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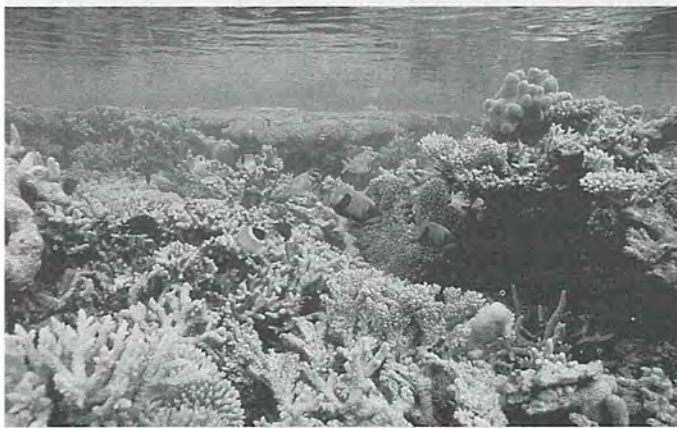
Marine Conservation Matters

A Newsletter about Marine Conservation in CALM

March 2000

Welcome!

Here is the first issue of our newsletter, *Marine Conservation Matters*. We hope it gives you an insight into what is happening with marine conservation in the Department of Conservation and Land Management (CALM).



Ningaloo Marine Park has some of WA's most beautiful coral reefs.

Food for thought

Long-term vision and patience needed for establishing marine conservation reserves

Reserving important or special areas has long been accepted as an important tool in protecting the land environment. Indeed, some famous reserves date back more than 100 years. But this is not the case in the marine environment, where access to the ocean has been unfettered until very recently. It is only over the last decade or two that some form of control (other than fisheries regulations) has had to be applied.

So it is little wonder that marine reserve programs often generate concern, particularly when a reserve includes 'no take' areas, which some people see as a threat to their livelihoods or lifestyles.

We must work constantly to build rapport with the community, to increase their understanding of the issues confronting marine resource managers, and to improve their awareness of the role and benefits of marine reserves. Waiting until an area is proposed for reservation is often too late to avoid communication problems.

The benefits of a proactive approach can be seen most recently in the proposed Jurien Bay Marine Park, where early work by CALM's Moora District and the Shire of Dandaragan has helped the process enormously.

About the Newsletter

Marine Conservation Matters is produced by the Marine Conservation Branch (MCB) of CALM. It will broadcast up-to-date information about marine conservation activities in CALM to interested groups, both within and outside the Department. We hope the newsletter will improve communication, co-operation and collaboration, and promote better coherence of marine activities. Contributions will be invited from CALM Regions and Branches and occasionally from external sources. The newsletter will be published four times a year.

DEPT OF CONSERVATION
& LAND MANAGEMENT
- 2 MAY 2000
WESTERN AUSTRALIA



IMPORTANT NEWS IN THIS ISSUE

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Marine Reserve Implementation



The waters surrounding the Montebello islands are a high priority for marine reservation.

Pilbara Marine Reserves

Public Participation

Informal consultations have taken place with local stakeholders about the proposed marine conservation reserves in the Dampier Archipelago/Cape Preston and the Montebello/Barrow islands areas. Over the next few months MCB and regional CALM staff will be working closely together during the first formal round of community consultation. This project is funded by National Heritage Trust Marine Protected Areas Program and CALM.

The preparation of information material, such as pamphlets and posters, is well advanced and a booklet about each of the proposed reserve areas will be ready for distribution in April. These booklets provide a broad picture of the wide range of environmental, cultural, recreational and commercial values of both areas. CALM would like to thank the experts who have contributed to these documents.

A community issue analysis will be undertaken during March 2000. This will provide information about community attitudes to and understanding of the marine reserve program, as well as assessing the issues of concern to each stakeholder group within the local community. More than 100 people will be approached to assist with this survey. The information it brings will help determine the consultation priorities during the planning process. A summary report will be available on request in May.

Contact: Sue Osborne, Community Liaison Officer, Marine Conservation Branch.
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Planning Process

Early work for the planning process for the proposed marine conservation reserves in the Dampier Archipelago/Cape Preston and the Montebello/Barrow islands areas is well advanced. Maps of the major marine habitats, climate and oceanography and human usage have been prepared by the MCB's Geographic Information Systems section.

