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FUTURE CYCLONES MAKE A SMALLER SPLASH THAN EXPECTED

Queensland's coastal communities are under less threat from cyclone storm surges than was previously thought, according to an award-winning CRC Reef study which will enable communities to plan future land use and emergency management procedures.

CRC Reef researchers Professor Tom Hardy, Mr Luciano Mason and Mr Ashley Astorquia from James Cook University's Marine Modelling Unit were part of the team that won a Commonwealth and Queensland Governments' Safer Communities Award.

Their project used state-of-the-art computer modelling to identify the probability of different coastal water levels during tropical cyclones for communities from Cape York to the Gold Coast.

"We modelled 10,000 simulated storms to represent cyclones that could threaten the east coast of Queensland," Professor Hardy said. "Each of these cyclones would create a different level of storm surge, but that is only half the story. The water level when the cyclone hits also depends on the level of the tide at that time. So we combined the storm surges from each cyclone with many possible tide scenarios to find 'storm-tides'."

The storm-tide levels were predicted for 50 locations along the east coast of Queensland. Interestingly, these water levels are lower than had been suggested by previous studies.

Professor Hardy attributes the lower level to the sophistication of new modelling tools. While earlier computer models simulated cyclones tracks in straight lines, with constant central pressure and speed, the model that they have developed can generate more realistic cyclone scenarios. It also uses high resolution information about the shape of the coastline and seabed.

"New high-resolution computer modelling techniques enable us to make increasingly accurate estimates of the probability of different storm tides during cyclone events. This will help local and state government planning, and will also enable the Bureau of Meteorology to implement an improved storm tide warning system," Professor Hardy said.



Queensland Emergency Services Minister Chris Cummins presents Prof Hardy with the Safer Communities award. Photo by CRC Reef.



The Queensland Climate Change and Community Vulnerability to Tropical Cyclones project was completed through the combined efforts of the Queensland Environmental Protection Agency, Department of Natural Resources and Mines, Department of Emergency Services, and the Australian Bureau of Meteorology (Queensland). Financial support was provided by the State Greenhouse Special Treasury Initiative and the Commonwealth/State Natural Disasters Risk Management Studies Program.

For more information contact Professor Tom Hardy, thomas.hardy@jcu.edu.au

IS THERE REALLY A BATTLE FOR BARRA?

CRC Reef postgraduate student Ms Renae Tobin, from James Cook University, shed light on the conflict between commercial and recreational barramundi fishers at the 'Fishing for More' student stakeholder workshop on 9 November.

Prompted by media articles describing a fight for barramundi in creeks and estuaries used by both commercial and recreational fishers, Renae decided to find out how fishers really felt about each other.

"The message I heard from recreational fishers is that they think there is a problem with competition from commercial fishers, but it

doesn't affect them personally. This suggests that they may be hearing through the media about a problem which doesn't actually exist for most recreational fishers," she said.

While recreational fishers thought that commercial gillnet fishers had a large impact on fish stocks and bycatch, recent research suggests this is not the case. Renae thinks the main problem is that the results of scientific research are not getting through to fishers, and that better communication between scientists and the public is needed.

Renae interviewed 524 recreational fishers at boat ramps and fishing clubs between Hinchinbrook and Ayr in 2003. She also talked to commercial gillnet fishers and estuarine charter fishers.

FROM THE CEO'S DESK



Russell Reichelt.
Photo by Rob Parsons.

The Centre's future is now tied to the Commonwealth Government's election commitment to create a new type of research centre called a Commonwealth Environmental Research Facility. The details of this new type of centre have yet to be established, however the Prime Minister has made it clear that \$40m over four years has been allocated to enable the work of the Reef and Rainforest Co-operative Research Centres to continue. While the

contract with the CRC Programme for both Reef and Rainforest CRCs will conclude in June 2006, I expect that the new Centre (called in the PM's press release a 'Marine and Tropical Sciences Research Facility') will be established by that time. The precise timing is not yet decided and it will be important to manage the issue of reduced funding in 2005-06 from the CRC Programme.

