

SeaRead

Marine Park news from catchment to coral



Australian Government
Great Barrier Reef
Marine Park Authority

Issue 14 • January/February 2007

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New on-the-spot fines for Green Zone recreational fishing offences



Marine Park enforcement officers can now issue on-the-spot fines to recreational fishermen found illegally fishing in Green Zones, following changes to the Great Barrier Reef Marine Park Regulations.

The amendments were announced in December by the Minister for the Environment and Heritage Senator Ian Campbell, Senator Ron Boswell and Federal Member for Leichhardt Warren Entsch.

"Breaches of our environmental management regimes are a serious concern, however, I recognise it is important to structure the penalties associated with these breaches to ensure the system is efficient and fair," Senator Campbell said.

The new infringement notice offence will attract a fine of \$1100 and is a significant change to the way minor recreational fishing offences may be handled.

Less serious cases will continue to be dealt with by an advisory letter rather than a fine, which has been the case since the Zoning Plan came into effect in 2004.

Under the new arrangements, there is still capacity for more serious offences to be dealt with through the court system.

The new arrangements are not retrospective. They will not affect any past convictions handed down under the legislation available at the time the offence was committed.

The new system of infringement notices will give enforcement officers the option to deal with matters relating to recreational fishing in Green Zones quickly and effectively.

The potential for a \$1100 fine is designed to be a good incentive to encourage recreational fishermen to use the freely available Zoning Maps to be absolutely certain about where they can go and what they can do.

The fine should also provide sufficient deterrent to dissuade anyone from choosing to do the wrong thing.

The Australian Government increased the level of protection for the Great Barrier Reef Marine Park with the implementation of the present Zoning Plan in 2004.

END

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Message from the Chairman



the Hon Virginia Chadwick AO

Education is a key way to build awareness about the unique aspects of the Great Barrier Reef Marine Park and inspire people to undertake activities that contribute to its resilience.

The Reef Guardian Schools programme, as well as Reef HQ Aquarium, are just two examples of successful programmes that have made a tremendous contribution to keeping the Marine Park top of mind in the community and schools.

More than 163 Reef Guardian Schools participated in the programme in 2006, and the annual awards saw a record number of schools submitting yearly reports detailing their ongoing commitment to ensure a sustainable future for the Marine Park.

The awards acknowledged the outstanding efforts and achievements of schools in a variety of environmental categories, with 32 schools recognised for their

outstanding commitment to Reef Guardianship sharing in \$20 000 worth of prizes.

It was incredibly pleasing to see such a high standard and diverse range of environmental, economic, social and educational outcomes. I congratulate teachers and students for their innovation, creativity, passion and commitment to the Marine Park.

This was also the first time the Ripples of Change initiative was implemented in the Reef Guardian Schools awards programme and it received a great response from schools.

The Ripples of Change is designed to assist schools in undertaking environmental activities in the school in 2007 and saw 20 schools receive \$500 funding each to fund future Reef Guardian projects. I look forward to seeing more new and exciting projects coming to fruition.

It is also good to see Reef HQ

continue to be at the forefront of the field with the hatching of a baby *Nautilus*. The aquarium continues to go from strength to strength and this year will celebrate 20 years since its opening – a great achievement.

Congratulations and thanks to everyone who participated in our educational programmes and to staff at the Great Barrier Reef Marine Park Authority and Reef HQ who are committed to educating the public about the wonders of the Marine Park.

Regards

Virginia Chadwick
Chairman
Great Barrier Reef
Marine Park Authority

END

Flipped friends found on beaches

Take care around nesting marine turtles and their hatchlings – that's the message from the Great Barrier Reef Marine Park Authority (GBRMPA).

The call comes as turtles nest and hatch on beaches along the Queensland coast.

Sarah Salmon from the GBRMPA's Species Conservation Unit said it was essential people take care around female turtles laying eggs and hatchlings making their way to the ocean.

"Marine turtles are a protected species and people should take care at this time of the year as female turtles are returning to the areas of their birth to lay eggs on the shore," she said.

"Most female turtles lay about 120 eggs in a clutch and the hatchlings emerge from the nest seven to 12 weeks later, usually between December and May."

Sarah said a range of useful guidelines had been developed to assist people to do the right thing around turtles.

"We are very fortunate to have six of the world's seven species of marine turtle living in the waters of the Great Barrier Reef World Heritage Area, so it is important we look after these animals.

"If you see a marine turtle nesting, or anyone disturbing the nests, contact your local Queensland Parks and Wildlife Office."

If you are around nesting or hatchling turtles please ensure you follow these useful guidelines:

- Do not approach a turtle emerging from the water or moving up the beach
- Use low wattage torches (less than three-volt, two-cell) with red cellophane or a filter over the bulb
- Never shine lights directly on to turtles – angle the light towards the sand at the side of the turtle
- Stay well clear (at least two metres) of turtles nesting, covering their nest and moving up or down the

beach – never stand in their pathway or make them alter their course

- Keep still and quiet – sudden movements will disturb turtles
- Remain behind turtles as they dig and lay their eggs – do not stand in front or where they can see you
- Watch where you step to avoid crushing eggs or hatchlings – do not disturb or dig up nests
- Do not touch or handle hatchlings.

For more information about marine turtles in the Great Barrier Reef World Heritage Area see www.gbrmpa.gov.au or www.deh.gov.au/coasts/species/turtles.