The Minister for the Environment called for interested persons to nominate for the community-based advisory committees for the Pilbara marine reserves in mid-1999. An announcement about the membership of these two committees is expected in the near future. A comprehensive information package is being prepared for the two committees to help members plan for the future conservation and management of these two important marine areas. This project is funded by National Heritage Trust Marine Protected Areas Program and CALM.

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Geographe Bay/Capes/Hardy Inlet marine reserve proposal

Significant progress has been made on the Geographe Bay/Capes/Hardy Inlet marine reserve proposal over the past year. Briefings have been given to both the Busselton and Augusta/Margaret River Shire councils. More recently CALM staff gave a presentation to the Friends of Eagle Bay. The biological and social resource assessment phase of his process continues, with the marine habitat map and the biological survey reports currently being completed. Human usage mapping of these waters is well advanced. A summary report of the key oceanographic processes of the region has also been completed and is available on request. This project is funded by National Heritage Trust Marine Protected Areas Program and CALM.

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Proposed Jurien Bay Marine Park

The Jurien Marine Reserve Advisory Committee (JMRAC) concluded its deliberations at the September 1999 meeting after reviewing the draft indicative management plan (IMP) and the accompanying draft zoning scheme. The views of the JMRAC, the IMP and the draft zoning scheme were presented to the Marine Parks and Reserves Authority (MPRA) for their consideration at their October 1999 meeting.

CALM staff attended the AGM of the Central West Coast Professional Fishermen's Association in November, where the Jurien zoning, particularly the sanctuary zones, was discussed. The Association endorsed a zoning scheme, subject to a verification of boundaries, which differed from the JMRAC in relation to some of the sanctuary zone boundaries. The Association's position has been forwarded to the MPRA for their consideration.

The MPRA discussed the IMP further at their December 1999 meeting. Since then, they have consulted stakeholder groups involved in the Jurien planning process. All of the above inputs are being considered by the MPRA in deciding on the zoning scheme to be included in the draft IMP.

To progress to the Notice of Intent (NOI) stage, the Minister for the Environment has to receive a report from the MPRA on the proposal, under Section 14 of the CALM Act. The agreement of the Ministers for Fisheries and Mines is also required before the release of the draft IMP for a statutory 3-month public submission period.

The Government also wants an estimate of the resources needed for establishing and then managing the marine park. CALM has been working with Fisheries WA to develop this estimate. This project is funded by National Heritage Trust Marine Protected Areas Program and CALM.

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Jurien Biological Survey

Other news relating to the proposed Jurien Bay Marine Park is that a biological survey of the diversity and abundance of algae, fish and sessile invertebrates was undertaken in October 1999. Twenty-five sites in the proposed marine park were sampled by Dr Graeme Edgar and Dr Neville Barrett, from the Tasmanian Aquaculture and Fisheries Institute based at the University of Tasmania. The MCB provided logistical support, and Mike Lapwood from the MCB participated in the survey. It will provide important baseline information and extend the data on the

marine flora and fauna of the park collected by CALM in the 1997 biological survey. This project was funded by Fisheries Research and Development Fund.

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Marine turtles are one of our sea's most ancient mariners. Western Australia provides an important refuge for marine turtles exploited elsewhere in the world.

Marine Reserve Management Review of Ningaloo Marine Park Management Plan

The management plan for the State waters of the Ningaloo Marine Park is due for review, as the current plan is ten years old. To help with this, the MCB and the CALM Exmouth District have mapped the major marine habitats of the park for the first time and are preparing maps of human usage along the entire length of the park (see below). A report on the status of the Ningaloo Marine Park is also being prepared. The Coral Coast Parks Advisory Committee will provide a focus for local community input into the review. A round of public consultation is planned over the next few months. At this stage the intention is to consider the proposed southern extension of the Ningaloo Marine Park as part of the review process of the management plan for the existing marine park.

Environment Australia (EA) is also currently reviewing the Plan of Management for the Commonwealth waters of Ningaloo Marine Park. A "Have Your Say" pamphlet was jointly released by EA and CALM late last year, calling for written submissions on future management arrangements for Ningaloo Marine Park.

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Marine Reserve Management

Ningaloo Marine Park

Mapping the benthic habitats

The MCB, with financial assistance from the Australian Maritime Safety Authority, has developed a broadscale map of the major marine habitats of the Ningaloo Marine Park and the coast from the southern boundary of the park to Red Bluff on Quobba Station. The seaward limit of the map is the State Territorial Limit and the area of seabed mapped was over 3000 square kilometres. Habitats such as coral communities, macroalgal beds, mangroves, intertidal and sub-tidal reef platforms, as well as three different categories along the shoreline, have been mapped and classified at 1:20,000 scale. Staff used a combination of LANDSAT Thematic Mapper images, rectified aerial photo-mosaics and ground truth data.