The new Centre will fulfil the conditions for the new type of Facility, which were set out by the Prime Minister in the election statements ('Supporting North Queensland'). The new Facilities will:

- "facilitate stronger synergies and the creation of National Research Hubs. This will build critical mass in areas of Australia's research strengths and national research priorities. It will also encourage the development of world class research facilities by supporting proposals that draw on multiple disciplines, professional partnerships and prior research efforts".
- "encourage sustainability in research efforts by encouraging industry contributions. Public sector organisations that utilise the benefits of research outcomes will also be required to contribute to the funding."

- "support quality environmental research proposals that do not qualify for assistance under the existing programmes. The proposals must have a strong public good focus and demonstrate a strong public good outcome."

James Cook University (JCU) has been a major research provider in the two CRCs. JCU-based researchers funded by the Centre will be part of the Tropical Sciences and Innovation Precinct being established at JCU. Notwithstanding these strong links to JCU, the Prime Minister's statement makes it clear that industry and government should also participate in the Centre, so it will be important to maintain and build on the existing partnerships with industry, government and research providers such as the Australian Institute of Marine Science, Queensland Department of Primary Industries and Fisheries, CSIRO, other universities and CRCs.

The Centre will be a key part of the National Research Hub in Marine and Tropical Sciences, with nodes in Cairns and Townsville, and partners and collaborators from many other areas.

The allocation of \$40m represents a substantial increase in funding (approx \$3.5m per year increase) over the previous allocations to the two CRCs, and the new Centre will be expected to lift its performance accordingly. The existing members of the two CRCs will be involved in the process of establishing the new Centre, and contributing members will no doubt have a strong interest in seeing the research work tackle their highest priority problems.

Russell Reichelt
Chief Executive Officer



Renae surveyed over 500 north Queensland fishers. Photo by Ayr Advocate.

She is now investigating whether commercial gillnet fishing actually affects the number of barramundi caught by recreational fishers, by comparing recreational catch in rivers and estuaries open to commercial fishing, to catch where no commercial fishers are allowed. She hopes to have the results of this study by early next year.

This was one of the subjects for discussion at the 'Fishing for More' workshop. Stakeholders including commercial and recreational fishers, fisheries and Marine Park managers, Indigenous people, tourism operators and conservation groups discussed the implications of seven research projects relating to fisheries in Queensland and the Torres Strait.

For more information contact Renae Tobin, renae.tobin@jcu.edu.au

Renae Tobin won a CRC Reef Travel Award to the Australian Society of Fish Annual Symposium and Conference in Adelaide in September.

HEALTHY COUNTRY, HEALTHY REEF

The joint CRC Reef and Rainforest CRC conference, on 23-25 November, was attended by over 100 stakeholders including landholders, environmental agency representatives, local government representatives and members of the community. The first day of the conference showcased practical solutions for improving water quality in the Great Barrier Reef catchment.

Catchment to Reef, the joint CRC Reef and Rainforest CRC research program, began last November. Researchers have developed valuable working relationships with stakeholders in the

Wet Tropics, and the conference gave them an opportunity to discuss how the new tools developed by scientists might benefit the community.

According to *Catchment to Reef* program leader Professor Richard Pearson, "Now more than ever, we need to share the responsibility for improving environmental performance in productive landscapes. Scientists, industry and the community need to work together to address water quality."

The conference promoted information exchange and spirited discussion among scientists and stakeholders. It showcased cooperative approaches and the solutions they have generated for farmers and for the environment.

The *Catchment to Reef* program is developing new tools to assess and monitor the health of catchments and aquatic systems in the Wet Tropics and Great Barrier Reef World Heritage Areas. These tools will enable land managers and stakeholders to improve the quality of water flowing into the Great Barrier Reef lagoon.

