

# Marine Conservation

Matters

A newsletter about Marine Conservation in the Department of Conservation and Land Management

Issue 10 June 2003

## FOOD FOR THOUGHT

### Marine Parks Bring Economic Benefits to the State

The longer-term environmental benefits of conservation programs are well understood and, as a result, are well supported by the community.

By contrast the economic benefits of conservation programs have, until very recently, not been assessed and, as such, these benefits are poorly appreciated by the public. A recent study, by Dr David Wood from Curtin University, on the economic benefits of tourism to the Exmouth area illustrates the economic value of Ningaloo Marine Park to the local and state economies. Results indicated that tourists visiting Exmouth spend in excess of \$85 million per annum in the local area and a further \$42 million per annum in Western Australia getting to Exmouth, visiting other places in the region and equipping themselves for their holiday. The study identified that Ningaloo Marine Park is a primary draw card for international visitors, with almost 90 per cent of respondents from abroad stating the marine park was the main reason for visiting Exmouth compared to almost 80 per cent of domestic respondents.

Provided tourism is managed sustainably, the substantial tourism revenue generated by the establishment of marine conservation reserves provides a significant economic bonus to regional communities in addition to the more well known conservation benefits. The many published papers that highlight the capacity for natural areas to stimulate significant tourism and economic flow-on benefits to local communities highlights the conclusion of a recent economic analysis that there is a clear and compelling economic case for strengthening attempts to conserve what remains of natural ecosystems.



The 260km long fringing coral reef and its inhabitants characterise Ningaloo Marine Park and are a major tourism drawcard for Western Australia.



#### IMPORTANT NEWS IN THIS ISSUE

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This issue and past issues of *Marine Conservation Matters* can be viewed at [www.calm.wa.gov.au/national\\_parks/marine/index.html](http://www.calm.wa.gov.au/national_parks/marine/index.html)

## MARINE RESERVE IMPLEMENTATION

### Survey Shows Strong Public Support for Proposed Jurien Bay Marine Park

A recent study by Murdoch University assessed visitor attitudes towards the proposed Jurien Bay Marine Park. The surveys investigated the demographics, usage patterns and attitudes of users of the area towards the proposed marine park on two respective days of the 2002 Labour Day and Easter weekends. A hundred people were interviewed at the popular visitor sites of Dynamite Bay, Jurien Bay boat ramp, Jurien Bay town beach and Cervantes town beach.

The study found that the majority of respondents (77 per cent) were overwhelmingly supportive of the proposed gazettal of the marine park. By contrast, nine per cent were not supportive and 14 per cent were non-committal. Of the people in support of the marine park proposal, 30 per cent gave preservation of the natural environment as their reason and another 30 per cent said they favoured the proposal because a marine park would help secure fish stocks for future generations. The survey found that the most commonly pursued activities of respondents were beach going (48 per cent), boat fishing (23 per cent) and beach/jetty fishing (15 per cent). Respondents came from Perth (65 per cent) and from the central west and adjacent wheat belt regions (30 per cent).

The project was funded by the Marine Conservation Branch through its annual research 'seed' fund and supported by the Moora District office.

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### Update on the Proposed Dampier Archipelago/Cape Preston Marine Conservation Reserve

The Advisory Committee for the proposed Dampier Archipelago/Cape Preston marine conservation reserve has been developing the proposal over the last three years and has now finalised its recommendations. The Committee met for the ninth and final time on 6–7 February 2003.

At this meeting, the Committee finalised its consideration of community feedback and endorsed the draft indicative management plan, which includes the draft zoning scheme for the proposed reserve. The Committee also requested that the Department of Conservation and Land Management conduct further consultation with the local Indigenous community to ensure they have been adequately represented in the process before the plan is released for a formal public submission period.



*The Dampier foreshore, where industry and nature come together.*

There were many difficult and complex issues addressed in this proposal, which highlight the high ecological values and diverse range of commercial and recreational activities in the area. The Committee has tried to strike an appropriate balance between conservation and use that will provide a platform for the future conservation and sustainable management of this important area.

The Marine Conservation Branch and the Department's Karratha Regional Office are currently undertaking further consultation with local Indigenous groups and individuals with the aim of facilitating input into the draft indicative management plan. Following this consultation, the Marine Parks and Reserves Authority will provide advice on the proposal to the Minister for the Environment and Heritage. The Minister will then seek the concurrence of the Minister for Agriculture, Forestry and Fisheries and the Minister for State Development to release the draft plan for a three-month public submission period.

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### Proposed Montebello/Barrow Islands Marine Conservation Reserve

As mentioned in the December 2002 edition of *Marine Conservation Matters*, the Advisory Committee for the proposed Montebello/Barrow Islands marine conservation reserve met for the fifth and final time on 12–13 December 2001. Although the Advisory Committee's involvement in the planning process is largely over, there were several outstanding issues to resolve before the proposal could be progressed.

A working group was set up to clarify Government regulations and approvals processes for the petroleum industry in marine conservation reserves and to make recommendations on improving these processes. The group also considered the issue of ecological management targets for the proposed reserve. The group has met five times and has now largely completed its objectives.

