

July 2000

2 Marine Conservation Matters

A Newsletter about Marine Conservation in CALM
July 2000

WELCOME BACK

Newsletter goes worldwide!

Marine Conservation Matters is now on the worldwide web at the address outlined below. We hope you enjoyed reading our first issue. Feedback continues to flow into the Marine Conservation Branch (MCB) office in Fremantle. Since the distribution of more than 1,000 copies of the newsletter in early April, the response has been overwhelmingly positive with many people taking the trouble to phone or e-mail their views in response to our request for feedback on the first edition.

Here is what some of the respondents had to say:

"A great innovation!" -Dr Barry Wilson, Chair Marine Parks and Reserves Authority.

"Very informative and well presented," -Alan Pearce, CSIRO Marine Research, Marmion Laboratory.

"It was both interesting and useful to read about marine management in the West," -John Tanzer, Great Barrier Reef Marine Park Authority.

"Congratulations on your first newsletter," -Alan Butler, CSIRO Marine Research, Hobart.

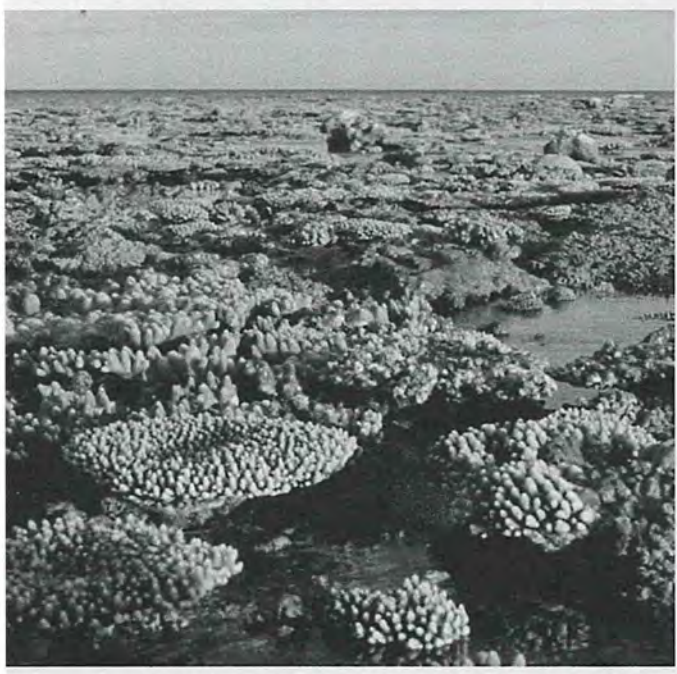
"...it is an excellent publication and very informative," -Eugene Stankevicius, WA Tourism Commission.

"...a good read and well put together," -Bernadette O'Neil, Environment Australia.

The newsletter has been put on the web so that more people can find out what is going on with marine conservation in WA. The web address is: www.naturebase.net/nationalparks/marine_splash.html

Happy reading!

For further information, contact the Newsletter Coordinator: Lauren Monks, Marine Education Officer, Marine Conservation Branch.
E-mail: laurenm@calm.wa.gov.au



Rowley Shoals Marine Park has some of WA's most beautiful reefs.

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IMPORTANT NEWS IN THIS ISSUE

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FOOD FOR THOUGHT



Public participation is a key element in managing our marine environment.

Public participation in marine conservation

The increasing demand to participate in marine conservation and management activities by local communities is a worldwide trend, particularly in developed countries. This trend is also occurring in Western Australia and is due to improved knowledge and understanding of the marine environment, courtesy of the many marine life documentaries on television, a natural interest in the ocean and people's desire to simply have a say in issues that affect their livelihoods or lifestyles. With most of our population living within 20 km of the coastline, many Western Australians are very familiar with the ocean environment, are competent swimmers, good divers and capable mariners. This naturally high knowledge and skill level provides a good basis for developing lasting partnerships, between Government, scientists and the general community, for protecting and managing our marine environment.

CALM is developing a range of strategies to use this interest and these skills better, by providing further opportunities for the community to become more directly involved in marine conservation and management. Using local knowledge to map marine wildlife distributions, habitats and the nature and patterns of human usage for marine reserve planning (see *Utilising local knowledge for marine conservation* this page), the use of community advisory committees for the planning and on-going management of marine conservation reserves, and the development of a marine community monitoring program (see *March 2000 Issue*, p11) are some of the ways of increasing public participation in what we do. In a large State with limited resources for marine conservation and management, and rapidly increasing usage, an over-emphasis on an institutional-based approach is unlikely to be the most effective management model in the long-term. Developing lasting partnerships between Government and the community will not only satisfy the public's desire and

right to have a say, but will be a key element of future marine management approaches in this State.

Contact: Sue Osborne, Community Liaison Officer, Marine Conservation Branch

E-mail: sueo@calm.wa.gov.au

Utilising local knowledge for marine conservation

Effective planning for the conservation and management of our marine environment requires a comprehensive knowledge of the distribution, abundance and functioning of marine life, as well as an understanding of the patterns and nature of the human use of these resources. Relatively little is known about much of our marine life and even less about the long-term impacts of many human activities. Formal scientific studies, in a State as large as Western Australia, are often short-term and limited in scope due to the enormous expense of collecting marine biophysical and social data in the more distant (from Perth) or remote parts of our State. These constraints require innovative approaches if they are to be removed.

