

Jackson gives Darwin Medal address

The Darwin Medal – the most prestigious award given by the International Society for Reef Studies (ISRS) – will be presented this morning to Professor Jeremy Jackson.

The Senior Scientist Emeritus at the Smithsonian Institute, Professor Jackson will focus on a mixture of coral assessment and vision for improving the marine environment in his address.

He is the seventh recipient of the Darwin Medal and has been praised by the President of the ISRS, Professor Bob Richmond, earlier this week as “one of the most outstanding scientists in the world today”.

Professor Jackson told Coral News: “This honour has made me reflect on how my career, which began in the late ‘60s, has encompassed the decline of coral reefs”.

He recalled how he came to Australia for the 1973 Symposium – held aboard the *Marco Polo* – and had been inspired by Bob Endean, who gave his theory on how Crown of Thorn outbreaks were caused by human activity.

“He was crazy like a fox,” remembered Professor Jackson. “I knew then that he was on to something.”

“When I now reflect on my own career, every big step since then has coupled a new discovery with human impacts that have been relentlessly ratcheting up.”

Professor Jackson said he had been part of a team in the 70s that had written a landmark study on the aftermath of a hurricane in Discovery Bay, Jamaica, which was then the epicentre of reef research.

“We looked at the impact and predicted how the reef would recover – and we were 100 per cent wrong,” he said.

“We treated the reef as if it was pristine

but the problem was us . . . humans. There were zero fish. Now that magnificent coral has 50 per cent seaweed cover and there is only 5 to 10 per cent live coral cover left.”

Professor Jackson said his Darwin address would embrace four key areas.

“I am going to get the doom and gloom out of the way,” he said. “It has to be done but I remain optimistic. The second part offers ‘glimmers of hope’, and focuses on all the positive actions being taken around the world.

“Then, I will look at how I see the demise of reefs and climate warming having the potential to impact on civilisation immediately.”

The final part of the address will focus on the work he is now conducting as Leader of the Global Coral Reef Monitoring Network.

“The network is looking globally at our science in a vigorous, qualitative way,” he continued. “In doing this, I can see we have no common metrics in reef science and that is making the job 10 times harder. Statistics for reefs are ineffective because we are all so individualistic and some are not prepared to sacrifice their sacred beliefs.”

Professor Jackson said he wanted the coral science community to follow the lead of the Centre for Tropical Forest Science, which has benchmarks to consistently monitor 8 million trees of 2700 species.

“Why can’t we do this,” he asked rhetorically.



Professor Jackson’s recent research has focused on the investigation of historical human impacts on marine ecosystems.

He told a briefing at the Symposium earlier this week that it was clear local excesses on the reef, such as over-fishing and dynamiting coral, were having a dramatic impact.

He complained that efforts to police and restrict abuses had been only “moderate”.

“Corals persist in areas where action is taken,” said Professor Jackson, who is also Emeritus Professor of Oceanography at Scripps Institution of Oceanography.

“This is not theory. It is fact. There is a great deal of observation we can act on.

Reefs offshore are better than those near-shore that have been affected by

human impact.

Areas where no fishing takes place look as good as they did 50 years ago.

If there is a bleaching event, then the coral recovers. You can see the difference between remote coral reefs and those that have been plundered and polluted.”

Professor Jackson’s paper, “Historical Over-Fishing and the Recent Collapse of the Coastal Ecosystems” has been cited more than 200 times in scientific literature.

It has been quoted in the media hundreds of times.

Professor Richmond said of his colleague earlier this week: “We are very fortunate to have scientists of the quality of Jeremy Jackson. He is leading the tremendous effort to bridge science and community understanding.”

Professor Jackson said local action was essential to help alleviate the stressors on reef ecosystems but warned that the effects of climate change would impact in the future.

“The rise in sea levels will have profound economic effects.

“We all need to remember that the problems of coral reefs are the same as those for the people.”

