



Australian Government

Great Barrier Reef  
Marine Park Authority

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## A new lease on life for Reef HQ Aquarium resident Torres

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Torres is released off The Strand

While Reef HQ Aquarium's Turtle Hospital celebrated its first birthday in August, one of its most well-known former patients was enjoying life back in the Great Barrier Reef Marine Park.

Torres the green turtle was released off The Strand in Townsville recently after being nursed back to health at the Turtle Hospital. Fellow green turtle Barnie was released at the same time.

Prior to release Torres was fitted with an acoustic tag and satellite tag, enabling researchers and the community to track and gather important data on the turtle's movement through the Marine Park.

Reef HQ Aquarium Director Fred Nucifora said it was great to see both turtles doing so well thanks to the special care and rehabilitation they had received at the Aquarium.

"We're delighted that Torres and Barnie the green turtles were healthy enough to be released back into their natural environment," he said.

"It's fantastic for us to see first-hand how the hospital can benefit these protected and iconic species of the Great Barrier Reef.

"Although we are sad to see Torres go, we are optimistic about its future and feel satisfied that we have done everything we can to prepare it for a long and happy life."

Torres was brought to Reef HQ in 2006 weighing a tiny 366 grams.

After four years of rehabilitation, Torres was released at a healthy 45 kilograms. Torres grew faster and larger than green turtles of a similar age due to the optimal conditions provided at the Aquarium.

Fred said Barnie's blood results had shown considerable improvements and he was more than ready to be released back into the Marine Park.

Aboriginal and Torres Strait Islander readers are advised that this publication may contain names and images of deceased persons.

#### DISCLAIMER

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# Message from the Chairman



The Great Barrier Reef is a global 'hotspot' for very high marine biodiversity and has immense natural values. The Reef also provides livelihoods through tourism, fishing and recreation for many coastal communities and I want to recognise some of the good work undertaken to protect this superb natural asset.

The Great Barrier Reef Marine Park Authority's stewardship programs are resulting in tangible environmental benefits that protect the Great Barrier Reef. These programs are helping spread an awareness of the Reef's values among program participants and throughout the wider community. There are many practical steps we can take to avoid eroding the Reef's values.

The Reef Guardian Councils have been involved in some exceptional on-ground environmental work in the areas of land, water, waste, community engagement and climate change. Isaac, Townsville, Whitsunday, Burdekin and Hinchinbrook Shire Councils were recognised when the Queensland finalists in Keep Australia Beautiful were announced in the Ergon Energy Tidy Towns Awards for 2010. The communities of Hinchinbrook Shire Council received special mention for being among Queensland's most sustainable and environmentally friendly communities.

The next generation of Reef custodians, the students of the Reef Guardian Schools, continue to take part in a number of sustainability initiatives in their school grounds. Reef Guardians at Bowen State School received a \$2500 Keep Australia Beautiful grant, which will be used to introduce beverage container recycling at eight Reef Guardian Schools in the region. This will allow these schools to actively play a role in reducing the amount of beverage containers unnecessarily sent to landfill.

The Great Barrier Reef Marine Park Authority continues to work closely with Great Barrier Reef Traditional Owners, whose connection to their sea country spans thousands of years. Traditional Owners are important stakeholders and working collaboratively is essential to achieving outcomes that benefit the Reef and ensure their sea country is protected for the future.

Out on the water, there are a number of volunteers who are monitoring water quality and feeding information back to marine managers. Their role in gathering information is an invaluable contribution to our Marine Monitoring Program, and contributes to broader understanding of Reef health.

Education and raising awareness about the value of the marine environment are most evident in the work undertaken through Reef HQ Aquarium. Last financial year 130,700 people visited the Aquarium and over 10,000 of those visitors participated in a tour of the Turtle Hospital.

The Turtle Hospital recently celebrated its first birthday, and continues to play an important role in rehabilitating marine turtles. Two green turtles that were cared for at the facility were recently released back into the Marine Park. A visitor favourite, Torres the green turtle was fitted with a satellite tag before release, allowing researchers and the community to track Torres' travels through the Great Barrier Reef.

We are committed to the long-term protection of the Reef and are delighted to see volunteers, industries, scientists, communities and schools sharing our goal. We can all do our part, however big or small, in protecting the Reef's wonders.

Regards

Russell Reichelt  
Great Barrier Reef  
Marine Park Authority

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Barnie was admitted to the Turtle Hospital in April 2010 suffering from suspected oedema (the retention of fluid) and kidney and renal problems.

The Reef HQ Turtle Hospital provides a dedicated facility where sick and injured marine turtles can be cared for and rehabilitated, and works closely with the Department of Environment and Resource Management.

It plays a key role in raising community awareness about threatened species and encouraging behavioural change that contributes to nature conservation.

You can report sick or injured turtles to the Department of Environment and Resource Management on 1300 130 372. To track Torres' movements visit [www.seaturtle.org](http://www.seaturtle.org) and follow the links.



