



# Outdoor university:

environmental education in the  
Walpole and Nornalup Inlets  
Marine Park

A successful collaboration between the Department of Environment and Conservation and Edith Cowan University is providing invaluable learning opportunities for students and contributing important data towards the management of one of Western Australia's precious marine parks.

by Alan Kendrick and Glenn Hyndes



Many people would be familiar with the diverse ecological and recreational values that make Western Australia's marine parks and reserves important areas for preserving biodiversity and providing great outdoors experiences for visitors. However, it's less well known that these marine reserves also have significant educational value. An example of this is taking place at the Walpole and Nornalup Inlets Marine Park on WA's south coast, a popular recreational destination that is justifiably famous for its scenery, wildlife and wilderness. It is one of south-western WA's most intact estuarine systems that has not been significantly degraded by catchment impacts or adjacent development, which makes it an ideal location for teaching about the environment. This value is further enhanced by the area's accessibility from Perth on sealed roads, its close proximity to local accommodation and town facilities, and the small size of the inlets that enable safe water-based work to occur in most weather conditions.



### A long-standing collaboration

Glenn Hyndes and Paul Lavery from Edith Cowan University's (ECU's) School of Natural Sciences in Perth share a long ecological research association with the Walpole and Nornalup inlets. Since 2003, they have also collaborated with the Department of Environment and Conservation (DEC) to use the inlets as a living lecture theatre and laboratory where undergraduate students studying coastal and marine management can learn about estuarine ecology and how WA's marine parks and reserves are managed. Before the creation of the



marine park in 2009, students collected data and compiled maps of benthic habitats and riparian vegetation that were used in the reserve planning process, and formed the basis for the published maps in the current marine park management plan which are still used by DEC.

Recently, this program has become a more structured collaboration, with DEC marine scientists and local operational staff assisting in student teaching, and the university staff and students working alongside them on research projects. Following university-based lectures and tutorials about marine reserve management and how to conduct marine biological surveys and monitoring, the students spend a week at Walpole where they undertake fieldwork, process the samples they collect in a temporary laboratory, and then analyse and interpret the results in relation to marine park management. On the final evening, students present their work to their colleagues and ECU and DEC staff before compiling the information into a report as part of their course assessment. For the ECU lecturers, the collaboration with DEC provides their students with an experience that translates university-

*Previous page*

**Main** Walpole and Nornalup Inlets Marine Park.

**Above** A pelican at dawn in the marine park.

*Photos - Brett Dennis/Lochman  
Transparencies*

**Left** ECU students sampling bivalves in the marine park.

*Photo - Alan Kendrick*







based lectures into 'real world' learning that ranges widely, from collecting field samples in sometimes cold, wet and windy conditions to identifying animal species, interpreting data and making presentations. The data collected by the students are then passed to DEC's Marine Science Program, adding to the knowledge gleaned during previous camps.

### Gaining information on bivalve communities

Most recently, the ECU students have worked on DEC research examining benthic invertebrate communities in the marine park as part of a long-term program to increase ecological knowledge of the reserve and assist with monitoring its important natural features. As part of this project, the students have assisted DEC with surveys of the abundance and distribution of large bivalve molluscs across the marine park's extensive shallow sand flats. Conducted over a few years, the surveys have found that the sunset shell (*Soletellina biradiata*) is the most abundant and widespread of these species, while other bivalves, such *Wallucina assimilis*, occur mostly at particular locations within the marine park. Notably, the cockle *Katelysia scalarina* has consistently occurred in low numbers despite anecdotal evidence that this species was once very abundant in the inlets.

The Walpole and Nornalup Inlets Marine Park field camp always receives extremely positive feedback from the students, partly because they enjoy working outdoors in the natural environment, but also because they are aware that their work contributes directly to managing the marine park. Moreover, the collaboration between



**Top** ECU students sampling fish.  
Photo – Glen Hyndes

**Above** Forest overlooking the inlet shrouded in mist.  
Photos – Brett Dennis/Lochman Transparencies

**Right** ECU students with marine park ranger Justin Ettridge on DEC's vessel *Osprey*.  
Photo – Glen Hyndes



Alan Kendrick is a senior research scientist with the Department of Environment and Conservation. He can be contacted on (08) 9219 9793 or by email ([alan.kendrick@dec.wa.gov.au](mailto:alan.kendrick@dec.wa.gov.au)).

Glenn Hyndes is an Associate Professor with Edith Cowan University's School of Natural Sciences at Joondalup. He can be contacted on (08) 6304 5798 or by email ([g.hyndes@ecu.edu.au](mailto:g.hyndes@ecu.edu.au)).

ECU and DEC is a great example of the benefits of education, research and management organisations working together to improve our knowledge and management of the marine environment, while also providing a realistic and meaningful educational experience.



- 45 Outdoor university: environmental education in the Walpole and Nornalup Inlets Marine Park  
Students get hands-on learning opportunities and contribute to science.
- 48 Mount Augustus: home of the flying dragons  
Nine species of dragonfly dazzle with their spectacular displays.
- 56 Rediscover Perth outdoors  
Perth locals and visitors are spoilt for choice when it comes to opportunities to get out in nature.

## Regulars

- 3 Contributors and Editor's letter
- 21 Bookmarks  
*On a Wing and a Prayer: The story of a Carnaby's cockatoo family*  
*Cape Arid*  
*Kimberley History: People, Exploration and Development*
- 30 Feature park  
Two Peoples Bay Nature Reserve
- 55 Endangered  
Vesk's plant-louse
- 62 Urban Antics  
Web of intrigue

### Publishing credits

**Executive editor** Madeleine Clews.

**Editors** Rhianna King, Joanna Moore.

**Scientific/technical advice** Lachie McCaw, Keith Morris, Kevin Thiele, Alan Kendrick.

**Design and production** Natalie Jolakoski, Gooitzen van der Meer, Peter Nicholas, Lynne Whittle.

**Illustration** Gooitzen van der Meer.

**Cartography** Promaco Geodraft.

**Marketing** Cathy Birch.

Phone (08) 9334 0296 or fax (08) 9334 0432.

**Subscription enquiries** Phone (08) 9219 8000.

**Prepress and printing** GEON, Western Australia.

© Government of Western Australia  
August 2012

*All material copyright. No part of the contents of the publication may be reproduced without the consent of the publishers.*

*Maps should be used as a guide only and not for navigational purposes.*

ISSN 0815-4465

Please do not send unsolicited material, but feel free to contact the editors.

Published by the Department of Environment and Conservation, 17 Dick Perry Avenue, Kensington, Western Australia.

**Visit DEC online at [www.dec.wa.gov.au](http://www.dec.wa.gov.au) to search the **LANDSCOPE** catalogue.**



Department of  
Environment and Conservation