Previous recipients of the Darwin Medal are:

- Professor Terry Hughes – 2008 (11th ICRS, Fort Lauderdale)
- Dr J.E.N. (Charlie) Veron – 2004 (10th ICRS, Okinawa)
- Professor Yossi Loya – 2000 (9th ICRS, Bali)
- Dr Ian G. MacIntyre – 1996 (8th ICRS, Panama)
- Dr Peter W. Glynn – 1992 (7th ICRS, Guam)
- Dr David Stoddart – 1988 (Inaugural recipient)



Thanks to our ICRS 2012 volunteers, all Ph.D students from the ARC Centre of Excellence for Coral Reef Studies at James Cook University.

Consensus Statement on Climate Change and Coral Reefs

The international Coral Reef Science Community calls on all governments to ensure the future of coral reefs, through global action to reduce the emissions of carbon dioxide and other greenhouse gases, and via improved local protection of coral reefs.

Coral reefs are important ecosystems of ecological, economic and cultural value yet they are in decline worldwide due to human activities. Land-based sources of pollution, sedimentation, overfishing and climate change are the major

threats, and all of them are expected to increase in severity.

Changes already observed over the last century:

- Approximately 25-30% of the world's coral reefs are already severely degraded by local impacts from land and by over-harvesting.
- The surface of the world's oceans has warmed by 0.7°C, resulting in unprecedented coral bleaching and mortality events.
- The acidity of the ocean's surface has

increased due to increased atmospheric CO₂.

- Sea-level has risen on average by 18cm.

By the end of this century:

- CO₂ emissions at the current rate will warm sea surface temperatures by at least 2-3°C, raise sea-level by as much as 1.7 meters, reduce ocean pH from 8.1 to less than 7.9, and increase storm frequency and/or intensity. This combined change in temperature and ocean chemistry has not occurred since the last reef crisis 55 million years ago.

Other stresses faced by corals and reefs:

- Coral reef death also occurs because of a set of local problems including excess sedimentation, pollution, habitat destruction, and overfishing.
- These problems reduce coral growth and vitality, making it more difficult for corals to survive climate changes.

Future impacts on coral reefs:

- Most corals will face water temperatures above their current tolerance.
- Most reefs will experience higher acidification, impairing calcification of corals and reef growth.
- Rising sea levels will be accompanied by disruption of human communities, increased sedimentation impacts and increased levels of wave damage.
- Together, this combination of climate-related stressors represents an unprecedented challenge for the future of coral reefs and to the services they provide to people.

Across the globe, these problems cause a loss of reef resources of enormous economic and cultural value. A concerted effort to preserve reefs for the future demands action at global levels, but also will benefit hugely from continued local protection.



Today's Program Highlights

Ove Hoegh-Guldberg

University of Queensland, Australia

Coral reefs and global change: where do the solutions lie?

1515-1600, Friday 13 July, Plenary Hall 2

Ove Hoegh-Guldberg is Professor of Marine Studies, Director of the Global Change Institute at the University of Queensland and Deputy-Director of the ARC Centre of Excellence for Coral Reef Studies. He leads a research laboratory with over 25 researchers and postgraduate students who are focused on understanding global warming and ocean acidification and its effect on coral reefs. Hoegh-Guldberg has published over 185 peer-reviewed publications and is Coordinating Lead Author for the 'Oceans' chapter within the IPCC 5th assessment report. He is the third most-cited author globally within the peer reviewed literature on climate change (past 10 years). In addition to his research and administrative roles, he is also a regular contributor to the media, with his work featuring on the ABC (Catalyst), BBC (with Sir David Attenborough) and NBC (with Tom Brokaw). He is an active member of Climate Scientists Australia and maintains the science blog <http://www.climateshifts.org>.

Hoegh-Guldberg was recognised with the Eureka Prize in 1999 for research by an Australian scientist under 40. In 2009 he was awarded the Queensland Smart State Premier's Fellowship.



Speakers' Preparation Guidelines

If you are presenting a talk, you must upload your presentation at least three (3) hours prior to your presentation, at the same venue where you are giving your talk: MR8 on the mezzanine at the Cairns Convention Centre and the Rosser Room on the first floor at the Sebel Hotel. The Speakers' Preparation Rooms at both venues will be open at these times:

Sunday: 1200 – 1700 • Monday-Thurs: 0730 – 1800 • Friday: 0730 – midday

Free WiFi

WiFi is available throughout the Cairns Convention Centre for the duration of the Symposium. WiFi is available throughout the Sebel Hotel for the duration of the Symposium. To access please enter the code **3HFJE4**.