Keep an eye out for marine turtles on local beaches

END

Landmark climate change guide released

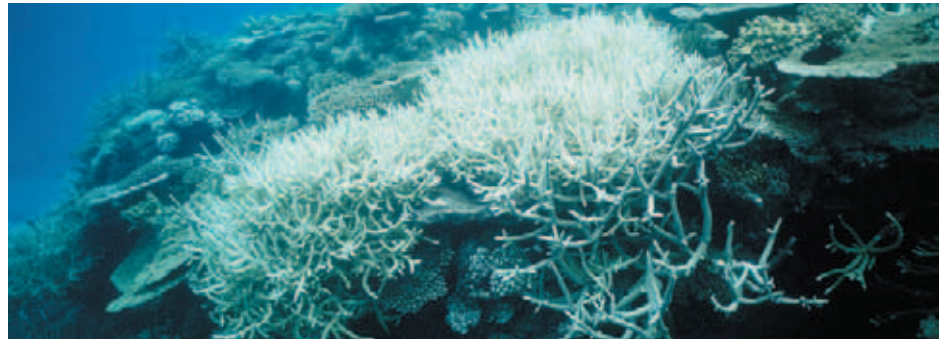
Leading coral reef managers and scientists joined forces to produce a comprehensive analyses of how managers can help coral reefs cope with climate change.

A *Reef Manager's Guide to Coral Bleaching* is a collaboration between the Great Barrier Reef Marine Park Authority (GBRMPA), United States National Oceanic and Atmospheric Administration (NOAA) and IUCN – the World Conservation Union.

The Guide draws on a significant and growing body of research looking at ways to support the ability of coral reef ecosystems to survive and recover from bleaching events, and reviews management actions that can restore and maintain ecosystem resilience.

Its lead authors are GBRMPA's Dr Paul Marshall and Ms Heidi Schuttenberg, formerly from NOAA and currently at James Cook University.

Paul said it was an excellent opportunity to share expertise with reef managers worldwide in this highly anticipated publication.



The new publication sheds important light on coral bleaching

"Australia is at the forefront of developing new strategies and tools to respond to mass bleaching events, minimise impacts and build long-term coral reef resilience to global change," he said.

"Working closely with the United States and ICUN, who are playing a key role in developing knowledge and capacity in the area, has been particularly rewarding.

"The GBRMPA's role in the Guide further consolidates the leading role Australia is playing in responding to the challenge presented by climate change and coral bleaching.

"Over the last decade, reef managers and reef users have become increasingly concerned by the impacts of mass coral bleaching events caused by elevated sea temperatures."

Paul said the Guide provided a clear and accessible synthesis of current and emerging knowledge on coral bleaching and the role that reef managers could play in helping reefs survive future threats.

The Guide includes contributions from 17 experts and reviews by an additional 34 world-renown specialists on the causes and consequences of bleaching, management implications and policy responses.

It also outlines case studies on community monitoring in the Great Barrier Reef Marine Park and bleaching in places like the Bali Barat National Park in Indonesia and Seychelles in the Indian Ocean.

A copy of the Guide is available online at www.gbrmpa.gov.au.

END

Nautilus hatching an Australian first

Reef HQ continues to build its reputation for rare and unusual exhibits with the recent hatching of a baby Nautilus.

The Aquarium was the first in Australia to hatch the *Nautilus* from eggs layed within one of the display tanks.

The breeding programme saw the first baby, a perfect miniature of an adult, measure a tiny 2.5 centimetres in length.

Aquarist Tom Hatley said the *Nautilus pompilius* (Chambered Nautilus) was one of only two species of this cephalopoda found on the Great Barrier Reef, and only six species in total throughout the world.

"This was very exciting because these animals live at a depth of 100 metres to 400 metres below sea level, therefore there are limited numbers kept in captivity," he said.

"Only two other aquariums in the world have reported hatching baby *Nautilus*, with the longest survivor lasting one year."

Tom said the *Nautilus* was active

as soon as it hatched and began consuming a diet of live shrimp. Regrettably, the hatching stopped feeding only a few days later and died.

"There are still other eggs in incubation and it is hoped these will hatch in the coming months.

"New techniques will be introduced with the remaining eggs to encourage a better chance of survival."

Tom discovered the eggs in the Reef HQ tanks and moved them into a separate tank in order to incubate them.

The water temperature was adjusted to a higher level and water quality maintained at strict standards to ensure growth and development.

Studies show a baby *Nautilus* will not reach maturity until around seven years of age and can be expected to grow to around 20 centimetres in length.

Nautilus have more than ninety tentacles, topped by a leathery hood that is formed by two specially folded tentacles.

The eyes of the *Nautilus* are less developed than in the other cephalopods and operate like a pinhole camera.

Living *Nautilus* are found in the deep dark ocean waters and have been living in the Pacific for over 500 million years.

They spend the day living in the deep cool waters off the edge of the reef, while at night they rise to feed on crustaceans.

Reef HQ obtained the original adult *Nautilus* through Cairns-based vessel *Undersea Explorer*, which collected a number of *Nautilus* for population studies at Osprey Reef in the Coral Sea and kindly passed them on for display.