This is the first comprehensive map of this area and these data will be important in the review of the Ningaloo Marine Park management plan and in the park's on-going management. With such a large area to cover, the map will need to be continuously ground-truthed and refined. CALM will seek broader community involvement in this verification process. The habitat map will be available in hard copy and on CD-ROM.

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Mapping Human Usage

The MCB and CALM's Exmouth District have been documenting and mapping human usage in the Ningaloo Marine Park and south to Red Bluff on Quobba Station. Recreational and commercial fishing, nature-based tourism operations, beach usage, shipping lanes and marine wildlife viewing activities are a few examples of the data being collected and stored on MCB's GIS.

The data are being collected to assist in the review of the Ningaloo Marine Park management plan and to help manage the park in the long term.

The usage maps will be available in hard copy and on CD-ROM.

Contact: Jennie Cary, Senior Marine Ecologist, Marine Conservation Branch.
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Monitoring Program

The main aim of the Ningaloo Marine Park Monitoring Program is to monitor the status of key benthic communities in the Ningaloo Marine Park. Fifty-one re-locatable, long-term monitoring sites were established using differential GPS in the park in April 1998 and August



The manta ray is just one of the beautiful creatures that live in the Ningaloo Marine Park. It is also fully protected.

1999, and photographed with an underwater video. These sites include 30 transect sites and 21 non-transect sites. Three permanently marked 50 m transects were established at each transect site. Sites were established approximately every 15 km along the entire length of the back-reef, to monitor the potential impacts of periodic natural, physical and biological processes (e.g. cyclones and coral predators) and as control sites. Other sites were established in areas of existing high human activity (e.g. Coral Bay) and where tourism might be developed (e.g. Winderabandi Point). Data on litter, anchor and diver damage to corals, coral bleaching and the presence of coral predators such as *Drupella* and Crown-of-Thorns starfish were also recorded at each site. A status report on the 'health' of the Ningaloo Marine Park is currently being prepared in readiness for the proposed review of the management plan (see above).

A follow-up survey at a sub-set of the above sites is planned for later this year.

This project is funded by National Heritage Trust Coast and Clean Seas Monitoring Program and CALM.

Contact: Jennie Cary, Senior Marine Ecologist, Marine Conservation Branch.
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Biological survey of the proposed southern extension to the Ningaloo Marine Park

A team of MCB staff headed for the North West last October where they undertook a field survey of the major benthic habitats covering approximately 50 km of coastline from the southern boundary of the existing Ningaloo Marine Park to Red Bluff on Quobba Station. Part of this area was identified in the recommendations in the Marine Parks and Reserves Selection Working Group Report as the proposed southern extension to Ningaloo Marine Park.

This project is funded by National Heritage Trust Marine Protected Areas Program and CALM.

The coastal area between Amherst Point and Gnaraloo Bay has been closed to the general public for decades (apart from a six-week period in 1999) and is one of the few readily accessible coastal wilderness areas left on the west coast. Data from the survey indicated that the area is in a pristine condition.

The data acquired during the survey will be important in determining the relative conservation values of the proposed southern extension of the Ningaloo Marine Park. It will also contribute to the information base required for the planning process for the extension to the park.

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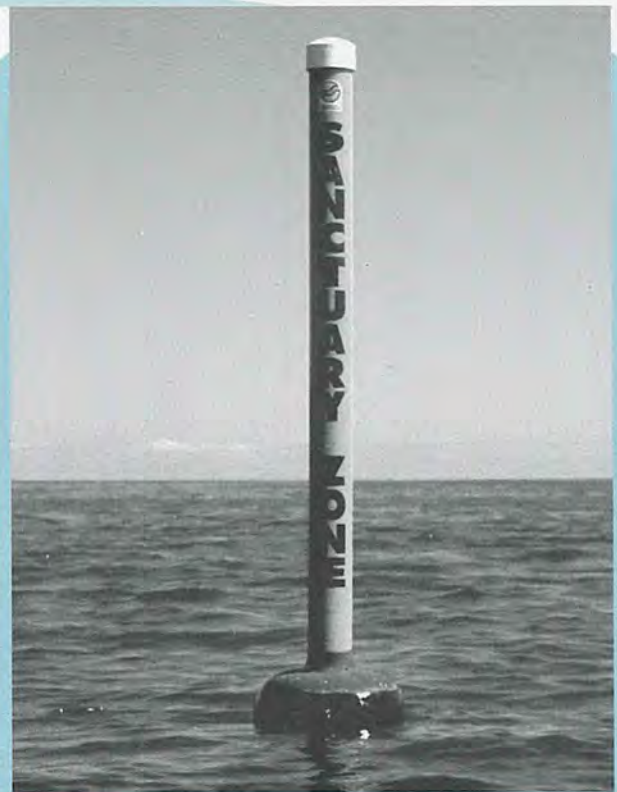
Rowley Shoals Marine Park Management Plan