Connect at ICRS 2012 with Social Media

To discuss today's media briefings online, use the following hash tags:

Lessons from the Great Barrier Reef -

#icrs2012 #reef

The State of Coral Reefs -

#icrs2012 #coral

12th International
Coral Reef Symposium
9-13 July 2012 • Cairns • Queensland • Australia



ICRS 2012 Program changes

Friday 13 July

Benjamin Ruttenberg – Oral presentation at 1030, Hall D
Withdrawn.

Emma Hickerson – Speed talk at 1245, Hall A
Presentation to be given onsite by Billy Causey.

Chris Jeffrey – Oral presentation at 1445, Hall D
Withdrawn.

Sean Morton – Oral presentation at 1115, Hall C
Presentation to be given onsite by Steven Thur.

Chris Wikle – Oral presentation at 1230, Plenary Hall 2
Presentation now scheduled for 1245.

Petra Kuhnert – Oral presentation at 1245, Plenary Hall 2
Presentation now scheduled for 1230.

Joanna Kolasinski – Oral presentation at 1400, Sebel
Mossman
Withdrawn.

Big issues need **big critters**

The future of dugongs and green turtles may depend on scientists being able to convince poor coastal communities that “big critters” are worth more alive than dead.

That is the view of Helene Marsh, Professor of Environmental Science and Dean of Graduate Research Studies at James Cook University.

She urged the coral science community to expand their research to better understand the “human dimensions” of changes to the marine environment and to not worry about being seen as “dolphin-huggers”.

In her Day Four plenary address yesterday, Professor Marsh cited case studies in which coastal populations in emerging countries had begun to understand that a thriving mega fauna was more profitable than fishing “big critters” to the point of extinction.

She said 15 per cent of coral reefs were under the management of the poorest countries in the world, “and that means you need to prove to their coastal communities that big critters are worth more alive than dead to them”.

Global whale-related tourism was worth an estimated \$US1 billion, Professor Marsh said.

She shared the positive experience of Palau, which now derives 8 per cent of its GDP from tourism related to shark-diving. Some 14 per cent of the nation’s entire tax income comes from this activity.

“That’s worth much more to the people than killing sharks,” she said, adding that Fiji was experiencing similar economic benefits.

Research in Palau showed 78 per cent of tourists would recommend such a vacation.

Coastal communities in Lovina, in northern Bali, have had to change their approach because of negative feedback from tourists who had travelled to the Indonesian province to see dolphins.

There were 179 boats dedicated to this area of tourism and when a pod was spotted, up to 100 vessels would chase it. Tourists complained of aggressive helmsmanship and the relatively few dolphins seen.

Professor Marsh said Lovina locals understood they had to change their behaviour and its waters would soon become part of a network of Marine Protection Areas aimed at curtailing excesses and bringing back the tourists.

For Lovina, dolphin-spotting was worth \$5 million annually, of which 97 per cent was derived from hotels, restaurants and other land-based businesses.

Professor Marsh said “big critters”, such as dugongs, were a powerful political catalyst that had the potential to change the “political will”.

She described the challenges to replenish fish stocks and revitalise reefs

as a “social problem” that required a “new and different approach” from marine science.

She estimated 85 per cent of all marine science was bio-centric and only 1 per cent looked at either the social or economic impact of environmental changes.

“If we are going to be effective in communicating the danger, then our emphasis must change,” she said.

Professor Marsh lamented that mega fauna, such as dugongs and turtles, were no longer “the dominant species on reefs that they used to be”.

She cited the experience of the green turtle population on Australia’s Raine Island to illustrate the stress to which turtles were subjected because of falls in sand depth and rising sea levels.

The remote island holds the world’s largest green turtle rookery and the population thrived until the mid-90s. Nests created in the sand were now too shallow to protect them from flooding and up to 34 per cent of the nest area was now inundated, Professor Marsh said.