Tom Hatley with the baby *Nautilus*
Photo courtesy of Dr David Wachenfeld

END

Grassroots research benefits Reef

New fertiliser research by Eacham Landcare members in north Queensland is pointing to significant gains for both dairy farmers and the Great Barrier Reef Marine Park.

The group has reported dramatic preliminary results from research into using less nitrogen fertiliser on winter rye grass pasture.

Landcare members used daily temperatures to gauge when rye grass was in its growing phase, and have used up to 70 per cent less fertiliser to produce the same rich pasture.

Eacham Landcare President Russell Fry was elated by the results and said he had learned more in the last four years than in the previous 40 years that he has been dairy farming.

"It's the greatest thing I've ever been involved in. This is ground-breaking research that's going to help the industry for years to come," Russell said.

"We're on the brink of big changes, when research and technology help to improve farm practices and make

our industry more efficient – as well as helping the environment."

Nitrogen has been implicated in damage to the Great Barrier Reef, and the research is likely to lead to less nitrogen loss by stopping it from sinking into the soil or running off farms after heavy rainfall.

It also has the potential to considerably ease the hip pockets of a hundred dairy farmers on the Tablelands who grow over 1500 hectares of winter pasture.

Savings could be as great as up to 50 per cent a year for each farmer, as well as reducing time spent irrigating and fertilising.

The research may also have wider applications for crops throughout Australia. The group hopes to introduce trials on banana farms in the lower catchment near Innisfail.

Local dairy farmer Dennis Byrnes was so pleased with the results he has offered his farm for a larger trial.

"It's all very well to make this work on a small experimental plot but now



Local dairy farmer Dennis Byrnes and GBRMPA's Hugh Yorkston inspect the remote sensor used to sense water and nutrient levels on the farm

we need to translate it to a large commercial scale," Dennis said.

"There are a lot of issues to get right. Farm machinery isn't very precise when it comes to applying fertiliser. We also need to get the soil moisture levels right so that maximum nitrogen is absorbed. There are also many variables once cows are trampling through the pastures.

"Over the next couple of years the Landcare group plans to give farmers the knowledge and the tools to deliver on nutrient reduction - and with farmers leading farmers, empower them to take action."

END

Tourism operators help monitor water quality at island sites

Queensland island resort and tour operators are helping the Great Barrier Reef Marine Park Authority (GBRMPA) keep a close eye on the presence of land-based pesticides and petroleum products at island sites.

The operators are placing passive samplers, small plastic devices that collect pollutants in the water over time, at 11 island locations to help gauge what substances are in the water.

The monitoring is part of the *Reef Water Quality Protection Plan*, a ten-year strategy of the Queensland and Australian Governments to halt and reverse the declining quality of water entering the Marine Park.

GBRMPA Community Monitoring Coordinator Joelle Prange said island resort and tour operators played a key role in helping the GBRMPA protect the reef for the future.

"The monitoring undertaken by island resort and tour operators is invaluable in helping the GBRMPA monitor long-term changes in water quality," Joelle said.



Marine monitoring is taking place on Low Isles off Port Douglas

"Research has revealed the quality of water flowing into the Marine Park has declined over many years and this can affect the health of the animals, plants and habitats of the Great Barrier Reef ecosystems.

"Monitoring of pesticides is one component of the monitoring programme. We are also monitoring other land-based pollutants and sediment and nutrient concentrations."

Island monitoring sites have been set-up at Low Isles, Fitzroy Island, Normanby Island, North Keppel Island, Orpheus Island, Dunk Island, Long Island, Magnetic Island, High Island and two Whitsunday Islands sites.

"Each month operators are changing over samplers that are used to track which chemicals are reaching the islands and inshore marine environments," Joelle said.

"Given the sheer size of the Marine Park it is really important to have operators and the community helping us out on the ground to ensure a large area is covered."

Steve Sharpe, the caretaker on Low Isles, was among those who helped set-up a monitoring site on the island.

"I am proud to be doing my bit to look after the Great Barrier Reef, and look forward to seeing the results of the monitoring programme," he said.

The passive sampler monitoring programme began in June 2005 and is coordinated by GBRMPA, in conjunction with the University of Queensland.

The *Reef Water Quality Protection Plan* sees governments and communities focusing on decreasing the amounts of nutrients, sediments and other pollutants being discharged from waterways in the Great Barrier Reef catchment.

END

Birds examined in new report

The condition and health of birds in the Marine Park comes under the microscope in the latest chapter of the State of the Reef Report.

The regularly updated online publication examines and reports on the environmental status of plants and animals in the Marine Park.

Great Barrier Reef Marine Park Authority (GBRMPA) Science, Technology and Information Group Project Manager Andrew Chin said the report shed important light on the conditions, pressures and management of birds.

"The Great Barrier Reef is especially important for seabirds with some 1.4 to 1.7 million seabirds from 23 species breeding on islands and cays," he said.

"While data indicates an overall decline in seabird numbers and breeding success, there are a range of management strategies to address these issues."

Andrew said the reasons for the decline were complex, but could be linked to bird deaths and reduced breeding stemming from poor climatic conditions and reduced food availability.

"The potential impacts of climate change on coastal birds are being examined through the GBRMPA's Climate Change Response Programme," he said.

"Management efforts are also focused on protecting coastal birds and their habitats, with a range of environmental agencies dedicating resources to management."

