

## STUDYING DUGONG BEHAVIOUR AND HABITAT

A special collaboration between CALM, the Yadgalah Aboriginal Corporation of Denham, Edith Cowan University and James Cook University has led to the first comprehensive study of the movement of dugongs in Western Australia.

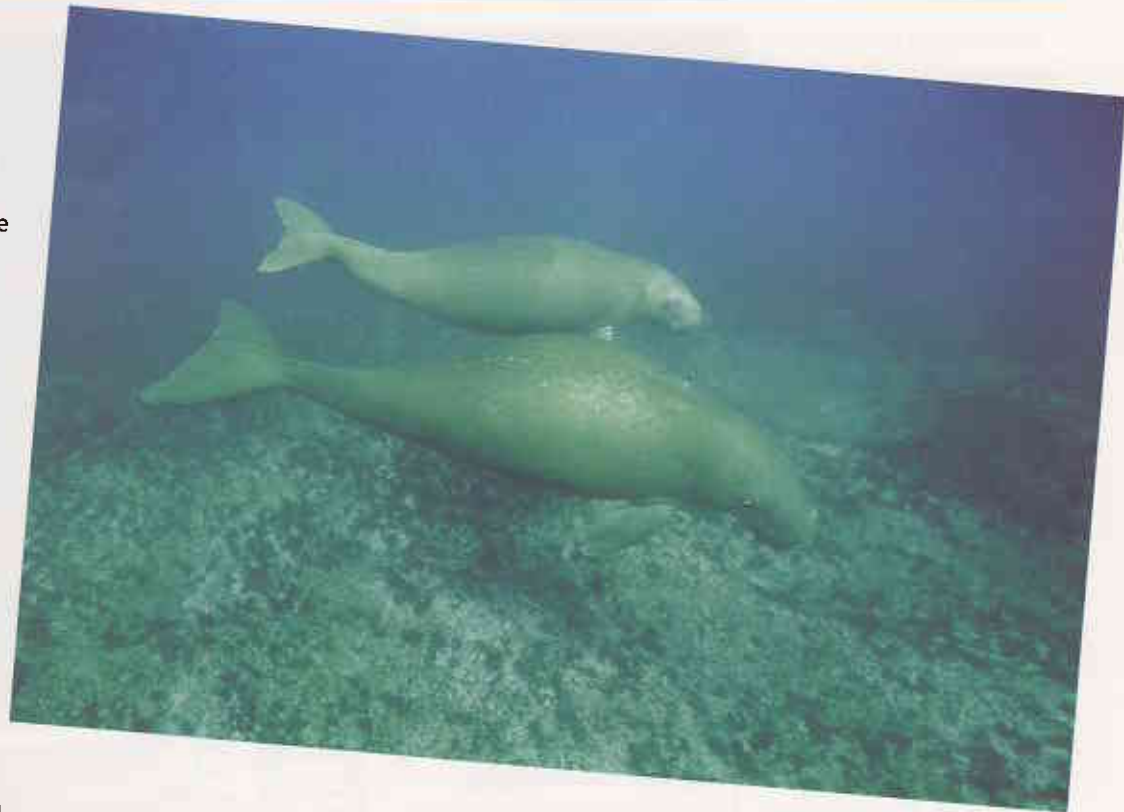
In March this year, CALM Principal Marine Zoologist, Dr Nick Gales, led a pioneering project to track the movement of Shark Bay's unique dugongs, when ten satellite tags and dive dataloggers were deployed on the animals in the eastern part of Shark Bay.

"Dugongs are highly threatened throughout most of their range," Dr Gales said. "This includes east Africa, northern Indian Ocean, south-east Asia, south-west Pacific and parts of Australia. The Shark Bay population is an important stronghold for the species with more than 10,000 animals."

This shy, gentle marine herbivore, which features prominently in mythical sea legends, closely resembles a rotund dolphin or 'sea cow', and has been hunted in many parts of its range for thousands of years.

This, coupled with the depletion of sea grass meadows in some areas, and a low reproductive rate compared to most mammals, has led to a decline in the species over most of its range.

Dr Gales said that the innovative project arose from the need to understand dugong movements and identify their important habitats in order to ensure effective conservation management.



"Human activities such as tourism, aquaculture and exploration can then be better managed to ensure any impacts on dugongs are minimised," he said.

"Unlike previous surveys, this study includes the direct involvement and insights of the local Aboriginal group—a key factor in the project's success. Their involvement not only provides invaluable information and advice on the history of the species in the Shark Bay area, but also facilitates greater involvement by them in conservation management.

"We have learnt together how to safely capture and handle these unique creatures, and I believe we have developed a mutual respect for each other's contributions to this study. It is hoped that this will lead to greater Aboriginal involvement in marine conservation issues in Shark Bay."

Dr Gales said the study would involve a small team of scientists and researchers from CALM, ECU and JCU, as well as members of the Yadgalah Aboriginal Corporation.

"To track the dugongs successfully, the animals are first caught in shallow water from small boats," he said.

"A specially designed floating Geographic Positioning System (GPS) satellite tag is then attached to the dugong via a tether.

"The GPS tag records the position, water temperature and the dugong's diving activity, and stores these data until the tag is released from the dugong some time later (via a special VHF radio-activated electronic link), and retrieved.

"A pilot project for the study was successfully conducted in September 1999, during which the group learnt how to safely capture

Above: *Dugong mother with calf.*

Photo – Doug Perrine/Innerspace Visions

and handle these large animals. It also provided a means to test the new equipment and the release mechanisms, especially the satellite tags that were built specifically for this dugong study. The tracking has continued each day and has shown that, so far, the dugongs have stayed in the same general area, probably moving with the tides onto different feeding areas.

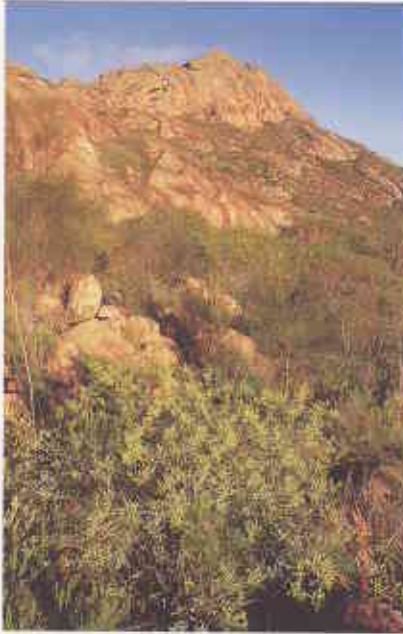
"We aim to retrieve the tags later in the year, when we'll be able to analyse all the location and diving information. The tags will then be used immediately on new animals to continue with the tracking study."



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

# LANDSCOPE

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Peak Charles and Peak Eleanor, protected within Peak Charles National Park, form granite islands in a sea of bush. See page 10.



Butterflies have a short life span, but they bring pleasure to many people who visit Rottnest Island. See page 23.



The Swan River is a recreation area for humans and a home for migratory birds. See page 16.



A partnership between State and Commonwealth governments, and a group of pastoralists is helping to fill the gaps in the conservation estate. See page 43.



Many marine creatures have evolved ingenious survival methods. See page 49.

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## COVER

Well-known Australian artist Ken Done captures the colour and turbulence of the horizontal waterfalls on the Kimberley's Wandjina Coast.

Painting by Ken Done  
Racing Tide, Kimberley Coast, May 1999  
(51 x 36 cm) oil crayon and gouache  
on paper.



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