Green turtle populations usually had a 15 per cent population of juveniles but this had dropped to 5 per cent.

Professor Marsh continued: “There are still large numbers of green turtles but in 35 years this is not likely to be the case. The action we are taking now is not enough.”

She said additional focus needed to be placed on the conduct of coastal communities to manage their harvest because the situation would eventually become a “food security issue”.



Helene Marsh

Reefs need to learn **new tricks**

Intervention measures to help coral survive climate change were discussed yesterday by Madeleine van Oppen, who gave the afternoon plenary address.

In her session Can Old Corals Learn New Tricks?, she told the audience that unless coral was able to adapt to climate change, then reef life would diminish further.

“Increases in temperature have already led to a reduction in coral cover and diversity,” said Dr van Oppen, of the Australian Institute of Marine Science.

“Unless coral can adapt, further losses of coral cover and diversity are expected to occur over the coming decades.”

This view has been supported this week by Stephen Palumbi, of Stanford University.

He said earlier: “Oceans are already up 0.5°C warmer. Corals live at the top of their thermal range. They have only 1.5°C of headroom, and in the next century they could lose that headroom.”

Increases in ocean acidity are presenting a challenge for the growth of coral skeletons, which are made of calcium carbonate and can dissolve under more acidic conditions.

“Sea levels may rise 1m or more and perhaps corals can keep up with that but they will not be able to handle the increasing acidity of oceans if the trends continue,” he said.

Dr van Oppen discussed attributes that provided the coral animal and its microbial symbionts with the potential to respond and adapt to climate change.

Madeleine van Oppen



Thanks for coming... and see you in four years

The Symposium Executive Committee has expressed their gratitude to the 2000-plus delegates for attending the 12th International Coral Reef Symposium in Cairns.

"We have been thrilled with the response of the global reef science community," said Professor Terry Hughes, convener of the Symposium and director of the ARC Centre of Excellence for Coral Reef Studies at James Cook University.

"It has been great to see so many colleagues from all over the world and feel the enthusiasm of the hundreds of PhD students here. They represent the future of our science."

Held every four years, this Cairns symposium has attracted delegates from 82 countries.

Professor Hughes said delegates would be returning home with the entire proceedings "in their pockets".

"We have put all the presentations on a USB memory device that was inserted in the Symposium bags that were handed out on the first day," he said. "They are a very valuable addition to the Symposium."

He continued: "We have endeavoured to make the content of the Symposium

available to everyone who could not attend. All the presentations will be on the ICRS website by early next week."

A link will be sent to delegates as part of the next e-newsletter.

Global attention focused on the Symposium after Professor Hughes and other leading coral scientists launched a Consensus Statement outlining locally-based actions required to help reefs recover from the impact of human activity. The statement was developed initially under the auspices of the Center for Ocean Solutions.

Earlier this week, Professor Bob Richmond, President of the International Society for Reef Studies, called organisers "courageous" for launching the statement during the Symposium.

Professor Hughes said he was delighted at the response of scientists to the statement, which has now been endorsed by 2,800 colleagues.

More than 200 signed the document during the Symposium.

Organising Committee member, Jennifer Lappin, said she had been overwhelmed by the warmth of the coral science community and the energy that delegates had brought to the Symposium.



Left to right: Eliza Glasson, Terry Hughes, David Yellowlees and Jennifer Lappin

"It has been three years of work and we have been delighted with the positive feedback we have received," said Ms Lappin, who is chief operations officer at the ARC Centre of Excellence.

Some \$US1 million was raised to support the Symposium, with some funds dedicated to financing attendance by more than 700 PhD students.

Professor Hughes added: "We would like to thank our sponsors, who have been

marvellous and supportive of our work and the value a symposium can bring.

"The sessions have been outstanding and this Symposium has illustrated the value of networking and meeting colleagues. The informal exchange of information has been hugely valuable to everyone."

The venue for the 13th symposium in 2016 will be announced at the Closing Ceremony by ISRS President, Professor Richmond.