With the above issues resolved, the draft indicative management plan will now be considered by the Marine Parks and Reserves Authority which will provide advice to the Minister for the Environment and Heritage under Section 14 of the *Conservation and Land Management Act 1984*. Upon receiving this, the Minister for the Environment and Heritage will seek the approval of both the Minister for State Development and the Minister for Forestry, Agriculture and Fisheries to release the proposal for public comment. The three-month public submission period is another opportunity for the community to have further input to the planning process.



*The petroleum industry is a major stakeholder in the proposed Montebello/Barrow Islands marine conservation reserve.*

## Proposal Launched for New Marine Conservation Reserve in the 'Capes' Area.

On 17 March 2003, the Minister for the Environment and Heritage launched the planning process for community consideration of a proposed marine conservation reserve in the Geographe Bay-Leeuwin Naturaliste-Hardy Inlet (i.e. 'Capes') area by calling for nominations for a local community advisory committee. The advisory committee will assist the Department to make recommendations to the Minister on the proposal with respect to the appropriate category of marine conservation reserve under the *Conservation and Land Management Act 1984*, boundaries, management strategies and management targets in the form of an indicative management plan. The 'Capes' study area encompasses the region from Geographe Bay through Capes Leeuwin and Naturaliste to Hardy Inlet.

The committee will be comprised of individuals bringing perspectives on conservation, recreation and tourism, recreational and commercial fishing, Indigenous interests, science and education, local government and industry. The period for expressions of interest closed on 25 April and committee membership is expected to be announced in June with the first meeting shortly after.

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*Canal Rocks within the proposed 'Capes' marine conservation reserve area—highlighting the wealth of marine life in southwest coastal waters.*

## Review of the Ningaloo Marine Park

The review of the Ningaloo Marine Park (NMP) management plan and the proposed extensions of the reserve system are continuing. The release of the Marine Parks and Reserves Authority's (MPRA) 'Framework Paper' in March saw the beginning of an extensive community consultation phase regarding the future management of the marine environment of the Gascoyne/Ningaloo coast. Stuart Field, who is coordinating the review, said that the 'Framework Paper' provides an outline of the MPRA's position on the review of the management plan and the proposed extensions of the reserve system and promotes the continuing partnership between Government and the community as a central strategy for the future conservation and management of the marine environment in the region.

Nominations have also been called for the Coral Coast Parks Advisory Committee (CCPAC). The CCPAC will provide a mechanism to facilitate community input into the planning and future management of conservation lands and waters of this region. Departmental staff have met with stakeholders in Exmouth, Coral Bay, Carnarvon and Perth to discuss the management issues outlined in the 'Framework Paper'. Further meetings are planned during the development of the draft management plan for the marine park and indicative management plans for the additional areas north and south of the park.

## Proposed Walpole/Nornalup Inlets Marine Conservation Reserve

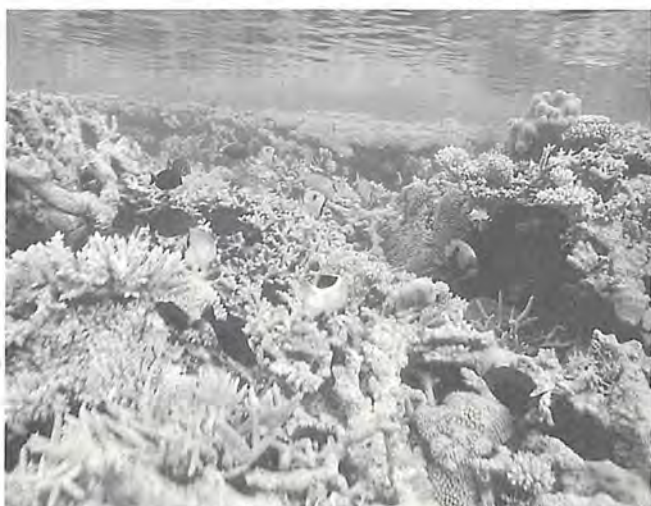
The process to consider the Walpole/Nornalup inlets as a marine conservation reserve has recently commenced. The Government identified this area on the south coast of Western Australia as one of five highest priority areas for reservation. This estuarine system consists of two connected coastal lagoons surrounded by the Walpole/Nornalup National Park. The Frankland and Deep rivers flow into the estuaries. Nornalup Inlet is permanently open to the ocean and both inlets have been recommended for reservation. The inlets are considered one of the most biologically diverse estuarine systems on the south coast. The area is also a popular area for recreational activities and has high aesthetic and cultural values. Over the next two months, the Marine Conservation Branch (MCB) will be compiling ecological and social information on the area and will be working to inform the local and wider community of the planning process and to identify key issues to be considered in the planning process. Those seeking to participate in this process and remain informed of progress are encouraged to contact the MCB and register their interest.

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*An underwater view depicting the crystalline waters and pristine corals of the Rowley Shoals Marine Park.*

## Update on the Rowley Shoals Marine Park Management Plan

The Rowley Shoals Marine Park draft management plan and indicative management plan for extensions to the existing marine park is a step closer to being released for the statutory three-month public submission period. The document serves as both a draft management plan for the existing gazetted area of Rowley Shoals Marine Park and an indicative management plan for proposed extensions to the existing Marine Park. Extensions have been recommended to include all of the State waters around the existing marine park as the current park boundary, which is 100 m seaward of the reef edge, does not fully encompass all of the ecological values and uses of the area.