To overcome some of these obstacles, CALM's Marine Conservation Branch is developing methodologies to improve use of the extensive local knowledge of the marine environment that exists in the numerous coastal communities that dot our coastline. In the proposed Jurien Bay Marine Park planning process, for example, professional and recreational fishermen, marine tourism operators and local community groups all assisted in providing information for the planning process. Similarly, the local community in Exmouth greatly assisted CALM in developing current human usage maps for Ningaloo Marine Park. More recently, CALM and Fisheries WA have collaborated with the local Recreational Fishing Advisory Council in Karratha. In this case a comprehensive map of the many different recreational fishing activities in the



Utilising local knowledge provides a wealth of information and helps build lasting partnerships with the community.

Dampier Archipelago was developed as part of the information needed for the up-coming marine reserve planning process in this area.

As well as tapping into a veritable treasure trove of local knowledge and providing critical information, this approach also builds a co-operative spirit and better understanding between Government agencies and the local community; both vital if we are, collectively, to protect our unique marine environment for current and future generations.

Contact: Jennie Cary, Senior Marine Ecologist, Marine Conservation Branch

E-mail: jenniec@calm.wa.gov.au

MARINE RESERVE IMPLEMENTATION

Pilbara Marine Reserves-planning process update

The planning process for a proposed marine conservation reserve in the Dampier Archipelago/Cape Preston area and the Montebello/Barrow Islands area is now formally underway. The Minister for the Environment announced the membership of the two advisory committees in Karratha on 8 June and the inaugural meetings for each committee are planned to occur in August.

The members of the Dampier Archipelago/Cape Preston Marine Conservation Reserve Advisory Committee are Mr Greg Oliver, Mr John Kraus, Mr Len Vertigan, Mr Dennis Bryan-Smith, Mr Noel Parkin, Mr John Lally, Mr Nick Miller, Mr Simon Bennison, Dr Andrew Heyward, Dr Steve Van Leeuwin, Ms Irene Stainton and Mr Kent Buddle. The chair of the committee will be Mr Trevor Ruland.

The members of the Montebello/Barrow Islands Marine Conservation Reserve Advisory Committee are Dr Iva Stejskal, Mr Russell Lagdon, Mr Guy Leyland, Mr John Baas, Mr Craig Thomas, Mr Noel Parkin, Mr John Jenkin, Ms Kellie Pendoley and Ms Vicki Long. The chair of the committee will be Mr Norman Halse.

These committees differ from the Advisory Committee for the proposed Jurien Bay Marine Conservation Reserve in that both have independent chairs, members were appointed for their knowledge and expertise and not as representatives of particular stakeholder groups, and State Government agency representatives were not appointed to either committee. These changes have been implemented to enhance community participation and ownership in this phase of the planning process in keeping with the spirit of the legislation. A consultation process will be established to ensure key Government agencies and peak stakeholder bodies are kept informed and have input into the advisory

committee process. Formal consultation agreements will be developed collaboratively with these groups over the coming months.

Contact: Andrew Hill, Senior Marine Planner, Marine Conservation Branch

E-mail: andrewhi@calm.wa.gov.au

Further verification of marine benthic habitats

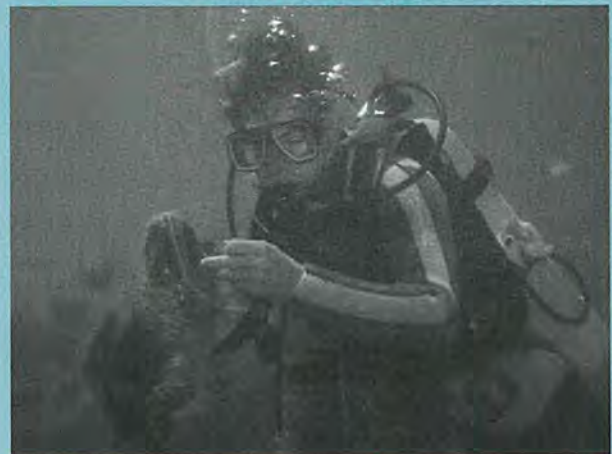
Dampier Archipelago/Cape Preston region

In May, staff from the Marine Conservation Branch and the Karratha Regional Office conducted further field investigations, from the MCB vessel Bidthangara, of selected marine benthic habitats of the proposed Dampier Archipelago/Cape Preston marine conservation reserve. The main objective of the study was to provide further ground-truth data on the location and extent of the sessile filter-feeding communities that occur on the deeper (> 10 m depth) reef platforms lying in the channels between some of the major islands and on the deeper seaward reef slopes. These communities are extremely diverse and typically consist of sponges, sea-pens, sea-whips, gorgonian corals and other filter-feeding organisms that trap organic material swept past by the strong currents that characterise these areas. The depth and typically poor water clarity in these areas prevent mapping by remote sensing which has been used extensively for the shallower parts of the archipelago.

The data acquired during the survey are being incorporated into the existing map of the major marine habitats of the area. These data will contribute to the information base required for the marine reserve planning process.

Contact: Kevin Bancroft, Marine Ecologist, Marine Conservation Branch.