Coral experts on TV

Symposium speakers took part in a televised debate on Wednesday night organised by Australia's national broadcaster, the ABC.

An audience of more than 75 turned up at a makeshift studio at the Cairns Cruise Liner Terminal to discuss the future of coral reefs with plenary speakers such as Helene Marsh, of James Cook University, and Jeremy

Jackson, the Senior Scientist Emeritus at the Smithsonian Institute.

The one-hour discussion – *Can Coral Reefs Survive the 21st Century?* – will be broadcast at 9pm on 22 July 2012 on the ABC 24 digital news channel. It will also be available on the broadcaster's web site, abc.net.au after that date.

The audience "peppered" the panel with questions, according to Symposium convener Professor Terry Hughes, who

was one of the guests.

"We discussed a variety of topics, such as how to best manage the Great Barrier Reef and how to balance coastal development with environmental needs," said Professor Hughes, who is director of the ARC Centre of Excellence for Coral Reef Studies at James Cook University.

"There was a lot of discussion about the recent UNESCO report on the Great Barrier Reef and its call that no new ports

should be established north of Cairns.

"Many people said how embarrassing it would be if the Great Barrier Reef was placed on the World Heritage Site in Danger list."

UNESCO has given the Australian government until 1 February 2013 to provide a report on the remediation efforts being carried out on the reef.

Peter Doherty, of the Australian Institute of Marine Science, told a media conference earlier this week that the Great Barrier Reef had lost 50 per cent of its live coral coverage since its listing in 1981.

Professor Hughes said he had advocated that tourism was good for the reef.

"Unlike coal mining, the reef will still be here and earning revenue for the community in 100 years if we look after it," Professor Hughes said.

The panel also featured Meg Caldwell, of Stanford University; Agnetha Vave-Karamui, a representative for the Solomon Islands for the Coral Triangle Initiative and Daniel Gshwing, the chief executive of the Queensland Tourism Industry Council.

It was moderated by well-known ABC science commentator, Robin Williams.



ICRS 2012 Photographic Competition **winners**

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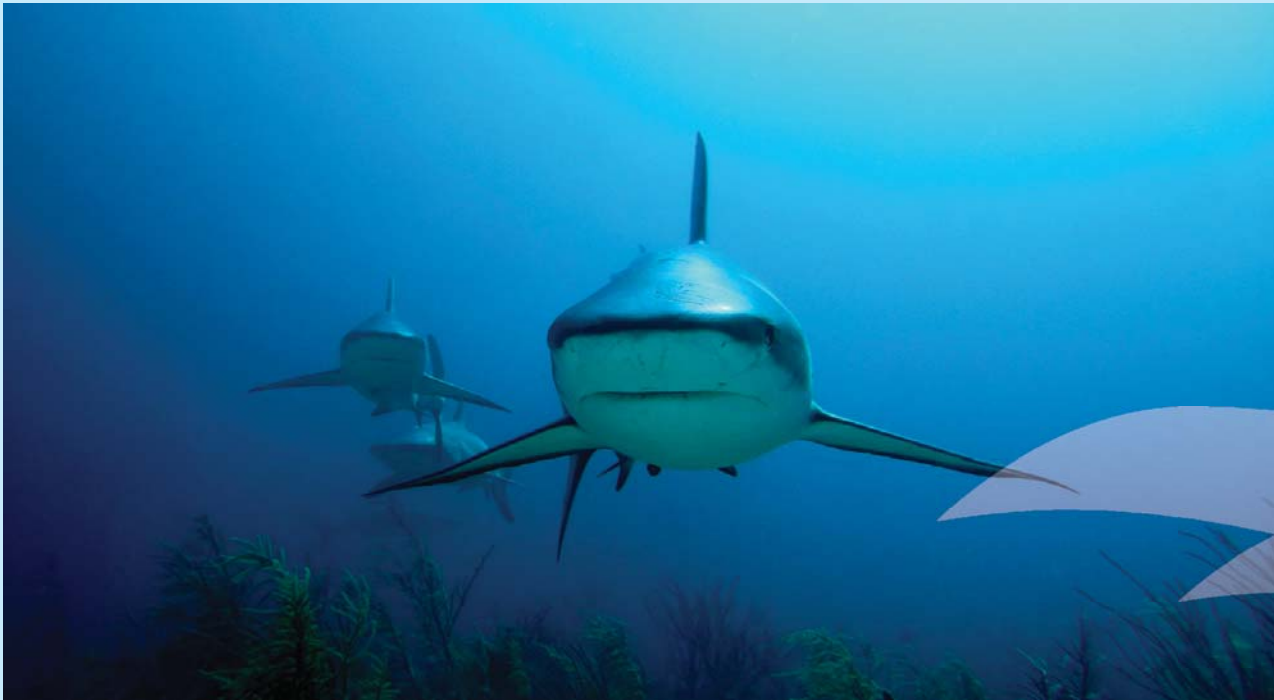