The Marine Parks and Reserves Authority has approved the plan and forwarded their advice to the Minister for the Environment and Heritage. The proposal is now at the stage where the Minister for the Environment and Heritage is required to seek the approval of the Minister for Forestry, Agriculture and Fisheries and the Minister for State Development to release the plan for public comment. The three-month public submission period is another opportunity for the community to have further input to the planning process.

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## MPRA NEWS

### MPRA/MPRSAC Joint Meeting

A joint meeting of the Marine Parks and Reserves Authority (MPRA) and the Marine Parks and Reserves Scientific Advisory Committee (MPRSAC) was held on 4 April 2003 at the Department of Conservation and Land Management's Corporate Headquarters in Crawley. The primary focus of the joint meeting was to discuss the development of a research and monitoring capacity to support the Government's marine conservation program. The meeting was attended by MPRA and MPRSAC members and Chris Simpson, Nick D'Adamo, Tim Grubba and Neil Burrows from the Department.

The joint meeting also provided an opportunity for the MPRA and MPRSAC members to discuss a number of other pressing issues including a possible future bio-regional approach to planning for marine conservation reserves in Western Australia and consideration of the on-going 'no-take' versus 'multiple-use' marine protected areas debate. The MPRA and MPRSAC agreed to re-convene in June to further consider the role of 'no-take' zones in marine protected areas and to provide a basis for the MPRA to update their current policy position on this issue.

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### MPRA Review

The Minister for the Environment and Heritage is carrying out a review of the three statutory authorities established under the *Conservation and Land Management Act 1984*. The requirement for a review of the Marine Parks and Reserves Authority (MPRA), Marine Parks and Reserves Scientific Advisory Committee (MPRSAC) and the Conservation Commission of Western Australia (CCWA) arises from statutory and Government policy commitments, including the Machinery of Government (MOG) review.

The *CALM Act* (s.26E) requires that the Minister shall carry out a review of the operations and effectiveness of the MPRA as soon as is practicable after 29 August 2002 and in the course of that review shall have regard to —

- the need for the continuation of the MPRA; and
- such other matters as appear to the Minister to be relevant.

While the *CALM Act* requires a similar review in respect to the CCWA, that review is not due until after 16 November 2005. While there is no statutory requirement for a review of the MPRSAC, the MPRSAC is being reviewed in the context of the MOG requirements. The outcomes of the review are expected to be announced by the Minister for the Environment and Heritage by mid-year.

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## MARINE RESERVE MANAGEMENT

### Monitoring Sites Established in Metropolitan Marine Parks.

Staff from the Department's Swan Coastal District and the Marine Conservation Branch have been busy establishing more benthic monitoring sites in the Marmion, Swan Estuary, and Shoalwater Island marine parks. A total of 38 permanently-marked sites were established during the summer months to take advantage of the warmer water, generally lower swell and clearer water. The monitoring sites will provide baseline data on key benthic ecosystem components such as seagrass and macro-algae communities, which are the key primary producers in these parks as well as being habitat for many other marine plants and animals. The new sites complement the monitoring sites that are already established in these marine parks to assess the impacts of specific activities and uses.

This project concludes a five-year program of establishing permanent, long-term benthic monitoring sites in all of the existing marine conservation reserves in Western Australia. Monitoring sites will continue to be established routinely as 'new' reserves are gazetted.

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*Deane Pember (Swan Coastal District) recording visual observation at new monitoring sites in the metropolitan Marine Parks.*

helping to conserve our marine environment. As part of Seaweek, the Rottnest Island Authority established the Seaweek Teachers' Expo in 2001 specifically to give local teachers the necessary skills and knowledge to teach marine education by raising their awareness of the organisations that are currently engaged in marine education and the types of educational facilities, programs and resources that are available to them.

Suzanne said the workshops at the Expo were an excellent opportunity for teachers to actively learn new and innovative ways to educate students about conserving and protecting the marine environment. She also said the Expo provided useful insights into the marine education programs of other agencies and organisations which will hopefully, in time, facilitate better integration of the Department's marine education programs with these organisations.

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### Marine Work Plans—Improving Organisational Effectiveness

One requirement of the Department's Memorandum of Understanding with the Marine Parks and Reserves Authority (MPRA) is to "... better qualify allocations to its marine program." A draft MPRA Audit Policy has been produced which requires that the MPRA undertake a management performance review of each marine conservation reserve every three years. The Department's marine work plans, which are consistent with the approved management plans, fulfil both these requirements by identifying and prioritising the annual work program for each reserve including allocated budgets. The marine work plans also contribute to the Service Provider Agreements under the Department's Output Purchaser Provider model.

The first set of marine work plans for Western Australia's seven existing marine conservation reserves were prepared for the 2002/03 financial year via a collaborative approach between the Marine Conservation Branch and the relevant Districts. In February 2003, a review was undertaken to assess progress in their implementation. John Lloyd of the Marine Conservation Branch has been working closely with District staff in developing the work plans and reviewing progress. John said, "District staff have provided positive feedback commenting that the marine work plans have been valuable in helping to identify priorities and focus management effort on the key issues that need to be addressed to conserve the ecological and social values of the reserves."

The first annual review of the 2002/03 marine work plans will be carried out by September 2003. The marine work plans are part of the Department's commitment to continuous improvement of its marine reserve management and performance assessment systems.