A full copy of the *State of the Reef Report* chapter on birds is available online at www.gbrmpa.gov.au/corp_site/info_services/publications/sotr.



The report provides an overview of birds in the Marine Park

END

Protected Species

The Great Barrier Reef is home to some of the world's most unique and diverse plants and animals, many of which are protected.

A protected species is a plant or animal in the Great Barrier Reef Marine Park that is protected by law and needs special management.

Sea snakes

We know of 17 species of sea snakes in the Great Barrier Reef and all are protected. Sea snakes are reptiles and they have adapted to life in water by developing a paddle tail and a body shaped like the keel of a boat.

Threats

The main human activity threatening sea snakes is incidental catch in trawl nets (bycatch). Declining water quality, climate change and physical damage affecting habitats, such as coral reefs and seabed communities, may have indirect effects on sea snakes that rely on these habitats.

What's being done?

Bycatch reduction devices in the East Coast Trawl Fishery are helping to reduce incidental capture of sea snakes. Ways to further reduce the numbers of sea snakes caught in trawl nets are being examined.

What can I do?

Help improve water quality by keeping drains and gutters free of chemicals, applying only the recommended amount of fertilizer to your crops, composting and recycling.

Useful information

www.gbrmpa.gov.au/corp_site/key_issues/conservation
www.reefed.edu.au/explorer
www.deh.gov.au/coasts/publications/identification-guide/index.html

END



'Hookie' the green turtle begins new adventure



Hookie gets back in the water after being at the Turtle Centre

A green turtle rescued from the Rockpool, after a fishing hook was embedded in his flipper, began a new adventure when he was released off Magnetic Island.

Reef HQ Aquarium Aquarist Paul Groves said the turtle, nicknamed Hookie, had made a great recovery after surgery to remove the hook.

"Since his dramatic ordeal, Hookie recovered in Reef HQ Aquarium's Turtle Rehabilitation Centre where he dined on squid and gained strength," he said.

"He fully recovered and was ready to continue on with his Great Barrier Reef journey."

Hookie, a half metre long green turtle weighing 15.8kg, was transported to Magnetic Island via the car barge and was released at Cockle Bay.

Paul said Hookie was tagged by Queensland Parks and Wildlife Service staff to enable them to learn more about turtle behaviours and the distances they travel.

"We ask anyone who sees a marked or tagged turtle to contact their nearest Queensland Parks and Wildlife Service office.

"We also strongly urge anyone who sees a sick, injured or dead turtle, whale, dolphin or dugong to please call the EPA Hotline on 1300 130 372."

END



Indigenous cultural and heritage sites under the microscope

Woppaburra Traditional Owners, archaeologists and Great Barrier Reef Marine Park Authority (GBRMPA) staff teamed to examine various Indigenous cultural and heritage values of the Keppel Island region.

The surveys involved mapping and researching midden sites, scar trees and artefacts, and visiting the "drowning cave" as part of a Marine Park-wide audit of significant Indigenous cultural sites.

Indigenous Partnerships Liaison Unit Project Manager Leon Jackson said the surveys helped highlight the important Indigenous sites and ensure appropriate conservation and sea country management strategies.

"It was a great opportunity to further the cultural mapping of Woppaburra country, and to further talks about including Indigenous place names on the official place names register," he said.

"One site, a midden on North Keppel, dates between 4500 and 5000 years old."

Bob Muir, spokesperson for the Woppaburra Traditional Owners, said it was a very worthwhile experience.

"For some of the younger Traditional Owners of this region this was the first time they had been taken by their Elders to their ancestral lands," he said.

"The Keppel Islands are a cultural land and seascape that continue to hold great significance for the Woppaburra people.

"Woppaburra are keen to establish tourism ventures on their traditional country and wish to further develop strategies for Traditional Owners and government to manage cultural heritage."

The project involved transect surveys, and mapping, observing and recording of sites and locations.

END

Hands-on experience monitoring dugong and marine turtles

Staff of the Conservation, Heritage and Indigenous Partnerships Group have recently been involved in assisting researchers with monitoring dugong and marine turtles throughout the Marine Park:

- Sarah Salmon spent eight days as an aerial observer in the northern Great Barrier Reef for the dugong aerial surveys conducted by James Cook University.
- Kirstin Dobbs was part of the turtle research team lead by the Environmental Protection Agency

on the annual trip to Raine Island to monitor nesting green turtles.

- Eight staff accompanied Birri Gubba Elders during a trip to Port Denison to monitor the local marine turtle population. Around 25-30 marine turtles were sighted during the day, along with three dugongs including a female with a calf. One green turtle was captured and tagged by the Traditional Owners, who conduct this monitoring under a research permit.

END

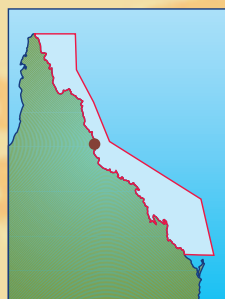
Sea Country Snippets

Introducing Traditional Owner groups along the Great Barrier Reef coast



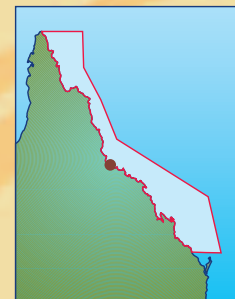
Ma:Mu (Pronounced Mam-oo)

- The traditional Ma:Mu language is a dialect of the Dyrirbal language. It is closely related to dialects of the neighbouring Traditional Owner groups.
- Ma:Mu Traditional Owners have close affiliations with sea country. A number of fish traps along the coast are evidence of past marine resource use.
- Ma:Mu Traditional Owners are committed to managing country and are currently focused on enhancing sea country management through partnerships with the GBRMPA and EPA/QPWS.