Animal Portrait Category

Winner Kemit-Amon Lewis, USA
(also Best In Show)

2nd Place Christian Jessen, Germany

3rd Place Steve Lindfield, Australia

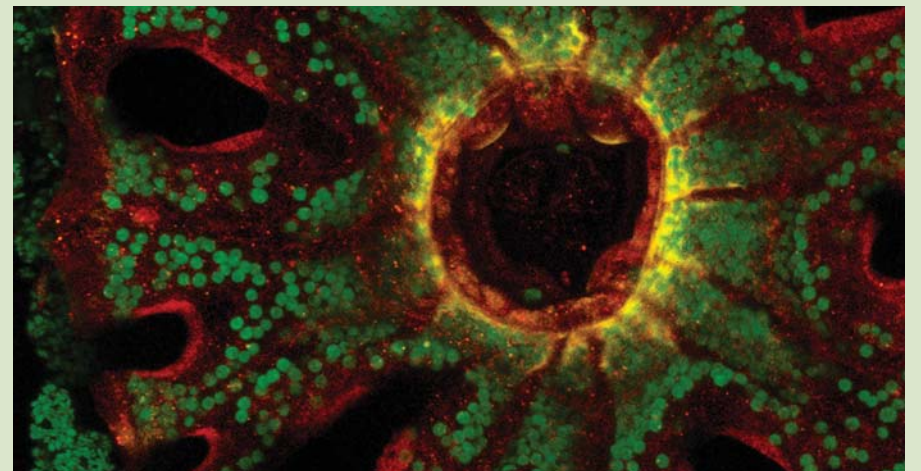


Animal Behaviour Category



Winner Klaus Stiefel, Australia
2nd Place Thomas Vignaud, France
3rd Place Andrew Dunstan, Australia

Scientific Image Category



Winner and 2nd Place Aurelie Moya, France
3rd Place Steve Lindfield, Australia

People and the Reef Category



Winner Dirk Steenbergen, Australia
2nd Place Hiro Kan, Japan
3rd Place Aaron O'Dea, Panama

Macro Category



Winner Frederieke Kroon, Australia
2nd Place William Goodwin, USA
3rd Place Pedro Pereira, Australia

Wide-Angle Category



Winner Neil Chan, Australia
2nd Place Pedro Periera, Panama

French scientists gather in Cairns

Thanks to ICRS 2012, 60 researchers from French research Institutes met on Tuesday. The session was managed by Michel Kulbicki, senior researcher at the Institut for Development (IRD), unit COREUS.

The French Coral Reef Association (ACOR) was created in 1997 and is a part of IFRECOR (French Initiative for Coral Reef). Its aims are to create a network for people interested in developing coral reef research, conservation and management. The association represents this community

at national and international levels or non-government organizations and wants to increase communication by and between their members. Currently, more than 420 researchers are members. Answering to a request from the French Ministry of Ecology, two books (one in French, one in English) will propose an inventory of research results form the basis of an overview of the scientific organization of French research on coral reefs. At the end of this meeting, people indicated the need to focus on communication and website development.



Glossary of Aussie food served this week

Anzac Biscuits

The Anzac biscuit has long been associated with the Australian and New Zealand Army Corps "the ANZACs" established in World War I and was the biscuit anxious mothers gave to their sons when they went off to war.