E-mail: kevinb@calm.wa.gov.au

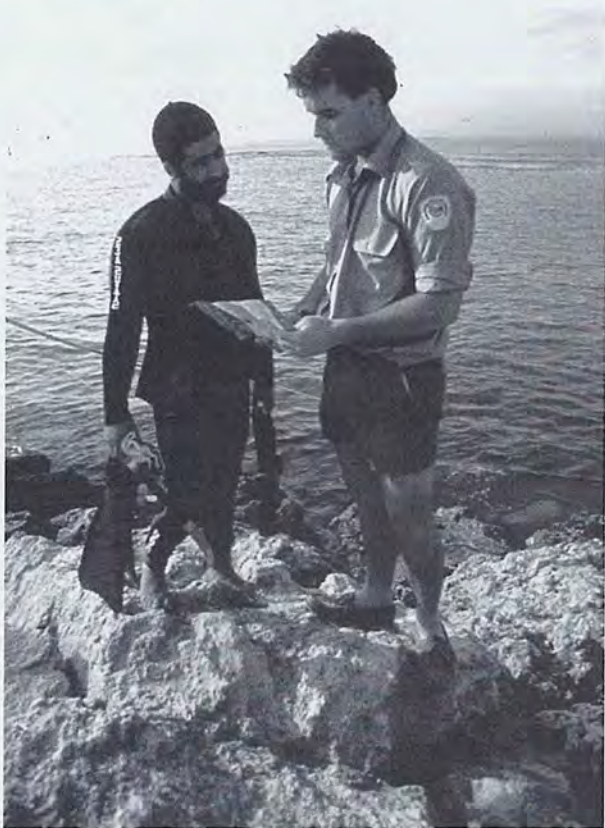


CALM staff mapping habitats in the proposed Dampier Archipelago/Cape Preston marine conservation reserve

Issues analysis-Pilbara Marine Conservation Reserves

In March/April, staff from CALM's Marine Conservation Branch and the Karratha Regional Office undertook a Pilbara Marine Conservation Reserves issues analysis for the proposed Dampier Archipelago/Cape Preston and Montebello/Barrow Islands marine conservation reserves. An issues analysis is used to describe the gathering and analysis of information resulting from discussions with community members from a representative range of stakeholder groups in order to gain an understanding of:

- community visions and aspirations in relation to the conservation and management of their local marine environment;
- community attitudes toward the two marine conservation reserve proposals;
- levels of knowledge and understanding of marine reserve and other associated concepts, marine planning and the respective roles of both Government and the community;
- the major concerns and issues of the community in regard to the conservation and management of their local marine environment; and
- relationships between and within sectors of the community.



Understanding the community's aspirations and concerns are an important part of any planning process.

One hundred and sixty four people were interviewed in regard to the proposed Dampier Archipelago/Cape Preston marine reserve and 43 people in regard to the Montebello/Barrow Islands. Non-affiliated community members, recreational and commercial groups, industry and local and State government representatives were interviewed.

More than 70% of people interviewed were positive to the marine reserve concept for both areas and were keen to see a balanced outcome. Many people also expressed surprise and delight that they were being consulted at this early stage. Although some groups were knowledgeable, others had a limited understanding of key management concepts and the marine reserve planning process. Major community concerns focused on environmental issues and the implications of a marine reserve for their lifestyles and, in some cases, their livelihoods. The data are currently being analysed further, to provide the basis for a targeted community education and liaison program that will ensure the local community is adequately informed and, as such, is able to participate more effectively in the planning process. A report of the findings will be available shortly.

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

E-mail: sueo@calm.wa.gov.au

Proposed Jurien Bay Marine Park - an update

The Jurien Bay Marine Park Indicative Management Plan (IMP) is a step closer to being released for the statutory three month public submission stage. After their April meeting, the Marine Parks and Reserves Authority (MPRA) forwarded the IMP and their report to the Minister for the Environment, as required under s14 of the CALM Act, endorsing the release of a notice of intent to establish a marine conservation reserve. On receiving the MPRA report, the Minister for the Environment sought the approval of the Ministers for Fisheries and Mines and the support of the Minister for Resources Development to release the IMP for public comment. Once this approval is obtained the proposal will be considered by Cabinet and, if approved, the notice of intent to create the marine park will be released for public comment. Following a three-month statutory public submission period, the MCB will review the submissions and then present this summary to the Advisory Committee for the Proposed Jurien Bay Marine Reserve and to the MPRA for consideration. The plan will be revised, if necessary, before being forwarded to the relevant Ministers prior to formal Cabinet consideration of the proposal.

Contact: Andrew Hill, Senior Marine Planner, Marine Conservation Branch

E-mail: andrewhi@calm.wa.gov.au

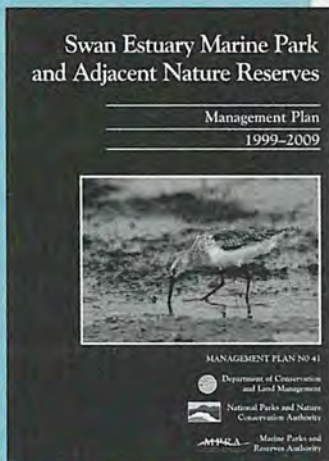
MARINE RESERVE MANAGEMENT

Swan Estuary Marine Park

Adjacent Nature Reserves Management Plan

Environment Minister Cheryl Edwardes released the 10 year management plan for the Swan Estuary Marine Park (SEMP) and Adjacent Nature Reserves in April. The three separate areas of the Park provide important feeding habitats for migratory wading birds from the northern hemisphere. The birds are protected by international agreements with Japan and China. The sandflats, mudflats and beaches in the SEMP provide the only remaining significant feeding and resting grounds in the Swan Estuary. The Park and adjacent reserves also provide habitat for a diverse assemblage of aquatic and terrestrial flora and fauna. The presence of the birds and the easy access to the Park provide excellent educational and interpretive opportunities.

