displays. The wreath *leschenaultia* is a favourite with visitors during our wildflower season. See page 23.



Cover illustration by Philippa Nikulinsky