A draft Management Plan for the Rowley Shoals Marine Park has been completed and was presented to the MPRA at their February 2000 meeting. As well as outlining management targets, objectives and strategies, the plan recommends extending the current boundary of the marine park from its present location of 100 m out from the seaward reef edge, to the State Territorial Limit. The plan thus encompasses the State waters surrounding Imperieuse Reef and Clerke Reef. It complements the recently released draft Plan of Management for the Commonwealth waters surrounding Mermaid Reef, which was released by Environment Australia late last year. It is anticipated that the Rowley Shoals Marine Park draft management plan will be released for a 3-month public submission following consideration by the MPRA and agreement from the Ministers for Fisheries and Mines.

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The magnificent corals of the Rowley Shoals Marine Park.



One of the new Sanctuary Zone markers in Marmion Marine Park.

Marmion Marine Park Sanctuary Zones Gazetted

Three new sanctuary zones have been created in the Marmion Marine Park, around Boyinaboat Reef, Little Island and The Lumps. Sanctuary zones are created specifically as 'look but don't take' areas. All fishing and collecting are strictly prohibited. The sanctuary zones were created under the CALM Act in March 1999. A complementary Order under the Fish Resources Management Act was required to officially prohibit fishing and collecting in these zones, and was gazetted in November 1999.

Each sanctuary zone is clearly marked on each corner by a yellow spar marker (see below), and signs have been installed at boat ramps and next to Boyinaboat Reef. Brochures explaining the sanctuary zones have been extensively distributed to recreational fishers and are available at dive, tackle and boating shops.

Marine park rangers have made extensive vessel patrols throughout the summer to ensure compliance with the new zones. Out of some 1000 interactions with recreational and commercial fishers and the boating public, only one negative encounter has been reported, indicating an overwhelming community acceptance of the zones.

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Island Reserve Management

Turquoise Coast Islands Nature Reserves Management Plan

We are drafting a new 10-year management plan for the islands off the central west coast between Lancelin and Dongara. All the islands are class A nature reserves and are home to many different species of plants and animals. Some of these species do not occur, or are rare, on the mainland.

Many of the islands are important rookeries for a variety of seabirds, while Buller, North Fisherman and East Beagle islands are breeding sites for the endemic Australian sea-lion which is listed as 'specially protected' under the *Wildlife Conservation Act 1950*. Boullanger and Whitlock Islands, off Jurien Bay, are home to the endangered marsupial, the dibbler. Lancelin Island has the only population of the threatened Lancelin Island Skink.

As well as protecting the flora and fauna of the islands, the draft management plan provides for controlled public access to some of the larger islands for recreation, education and nature appreciation. The plan has been six months in the making and will be released for public comment following its consideration by the National Parks and Nature Conservation Authority.

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The dibbler, an endangered marsupial found on Boullanger and Whitlock Islands, off Jurien Bay.

Technology helping marine managers

Time management software

The MCB has had a consultant develop an electronic time management and reporting program. This program is designed to assist in the tracking and managing of staff time in major work areas and projects. The package is particularly useful where staff time is allocated over several work areas and/or projects and in the planning of new projects. Data entry is straightforward and easy to use and the program can be customized to suit most management purposes. The program also has a reporting module, which can supply information in the form of graphs and tables, regarding costs and staff time committed to individual projects or aggregated across major work areas.

The software is available on request to all CALM branches and Regions.

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Marine Reserve Data Management System

A marine reserve data management system is being constructed by the GIS section of the MCB. Data are stored as both statewide coverage and park specific coverage under the following categories: base-contextual layers, geoscience, coastal, marine biology, meteorological, oceanographic, socio-cultural and water quality.

Based on the above categories, a user-friendly and logically structured directory will be supplied to appropriate CALM regions, requiring no intimate technical knowledge to find, use, manage and store spatial data. This structure mirrors the MCB's approach to information management and will contribute to painless distribution and feedback of data.