Bindal (Pronounced Bin-dahl)

- Bindal Traditional Owners are part of the Birri-Gubba language group.
- In 1846, it is said that falling stars over Cape Cleveland led the Bindal to survivors of a shipwreck. One of these survivors (James Morill) lived with the Bindal people for 17 years.
- Bindal Traditional Owners are currently investigating sea country management options with the GBRMPA and are keen to explore the possibilities of developing a Traditional use of Marine Resources Agreement (TUMRA).



END

Gladstone Reef Guardian Schools receive \$10 000 boost

Queensland Alumina Limited have offered \$10 000 to Reef Guardian Schools in Gladstone to go towards environmental initiatives.

The offer was announced at the recent Gladstone Future Leaders Eco Challenge facilitated by the Great Barrier Reef Marine Park Authority (GBRMPA), the Gladstone City Council and the Calliope Shire Council.

Queensland Alumina's Health, Safety, Environment and Communities Manager Ross Greenhalgh said the ideas the students presented at the challenge were well thought out and the passion they all shared for their environment was obvious.

"The students were so enthusiastic about their future environmental projects that we couldn't help but want to get involved and offer our support.

"We are really looking forward to the start of the school year and seeing some of the great environmental benefits that come as a result of the students efforts."

The GBRMPA's Education Manager Fred Nucifora welcomed the support and said he was excited to assist the schools in getting their projects underway.

"Gladstone is an important city along the Great Barrier Reef catchment both environmentally and economically. It is home to Queensland's largest port and has many pristine islands located nearby," Fred said.

"The students know their environment is worth protecting and have been doing so as part of the Reef Guardian Schools programme. Future projects will include revegetating riparian zones and testing water quality in local creeks and rivers.

"The students will also be involved in educating their community on best environmental practices and forming lasting partnership with community groups such as the Gladstone Marine Advisory Committee to achieve the best results.

"We thank Queensland Alumina for their support and their commitment to ensuring the Great Barrier Reef Marine Park is protected for the future."

END

Reef HQ Aquarium bright sparks cut energy use

Staff at Reef HQ recently took on the challenge of reducing electricity consumption and, after only two months, are already seeing results.

Reef HQ Engineering Supervisor Damien Eggeling said purchasing a new power monitoring system had been a worthwhile investment for the aquarium.

"At the beginning of October 2006 the new system was installed enabling us to track kilowatt usage, power demand levels and make comparisons between electricity usage over time," he said.

"One of the key benefits of the system has been the ability to ensure that energy consumption does not exceed a specified limit, above which electricity charges increase."

All Reef HQ staff also got on board with the project, identifying areas where power consumption could be reduced.

Some of the key initiatives included:

- Installing more efficient lighting in the public areas of Reef HQ
- Staff ensuring lights and computers are turned off when away from their desk
- Chilling of the Coral Reef Exhibit now occurring at night time, when electricity costs are at lower off peak rates.

Already the efforts are showing results, with October consumption down 10 per cent on the same period in 2005.

AQUARIUM

As an eco-certified tourism facility Reef HQ Aquarium staff recognise their responsibility to be as energy efficient as possible.

Minimising energy consumption brings benefits to the environment as well as the bottom line.

Staff will continue to search for more ways to reduce consumption and are hoping to maximise usage of low peak hours for chilling of the tanks, as well as investigating natural chilling from outside air during the evenings.

Overall, Reef HQ Aquarium aims to reduce ongoing power consumption by five per cent.

Doing your bit to reduce energy consumption:

- Turn off lights when leaving a room
- Electrical items such as DVD/CD players still use electricity when in standby mode – ensure all items are completely turned off when not in use
- Wash clothing in cold water and dry on the line (rather than in the dryer)
- Choose energy efficient appliances (star rating)
- Plant shady trees on the western side of your home to maximise natural shade and cooling.

END



Gladstone students put their heads together to develop new environmental initiatives



Winners announced for 2006

The outstanding environmental contribution of 163 Reef Guardian Schools was recognised when the winners of the 2006 awards were announced late last year.

Thirty-two schools were recognised for their outstanding commitment to Reef Guardianship and shared \$20 000 in prizes.

Minister for the Environment and Heritage Senator Ian Campbell announced the awards, which acknowledge the outstanding efforts and achievements of schools in a variety of environmental categories.

"I congratulate the winners of these awards and would like to thank all participants in the programme for their outstanding work and their continued commitment to protecting our Great Barrier Reef," he said.

"Because of the success of the programme this year's awards have been expanded. The Ripples of Change Support Funding initiative will help to initiate identified on-ground projects as part of their Reef Guardian School activities in 2007."

The Reef Guardian Schools programme is an education initiative of the Great Barrier Reef Marine Park Authority that develops partnerships between students and their communities to work towards protecting their environment and the Great Barrier Reef.