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*Teachers partaking in a water quality workshop held by staff from the CSRIO Science Education Centre at this year's Seaweek Teachers' Expo.*

### Seaweek Teachers' Expo 2003

Over 20 teachers headed to Rottnest Island for the Seaweek Teachers' Expo in early March to learn how to make marine education more interesting for school students. Suzanne Gattrell, from the Marine Conservation Branch, was on hand to assist and promote the Department's marine education programs. Seaweek is a national public awareness campaign founded by the Marine Education Society of Australasia as part of a long-term strategy to educate and engage the community in

## A Framework for Marine Wildlife Management

The Department's Marine Conservation Branch has recently developed an ecological risk assessment framework to assist with prioritising management efforts regarding marine wildlife species within Western Australia. The Department is responsible for the conservation of these species, both on-reserve and off-reserve, under the Western Australian *Conservation and Land Management Act 1984* and *Wildlife Conservation Act 1950*.

Over 25 marine wildlife species were assessed in the prioritising process and included mammals such as whales, dolphins and sealions, seabirds such as little penguins, raptors and migratory species and reptiles such as turtles and sea snakes. Species such as whale sharks and manta rays were also considered. Management priorities were determined by constructing a matrix where the relative conservation value of each species, measured in terms of biodiversity significance, ecological importance and socio-economic worth, was assessed against the relative level of threat to the species' 'population' within Western Australian state waters.



*Penguins are just one of the 25 species included in the ecological risk assessment framework.*

Species were then classified into one or more of six groups: Group A species are those for which the state 'populations' are considered to be ecologically 'at risk' (e.g. Australian sea-lion, some turtle species); Group B species are those where 'sub-populations', groups or individuals are subject to commercial exploitation (e.g. whale shark); Group C species are those subject to recreational exploitation (e.g. dolphins); Group D species are those that pose a danger to the public (e.g. saltwater crocodiles); Group E species are those commonly requiring 'emergency response' (e.g. whale entanglements and strandings); and Group F species are those that are classified as 'data deficient' (e.g. the endemic sea snake species in Shark Bay).

Generic management actions required for each of the six 'groups' are also outlined and provide a basis for determining the nature and priority of management actions required for the conservation and management of these species.

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*Two of the new educational signs along the dual pathway adjacent to Marmion Marine Park, which is one of the three marine parks in the metropolitan area.*

## Public Awareness Surveys in Marmion Marine Park

A series of educational signs were installed along the cliff-top promenade overlooking the Marmion Marine Park (MMP) during October to December 2002 (see Issue 9 of Marine Conservation Matters). The signs were established to increase, in the short-term, public awareness of MMP and the marine reserve system in general. In the long-term, the signs are part of an on-going program to foster local community stewardship of MMP and to continue to build a public constituency for marine conservation in the State. To assess the short-term effectiveness of this project, public surveys were carried out before and after the signs were installed to assess the changes in community knowledge and attitudes.

The survey found that most respondents visited the park at least weekly, lived locally and used it mainly for swimming or walking along the promenade and beach. Awareness of the existence of the park rose from 50 to 60 per cent, and of the park's extent (ie Trigg Island to Burns Rocks) from 15 per cent to 30 per cent. The number of people who knew the Department was the lead management agency rose from 45 per cent to 70 per cent and who were aware of the Marine Parks and Reserves Authority from three per cent to eight per cent. The signs appeared to be effective in raising people's awareness of the marine park. For example, of the 51 per cent who had noticed the signs, 72 per cent named the park correctly. In comparison, of the 49 per cent who had not noticed the signs, only 38 per cent named the park correctly.

Our appreciation and thanks go to the three departmental volunteers who assisted in the surveys: Cameron McEvoy, Kim Onton and Joshua Smith.

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An Australian sea lion, one of the rarest pinnipeds on earth and found off North Fisherman Island in the proposed Jurien Bay Marine Park.

## Australian Sea-lion Survey

A survey of Australian sea-lion pups was undertaken during the summer months at Beagle and North Fisherman Islands off the central west coast to determine levels of pup production at these important breeding islands. The Australian sea-lion occurs from South Australia through to the Abrolhos Islands and is listed as specially protected fauna under the Western Australian *Wildlife Conservation Act 1950*. The sea-lion population is also a key performance indicator for the proposed Jurien Bay Marine Park.

In undertaking the survey, Dave Holley and Melissa Mazzella from the Marine Conservation Branch were accompanied by Dr. Richard Campbell from the University of Western Australia. Pup numbers recorded were 51 for the Beagle Islands and 36 for North Fisherman Island. Both records are within the range of historical pup production for these islands, suggesting the sea-lion 'populations' at these sites are stable. Sea-lion pup counts provide the most accurate method available for assessing the 'health' of sea-lion 'populations' provided counts are conducted during periods that are representative of the main breeding periods (i.e. the peak or latter part of the breeding season). Counts conducted too early within the season will miss those pups born later, and counts conducted too late may miss pups that have already left the breeding sites. With the likelihood of increased recreational and commercial development in this region, the ongoing monitoring of the sea-lion 'population' will be vital in minimising any long-term impacts on these unique mammals.

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## Community Monitoring Mania in Western Australia's Coastal Waters

Community groups all around the Western Australian coast are eagerly getting their feet wet as they discover what is happening in their local waters and try to work out why according to Marine Community Monitoring Program (MCMP) Project Officer Karen Wheeler. The MCMP manual (the Manual) provides easy-to-use monitoring methods to assist community groups and schools to collect ecological and social information relevant to the conservation and management of their local marine environment. In the short-term, the program aims to increase community education and awareness of marine conservation issues through active public participation whilst providing information on the state of the marine environment that is useful to marine managers. In the long-term, the program hopes to build greater local community stewardship for our marine environment and a strong public constituency for marine conservation.