MCB data are developed for use within Arcview software or the free Arc Explorer viewing software and includes both image and map files. Data Druid, a CD data distribution approach incorporating Arc Explorer, has been developed by CALM's corporate Geographic Information Services (GIS) area, and planning is under way to produce a marine volume.

We hope that the marine volume will be available by July.

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Marine section of NatureBase set to expand

Plans are afoot to expand the marine component of the CALM website *NatureBase*. The marine sections will provide access to information about the marine and coastal environments, the plants and animals which live there, and the impacts of human use in these areas. Information about both existing and proposed marine reserves will be available, and public submissions for draft management plans will be accepted through the website. For those with an eye for detail, access will also be provided to key marine policy and management documents.

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Marine Image Library

They say a picture can tell a thousand words, and it's great to have access to some beautiful marine images from CALM and many external contributors. These are currently being scanned and put together in an image library, which will be accessible to CALM staff on the *CALMweb*. Please let us know if you have good quality marine slides and other images that you are willing to contribute to this library. The library will provide ready access to a variety of marine images for use in presentations, newsletters, reports, newspaper articles and marine education and interpretation materials.

The image library will be available to CALM staff by June.

Contact: Sue Osborne, Community Liaison Officer, Marine Conservation Branch.
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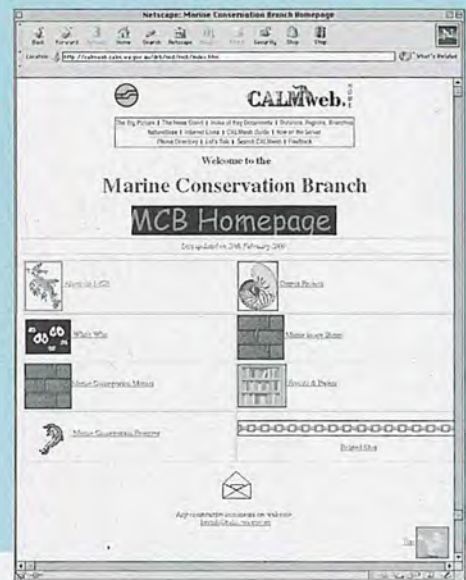
The humpback whale is just one of the many species of whales that frequent Western Australian waters. This is an example of an image from the Marine Image Library.

Marine Conservation Branch is now on CALMweb

The MCB homepage is now online at CALM's internal network *CALMweb*. The site is accessible at: <http://calmweb.calm.wa.gov.au/dr/ncd/mcb/index.htm>.

The website provides information on the activities of the MCB, including the Branch's strategic plan, staff, reports and papers. The site also has links to related marine, government and industry websites. In the near future, the MCB homepage will be linked to a marine image library.

Contact: Kevin Bancroft, Marine Ecologist, Marine Conservation Branch.
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A Marine and Coastal Community Contacts Database

A statewide marine and coastal community contacts database is being developed to store, sort and retrieve the names, addresses and interests and other relevant information of community members who have an interest in the coastal and marine environment in WA. The database will assist both MCB and coastal regional staff with community liaison work.

The database framework has been developed and tested. The arduous task of entering the data is well advanced, with over 200 entries so far. The MCB is currently working with the regional offices in the Kimberley, Pilbara, Midwest and Central Forest regions to identify and enter local contact data. Once established, the database will be distributed to the regions and updated annually.

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Other News



This new sign will both inform visitors of the wildlife values of Lancelin Island Nature Reserve and help minimize visitor impact.

New Boardwalk and signage for Lancelin Island Nature Reserve

Visitors to Lancelin Island Nature Reserve over the summer have been enjoying a new boardwalk across the reserve. It provides ease of access while protecting valuable island wildlife habitat. The boardwalk was built by CALM's Jarrahdale construction gang and was overseen by Andy Darbyshire, CALM Lancelin. The project was partly funded by Coastwest/Coastcare. Signage was installed at the beach landing, at the start of the stairway to the boardwalk. It informs visitors of the wildlife values of the island and of how to minimize visitor impact. The signs are used on Lancelin Island as a management tool and as an interpretation medium to enrich visitor experience.

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Pinniped Management Program

The *Pinniped Management Program 1999–2009* is now close to finalisation. This document will provide prescriptions to protect fur seals and sea-lions. Ongoing research and monitoring are key components of the Management Program, and studies into genetic structure,

foraging strategies and population trends of the Australian sea-lion have already begun.