For more information, visit www.reef.crc.org.au/research/catchment_to_reef/ or contact *Catchment to Reef* liaison officer Mr Tim Prior, tim.prior@jcu.edu.au

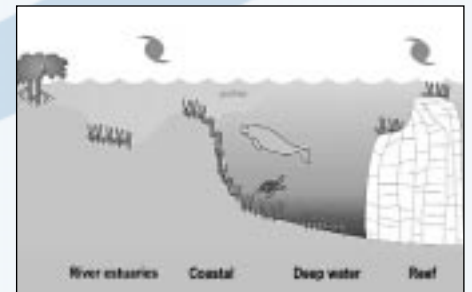
SEAGRASS SCIENTISTS SEE THE BIG PICTURE

The international **Seagrass 2004** conference, held from 24-27 September, highlighted the different environmental roles of seagrasses around the world. The 165 delegates from 24 countries also discovered what makes Queensland's seagrass beds so special.

Australia has more types of seagrass than anywhere else in the world. Dugongs and turtles feast on 15 succulent species off the coast of Queensland, making the Sunshine State the seagrass capital of the world. Sheltered areas created by the Great Barrier Reef have allowed seagrass to thrive, and being a geologically old area, seagrasses have had time to speciate here. Most seagrasses grow close to the edge of the sea, which is also the area under most pressure from human impacts.

Conference participants worked together to create conceptual diagrams for seagrass systems around the world. The diagrams show how seagrass systems work, and what drives and threatens these critical habitats. These diagrams could only be developed because **Seagrass 2004** was such an international gathering. They are critical tools because they can help managers to understand the system so they can make better choices for future development.

Scientists now understand that seagrass systems are different, with threats that vary for meadows around the world. For example, in the Mediterranean, seagrasses are important for stabilising sediment, and the major threat is from urban pollution. In Australia, however, stabilisation is not such an important role for seagrass meadows, while their major threat is from agricultural run-off. The conceptual diagrams can illustrate these differences so that each system can be better understood and managed more effectively.



A conceptual diagram of Great Barrier Reef seagrass systems. Symbols courtesy of the Integration & Application Network.

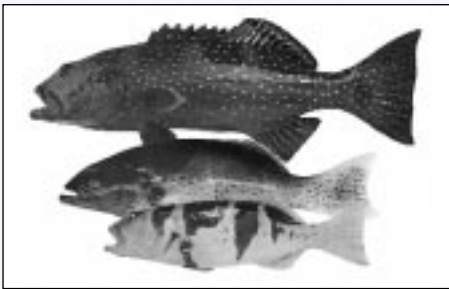
Seagrass is the only flowering plant that can live underwater, and has been growing on the ocean floor since the time of the dinosaurs. In Australia, it provides a vital food source for dugongs and turtles, while seagrass meadows are nursery areas for many commercially important fish and prawns. International participants shared views about the value of seagrass to various countries. In Queensland, seagrass is protected by law, while in other parts of the world, protection is minimal.

A guide to the Tropical Seagrasses of the Indo-West Pacific was also launched at the conference.

For more information contact Dr Michelle Waycott, michelle.waycott@jcu.edu.au

SPOTTING THE DIFFERENCE BETWEEN CORAL TROUT

While any Queensland fisher worth their spots can tell you what a coral trout looks like, the difference between some species of coral trout can be hard to recognise. CRC Reef's Fishing and Fisheries team have discovered that while they may be hard to tell apart, blue-spot trout and other types of coral trout have vital differences, which can be seen in a new CRC Reef poster.



All these fish are blue spot trout – you can tell the blue spot by its non-transparent pectoral fins. Photo by CRC Reef.

The blue-spot trout, *Plectropomus laevis*, is also known as the tiger trout, the Chinese footballer trout and the oceanic trout, and its identification has caused much confusion. Since December last year, changes to the Coral Reef Finfish Management Plan have meant that the legal size for blue-spot trout is different from other species of coral trout.

The regulations from the Queensland Department of Primary Industries and Fisheries allow fishers to catch blue-spot trout between the 50 and 80cm in length, in contrast to the minimum legal size of 38cm that applies to other species of coral trout.