Lamingtons

The Lamington is so named for Lord Lamington, who served as Governor of Queensland from 1896 to 1901. This humble sponge cake dipped in chocolate and rolled in coconut is popular amongst fund raisers for Australian not-for-profit groups such as schools, scouts, girl guides and churches to such an extent that they are commonly known as "Lamington drives"

Damper

Damper is an iconic Australian dish prepared by swagmen, drovers, stockmen and everyday travelers. It's traditionally baked in the coals of a campfire with easily transportable and basic ingredients of flour, water and sometimes milk if available on the dusty droving trails.

Pavlova

There is no doubt the Pavlova, a meringue-based dessert was named after the Russian ballet dancer Anna Pavlova. However, whilst the ANZACs bound Australia and New Zealand in wartime this delicious dessert has divided the nations for over 80 years. The Kiwis claim the recipe originated in New Zealand in 1935 and the Aussies lay claim to "Meringue with Fruit Filling" in 1925. Who cares! It's delicious.

Kangaroo Satay Sticks

The kangaroo has been a source of food for indigenous Australians for thousands of years. It has a rich texture and is often marinated to bring out the flavours of this wild meat.

Power of acting locally

Strategies to create alternative forms of income for coastal villages are essential to convince fishers not to over-fish or destroy coral in their local waters, according to community workers who have been attending the Symposium this week.

Investment in commercial activities such as seaweed farming, fish-drying and salt production are being offered by governments in an effort to persuade villagers to replace income from selling reef fish at local markets or through middle-men for export.

In suitable areas, coastal villagers of the Coral Sea and Pacific are encouraged by community workers to expand land-based activities such as agriculture, or use grants to encourage eco-tourism.

Not every village is keen to take-up such alternatives in exchange for surrendering reef fishing areas or restricting their catch, said Jovelyn Cleofe, the Philippines co-ordinator for her nation's Locally Managed Marine Areas network (LMMA).

"If closing an area is difficult, then we might start with encouraging the community to plant mangroves to improve water quality and encourage fish to breed," she said.

LMMA's are rarely bigger than 20ha and have been designed to encourage coastal communities, which often depend on seafood, to sustainably manage their local waters.

This restricted size is "so small it does not make a difference but if you pick the right place to conserve it can be beneficial for fish stocks", according to Cliff Marlessy, the LMMA co-ordinator for Indonesia whose work focuses on the eastern side of the archipelago and Papua.

Fijian counterpart Alifereti Tawake, said these small areas were "all about putting the science into action".

"I was brought up in a traditional Fijian village," said Mr Tawake, who is the technical advisor to the Learning Committee of the Fiji LMMA. "I have personal convictions to make this program a success.

Over-fishing is real. But large-scale Marine Protection Areas do not always work in developing countries. Their size and scale are just not relevant and



Jovelyn Cleofe

governments do not have the budget to manage large marine systems.

Villages need fish for their survival and locking-up areas can do more harm than good," he said.

"Community-based systems, in which areas are chosen in consultation with local communities, was the only way to make an impact" he said.

Ms Cleofe said communities in Mindanao, where coral blasting and over-fishing was common, had initially needed government assistance because they were "poor, had limited education and could not rise out of this problem".

As a result of government help, annual incomes had risen from \$US3,000 to \$US6,900; and local fish species had increased in number from 36 to 74.

A senior consultant at The Nature Conservancy, Alan T. White, said the Philippines national government had previously made it clear it did not have the resources to monitor protected areas.

He praised the Philippines for now creating more than 1000 marine reserves under local governance.

Indonesia's Mr Marlessy said his country's program had to be rolled out slowly because it relied on villagers sharing their experiences.

"Now we have 11 villages as part of the program and the LMMA's cover 110ha," he said.

Response was generally positive because Indonesia's coastal communities believed that "coral is the house of the fish".

"When the villagers see the fish getting bigger, then the money for them at market increases," he added. "Building trust between villages is very important for the program to work."

The end of the Age of Aquarius?