Barnie being carried onto the beach in Townsville for his release

# Indigenous community training program to be launched

*In November the Great Barrier Reef Marine Park Authority (GBRMPA) will roll out its training program to support a call for stronger compliance from Indigenous communities.*

The first phase of the program will see the compliance team undertake training in six communities between Yarrabah and the northern Cape York Peninsula.

Three training packages have been developed to address the needs of groups identified at the *Sea Country Partnerships Forum* held in Cairns earlier this year.

- **Being a Better Witness** has been designed for Traditional Owner groups who already have rangers employed through Working on Country and provides an introduction to the law, providing evidence, how to make a statement and the court process.
- **Engaging Traditional Owners in Compliance** is delivered to Traditional Owners who either have or are in the process of developing Traditional Use of Marine Resource Agreements, and provides a better understanding of zoning, Native Title law, and what to do if you see suspicious activities.
- **Working with Traditional Owners to Achieve Compliance** explains the role of the GBRMPA's Indigenous community compliance liaison officers, and provides a background to the Traditional Owners in the Great Barrier Reef Region. This training has been delivered to over 100 officers working in related agencies including Queensland Parks and Wildlife Service, and Queensland Boating and Fisheries Patrol, and has greatly assisted in information sharing between agencies.

GBRMPA General Manager of Environment and Sustainability Peter McGinnity said this initiative would equip Traditional Owners with the knowledge and skills to better manage their sea country.

"We see this as a crucial component in our partnership with Traditional Owners to look after sea country for future generations," he said.

The GBRMPA has also recently expanded its compliance team and appointed another Indigenous community compliance liaison officer to work in the Cairns to Cape York region.

The person appointed to this position is an Indigenous person from the Cairns area with connection to the Great Barrier Reef, and brings a great deal of experience to the compliance team.

Melissa George from the GBRMPA's Indigenous Reef Advisory Committee said the training was welcomed by Traditional Owners.

"The compliance training program is a positive step in the right direction and Traditional Owners have made it clear that they are ready to take up the challenge," she said.

"Traditional Owners support the GBRMPA's approach to working collaboratively with them to address compliance issues."

The compliance training program is part of the GBRMPA's implementation of the *Caring for our Country Reef Rescue Indigenous Land and Sea Country Partnerships* program funded by the Australian Government.



*Traditional Owners and related agencies work together to manage sea country*



*The GBRMPA's Shaun Skerritt works closely with communities to launch the Indigenous training program*

# Whitsunday's new recycling program helps to protect the Great Barrier Reef

*A new joint recycling initiative has vastly improved waste management at Abel Point Marina in the Whitsundays.*

Whitsunday Charter Boat Industry Association (WCBIA) joined forces with Meridien Marinas to put in place a program to reduce the amount of waste generated by industry.

It has reduced the volume of waste produced by member vessels and the general waste that goes into landfill.

WCBIA Coordinator Rachael Bell said they had been working hard to protect the World Heritage Area.

"WCBIA is committed to the marine industry applying best practice principles in environmental protection, conservation, management and

sustainability within the Great Barrier Reef World Heritage Area," she said.

WCBIA Climate Change and Sustainability Committee Chair and owner of Tallship Adventures Jo Ladd said the team had been working hard to improve recycling and address issues with discarded cigarette butts.

"Improving the recycling facilities was a great achievement for us, together with working with the Queensland Parks and Wildlife Service to introduce butt bins at Tongue Bay," Jo said.

"It was great for our crew to see results and they were proud to know that our company was an integral part in putting things in place."

WCBIA play an important role in the health of the Reef through their involvement in recycling and reducing waste.

Waste washed into waterways can be extremely damaging and cause major problems for marine wildlife, coral ecosystems and a reduction in water quality.



Whitsunday Charter Boat Industry Association works to keep the Great Barrier Reef clean

## Reef volunteers' hard work recognised

*After bearing tough conditions in a commitment to monitor water quality on the Great Barrier Reef, volunteers emerged proud as they were recently thanked by the Great Barrier Reef Marine Park Authority (GBRMPA).*

Volunteers from Lizard Island in the north to Lady Elliot in the south, who take part in the Australian Government's Reef Rescue Marine Monitoring Program, were recognised for their valuable contribution to coral reef conservation with formal certificates of appreciation recently.

GBRMPA Chief Scientist David Wachenfeld said their efforts in assisting in monitoring the health of the Reef are to be commended.

"The Reef Rescue Marine Monitoring Program is a key component of work that is addressing water quality issues for the Great Barrier Reef," David said.

"Tourism operators, community volunteers and other agencies have been collecting samples every one or two months and sending them to our research partners to measure nutrient and pesticide concentrations."

Off the coast of Cairns, Fitzroy Island site manager and volunteer Greg O'Neill said he was pleased to play his part in protecting the Reef.

"It's been interesting learning how scientists go about measuring water quality in an area as big as the Great Barrier Reef," he said.

In the Whitsunday area Emily Smart, Jacquie Shiels and Fantasea General Manager Michelle Ryan said they really enjoyed being able to assist with the research.