"The blue-spot grows more quickly than other species of coral trout," according to CRC Reef researcher Mr Gary Carlos, from James Cook University. "It can grow to almost twice the size of the common coral trout, although its lifespan of up to 15 years is about the same."

Because of their different growth rates, blue-spot trout become sexually mature at a larger size than other coral trout. They also change from female to male as they grow older. At 38cm, which is the minimum legal size for other coral trout, only a few blue-spot trout have become mature females, and none have changed sex to become male.

The size regulations will allow more blue-spot trout a chance to spawn before they reach legal size, and the new maximum size will also protect some male fish. This will mean a sustainable catch of blue-spot trout in the future. However, the effectiveness of the new regulations relies on fishers being able to distinguish the blue-spot from other coral trout species.

The blue-spot trout can appear in two entirely different colour forms. As well as the fish that is dark brown or red in colour with distinctive blue spots, it comes in 'Chinese footballer' colours, which is a white and yellow fish with large black stripes. Some blue-spot trout have even been observed changing between these forms.

The blue-spot trout can also be mistaken for the common coral trout. The most reliable way to tell them apart is by their pectoral fins, which are on the side of their body. The blue-spot always has dark, non-transparent pectoral fins, while all other species of coral trout have transparent ones.

The CRC Reef Coral Trout double-sided A4 poster illustrates the different types of coral trout in Queensland and explains how to tell them apart. Anglers are encouraged to download the poster from the CRC Reef website www.reef.crc.org.au/publications/brochures/

EAR BONES HOLD THE KEY TO FISHY SECRETS

Fish may not keep diaries, but they do record information about their lives – including how old they are, where they have been and what they eat – in their ear bones. Scientists from around the world came to Townsville to discuss the cutting-edge science of fish ear bone, or 'otolith', research at the Third International Symposium on Fish Otolith Research and Application in July.

"Fish otoliths are natural data loggers – they grow throughout the fish's lifetime, and their structure and chemistry can reveal an amazing amount of information," according to CRC Reef scientist Dr Gavin Begg from James Cook University, who chaired the Symposium. "Otoliths can tell us about age and growth patterns, even about the environments in which the fish have lived."

Participants at the Symposium shared expertise, and discussed recent developments in otolith technology, including the ability to use otoliths as highly sensitive environmental indicators.

"Looking at the chemistry of otoliths can help us detect environmental problems such as heavy metal pollution, which is very hard to measure at low levels in water, but accumulates in fish and can be seen in their ear bones," Dr Begg said.

The information encoded in the otoliths can also be vital for fisheries management.

"In the last 10 years we've been able to age reef fish and discovered that some of the smaller fish live much longer than anyone realised – up to 50 years in some cods, for instance," said Dr Begg. "Knowing what age the fish mature and spawn helps managers to set appropriate minimum size and catch limits, so that we can ensure our fisheries are sustainable."

For more information contact Gavin Begg, gavin.begg@jcu.edu.au

ANOTHER VIEW OF SCIENCE

In a project designed to promote cultural exchange, Extension Manager Ms Bryony Barnett has worked with students from Townsville's Barrier Reef Institute of TAFE Aboriginal and Torres Strait Islander Art Unit, to produce prints based on marine themes.



Coral trout by Sana Akee.

Inspired by 'sea stories' drawn from the CRC Reef brochure series and a visit to Reef HQ, eleven Aboriginal and Torres Strait Island art students printed designs of crown-of-thorns starfish, coral trout, bleached coral and dugong.



Artist Mary Tolputt.
Photo by Bryony Barnett, CRC Reef.

Prints purchased by CRC Reef will enhance our website and print products, and assist in communication with Traditional Owner groups.

A selection of the prints will feature in the annual exhibition 'Tribalmania' at the Perc Tucker Regional Gallery, Townsville, between 26 November and 12 December.

For more information, contact Bryony Barnett, bryony.barnett@crcreef.com

RECORD MINKE WHALE SIGHTINGS

by Rhona Barr

Every year, mysterious dwarf minke whales emerge from the depths to gather on the Great Barrier Reef. Where they come from, and why they congregate here year after year is unknown. The Minke Whale Project research team, led by Dr Alastair Birtles, meets with the minkes each year to piece together the evidence and to ensure that the swim-with-whale industry is positive for both whales and their watchers.