Karen has been working closely with groups to trial monitoring methods in the Manual. The outcome of these trials and further community consultation has resulted in a revised edition of the Manual (Version 2) which will be launched later in the year. Karen said, "Working with community groups over the past 10 months has proved very rewarding and there have been many success stories as existing projects continue to develop and new projects get underway around the State".

Special mention goes to: Friends of Marmion Marine Park, Bremmer Bay Dive Club, Bunbury Cathedral Grammar School, Cape Conservation Group, Friends of Lancelin Island, Rockingham Regional Environment Centre, Kimberley TAFE, John Septimus Roe Anglican Community School, Department of Conservation and Land Management Bush Rangers and Friends of South Beach. All of these groups are acknowledged for their on-going interest, participation and commitment to marine community conservation and monitoring initiatives around the State.

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Friends of Marmion Marine Park are just one of the community groups that are taking part in the Marine Community Monitoring Program.

## Research and Monitoring to Support Marine Conservation

The Marine Conservation Branch is currently undertaking a review of the marine research and monitoring capability needed, in the long-term, to support the Government's marine conservation program and how this might be delivered. Strategic and tactical marine ecological and social research is needed to support policy development, the establishment and management of the statewide system of marine protected areas and the management of marine wildlife outside the reserve system. Similarly, ecological and social monitoring is required to determine natural resource condition, assess the effectiveness of management strategies and meet Marine Parks and Reserves Authority (MPRA) and Departmental audit requirements.

Unlike the Department's terrestrial conservation program which is well-supported by a significant in-house R&M capability, the marine program has, in the past, relied largely on externally funded projects and research outputs from Commonwealth and State agencies and universities. While this approach has been very useful and will be continued, it will not meet the increasing research and monitoring needs of the Department's expanding marine conservation program. A presentation on the review was made to a joint meeting of the Marine Parks and Reserves Authority (MPRA) and Marine Parks and Reserves Scientific Advisory Committee in April to seek their views.

The review is being undertaken by Nick D'Adamo and Chris Simpson, in collaboration with Neil Burrows, the Director of the Department's Science Division, Neil Burrows, will be presented to the Department's Corporate Executive.

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## 'Seed Funding' of Marine Research

The Department, via the Marine Conservation Branch (MCB), provides 'seed funding' for Honours and post-graduate marine research (see the July 2002 edition of Marine Conservation Matters). Research projects cover both ecological and social studies relevant to the establishment and management of the system of marine conservation reserves (MCRs) and the management of marine wildlife throughout the state. The fund is coordinated by the MCB and implemented in collaboration with the Regions. It provides students with much-needed operational support in projects selected principally from an annually updated list of topics provided by the MCB. Students are also encouraged to formulate their own research questions and funding is considered in relation to their relevance to Departmental priorities.

The fund is likely to support at least 10 projects in 2003 including the following nominal titles:

- *The ecological and social resources of the proposed Walpole-Nornalup inlets marine conservation reserve;*
- *The indigenous marine heritage of the proposed Geographe Bay/Leeuwin-Naturaliste/Hardy Inlet marine conservation reserve;*
- *Selection of priority conservation areas for coastal fishes in Western Australia;*
- *Characterisation of benthic community structure inside and outside sanctuary zones in Marmion Marine Park;*
- *Analysis of the vulnerability to human-induced physical disturbance of the nearshore and dune environs of the coastal strip of Ningaloo Marine Park;*
- *The role of oceanic phytoplankton in driving primary production in Ningaloo Marine Park; and*
- *Distribution of foraminifera in the sediments of Stokes Inlet.*

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## Marine Reserve Boundary Delineation

The establishment of nominal marine conservation reserve (MCR) boundaries and zones occurs during the planning process and is often a technically complex and contentious part of that process. By comparison, it would appear that the spatial delineation of these boundaries is a straightforward exercise and is as simple as putting the agreed lines on a map. However, ensuring that these boundaries are practical and effective for on-ground management requires much careful attention and an understanding of the legal requirements, the implications for key operational issues such as surveillance and enforcement and an appreciation of human nature.

Spatial issues that need to be addressed include: existing tenure; existing or planned infrastructure; boundary extension above high water mark; alignment with visible topographic and man-made features, such as islands and lighthouses; and alignment with meridians and parallels where visible topographic features are not available. The designation of straight-line boundaries and simple shapes for zones also greatly facilitates public understanding and acceptance. Attention to these details provides increased legal clarity, facilitates greater public compliance with rules and regulations and reduces costs by minimising the need for expensive boundary markers.

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## Survey of 'Sponge' Gardens in Ningaloo Marine Park

In December 2002, departmental staff surveyed the benthic (sea floor) communities in the area between North West Cape, Point Murat and the Muiron Islands, both within and adjacent to the Ningaloo Marine Park. The survey was conducted to identify the extent and location of the diverse and ecologically important filter-feeding communities known to occur in this area of the marine park. The information will assist the review of the park's existing management plan by examining whether current management measures for protecting the 'sponge' gardens in the park are adequate.