Contact: Kevin Crane, Marine Conservation Officer, Marine and Coastal Districts
E-mail: kevinc@calm.wa.gov.au



Rowley Shoals Marine Park

Tim Grubba from the Marine Conservation Branch and Mike Lapwood from CALM's Broome office made the 10-hour trip out to the Rowley Shoals aboard the Fisheries/Department of Transport vessel PV Walcott. The field trip was undertaken in collaboration with Fisheries WA and Environment Australia (EA). The three shelf-edge reef platforms that comprise the Rowley Shoals Marine Park (Imperieuse Reef, Clerke Reef) and the Mermaid Reef Marine National Nature Reserve (MRMNNR) are managed under a Memorandum of Understanding (MOU) between CALM, FWA and EA.

Although the trip was part of a routine annual FWA patrol of the region, an invitation from FWA to CALM to join the trip provided an opportunity to add an additional objective. This objective was to assess for EA the status of the coral communities in the 'anchorage area' in the north-east part of the MRMNNR lagoon. The assessment was undertaken in relation to past and current anchor damage and to identify specific sites for the installation of environmentally-sensitive moorings for charter boats.

The benthic community in the lagoon consists of large Porites bommies interspersed with sand and colonies of living and dead branching staghorn *Acropora*. There was little visible evidence of recent anchor damage. Several locations suitable for the installation of moorings were identified. With the increasing boat usage of the 'mooring area' the installation of moorings will provide better protection for the more fragile coral species of the lagoon from indiscriminant mooring and anchoring.

The joint nature of the trip is indicative of the collaborative approach between the three MOU participants.

Contact: Tim Grubba, Marine Conservation Officer, Marine Conservation Branch
E-mail: timg@calm.wa.gov.au



Beautiful coral reefs abound in the Rowley Shoals Marine Park.

Rowley Shoals Marine Park

Management Plan

The Rowley Shoals Marine Park Draft Management Plan and the Indicative Management Plan for the extensions to the existing Marine Park were presented to the MPRA for their final comment and endorsement at their April meeting. After requesting some minor amendments to the draft plan, the MPRA endorsed the draft/indicative management plan to be released for public comment. The MPRA will now prepare a s14 report, as required under the CALM Act, to advise the Minister for the Environment of its support for the proposal. The support of the relevant Ministers and Cabinet are required before the plan can be released for public comment. An accompanying estimate of resources required for management is also being prepared by CALM in collaboration with Fisheries WA.

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

Ningaloo Marine Park

A decade of management

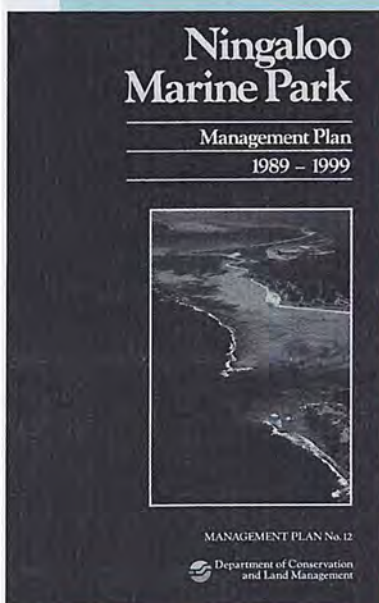
CALM's Exmouth District is currently undertaking an evaluation of the management of Ningaloo Marine Park since its establishment in 1989. The evaluation will provide a basis for the upcoming review of existing management arrangements in the Park. It will define actions that have been taken over the past decade to address the range of objectives and strategies outlined in the 1989 management plan. It will also provide an assessment of the effectiveness of those objectives and strategies, and any lessons that can be learnt from the evaluation are being compiled into a report.

The evaluation will clearly outline the good work that has been undertaken by CALM's Exmouth District over the past 10 years as well as providing an insight into some of the problems and issues that have emerged over that time frame. Up until the late 1980s the area, now known as Ningaloo Marine Park, was a place where fishing was the main reason for visiting. Since the establishment of the Park, public attitudes have changed and visitation is now more focused on an appreciation of nature, passive recreation and tourism in a pristine natural environment. This

change in public attitude has provided a dynamic environment and a unique set of management challenges.

As well as providing a summary of achievements and shortcomings of the current management plan and implementation of that plan, the evaluation will provide valuable insights for the future management of this important area. This information can then be considered in the development of the 'new' management plan for the coming decade.

Contact: Doug Myers, District Manager Exmouth
E-mail: dougm@calm.wa.gov.au



Review of the oceanography

The Marine Conservation Branch is currently undertaking a review of the oceanography of the Ningaloo Marine Park as part of the information required for the revision of the Park's management plan. Significant research has been undertaken over the past decade into the mesoscale current patterns and local scale circulation patterns within the lagoon by the Australian Institute of Marine Science and CSIRO as well as by individual researchers. The review will summarise this work in the context of its relevance to the future management of the marine park.

A report will be completed by August 2000.

Contact: Nick D'Adamo, Oceanographer, Marine Conservation Branch
E-mail: nickd@calm.wa.gov.au

Marine research in Ningaloo Marine Park

The bibliography of historical and current research relevant to the Ningaloo Marine Park currently maintained by CALM's Exmouth District is being updated as part of the information base for the upcoming review of the management plan of the park. About 200 references have been identified so far, covering a broad range of research topics. Much of the research has been undertaken since 1990 when the park was established, suggesting the creation of the park, and the resultant higher profile this brought to the area, has helped attract significant research interest. Much of this interest can be attributed to the efforts of CALM's Exmouth District in encouraging and assisting researchers to study different aspects of the park over the past 10 years.