Now in its ninth consecutive year, the Minke Whale Project had its most successful field season to date. In the June-July period, the research team recorded the highest number of whale sightings so far. During the six weeks aboard the research and live-aboard dive vessel *Undersea Explorer*, between 216 and 238 dwarf minke whales were sighted by the team, with in-water interactions with about 150 whales.

"Over the last nine years we have found that individual whales, which we can identify by their unique colour patterns, return to the same sites again and again. Although dwarf minke whales occur right around the southern oceans, this is the only place in the world that they are known to gather year after year," Dr Birtles said.

"We are still not sure why they come here, and information collected by the public could help to solve that mystery. One hypothesis is that the Great Barrier Reef is a courtship area, and the whales come here to mate," he said. "This is one reason why it is critically important to manage the swim-with-whale tourism industry sustainably, and ensure that there are no negative impacts on the whales."

Highlights of the season included re-sightings of old friends, within and between seasons, and documentation of interesting behaviours, including courtship displays and cow and calf interactions. This season has also produced the highest data returns from the swim-with-whales industry, with 213 Whale Sighting Sheets completed by 12 dive vessels (day boats and live-aboards) and 689 completed Minke Whale Questionnaires from 'swim-with-whales' passengers.



A dwarf minke whale breathing at the surface.
Photo by Matt Curnock, JCU.

The research team are now analysing these data so that they can provide feedback to the industry and the Great Barrier Reef Marine Park Authority at a Post-Season Minke Industry, Research & Managers' Workshop in December 2004. The project has just received a second year of funding from GBRMPA for analysing the whale sightings data and conducting two workshops.

Members of the Minke Whale Project include Dr Alastair Birtles (Project Leader), Dr Peter Arnold (Museum of Tropical Queensland),

Mr Matt Curnock (Research Officer), Professor Peter Valentine (Associate Professor, JCU School of TESAG), Mr Andy Dunstan (*Undersea Explorer*), Ms Susan Soltzick (videographer & marine biology student), Ms Bryony Barnett (CRC Reef), Mr Dean Miller (PhD student), Mr Arnold Mangott (Master of Tourism student) and research volunteers Ms Rhona Barr, Ms Silvia Figaro Morelli and Ms Rebecca Wilde.

For more information, contact Alastair Birtles, alastair.birtles@jcu.edu.au or visit Discover the Reef section of the CRC Reef website www.reef.crc.org.au/discover/

MUSSEL MIMIC TO PREVENT MARINE FOULING

Marine fouling is a perennial problem for boats, ports and anything kept in the sea for a period of time. The sea is teeming with the tiny larvae of marine organisms, that swim around until they find somewhere to settle and grow. Smooth surfaces are particularly attractive to many of these creatures, and are quickly encrusted. This can slow ships, block pipes and speed corrosion.

The traditional solution has been anti-fouling paints, containing heavy metals such as copper and tin, and herbicides. These paints contribute to marine pollution, and harm a variety of sea life, including dolphins and whales, which accumulate heavy metals in their livers.

CRC Reef associate student Mr Andrew Scardino from James Cook University may have discovered an environmentally friendly alternative to chemical anti-foulant paints – among some old shells on the beach.

Andrew was intrigued by the fact that the shells of the blue mussel, *Mytilus galloprovincialis*, always seem to be clean and shiny, without any of the marine fouling that affects other shells, ships and coastal infrastructure. He decided to test whether the natural texture of the blue mussel shell prevented other marine organisms from latching on.

The outer surface of the blue mussel shell has tiny ripples, only a few thousandths of a millimetre wide.

Using dental impression gel, Andrew made moulds of blue mussel shells, and created resin copies, which he left in the sea to test for fouling.