The Wildlife Conservation (Close Season for Marine Mammals) Notice 1998 lays down guidelines to minimise disturbance to marine mammals as a result of interaction with humans. It also aims to protect people from being inadvertently harmed by marine mammals.

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Training Regional Staff

A curriculum writer has been contracted to CALM to prepare a marine training course for coastal district and regional staff. The course will provide participants with a broad understanding of the marine environment of WA, the impacts of human use and the marine reserve planning process in this State. This course, together with the community contacts database, will allow staff to make regular contact with key members of their local communities and so to keep abreast of local marine issues and provide accurate information about marine conservation issues in their area. A training package will be produced by mid-year.

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Moorings Policy for Marine Conservation Reserves

A draft policy on boat moorings in marine conservation reserves has been prepared for consideration by CALM's Corporate Executive. The draft policy provides a clear framework to allocate, manage and control moorings in marine reserves. Demand for the installation of moorings for both commercial and recreational users is increasing in many of our existing marine parks. The draft mooring policy, developed in close collaboration with the Department of Transport, considers environmental protection issues, equity of access and allocation of sites/areas for moorings, potential liability, amenity values and general management and use of moorings.

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Marine Tour Operators Handbook for WA

MARINE-TOUR OPERATOR HANDBOOK

THE OFFICIAL MANUAL OF LICENCE CONDITIONS FOR MARINE TOUR OPERATORS ENTERING CALM-MANAGED WATERS AND LANDS

Effective from 1 January 1999

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

CALM licenses commercial tour activities in marine reserves to ensure these activities are carried out in an ecologically sustainable manner. Fortunately, most tourism operators are well aware of the importance of protecting the environment on which their livelihood depends. To assist operators, CALM has developed a *Marine Tour Operators Handbook* that outlines the conditions that apply to the various kinds of commercial operations in marine

reserves. This handbook is not only extremely useful for existing operators but provides relevant information for anyone considering starting a marine tourism business in a marine reserve. The handbook and accompanying application forms are available from all CALM district offices that manage marine reserves.

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Roebuck Bay was identified by the Marine Parks and Reserves Selection Working Group 1994 report as worthy of consideration as a marine reserve. The results of the above study further confirm the high conservation status of this area and will provide valuable data in both the planning and management of a marine reserve in this area.

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Drafting of Revised CALM Act Regulations

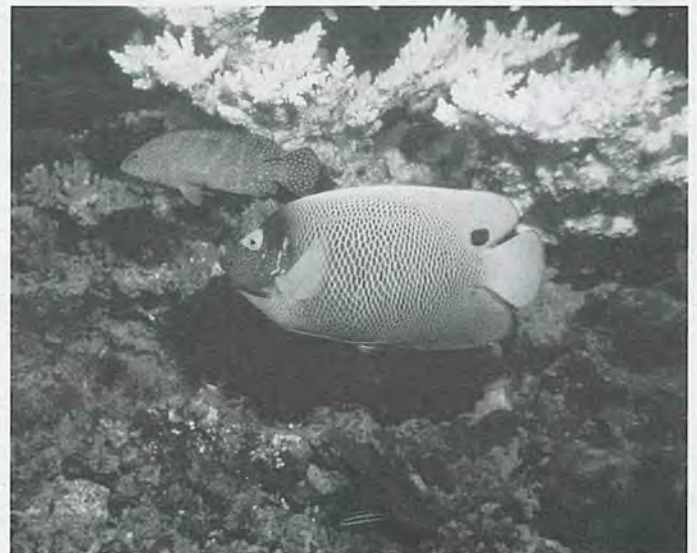
A comprehensive suite of integrated regulations has been drafted to replace existing regulations under the CALM Act. The new regulations will facilitate more effective management of activities on the conservation lands and waters that CALM manages. In regard to marine conservation reserves, the new regulations are being drafted to provide for enforcement in respect of activities that could impact on the conservation values of marine reserves. These include mooring, anchoring, littering, polluting and the protection of flora and fauna.

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Andrew Hill, Senior Marine Planner, Marine Conservation Branch.
E-mail: andrewh@calm.wa.gov.au

Benthic Invertebrate Study of Roebuck Bay

The intertidal mudflats of Roebuck Bay, near Broome, are one of the most important sites for migratory shorebirds in the Asia-Pacific region. They are a RAMSAR site, under the International Convention on Wetlands. The area is used by a variety of migratory birds on arriving in Australia to rest and feed before dispersing throughout the continent. The birds again converge on these mudflats before leaving Australia.