The next step is to send the bibliography to marine scientists in Western Australia to identify any further research projects not included on the list. When completed, the list will be reviewed for research projects relevant to the management plan review.

The references and key words will be entered into the bibliographic database package Endnote and stored on a CD-ROM and updated annually. This project will also provide a template for research databases for all existing marine conservation reserves in Western Australia.

Contact: Kevin Bancroft, Marine Ecologist, Marine Conservation Branch
E-mail: kevinb@calm.wa.gov.au
Judy Davidson, Marine Conservation Officer, Marine Conservation Branch
E-mail: judyd@calm.wa.gov.au

Survey of coral communities

Corals, fish and other reef biota in the inner part of Bills Bay (Ningaloo Marine Park), adjacent to the Coral Bay townsite, were killed in April 1989 by deoxygenation of the

water caused by a large coral spawn slick, following the annual coral mass spawning event a few days before. In May, a team from the Marine Conservation Branch and CALM's Exmouth District re-surveyed all 17 sites, established in 1989, to assess the recovery of the coral communities over the past 11 years. Three 50 m transects at each site were photographed by underwater digital video. In addition, about five minutes of video footage were taken in the immediate vicinity of each site to provide further data on the state of the surrounding reef communities.

A preliminary assessment of the results indicates that the sites along the shoreline of Bills Bay that suffered very high mortality in 1989, are recovering well with a rich diversity of coral species occurring at most sites. Of particular interest is the southern-most shoreline site closest to the Coral Bay townsite and the two northern-most shoreline sites. The southern-most shoreline has a diverse assemblage of small corals indicating that coral recruitment and recovery in this very sheltered part of Bills Bay is progressing well. Although outside the current mooring area for large vessels, the emerging coral community at this site is still very vulnerable to anchor damage from small boats that currently anchor in this area. It will probably take at least another decade for this site to recover fully and considerably longer if care is not taken to avoid further anchor damage. This site and the surrounding area are immediately adjacent to the main swimming and snorkelling beach at Coral Bay and, as such, have particular educational, recreational and tourism importance. The area needs further special protection from anchor damage if recovery is to continue and these values to return as quickly as possible.

The reef framework at the two northern-most shoreline sites was intact but had no live coral when surveyed in 1989. Both sites now have a diverse coral fauna that is recovering well. According to long-time Coral Bay local, Clive Wilkinson, this northern area of Bills Bay was referred to as the 'coral garden' because of its exceptionally beautiful corals but was killed around Easter in 1978, probably also from a coral spawn slick. The survey data collected by CALM in 1989 and 2000, together with Clive's information, are extremely valuable in piecing together likely recovery times of lagoonal coral communities in this part of Ningaloo Marine Park. Most other sites affected in 1989 also appear to be recovering well, apart from several sites in the centre of Bills Bay that showed little evidence of recovery after 11 years. Perhaps like the northern shoreline sites, which also showed no significant recovery between 1978 and 1989, these sites may start to recover in the second decade after they were killed.

Other interesting observations included: that litter was only recorded at one site, no crown-of-thorns starfish were



CALM staff surveying coral communities in Ningaloo Marine Park.

recorded at any site and small numbers of the coral-eating snail, *Drupella cornus*, were recorded at only a few sites. Some of the corals at several sites were partially bleached but still living and several sites had what appeared to be the remains of recently-dead large anemones, both possibly due to the atypically high water temperatures that were reported from Ningaloo Marine Park earlier this year. Tridacnid clams were also recorded at most sites, indicating that these molluscs are also recovering well.

A report on the survey is currently being prepared as part of the information base for the upcoming review of the Ningaloo Marine Park Management Plan.

Contact: Jennie Cary, Senior Marine Ecologist, Marine Conservation Branch

E-mail: jenniec@calm.wa.gov.au

Marine Parks and Reserves Scientific Advisory Committee

Dr Charles Jacoby of CSIRO has recently been appointed to the Marine Parks and Reserves Scientific Advisory Committee (SAC) by the Minister for the Environment as a temporary replacement for Dr Jackie Alder of Edith Cowan University who is on study leave in the US for 12 months. Dr Jacoby brings more than 20 years of marine research expertise and experience to the SAC. Dr Jacoby was involved in the Jervis Bay Marine Environmental Study in NSW and more recently involved in the public consultation phase for determining environmental quality objectives for Perth's coastal waters for the Environmental Protection Authority. He has also been extensively involved with community groups in developing community-based monitoring programs.

MARINE AND COASTAL MANAGEMENT

The Penguin Experience

Penguin Island, in the Shoalwater Islands Marine Park, is the most northern breeding location on the Western Australian coast for the little penguin (*Eudyptula minor*). Currently the island is home to an estimated 700 adult pairs that mate for life. For decades people have been drawn to Penguin Island to see the smallest penguin in the world. Unfortunately, there are few penguins on the island in summer because they remain at sea feeding in preparation for the June to November breeding season. Past visitors, in their effort to find little penguins, have caused significant damage to habitats and nesting sites on the island.

To provide better protection for these birds, the Penguin Experience Island Discovery Centre was built on Penguin Island in 1996 and is run by CALM staff. The facility currently houses a resident colony of eight penguins. These birds were either abandoned as chicks or rehabilitated from illness or injury. Visitors to the Centre can see these little penguins being fed by hand and are provided with information about the ecology of these birds and why it is important to conserve and protect areas like Penguin Island. It is estimated that 65,000 people will visit the island this year, with 38,657 visitors to date.