The resin copies of the mussel shell resisted fouling for 6-8 weeks. Under a microscope, Andrew saw that after this time the tiny ripples in the mould had been filled by a 'biofilm' of bacteria, which then made the surface smooth enough for larger organisms to settle.



Andrew uses dental impression gel to make moulds of the mussel.
Photo by Roger Yeldham, JCU.

Andrew suspects that the mussel's natural defence from fouling may rely on a mixture of texture and a protein coating on the shell. He is now testing shells which have had the protein coating changed, to find out whether the protein is responsible for improving anti-fouling.

Mimicking the natural anti-fouling properties of the blue mussel, as well as species from the Great Barrier Reef, could revolutionise shipping. Andrew's research is sponsored by the Defence Science and Technology Organisation, and he is also collaborating with a number of companies to fabricate textured coatings that repel fouling.

For more information contact Andrew Scardino, andrew.scardino@jcu.edu.au

GIVE US YOUR FEEDBACK AND WIN A CASE OF WINE!

We are keen to make sure that our newsletter and other publications are as useful and accessible as possible. Please fill in the enclosed questionnaire and return it to Chloe Lucas at CRC Reef, PO Box 772, Townsville 4810, by 20 January to be in the running to win a mixed case of red & white wine.

FISH STUDY HOOKS GOLD FOR RESEARCHER

Dr Ashley Williams has hooked the \$2000 Graeme Kelleher Prize for his recent discoveries about movements and biology of red throat emperor, which are a prized fish for commercial, recreational and charter fishers on the Great Barrier Reef. His studies are critical to better manage these important reef fish.

CRC Reef researcher Dr Ashley Williams, from James Cook University, found that red throat emperor may move large distances across many reefs. This is rare for coral reef fish and highlights the need for us to re-assess our beliefs that all coral reef fish are sedentary.

Red throat emperor have different spawning potential, growth rates and life spans in different regions of the Great Barrier Reef, according to Dr Williams. This may mean that some regions are more productive and provide better food for red throat emperor, or that fishing pressure varies among regions of the Great Barrier Reef. It could also mean that populations of red throat emperor are distinct stocks. Red throat emperor may need different management regimes in different regions of the Reef to ensure that stocks are sustained.

"The content and timing of the thesis made a major contribution to the arrangements introduced into legislation under the Coral Reef Finfish management plan and helped to focus research priorities on red throat emperor," said fisheries manager Mr Mark Elmer from the Queensland Department of Primary Industries and Fisheries. "Because of Dr Williams' research, we will be evaluating various management strategies for red throat emperor fishery in the next two years to ensure that this fishery is sustainable."

Dr Williams' PhD thesis has won the inaugural Graeme G Kelleher Prize of \$2000 which is awarded annually to recognise an outstanding PhD thesis relevant to the ecologically sustainable development of the Great Barrier Reef World Heritage Area. The prize was established in 2003 by CRC Reef to acknowledge the contribution of Graeme G. Kelleher to the wise use of the Great Barrier Reef.

For more information contact Ashley Williams, ashley.williams@jcu.edu.au

CRC TORRES STRAIT NEWS

TAGGED DUGONGS STAY NEAR MABUIAG ISLAND

In September, James Sheppard and his team from James Cook University and CRC Torres Strait, with the help of local Mabuiag Island hunters, attached satellite tags to wild dugongs so that the movement and behaviour of the dugongs could be tracked. Rough weather made it difficult to catch dugongs, nevertheless, by the end of the trip three animals had been successfully captured and tagged without incident. One of the tags, which was attached to a male dugong, seems to have prematurely broken free, and is drifting west of Torres Strait.

On 14 October (about four weeks after the tags were attached), the two tagged dugongs were still very close to Mabuiag Island. The two metre long female dugong (#5537) was 14.5km northeast of Mabuiag and the 1.9 metre long male dugong (#5065) was 15.8km north of Mabuiag.



CRC Torres Strait Dugong team planning with Mabuiag council.
Photo by JCU.

The dugongs are maintaining relatively small ranges around the reefs northeast of Mabuiag - close to where they were originally captured on 15 September. As more information is collected, James and his team will be able to better understand the factors that are influencing the dugongs' movements.