We have arranged a live link with the Aquarius aquanauts beginning the last Aquarius mission in Room MR3 at 1300 today Friday 13 July 2012. Funding has ended on all projects scheduled for 2012-13. Please attend this session and make your comments to the press. Lots of press coverage might get this reversed, who knows?

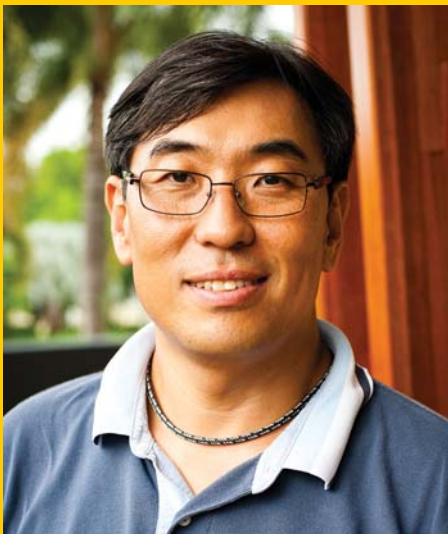
Connecting through coral science

We asked some of the Symposium delegates about their attendance at ICRS 2012 and what have been their personal highlights.



Sarah Davies
University of Texas at Austin, USA

Here at ICRS 2012 Sarah has been able to connect with people she has only ever "met" via email. Sarah has most enjoyed meeting everyone face-to-face and talking about research that is not yet published.



Heung-Sik Park
Korea Ocean Research & Development Institute, Korea

The last time Heung-Sik was in Cairns was on his honeymoon! The presentations he has listened to have reinforced his lifelong interest in coral reefs.



Jacques Idechong
Palau International Coral Reef Center, Palau

Jacques has travelled all the way from Palau and is one of the recipients of the

"The presentations he has listened to have reinforced his lifelong interest in coral reefs."

TNC Grants. Jacques has been actively sharing his work and research at ICRS 2012 and says that meeting new people and seeking out collaborators has been vital for his future research.



Ole Morten Seternes
University of Tromsø, Norway

It's been truly interesting for Ole to see what's going on out there in the field of coral science. Ole's research interests lay in the genome analysis of the cold-water *Lophelia* coral and related species.



Maha Khalil
King Abdullah University of Science & Technology, Saudi Arabia

Maha was about to give her own oral presentation on Coral recruitment after a bleaching event in the Red Sea as her favourite but instead decided that the one delivered by Glenn Almany from the ARC Centre of Excellence at JCU rated the highest.



Jessica Masterman
King Abdullah University of Science & Technology, Saudi Arabia

Jessica specifically studies the diet of Butterfly fish and has found the chemical ecology topics the most interesting. Jennifer Debose's presentation on Insights into the chemical ecology of fish aggregations over reefs has been her highlight so far.



Renato Vincius Ferreira
University of Sao Paulo, Brazil

Renato's main area of research lies with coral reef mapping focussing on mesophotic reefs. The biodiversity symposia and presentation from Michael Lesser Mesophotic coral reefs: A global model of structure and function has been his favourite so far. This is his first Coral Reef Symposium and his expectations were far exceeded - Renato is looking forward to the next one!

"I stood up and clapped when Peter said You have hope for your children."



Sabine Jessen - 1507
Simon Fraser University, Canada

Politics of marine protected areas and comparing Canada, Australia and New Zealand occupies Sabine's research time. Having just attended the GBRMPA session on climate change incorporated into marine protected areas she is thoroughly enjoying the information exchange and doing more research whilst at ICRS. Geoff Jones' keynote presentation was her program highlight.



Bemahafaly Randriamanantsoa
Wildlife Conservation Society, Madagascar

Coral bleaching is a major issue in his native homeland and ergo the science and research is critical to further understanding his own challenges in Madagascar's 3,934 km² coral reefs. Marine planning is very important and the different management systems critical to his future research.



Hunter Lenihan
Bren School of Environmental Science And Management, University of California Santa Barbara, USA

"One of the most inspiring talks I've heard" says Hunter of Peter Kareiva's keynote address. "I stood up and clapped when Peter said You have hope for your children. It's good to know there is some positivity and optimism for the future generations.

Starry, starry night