A system of boardwalks and walkways has been constructed around Penguin Island and has dramatically reduced levels of disturbance to vegetation and nesting sites on the island.

Contact: Terry Goodlich, Ranger, Shoalwater Islands Marine Park

Mobile: 0412 99 8279



Penguin Island in the Shoalwater Islands Marine Park is the most northern breeding location of little penguins in WA.



The Coral Bay community is assisting CALM in ensuring better survival rates of loggerhead turtle hatchlings. Photo courtesy of Queensland National Parks and Wildlife.

Management of loggerhead turtles in Coral Bay

Each summer loggerhead turtles breed along the beaches near the small holiday township of Coral Bay, especially along the north-facing beaches of Bateman Bay. A range of threats, both natural and unnatural, to the adult turtles and, particularly, to the turtle hatchlings is evident at these sites. Human activity disturbs the adults coming ashore to nest, foxes dig up and eat the eggs, hatchlings get trapped in deep tyre ruts caused by the 4WD vehicles that use the beach and ghost crabs kill the hatchlings as they head for the sea.

A community-run project, supported by CALM's Exmouth Office and funding from the Coastwest/Coastcare program, has been reducing some of the dangers faced by the turtle hatchlings. Volunteers identify new nesting sites early each morning, before the wind has blown away the adult turtle's tracks. Careful probing into the sand allows the precise location of the nests to be determined. Each nest is numbered and the date and position of the nest are recorded. The nests are protected with wire cages to reduce fox predation of eggs and contain the baby turtles once they have hatched. The hatchlings can then be released under more controlled conditions to avoid some of the threats to their survival mentioned above.

Contact: Doug Myers, District Manager Exmouth

E-mail: dougm@calm.wa.gov.au

Whale shark season 2000

The 1999 whale shark season was virtually non-existent as a result of Cyclone Vance. This year has been a good season for whale shark watching in Ningaloo Marine Park with many tourists flocking to the area hoping to swim or observe the largest fish in the ocean. Commercial whale shark tour operators in Ningaloo Marine Park are licenced by CALM and are required, as part of their license conditions, to keep records of the number of paying passengers and the number of whale shark interactions. These data are currently being analysed and total numbers of visitors and shark sightings will be added to the existing database. Sightings of whale sharks this year were extended compared to recent years and continued until mid-June.

Dr John Stevens, of CSIRO Marine Research in Hobart, continued his whale shark research this year using satellite tags to monitor the movement of these animals. This research will add to the existing information base on the short-term and longer-term movements of these remarkable creatures. More information about the CSIRO whale shark tagging study can be found at: www.csiro.au

Contact: Doug Myers, District Manager, Exmouth
E-mail: dougmc@calm.wa.gov.au

Whale watching seminar for tour operators

CALM's Wildlife Branch holds an annual pre-season seminar for commercial whale watching tour operators from both metropolitan and country areas. The seminar provides a forum to update operators on changes to rules and regulations governing the industry and also to explain the licence conditions for the benefit of new operators or 'new' skippers. This year's seminar will be held at Underwater World at Hillarys Boat Harbour and is scheduled for 30 August.

Information collected by operators in the previous season, as required under their licence conditions, is presented at the meeting by CALM staff. These data usually provide the basis for discussions on topics such as the trends in the number of passengers and the likely success rate of seeing whales in the coming season. In past years, guest speakers have also been invited to discuss a range of topics from research to marketing. The seminar also provides an opportunity for operators to raise any issues and concerns they have and this provides CALM with the feedback needed to improve the overall management of this industry.

Contact: Doug Coughran, Wildlife Officer, Wildlife Branch
E-mail: douglasc@calm.wa.gov.au

OTHER NEWS

New funding

for marine research in Western Australia

The State Government's 2000 budget was released in May and included a \$10 million allocation to a Strategic Research Fund for the Marine Environment over the next six years. This sum matched an equivalent contribution to the Fund by CSIRO Marine Research over the same period. The allocation of this funding was the final result of more than two years' hard work by the Marine Science Working Group (MSWG) which consisted of representatives from the departments of Commerce and Trade (Chair), Environmental Protection, Conservation and Land Management, Minerals and Energy and Fisheries Western Australia. The MSWG was formed to give effect to the agreed outcomes of a two-day workshop attended by nearly 100 participants and held at Perth Zoo in October 1998. The workshop identified strategic marine research needs for Western Australia.

The Fund will complement existing strategic marine research programs in tropical Western Australia and contribute significantly to the quantitative description and understanding of Western Australia's marine environment.

Contact: Chris Simpson, Manager, Marine Conservation Branch
E-mail: chriss@calm.wa.gov.au
Linda Penny, Department of Commerce and Trade
Phone: 9327 5666

GIS-based decision support systems

Over the past 12 months the Marine Conservation Branch, via funding from Environment Australia (EA), has been involved in a collaborative project with EA, to develop a GIS-based Decision Support System (DSS) for use in marine reserve planning. Stage I of this project has focused on developing a tool that incorporates the necessary decision-making layers (both biophysical and socio-economic) and criteria, as well as ensuring the level of operational complexity strikes a balance between delivering useful results and being able to be used in a community-based planning process. This stage is now largely complete. Stage II will involve an evaluation of the DSS and a trial application using existing data. Once this stage is completed, the application of the DSS to a real-life marine reserve planning process will be investigated. The use of a DSS in a planning process is not meant to replace the traditional face-to-face consultation process but as an

aid to this process. These tools are particularly useful in explicitly identifying 'up-front' the major biophysical and socio-economic information layers and criteria, their relative importance (weighting) and the most appropriate temporal and spatial resolution of the datasets.