In recognition of their importance as a food source for these birds, CALM, in collaboration with the Netherlands Institute for Sea Research, undertook a detailed study of the benthic invertebrate fauna of the mudflats in 1997. More than 500 sites were sampled, yielding a diverse invertebrate fauna of over 150 species, making this area one of the most species-rich mudflat areas in the world. Results of this study have recently been published in a report from the Dutch Institute.



Colourful fish and other marine plants and animals attract hundreds of recreational divers and snorkellers each year to the waters of Western Australia.



Modelling biological connections

A preliminary modelling study to examine the biological connectivity between the Dampier Archipelago, Montebello Islands and the Ningaloo Marine Park has recently been undertaken by CSIRO, in collaboration with CALM and the Department of Environmental Protection. Simulations involved the release of coral and fish larvae in autumn and summer, respectively, and tracing the dispersion of these larvae for up to eight weeks after 'spawning'.

The model predicted that prevailing south-south-westerly summer winds would drive fish larvae northward from Ningaloo Marine Park to the proposed marine reserves of the Montebello/Barrow islands area. In autumn, winds weaken and currents carry coral larvae from the Dampier region to the Montebello/Barrow islands region and then southward to the Ningaloo Marine Park, courtesy of the Leeuwin current. The biological connections between these areas have significant implications for their conservation.

This study also highlights some of the benefits of the close collaboration that exists between the above agencies. The above simulations can be viewed on request at the Marine Conservation Branch.

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The MCB vessel Bidthangara is currently on loan to the CALM Pilbara region and is stationed in the Dampier Archipelago. Surveillance, patrols, visitor liaison, research and monitoring are just some of the field tasks undertaken by CALM in marine reserves.



Research and monitoring are just two tools used to manage the marine environment.

Oceanography of the South West Capes area

A review of the oceanography of the proposed Geographe Bay-Capes-Hardy Inlet marine conservation reserve has been undertaken to summarize information on the broad-scale flow and mixing of these waters. The review will assist the planning process for this marine reserve. The review examines the interaction of the Leeuwin and Capes currents during summer and the dominant influence of the Leeuwin Current on the broad-scale circulation of this region during autumn and winter. The circulation of Geographe and Flinders bays and the key physical processes of the Hardy estuary were also summarized.

A report of the review is available from the Marine Conservation Branch on request.

This project was funded by National Heritage Trust Marine Protected Areas Program and CALM.

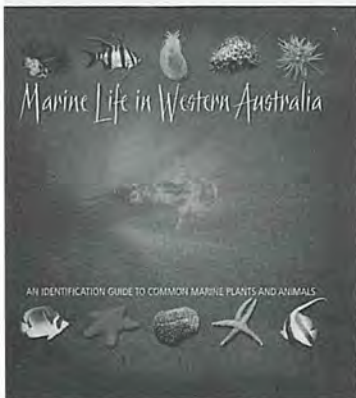
Contact: Nick D'Adamo, Oceanographer, Marine Conservation Branch.
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Marine Community Monitoring Program

Over the past two years the MCB, WA Museum and the WA branch of the Australian Marine Conservation Society (AMCS) have been developing a package of tools to enable community groups to become more involved in the conservation and management of their local marine and coastal environments. The Marine Community Monitoring Program is based around developing partnerships between local communities, managers, and scientists. Funding for the program has been provided by Coastwest/Coastcare and CALM.

As an early warning system for detecting change in the marine environment this program will also provide very useful data for marine management agencies like CALM.



Stage 1 of the program involved developing a CD-ROM based marine identification guide, *Marine Life in Western Australia*. It provides an easy-to-use key to more than 400 of the most common marine plants and animals in WA. The CD-ROM was distributed free to more than 100 community groups. It won a national multi-media

education award in 1998, and has proved very popular with local schools.

Stage 2 saw the development of a manual of user-friendly monitoring protocols and an Internet-based data storage, retrieval and display facility, courtesy of the Department of Land Administration's Coastal Atlas. The manual contains more than 30 protocols covering a range of physical, biological and social issues and will be completed by March.

In Stage 3 we will develop accredited training courses, which should be ready by March 2001.

Once finished, the Marine Community Monitoring project will greatly facilitate community participation in the conservation and management of our marine environment.

A pamphlet describing the Marine Community Monitoring Program is available from the MCB or AMCS. The CD-ROM *Marine Life in Western Australia* can be purchased from CALM for \$35.