'Sponge' garden species are attached to the seabed and are typically located in deeper water characterised by strong currents and 'hard' seabed such as reef pavement. Numerous species of sponges, octocorals such as sea-whips and gorgonian corals, soft corals, bryozoans and some hard corals were recorded. A diverse fish fauna, including many juvenile fish, were also recorded suggesting these areas are also important nursery habitats. The data collected from the 126 sites that were surveyed will also be used to update the existing benthic habitat map of the marine park.

Thanks to the local Exmouth dive and charter boat operators who provided advice and assistance.

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## Further Prosecutions in Ningaloo Marine Park

On 14 February a boat owner pleaded guilty to three charges relating to the illegal installation of a mooring in Bills Bay, within the Mauds Sanctuary Zone of the Ningaloo Marine Park (NMP). The mooring was installed on April 26, 2002 and consisted of a large engine block secured to a chain and then to a float on the surface. The nature of the mooring and its location resulted in the chain damaging a number of coral outcrops causing significant damage. The man was charged with 'taking' fauna (coral) in a marine park, occupying land in a marine park without authority, contrary to the *Conservation and Land Management Act 1984* and with installing a mooring in a mooring control area without authority, contrary to mooring regulations. The man was fined \$2000 and charged a further \$2000 in costs.

The last issue of Marine Conservation Matters reported on the prosecution of a skipper who damaged corals in NMP by bringing his yacht into the shallow waters of southern Bills Bay. He was fined \$1300. The outcome of both of these cases sends clear messages to the public that existing rules are there to protect community assets and that park regulations will be enforced by the Department and, where appropriate, offenders will be prosecuted. Fortunately, most park users understand and support the need for regulations and act accordingly.

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## MARINE AND COASTAL MANAGEMENT

### Moorings Protect Ningaloo Marine Park

In February, the Minister for the Environment and Heritage announced that the Department of Conservation and Land Management planned to install approximately 25 new moorings in Ningaloo Marine Park near Coral Bay. The moorings would improve public safety and alleviate further damage to the surrounding coral communities. The preparatory work was completed by departmental staff by the end of March and the moorings were installed by a commercial contractor. "An intensive effort was required to ensure the environmental and safety issues were addressed properly," said Exmouth District Manager Jennie Cary. "Until very recently, the moorings being used had caused extensive damage to the coral communities in Bills Bay. Some boats had been using chains wrapped around large coral bombies as moorings with devastating results for the corals. There were also safety problems surrounding the number of boats being moored and their proximity to swimmers," Jennie said.

Installation of the moorings is part of an overall boating management strategy to protect the Ningaloo Marine Park, which is becoming increasingly popular with tourists and tour operators, with visitation increasing by 10 per cent per annum. The new environmentally friendly moorings are 'pins' fixed to the seabed with surface attachments that do not damage surrounding corals. The moorings will be used by recreational users and commercial tourist operators and have been located in Bills Bay and off Monck Head, south of the Coral Bay townsite, and at seven other popular dive sites in the Mauds Sanctuary Zone.

A special mention goes to Gordon La Praik of Queensland Parks and Wildlife Service for his assistance with the installations and also to the team of Departmental staff for their combined efforts: Roland Mau, Arvid Hogstrom, Pam Parker, Daniel Oates and Shawn Thomas from the Exmouth District; Mike Lapwood from the Broome District; and Elena Aniere from Parks and Visitor Services.

Funds to install the moorings in NMP and other Western Australian marine parks were obtained from the National Moorings Program of the Natural Heritage Trust 1 and the overall project is being co-ordinated by Elena Aniere in collaboration with the appropriate Districts.

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## MARINE AND COASTAL MANAGEMENT



*The team of inter-agency staff which spent 2 days cutting the net free from the reef in Rowley Shoals Marine Park.*

### Fishing Net Washed into the Rowley Shoals Marine Park

In September 2002, a large drift fishing net was washed onto the pristine Clerke Reef of the Rowley Shoals Marine Park. The net was spotted by the charter vessel Kingfisher III whose owner then informed the Department's Broome District office. The Department arranged for Coastwatch to survey the location and extent of the entangled net. This provided the logistical information for a joint recovery operation to be conducted between the Department and the Department of Fisheries, using the vessel *PV Walcott*. The two kilometre wide, twenty metre deep, one and a half tonne fishing net was retrieved by a ten person team who took two days to cut the net free from the reef during periods of low tides. According to Departmental wildlife officer Kingsley Miller, the damage could have been much worse and more marine life killed if the net, presumably discarded or lost by Indonesian fishermen, had not been sighted and removed so quickly.

An issue such as this underlines the importance of having routine surveillance operations in place and the operational expertise and capacity to intervene if necessary. It also highlights the benefits of good community support and inter-agency cooperation in conserving our marine environment and managing our natural resources. Special thanks to the Department of Fisheries for their generous assistance in helping remove the net.

**Contact: Mike Lapwood, Operations Officer, Rowley Shoals Marine Park.**  
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### Aerial Survey of Turtle Nesting Beaches in Shark Bay

In December 2002, Departmental staff undertook an aerial survey to assess the relative conservation significance of turtle nesting beaches of the Shark Bay Marine Park and World Heritage Property as part of an on-going program to document the natural values of this area. Shark Bay contains the largest nesting population of loggerhead turtles in Australia and the third largest in the world. Although the location of many nesting beaches were known from specific site surveys, a synoptic survey of the entire area had not been previously undertaken to fully quantify the relative importance of turtle nesting sites in this region.