The satellite tags were built for tracking dugongs. Once attached to the dugong's tail, the units should transmit regular location fixes until they eventually detach in about 4 – 6 months via a corroding zinc link built in the harness.

The team were accompanied by local hunters when they went to catch dugongs due to the strong weather conditions. When the dugong was caught,

a padded rope was attached to its tail, and the dugong secured against the side of a boat. While the dugong was being supported and monitored by the research team, the satellite tag was carefully attached to its tail. Its length was measured and its gender recorded. A biopsy was taken and then the dugong was released unharmed.

For more information contact James Sheppard, james.sheppard@jcu.edu.au

TORRES STRAIT CULTURAL FESTIVAL

The Torres Strait Cultural Festival (16-18 September) on Thursday Island provided an opportunity to promote the CRC Torres Strait research program, with a small display staffed by Toshi Nakata and Bryony Barnett.

The festival included a lively street parade, while Thursday Island's Anzac Memorial Park bustled with traditional dancing and music from different island communities, and stalls selling shell jewelry, baskets, whaps and drums. Visitors to the Gab Titui Cultural Centre could view displays of art and artifacts, purchase work from local artists, or create a mosaic dugong in an educational workshop run by Cairns artist Dominic Johns. Dominic has been working with CRC Reef Seagrass-Watch researchers, using his art to convey conservation messages.



Dampers for sale at the Cultural Festival. Photo by Bryony Barnett, CRC Reef.

As the festival reached its climax, open fires were fanned with banana leaves and a feast of turtle, damper and pumpkin prepared by Islanders dressed in floral dresses. Despite these colourful distractions there was steady interest in the CRC Torres Strait display.

IMPAC NEWS

PEACE IN THE OCEANS

Ocean scientists, engineers, technologists, social scientists, international policy experts and the private sector are coming together for the first time at *Pacem In Maribus XXXI 2005*, from 31 October to 3 November 2005. The conference will be held in Townsville, north Queensland.



The International Ocean Institute (www.ioinst.org) and the Institute of Marine Engineering, Science & Technology (www.imarest.org) are co-sponsoring the conference to discuss ways that the many professionals working on ocean issues might better work together towards integrated Ocean Governance. The Conference has six themes:

- Regional Security - Environmental, Economic & Social Implications
- Coastal & Marine Activities Environmental, Social & Economic Impacts
- Technology, surveillance & Enforcement of Maritime Activities
- Global Marine Assessments & Models for Alternatives
- Arafura & Timor Seas – Challenges & Prospects
- Marine Biotechnology – Challenges & Prospects

The themes will link to panel discussions and contributed paper and poster sessions, with the results incorporated in the Conference Proceedings and Declaration. There will be two public lectures, the Arvid Pardo Memorial Lecture, and the Elisabeth Mann Borgese Memorial Lecture.

For more information contact Conference Planners NQ www.conferenceplanners.com.au
Tel. 61 7 4721 2377 Fax. 61 7 4772 5999.
Email: easy@conferenceplanners.com.au

IOI (AUSTRALIA) HOSTS SECOND REGIONAL CONSULTATION

With the support of the IOI Secretariat (Malta) and IOI (Australia), Centre Directors from Australia, the Pacific Islands, Thailand and Indonesia met during the Coastal Zone Asia Pacific 2004 Conference, held in Brisbane from 6-9 September, and dedicated 10 September to a Second Regional Consultation on programmes and activities.

Professor Russell Reichelt, CEO of CRC Reef and member of the IOI Governing Board participated at the second IOI (Australia) Regional Consultation, held at the Great Barrier Reef Research Foundation in Brisbane. Professor Reichelt provided an update of the IOI and its restructuring from the viewpoint of the IOI Governing Board, and reported on the outcomes of the meeting of the Executive Committee meeting held in July in Malta. He noted *IOI-OceanLearn* is consolidating training and capacity building activities for the whole network.