Beaconsfield State School work on their revegetation project

Achievements of winning schools

Reef Guardian Champions Award for mentoring or facilitating higher learning - **Gympie East State School**

Gympie East State School is committed to protecting the Reef and mentoring its peers on living sustainably. Students participated in the Earth Charter Forum in Brisbane, hosted their own Youth Forum in Gympie focussing on sustainability and helped mentor schools in their local area on environmental matters.

Sea 'Stars' Award for youth directed and owned activities - **Belgian Gardens State School**

Through their Rowes Bay Junior Rangers project, students adopted their local coastal area where they regularly cleared the area of litter, helped monitor seagrass and developed information brochures about wise water use to distribute through the Rowes Bay area.

Waste Watchers Award for reducing, reusing and recycling - **The Hall State School**

The Hall State School reduced their total garbage by 67 per cent resulting in a saving of over \$3000 on garbage removal simply by reducing, reusing and recycling. The students had garbage officers visit the school to teach them about recycling and the students did the rest. Composting, worm farming, and signage around the school reminding the students to recycle helped to reduce the total waste.

Water Warriors Award for water conservation or water quality improvement - **Wondai State School**

Wondai State School installed water saving devices throughout the school resulting in an estimated saving of 450 000 litres in one year. Dual flush toilets, waterless urinals and rainwater tanks all helped to reduce the school's total water usage. The school also held a 'Wondai Water Warriors' competition involving families and their water wise practices at home.

Learning Legends Award for outstanding education in the classroom arena (single class approach) - **Kalkie State School**

Kalkie State School was involved in various environmental projects and captured it all in a DVD titled 'What's in the water?' The students stencilled community drains with environmental messages, developed a recycling initiative, conducted a pollution experiment to show the impact of stormwater and began a worm farm.

Learning Legends Award for outstanding education in the classroom arena (whole school approach) - **Holy Spirit School**

Holy Spirit School committed to implementing environmental and reef studies into the curriculum at all year levels in 2006. The school participated in environmental days and educated the community on environmental issues through newsletters, media and environmental displays.

Action and Adventures Award for action in the field (within the school environment) - **Kelso State School**

Kelso State School students project-managed their own environmental initiatives. The year four and five students surveyed, planned and developed a rainforest area within the school while the year one and two classes created gardens around the school.

Action and Adventures Award for action in the field (outside the school environment) - **Cawarral State School**

All year levels at Cawarral State School were involved in activities that improved both the school grounds and their local environment. One of the school's projects this year was to recycle bottles for use as 'bottle drippers' to automatically water trees and shrubs around the school.

Community Connection Award for reaching out to your local community - **Aloomba State School**

Aloomba State School held their annual Tilapia Terminator fishing competition. Tilapias are a declared pest and a big problem in the Murray River. The competition attracted 340 entrants and 1889 tilapia were caught. The school partnered with community groups, including the Department of Primary Industries and Fisheries and the Cairns Marine Advisory Committee to support the competition.

Habitat Heroes Award for outstanding improvement in the local environment - **Beaconsfield State School**

In 2006, Beaconsfield State School worked with community groups to revegetate a parcel of land close to their school. The students worked with the Mackay Local Marine Advisory Committee, Mackay City Council and Pioneer Catchment and Landcare Group to remove weeds, create a wetland and provide a corridor to join two rainforest areas.



Year one students at Wondai State School prepare to mulch their gardens

'r-amp It Down' Award for reducing your ecological footprint - **Wonga Beach State School**

Wonga Beach State School developed an energy efficiency plan in 2006. In six months the school reduced their energy usage and saved \$1700 on the energy bill. Signs and slogans around the school reminded students to conserve energy and the Power Pup competition monitored each class on a daily basis for energy efficiency.

Bright Sparks Award for creativeness, inventiveness and innovations - **Hermit Park State School**

Hermit Park State School developed a wash tank to recycle water. The tank collects rainwater from rooftops which goes into a holding tank. The tank has a plugged sink attached for hand washing and art clean up. This used water drains away through a filtration system into irrigation pipes to water the herb garden.

Ripples of Change awards

The following schools each received \$500 to fund future Reef Guardian projects as part of the Ripples of Change awards.

Port Douglas State School will purchase push bike helmets for students riding to school, rather than travelling in cars. The initiative is aimed at reducing carbon emissions produced by cars and buses.

Cavendish Road State High School will purchase compost bins and create a worm farm mostly out of recycled materials.

Gympie State High School will re-establish riparian vegetation along creeks in the catchment. The removal of weed species and planting native species to stabilise banks and prevent erosion will help improve the health of local waterways.

Cannonvale State School will purchase a water quality testing kit for their Mangrove Watch project, which involves students going to local mangroves and learning about the plant and animal environments and cleaning up the area.

Ignatius Park College will purchase a recycling cage, compost bins and native trees. The funds will also be used to assist the college in their grey water recycling and waste water management

Boyne Island Environmental Education Centre will use the funding to construct a composting station large enough for all visiting schools to use. The compost bins will also be used as an educational tool.

Woree State School will use the funding for water conservation, recycling initiatives and to install a rainwater tank.

Yarrilee State School is planning to construct a large composting area and a worm farm on the school grounds to reduce the school's waste.

Horn Island State School will purchase equipment needed to plant trees and gardens around the school to encourage students to enjoy their environment.

Nerimbera State School will use the money to fund the schools 'Junk 2 Art' competition and will use this activity to educate the local community on how they can reduce their total amount of waste.