The survey confirmed that Turtle Bay, on the northern end of Dirk Hartog Island, is by far the most significant nesting beach in Shark Bay. Nesting numbers, however, were higher and extended further south along the eastern side of Dirk Hartog Island, than previously recorded. The survey also identified that nesting occurred on the mainland from Carnarvon north to Quobba, which is an area not previously identified as nesting habitat for turtles. This is a popular area for camping and other recreational pursuits and some impacts may be occurring as a result of human disturbance and predation by feral animals. Nesting was also recorded along most of the eastern shoreline of Bernier Island and in the north-eastern corner of Dorre Island. Further surveys are planned to confirm the spatial distributions of turtle nesting and to determine the inter-annual variation in turtle nesting numbers.

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### What Do Migratory Birds Visiting the Swan Estuary Think of our Resident Kite Surfers?

It may sound odd but a research project currently underway in the Swan Estuary Marine Park (SEMP) is investigating the potential impacts of kite surfers on birds. M.J. & A.R. Bamford Consulting Ecologists, Friends of Attadale Foreshore and Birds Australia with funding from the Department's Wetland Conservation Program are examining the nature and levels of human disturbance on the resident and migratory wader birds of the SEMP. The marine park and the adjacent terrestrial nature reserves provide important feeding and resting habitats for trans-equatorial migratory wading birds protected by the international conservation agreements with China and Japan. The sand flats, mudflats and beaches of the SEMP provide the only remaining significant feeding and resting areas in the Swan Estuary.

The research will include an analysis of the impacts of kite surfing on these birds as the increased popularity of



Red necked stints from Siberia are just one of the many migratory birds that frequent the Swan Estuary Marine Park.

this particular water sport is causing some concern about its potential impacts. The results of this research will be available in June 2003 and will be used to inform future management decisions regarding the conservation of the resident and migratory birds and whether the nature and current levels of human uses are consistent with the conservation objectives of the park.

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## Travelling Turtles

The recent recapture of tagged green and loggerhead turtles in the Shark Bay Marine Park and World Heritage Property, up to 1500 km from where they had previously been tagged by Departmental staff, demonstrates the large distances that turtles travel and the need for managers to accommodate similar spatial scales if the conservation and management of these species is to be successful. One recaptured green turtle had previously been tagged in 1986 while nesting on the Lacepede Islands, north of Broome. Another turtle had been tagged while nesting near North West Cape in 1993. Of the six loggerhead turtles that were recaptured, three had previously been tagged while nesting at the Muiron Islands, north of Exmouth, with the remaining three tagged while nesting at Dirk Hartog Island.

The wide ranging distributions and the terrestrial nesting habits of turtle 'populations' underline the critical importance of ensuring that management strategies for these species are fully integrated between 'inter-connected' marine areas (e.g. in one case above between Ningaloo Marine Park and Shark Bay Marine Park) and between adjoining terrestrial and marine environments. Fortunately, the Department, having responsibilities in terrestrial and marine management, can achieve this objective relatively easily.

The recapture program has been conducted by researchers from Dalhousie University and Simon Fraser University in Canada, in collaboration with the Department, as part of on-going research on the marine environment of the Shark Bay Marine Park.

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## Are the Sanctuary Zones in Marmion Marine Park Effective?

Kylie Ryan, from the Department's Swan Coastal District, was a joint recipient of the Department's 2003 science-based Dr. George Malajczuk Post Graduate Scholarship and plans to undertake a marine research project as part of a Master of Science degree.

The topic she has chosen is to examine the effectiveness of the existing sanctuary zones in Marmion Marine Park (MMP) by examining the diversity and abundance of key taxa inside and outside these zones. Although anecdotal observation of fish abundances by Departmental staff and the practices of recreational lobster fishermen, who regularly drop pots along the boundary of the sanctuary zones, suggest fish and lobster abundances have increased, there is no data to quantitatively demonstrate the nature and extent of these changes if they have occurred.

The benefits of establishing sanctuary or *no-take* zones in marine parks continues to be highly contentious in Western Australia and this research, the first of its kind in our temperate metropolitan coastal waters, aims to provide local scientific data that can be used to assess the usefulness of the MMP sanctuary zones for marine biodiversity conservation. The study will also provide the baseline data for on-going monitoring of the sanctuary zones.

The field program is scheduled to commence in late 2003. Supervision is to be provided by scientists from the University of Western Australia and the Department's Marine Conservation Branch.

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## OTHER NEWS

### What Do the Readers Think...?

Thanks to all of you who took part in the *Marine Conservation Matters* newsletter telephone survey conducted earlier this year by Marine Conservation Branch volunteer Kate Fitzgerald. After a limited response to last year's questionnaire survey we decided to take a different approach to find out what the newsletter readership thinks. Surveys are useful in assessing whether improvements and changes need to be made and to determine which media readers prefer. It also provides an opportunity to gauge the effectiveness of the newsletter in conveying the Department's involvement in current marine conservation issues and activities.