The members welcomed initiatives from Malaysia and the Philippines to establish Operational Centres in their countries, as this would add important input to the Region. The proposal for establishment of IOI-Philippines was approved by the IOI Governing Board at its meeting in Slovenia on 15 October, but Malaysia requested a deferment of their request until 2005.

Six regional themes will continue to guide cooperation in the IOI's Asia-Pacific Region over the next few years:

1. *Biodiversity Conservation*
2. *Oceans Policy*
3. *Pacem in Maribus and other conferences*
4. *Training, and IOI-OceanLearn*
5. *Community-based Coastal Management*
6. *Awareness raising*

For more information visit www.impac.org.au/associates/ioi.htm

VISIT FROM NEW CALEDONIA'S INDIGENEOUS LEADERS

The International Marine Project Activities Centre (IMPAC), welcomed a delegation from the Customary Senate of New Caledonia on 28 October.



*Mr Gony Pebou-Polae, Chief of Hoot Ma Whaap Customary Council, performs a gift-giving ceremony.
Photo by CRC Reef.*

The 15 visitors from New Caledonia's Indigenous Senate met Aboriginal Traditional Owners and scientists. They hoped to learn how Australia's Indigenous people relate to their land, and find out about Indigenous land development management programs, or joint-venture development projects on Aboriginal land.

The delegation also sought the advice of scientists from the Australian Institute of Marine Science and James Cook University, and managers from the Great Barrier Reef Marine Park Authority, about how the Great Barrier Reef World Heritage Area and the Wet Tropics World Heritage Area operate. They have a strong interest in protecting the environmental and cultural heritage of New Caledonia, and hope to apply some of the lessons learnt by Australia to the management of their own country.

NEW PUBLICATIONS

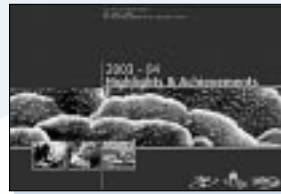
Goggin L, Gershwin L, Fenner P, Seymour J, Carette T. 2004.

Stinging jellyfish in tropical Australia. Current state-of-knowledge.

November 2004.

In print and online at

www.reef.crc.org.au/publications/brochures/



CRC Reef Highlights & Achievements. 2003-04.

In print and online at

www.reef.crc.org.au/publications/annualreport/

DIARY

The diary of conferences and events can be viewed at the CRC Reef website:

www.reef.crc.org.au/calendar2.html

SPEND 2005 WITH FISHES AND TURTLES

Lovers of marine life have two opportunities to welcome in 2005 with new calendars featuring Fantastic Fish and Turtles in Trouble.

The Fantastic Fish calendar is illustrated by renowned artist Roger Swainston (www.anima.net.au) with fantastic drawings of species such as coral trout, Spanish mackerel, mullet, snapper as well as tiger shark, weedy seadragon and others. The calendar has been published by Dr Adam Smith - marine biologist, fisher and free-diving champion.

It contains key dates, biological information, best fishing days (based on barometric pressure), hotspots, holidays and much more – including recipes and web addresses. The calendar is available from the publisher (adamsmith@bigpond.com.au), leading book and fishing tackle shops as well as Reef HQ in Townsville.

The Turtles in Trouble calendar features vibrant artworks from school students in Townsville and Thuringowa, highlighting the threats faced by sea turtles on north Queensland's coast.

Sea turtles have always had predators, but human development of coastal areas means that they now face many more threats. These include pollution, capture in fishing nets and boat strike. Many beaches where turtles used to nest are now human habitats, and feral animals take many turtle eggs and young.



Turtles in trouble artwork by Hannah Rimmington, Ryan Catholic College.

The Turtles in Trouble calendar is available for a gold coin donation at Northern Beaches State High School, Ryan Catholic Community School and Willows State Primary School in Thuringowa, and Cranbrook, Garbutt and Stuart State Schools in Townsville, or from Indo-Pacific Sea Turtle Conservation Group, PO Box 1190, Townsville 4810, email ipstcg@ballyhoo.com.au