Boyne Island State School will purchase native plants for the local environment in aiming to reduce erosion and encourage native animals back to the area.

The Willows State School will use the funding to educate the community about protected marine animals in the Great Barrier Reef.

Clinton State School will put the funding towards the 'Briffany Creek to the Great Barrier Reef' project aiming to reduce soil erosion and stop litter from entering stormwater drains that lead to the Reef.

Hambledon State School will use the funding to develop a large Reef Guardian wall mural in the school for visitors to appreciate and learn more about the Reef.

St Michael's School will purchase materials to build a composting area within the school and build a fence around their gardens to keep local horses out of the area.

Anakie State School will purchase a water quality testing kit to monitor local waterways as part of their schools 'Catchment to Coast' project where they are looking at connectivity between wetlands.

Mena Creek State School will use the funding to create an organic fruit and herb garden in the school and will look at using recycled water to irrigate the school grounds.

Clare State School will use the funding to develop initiatives to improve the quality of water in wetlands around the school, farms and local community. Many of the creeks and rivers near Clare State School run directly into the Reef.

Bowen State School will use the funding to cover the costs of transport out to the schools adopted beaches at Horseshoe Bay and Rose Bay where they conduct regular clean-ups and participate in environmental programmes.

Cardwell State School will use the funding to develop an environmental display for the Cardwell 'Seafest'. 'Seafest' is a community educational festival celebrating the coast.



Cannonvale State School students took out the schools section of the Reef Festival Parade

END

Future of tourism examined

The Great Barrier Reef Marine Park Authority's Executive Director Andrew Skeat and Director of Tourism Lisha Mulqueeny recently attended the 5th National Conference on Tourism Futures in Melbourne.

Tourism Futures brings together those who have a role in the future of tourism so they can examine and respond to the issues influencing its growth.

The main theme of the conference was 21st Century Responses to 21st Century Reality.

Andrew presented a paper at the conference addressing the issue of climate change titled *Climate Change, the Great Barrier Reef and Marine Tourism – charting a sustainable future.*

"The conference was valuable as it allowed us to focus on our particular area of interest while learning from the experience of others," Andrew said.

"There was also a real focus on not just talking about the issues, but planning for a sustainable future and building strong partnerships with others to achieve positive outcomes.

"Climate change is considered a critical issue facing the Great Barrier Reef Marine Park today and in the future that may potentially have a devastating effect on marine tourism.

"By thinking about and acting on this issue today, we are planning for a sustainable tourism industry in the Great Barrier Reef Marine Park in the future."

END

Strengthening turtle and dugong management



The community-driven approaches cover dugong and turtles

Community driven approaches to sustainable management of dugong and marine turtles across north Australia are central to a project funded by the Australian Government Natural Heritage Trust.

The Dugong and Marine Turtle Project is a partnership between the North Australian Indigenous Land and Sea Management Alliance (NAISMA), through the Tropical Savannas Cooperative Research Centre.

This NAISMA project sees Traditional Owners from the Kimberley, Northern Territory, southern Gulf of Carpentaria, Cape York and the Torres Strait collaborating to implement coordinated approaches to resource management in the north of Australia.

NAISMA's Executive Officer Joe Morrison said the project was driven by Indigenous people who hold large bodies of intellectual knowledge about these species.

"We want local people to take control and accept responsibility for looking after the dugong and turtle populations they depend on," he said.

"As well as hunting, it is important to understand impacts of other factors like boat strikes, shark nets, marine debris, poaching for crab bait, and polluted catchments damaging seagrass that is eaten by the dugong and turtle."

Issues of concern and the project activities to be undertaken are set out by Traditional Owners from participating communities in Regional Activity Plans (RAPs).

Technical and scientific expertise in the development and implementation of the RAPs is provided by the Technical Reference Group, which includes scientists and government and natural resource management agencies.

The NAISMA was developed by the Kimberley Land Council, Northern Land Council and Balkanu Cape York Development Corporation.

It was set up in response to the ever-increasing need to have effective communication and strategic support for community driven management action by Traditional Owners across northern Australia.

The membership of the alliance is steadily growing to include other regions of northern Australia.

For information about NAISMA and its projects visit www.nailsma.org.au.

END

Tour guides take on new challenge

A group of 48 tour guides were shown around Reef HQ Aquarium recently to learn more about Reef HQ, the Marine Park and best practice interpretation.

The visit was part of the 40th Annual Savannah Guides School, a programme that trains professional tour guides about the natural and cultural assets of northern Australia and to build on their interpretation and guiding skills.

Delegates received an introduction to Reef HQ from the

predator tank before being shown around the aquarium and covering topics including interpretation within Reef HQ, managing groups, talks and tours and Reef HQ Education.

Dean Miller from GBRMPA's Tourism and Recreation group presented the delegates with information on interpreting the Great Barrier Reef Marine Park with a focus on minimising impacts to the Reef, while maximising visitor experiences.

"The objective of the day was to demonstrate that interpretation methods are consistent in terrestrial and marine tourism and future collaborations are beneficial to all

sectors of the tourism industry," Dean said.

"Overall, the event was a great success and the new partnership between the GBRMPA and Savannah Guides will see many benefits to the industry."

The delegates were also treated to a behind the scenes tour of Reef HQ where they learnt more about the Sea Turtle Centre.