The project has created considerable national interest in applying these tools to both the regional marine planning process currently underway in the south-east of Australia and the Representative Areas Program being undertaken by the Great Barrier Reef Marine Park Authority. A national committee has recently been established by EA to develop these tools further in this context. Ben Radford, who worked in the Marine Conservation Branch throughout much of 1999, has recently enrolled in a PhD with James Cook University of North Queensland and the University of Western Australia, supported by the ReefCRC in Townsville to explore fully the marine application of these tools.

Contact: Ray Lawrie, GIS Coordinator, Marine Conservation Branch

E-mail: rayl@calm.wa.gov.au

Australian Institute of Marine Science

Western Australian Workshop 2000

The Australian Institute of Marine Science (AIMS) held a workshop in Perth on 26 April to inform the local marine science and management community of its recent and proposed research activities in the tropical marine environments off Western Australia. Reports were presented by AIMS staff on a wide range of ongoing research topics that have direct relevance to this State's marine conservation programs.

Chris Simpson presented an overview of the State's policy framework for marine conservation and highlighted CALM's current marine reserve implementation and management activities off north-west Australia. He also outlined the generic research areas needed to service these activities. The AIMS contribution to a wide range of marine research since arriving in the West about five years ago has been very significant and the Institute is now a major contributor to the scientific knowledge needed to underpin effective management of Western Australia's tropical marine environment. The Institute's collaborative 'culture' and the direction given by its Scientist in Charge, Andrew Heyward, in particular, have been key elements in the successful establishment of AIMS in WA. CALM will continue to maintain the strong links with AIMS that have been developed over the past five years.

Contact: Nick D'Adamo, Oceanographer, Marine Conservation Branch

E-mail: nickd@calm.wa.gov.au



Whale sharks attract many visitors to the Exmouth region every year.

Dugong study in Shark Bay Marine Park

Nick Gales, from CALM's Wildlife Branch, is continuing a study on the movement of dugong in the Shark Bay Marine Park. The dugong population is estimated to be around 16,000 and Shark Bay is now a globally important area for this species. The project arose from the need to understand dugong movements better and identify critical habitats. The information will help ensure that the proposed extensions of the Marine Park consider the inclusion of these habitats. This study complements several other dugong research projects that have been undertaken in Shark Bay by CALM scientists and other researchers over the past two decades.

Dugong movements are tracked using a specially-designed floating GPS satellite tag, which is attached to the animal via a tether. The tag not only records the position of the animal but also the water temperature and the time spent underwater. The data are obtained from the tag when it is 'released' and retrieved.

CALM is working with scientists and researchers from Edith Cowan and James Cook universities as well as members of the Yadgalah Aboriginal Corporation of Denham.

Contact: Nick Gales, Principal Marine Zoologist, Wildlife Branch

E-mail: nicholasg@calm.wa.gov.au

Marine training course

A marine training course has been developed over the past three months to improve the knowledge and expertise of CALM's coastal and marine staff. CALM Regions and Districts helped develop the objectives and scope of the training course to ensure it met their needs. The course will provide general information on the marine environment of Western Australia, the impacts of human use and the marine conservation reserve planning process. The course

will also provide training in communication techniques, so that staff can more effectively converse with the local community about marine conservation issues in their area. The course will make use of a range of tools and activities to achieve the learning objectives, including Power-Point presentations and a field trip to a local coastal habitat or area of interest. CALM staff have been filmed on video to provide a particular insight into specific topics such as oceanography, marine monitoring and marine and coastal wildlife management issues. Other agencies, such as Fisheries WA, have also offered their assistance in delivering part of the course relevant to their responsibilities. The first training course will be held in the south-west early next year.

Contact: Kylie Ryan, Marine Conservation Officer, Marine Conservation Branch

E-mail: kylier@calm.wa.gov.au

Sue Osborne, Community Liaison Officer, Marine Conservation Branch

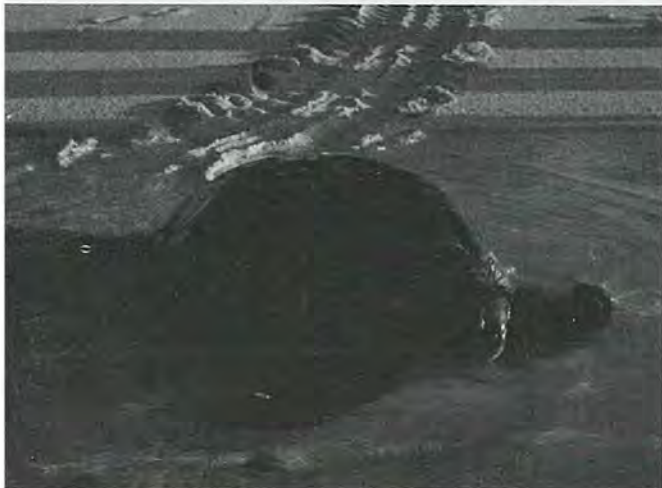
E-mail: sueo@calm.wa.gov.au

Turtle Research in the Dampier Archipelago

CALM staff, with assistance from Woodside Energy and funding from Coastwest/Coastcare, have been helping community groups in the Pilbara to gather important information about marine turtles over the past seven years. The program uses experienced community volunteers to tag, measure and record the number of turtles that come ashore and the number of eggs that are laid. This information provides the basis to assess the relative importance of the beaches for turtle nesting and will be used in the up-coming marine reserve planning process for the Dampier Archipelago. Hawksbill, flatback and loggerhead turtles all nest on beaches in the Archipelago, with beaches on Rosemary Island being some of the most significant rookeries in Australia for hawksbill turtles.