Kate said feedback was very positive and respondent's comments indicated that the newsletter is informative and provides a good update of current activities. Overall 93 per cent of respondents said that they found the newsletter valuable in outlining the Department's involvement in marine and coastal management. Out of those respondents 23 per cent found the newsletter very effective, 36 per cent found it effective and 32 per cent found it useful—seven percent found the newsletter of limited use. Sixty eight per cent said they prefer a 'hard' copy and 25 per cent said they preferred an e-version. However, 66 per cent of respondents indicated they would still read the newsletter if it was emailed to them.

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## Protecting the Great Barrier Reef' Tourism Futures Conference, Queensland

This year's Tourism Futures conference is a full day workshop for tourism operators, officers from state and federal government agencies, researchers and other stakeholders with an interest in reef tourism and reef management, with a particular emphasis on the Great Barrier Reef.

The second National Conference will be held over the 22–25 July 2003 at the Novotel Twin Waters Resort, Sunshine Coast, Queensland. For more information and to register as a participant go to [www.tq.com.au/tfconf/program\\_22.asp](http://www.tq.com.au/tfconf/program_22.asp)

## MPRA MEMBERS CHANGE — KIM COLERO REPLACES IAN FINLAY

**Ian Finlay**, an inaugural member and Deputy Chair of the Marine Parks and Reserves Authority (MPRA) since 1997 resigned in December 2002. Ian worked tirelessly in his role as a member of the MPRA, attending authority meetings regularly and advisory committee meetings when requested. Ian brought a love of the ocean to his work and a no-nonsense, common-sense and practical approach to issues under discussion, no doubt a legacy of his many years as a professional fisherman. Never one to make a fuss Ian would nevertheless, particularly when the occasion demanded it, make his points clearly and firmly. Ian will be particularly remembered for his championing of the Jurien Bay Marine Park and the key leadership role he played during the planning process.

Ian will be continuing in his other role as the Chairman of the Western Australian Fishing Industry Council. Ian will be sorely missed by all of the Departmental staff he worked closely with and by all the MPRA members he worked with. Thanks again Ian and good luck.



**Kim Colero** has recently been appointed to the MPRA to replace Ian Finlay. Kim has a history of involvement with the commercial fishing industry in Western Australia including over 20 years as a second generation owner/skipper rock lobster fisherman, managing two successful fishing vessels in Dongara before moving to Perth in 1998 to take up a position as Fisherman Liaison Officer with Kailis and France Foods (Lobster Australia).

Kim was President of the Dongara Professional Fisherman's Association Inc from 1993–1995. In his role as President, Kim was closely involved in the drafting of the *Fish Resources Management Act 1994* and played a key role in the development of the current 5 year management plan for the Western Rock Lobster Managed Fishery. Kim also had a primary role in the implementation of the West Coast Deep Sea Crab Managed Fishery.

The Department and the MPRA welcome Kim to his new role and look forward to working closely with him.

## MARINE CONSERVATION SEMINAR SERIES

The fortnightly Wednesday marine seminar series continues with presentations between 12-1 p.m. at the Marine Conservation Branch office, 47 Henry Street, Fremantle. For information on upcoming seminars go to [www.calm.wa.gov.au/tourism/whats\\_on/whats\\_on.html](http://www.calm.wa.gov.au/tourism/whats_on/whats_on.html) or contact Melissa Mazzella at the Marine Conservation Branch on 9336 0124 or e-mail [melissam@calm.wa.gov.au](mailto:melissam@calm.wa.gov.au)

The Marine Conservation Branch would like to thank the following presenters:

- **Andy Bickers** a UWA PhD candidate and Director and Engineer - Undersea Community Pty Ltd who presented '*The use of side scan sonar and video in identifying marine habitats—a preliminary survey of the Recherche Archipelago*' on 27 November 2002.
- **Rob McCauley** from the Centre for Marine Science and Technology, Curtin University who presented '*Blue whales in the Perth canyon*' on 4 December 2002.
- **Dr Richard Campbell** from the Department of Zoology—University of Western Australia who presented '*Counting cows and conservation: Demographic parameters of the Australian sea lion, Neophoca cinerea*' on 18 December 2002.
- **Dr Ken Tinley** from the Department of Conservation and Land Management who presented '*The Ecosystem Management Unit (EMU) process in the Gascoyne-Murchison rangeland*' on 29 January 2003.
- **Dr Rick Fletcher** from the Department of Fisheries who presented '*Implementing ESD fisheries*' on 12 February 2003.
- **Matt Wardell** from Murdoch University who presented '*Human usage trend in Marmion Marine Park*' on 26 February 2003.

## ORGANISATION/WEBSITE LINKS

### Strategic Research Fund for the Marine Environment (SRFME)

SRFME is a \$20 million joint venture between the Western Australian State Government and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). SRFME was established to enhance marine science capability and capacity in Western Australia and to facilitate strong collaboration among marine researchers from government, universities and the private sector (see previous article in Issue 8 of *Marine Conservation Matters*).

**Current Directions** is SRFME's new quarterly newsletter and can be viewed, along with additional information on the various programs that are operated by SRFME at [www.srfme.org.au](http://www.srfme.org.au).

*Marine Conservation Matters* is produced by the Marine Conservation Branch of the Department of Conservation and Land Management, to broadcast up-to-date information about marine conservation activities in the Department. If you have any queries regarding our newsletter please contact Suzanne Gattrell at the Marine Conservation Branch. Ph: (08) 9336 0100, Fax: (08) 9430 5408 or email: [suzanneg@calm.wa.gov.au](mailto:suzanneg@calm.wa.gov.au)