Savannah Guides' Russell Boswell said the combined GBRMPA and Reef HQ team provided many valuable insights into interpretive strategies, guiding techniques and conservation initiatives.

END

Marine Park Partnerships

Profile of Regional Liaison Officer – Southern



Kalair Conaghan

Kalair Conaghan is the Regional Liaison Officer – Southern, based in Rockhampton and covering the area from Bundaberg to Stanage Bay.

Kalair has been in her current position since August 2005 and said it was a combination of a childhood spent travelling and scientific parents that gave her the right tools for the job.

"My childhood was spent travelling to many different countries and I came to love meeting and talking to new and different people," Kalair said.

"I also have a passion for science that was passed on to me from my parents. Mum is a science teacher and dad is an agricultural

consultant, so getting to talk to different people about marine science matters everyday is my dream job and I have found it in this position.

"I love what I do and enjoy going to work everyday."

Kalair said one of the greatest things about her job was that she got to know a little about a lot and she learned more and more each day.

"My position really allows me to get in touch with local people and learn more about what their concerns are or hear about the great things they are achieving in the local area.

"I can then pass this information onto my colleagues and acknowledge the local communities achievements or address their concerns."

Before coming to the Great Barrier Reef Marine Park Authority, Kalair worked for the Queensland Parks and Wildlife Service in the Rockhampton office.

"I enjoy that I have been able to stay in this region as there aren't too many people and everyone has a friendly, relaxed manner," she said.

Kalair's goal is to one day buy a huge block of land with her husband Scott.

"Preferably it will have thick forest on it and I can build a big tree top house and have plenty of space for my two jet black German shepherds to run around on."

END

Creature Feature

Giant Clams

- Giant clams are filter-feeders, drawing water into their bodies and filtering out food using special gills.
- They rely on their thick shells and the ability to close up (hence the expression 'to clam up') for protection against predators.
- Giant clams are hermaphrodites, reproducing by releasing eggs and sperm into the water column where they combine to form a planktonic larval stage. Mass spawnings are triggered by other individual spawning.
- Giant clams can be vulnerable to harassment by divers and snorkellers so minimise stress on these animals, look but don't touch.

END



Doing your bit to look after it!

The Great Barrier Reef Marine Park is home to 1500 species of fish, and fishing is one of the most popular activities in the area. Each year there is increasing competition for a limited supply of fish as our population grows. Careful treatment and handling of fish caught maintains the quality of fish, and gives released fish their best chance of survival.

Please ensure you follow these responsible reef practices for fishing:

- ➔ Brush up on zoning, get your free zoning map and take your map with you – Green Zones and some restrictions in Yellow Zones, bag and size limits, tackle restrictions and seasonal closures are used to manage fish stocks
- ➔ Take only what you need and within official limits
- ➔ Return all undersized or unwanted fish to the water carefully and quickly
- ➔ If you intend keeping a fish, remove it from the hook or net quickly and kill it humanely
- ➔ Avoid fishing where fish feeding takes place or areas where fish are gathering to spawn
- ➔ Do not throw away fishing line as it can kill marine animals
- ➔ Report 'fish kills' to the EPA Hotline 1300 130 372.



END

Community Links

A profile of **Greg Westcott**

Chairman of the
Cape York LMAC



The Cape York Local Marine Advisory Committee (LMAC) was formed in June 2006 and Greg Westcott was elected as the inaugural Chairman of the committee for a three-year term.

Greg has lived in Portland Roads, Cape York, for the past 12 years and operated a commercial fishing business for 10 of these.

"As a spanish mackerel fisher on my vessel F.V. Mackinaw I accumulated 13 500 hours traversing the Great Barrier Reef World Heritage Area from above Margaret Bay to below Night Island," Greg said.

Greg is now about to open a seafood café/restaurant at Portland Roads overlooking one of the most important anchorages between Cooktown and Thursday Island.

"I believe my work in the café will allow me to continue networking with the transient sailing vessels, mother-ships and the majority of the commercial fishing and trawling fleet as they visit and work in the area.

"This should give me great insight into the usage, sustainability and local issues relating to the Marine Park in the local area."

As the Cape York LMAC Chairman Greg is specifically interested in the interaction and usage of the Marine Park by the remote communities and commercial fishers of Cape York.

"My goal as Chairman is to see the people and remote communities in Cape York work with our committee and become involved in the day-to-day management and protection of the Marine Park.

"I believe the LMAC plays an important role in the management and protection of the Marine Park as it incorporates a diverse range of skills and knowledge from all over the Cape.

"We will be able to highlight and manage local Marine Park issues and keep the people in the Cape well informed."

Greg is a former Telstra Manager and has previously held positions of Fire Warden and Secretary in the local Rural Fire Brigade.

Currently he is the Portland Roads Shire Agent with the Cook Shire Council.

END

Calendar of events

December – April

Turtle hatchlings emerge
from their nests

26 January 2007

Australia Day

29 January 2007

School commences

02 February 2007

World Wetlands Day

17 – 18 February 2007

Local Marine Advisory Committee
Chairs meet in Townsville

27 February 2007

Business Clean Up Day

2 March 2007

Schools Clean Up Day

4 March 2007

Clean Up Australia Day

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let's keep it great

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At Queensland's Natural Heritage