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'No Take' Paper Finalised



A paper outlining the role of 'no take' areas in WA's marine conservation reserve system was published by CALM late last year. The paper examines the purposes and potential benefits of 'no take' zones in relation to marine biodiversity conservation and, to a lesser extent, their role in fisheries management. The creation of 'no take' areas is often the focus of concerns by

fishers when confronted with the prospect of a marine reserve being established.

The paper provides examples of overseas and Australian research on the effects of establishing these areas and was written to bring a more considered approach to this contentious issue. The paper was reviewed by local and overseas scientists and the Marine Parks and Reserves Scientific Advisory Committee. A brochure, summarizing the main points of the paper, is currently being developed for public consumption. Both publications are available on request from the Marine Conservation Branch.

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Pearling, like other uses of the marine environment are catered for in the marine reservation process.

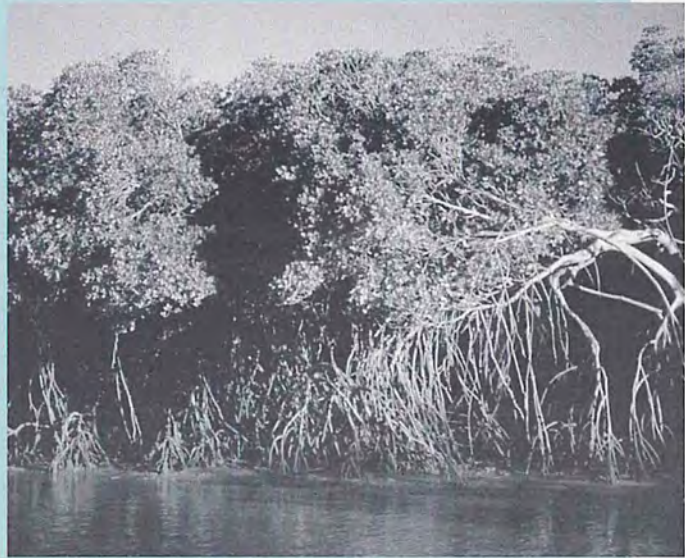
Staff News

Technical Officer **Tim Daly** resigned from the MCB in December last year and will pursue his studies at Murdoch University this year. Good luck, Tim.

Stella King, MCB Administrative Assistant for the past four years, resigned in February this year to take up a position as an Executive Assistant at CALM Corporate Headquarters in Crawley. Stella was primarily responsible for establishing the Fremantle office, and her gentle and polite nature will be missed by everyone in the MCB.

Former MCB Marine Operations Officer, **Mike Lapwood**, has commenced work as the new District Operations Officer at CALM's Broome office. This appointment further strengthens the ties between the MCB and the Broome office. Although sorely missed by all in the MCB, Mike's appointment will greatly facilitate joint operations for the Rowley Shoals Marine Park by the MCB and the West Kimberley District.

Liesl Jonker has resumed with the MCB after a six-month stint with CALM's Planning Branch. There, she helped develop the draft management plan for the Turquoise Coast Islands Nature Reserves and made a quick four-week trip to Indonesia and Vietnam over the Christmas break. Liesl is working with Andrew Hill on finalizing both the Jurien Bay Marine Park Indicative Management Plan and Rowley Shoals Marine Park draft management plan.



Mangroves are an important ecosystem in the proposed Montebello/Barrow islands marine reserve.

Tim Grubba, who spent a very busy last year as a Project Officer on the Marine Community Monitoring project, resumed with the MCB on 18 February. Tim and his wife have recently returned from a six-week holiday to the US, Europe and Africa. Tim is working with Jennie Cary in the Monitoring & Human Usage and Aquaculture portfolios.

The MCB would like to welcome a new staff member. **Judy Davidson**, a Marine and Environmental Science student from Murdoch University, who undertook volunteer work with the branch for two months over the Christmas period, has since been employed on a short-term contract. Judy will be working on Community Liaison and Biological Inventory projects. Welcome aboard!



Commercial fishing is one of the many uses of Western Australia's marine environment.



Marine Conservation Matters is produced by the Marine Conservation Branch of CALM, to broadcast up-to-date information about marine conservation activities in CALM. If you have any queries regarding our newsletter please contact Sue Osborne at the Marine Conservation Branch of CALM. Ph: (08) 9432 5100, Fax: (08) 9430 5408 or email: sueo@calm.wa.gov.au