Contact: Bob Prince, Research Scientist, Woodvale Research

E-mail: bobb@calm.wa.gov.au



A turtle coming ashore to nest in the Dampier Archipelago.

Marine science conference

A marine science conference, convened in Perth by the Australian Marine Sciences Association (AMSA) WA Branch and Maritime Education and Research Alliance, brought together a wide cross-section of the marine science and management community for two days in April. The presentations covered a variety of research, monitoring and policy topics relevant to marine and estuarine conservation in Western Australia. Papers ranged from the effectiveness of sanctuary zones in Ningaloo Marine Park to the potential biological inter-connectedness of reefs off north-west Australia. Nick D'Adamo and Scott Condie from CSIRO jointly presented a paper on the latter topic. Several other CALM staff attended the conference. As well as keeping up with current research activities in the State, the conference provided an opportunity for staff to discuss in more detail the relevance and applicability of particular research projects with individual scientists.

At the annual general meeting after the conference, Liesl Jonker and Tim Grubba, from CALM's Marine Conservation Branch, were elected to the AMSA (WA) committee.

Contact: Liesl Jonker, Marine Planner, Marine Conservation Branch

E-mail: lieslj@calm.wa.gov.au

Tim Grubba, Marine Conservation Officer, Marine Conservation Branch

E-mail: ting@calm.wa.gov.au

Working together for marine conservation

In May, senior staff from CALM's Marine Conservation Branch had the first of what will be regular meetings with the Marine Conservation Strategy Group (MCSG), an informal affiliation of key non-government organisations (NGOs) committed to the conservation and sustainable usage of Western Australia's marine environment. The first meeting was an opportunity to meet the people involved and outline the respective objectives of both groups as a basis for identifying key areas for future collaboration.

NGOs and Government departments don't always see eye-to-eye on all issues, but both groups have important roles to play. These differences are, however, more often over the way things are done rather than any major difference in their respective objectives. Focusing on developing and achieving a common vision and maintaining good communication is vital if a working partnership is to be successful. The regular meetings between the MCB and the MCSG will provide the forum to ensure this happens.

Contact: Chris Simpson, Manager, Marine Conservation Branch

E-mail: chriss@calm.wa.gov.au

Marine Conservation Branch seminar series

Seminars on marine conservation began in May 2000 at the Marine Conservation Branch office in Fremantle. The seminars are directed primarily at CALM staff and provide opportunities for staff to keep abreast of important marine research, provide professional development for staff and an opportunity for younger staff members to expand their professional networks. The seminars are generally held between 12–1pm, immediately after the bi-weekly meeting of the Marine Conservation Branch in the conference room.

Mark Westera from Edith Cowan University, who is undertaking a comparative study of the biodiversity of the sanctuary (no fishing allowed) and recreation (recreational fishing allowed) zones of Ningaloo Marine Park, delivered the first seminar of the series. He was followed two weeks later by Dr Rob McCauley of Curtin University who is studying the impacts of underwater sound produced by seismic 'guns' on marine fauna. Seminar three was presented by Dr Gary Kendrick, from The University of Western Australia, who discussed the use of marine biodiversity surveys as a tool for marine reserve planning.

The seminar series is proving popular with people both within and external to CALM to the extent that the location may have to be changed from the MCB to a larger seminar room in Notre Dame University. Contact Nick D'Adamo for further information on the location, timing and topics of these seminars.

Contact: Nick D'Adamo, Oceanographer, Marine Conservation Branch

E-mail: nickd@calm.wa.gov.au

Marine education conference

The annual conference of the Marine Education Society of Australasia (MESA) was held in Fremantle in April. Marine Conservation Branch and CALM Bush Rangers staff gave presentations on different ways that the community can be involved in the management of the marine environment.

Sue Osborne outlined CALM's comprehensive public participation program associated with the creation of marine conservation reserves. Jennie Cary discussed the Marine Community Monitoring Program that CALM, in partnership with the Western Australian Museum and the Australian Marine Conservation Society, has been developing for the



Students from John Septimus Roe Anglican Community School taking part in CALM's Bush Ranger program.

past two years. Tim Grubba gave a demonstration of how to use the innovative *Marine Life in Western Australia* CD-ROM that was developed in stage one of this project. Carleen Edwards, a teacher involved with the Bush Ranger program at John Septimus Roe Anglican Community School was ably assisted by 30 Bush Ranger students to demonstrate five monitoring methods from the Marine Community Monitoring Manual including how to monitor water temperature, water quality, beach profile, beach litter and seagrass regeneration.

Contact: Sue Osborne, Community Liaison Officer, Marine Conservation Branch

E-mail: sueo@calm.wa.gov.au

STAFF NEWS

Dave Rose, CALM's Moora District Manager for 10 years, has recently taken up the position of District Manager in Denham, Shark Bay. Dave was instrumental in laying much of the groundwork for the development of the proposed Jurien Bay Marine Park. Dave is well respected by all CALM staff who know him and by the local communities of the central west coast for his commitment and dedication to conservation and the diplomatic and quietly determined way he goes about his job. These characteristics will stand him in good stead in the Shark Bay area. Good luck with the new job, Dave.

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