"We were involved in collecting chlorophyll a samples and continue doing it as most people in the Whitsundays depend on the Reef in one way or another, so it's important we look after it," Michelle said.

Volunteers are a vital link in the broader Marine Monitoring Program. The program involves a partnership of government departments, researchers, industry and communities that look at the health of coral and seagrass beds and levels of toxins, nutrients and sediments.

The GBRMPA, with the help of partner agencies, is committed to enhancing the current quality of water that enters the Great Barrier Reef.

"We not only thank current volunteers, but those who have taken part over the life of the program, all contributing to a healthier Great Barrier Reef ecosystem," David said.



Volunteer Rick Kilpatrick with sampling tools



Robbie Campbell, Emily Smart and Dominique Blair from Fantasea Cruises receive their certificates



## Reef Guardians plant trees for National Tree Day

Thousands of students from Reef Guardian Schools across Townsville planted trees as part of Schools and National Tree Day.

This annual event, led by Planet Ark, gave students the opportunity to participate in planting trees at their school or surrounding environment.

Great Barrier Reef Marine Park Authority (GBRMPA) Reef Guardian Schools Education Officer Carolyn Luder said this was a fantastic opportunity for school communities to come together and do something positive to look after their environment.

"School Tree Day fosters environmental awareness on how students can reduce their schools' environmental footprint," she said.

"Students from Shalom Christian College, a Reef Guardian School, planted native vegetation to restore the native habitat at their school.

"As the custodians of the Great Barrier Reef, these students have an important role to play in the future of the Great Barrier Reef."

The trees were donated from Reef Guardian Townsville City Council.

*The Reef Guardian Schools program is an initiative of the Great Barrier Reef Marine Park Authority and, in the Burdekin region, it is run in partnership with the natural resource management group NQ Dry Tropics.*

## Future leaders focus on biodiversity and sustainability

Students from Reef Guardian Schools across the region are taking part in the Great Barrier Reef Marine Park Authority's (GBRMPA) "Sustaining Biodiversity" Future Leaders Eco Challenges.

This year's events celebrate the International Year of Biodiversity and the Education Queensland Year of Sustainability.

GBRMPA Reef Guardian Schools Program Manager Megan Sperring said students combined workshop style catchment-based activities and investigative science to predict, observe and explain the ecosystem's health.

"Students and teachers were exploring the biodiversity of their local wetland ecosystem and looking at what is there, why it is important, and who is responsible for looking after it," she said.

"The activity has been designed to challenge students and teachers to understand linkages between ecosystems, sustainability and water quality for a greater understanding of the role that wetlands play in the Great Barrier Reef catchment area and the Reef's current and future resilience.

"Over 500 students and teachers have participated in activities such as tree planting, fish and bird monitoring, vegetation and weed audits, water quality testing and macroinvertebrate sampling.

"They were ably assisted by many partners including councils, NRM groups, James Cook University students, bird watching clubs, Queensland Government agencies, tourism operators and many others."

Events have been held in Bundaberg, Gladstone, Yeppoon, Cairns, Port Douglas, Bowen, the Burdekin, Townsville, Mackay and the Whitsundays. Events will be held in Innisfail, Tully, Gympie and the Torres Strait.



Students help catch fish at Gladstone



Gladstone students test water quality

## New Reef Guardians

- At Kalamia State School students will rehabilitate native habitat adjacent to their school.
- At Gargett State School students have already begun a vegetable garden and are now making a frog habitat garden.
- Students from Maidavale State School will undertake regular water quality monitoring at a local wetland.
- Glenella State School is already actively involved in environmental initiatives as an Earth Smart School.
- Giru State School and Home Hill State School are looking forward to exploring the Bowling Green Bay wetlands.
- Prep students from Moranbah State School will plant seeds for a vegetable patch.
- Students and teachers from St Clare's Parish School in Tully are keen to learn more about how they can protect their natural environment.



New Reef Guardian students at Kalamia State School plan to rehabilitate native habitat



Students from Maidavale State School display their Reef Guardian Schools sign

## Catch and release the aim of the day

*Reef Guardian students from Belgian Gardens State School recently held their annual catch and release fishing classic to improve awareness of responsible fishing practices and raise money for sea turtle research.*

The Rowes Bay Junior Rangers, the school's year six environmental group, hosted the fishing classic and over 100 students and their families took part in the event.

Great Barrier Reef Marine Park Authority (GBRMPA) Reef Guardian Schools Education Officer Carolyn Luder said the day was a great way for students to show how fishing can be enjoyed responsibly and sustainably in the Great Barrier Reef Marine Park.

"The classic is an annual event for the school community and always results in a great day out filled with fun environmental education," she said.

Belgian Gardens State School organising teacher Brett Murphy said the students were involved in everything from assisting with weigh-ins to returning fish to the water unharmed.

"The students wrote to local businesses asking for their support and as a result we received some fantastic prizes for those lucky enough to catch the biggest whiting, flathead, bream, grunter and other species," he said.

NQ Dry Tropics' Paul Duncanson said this was a valuable educational activity.

"This is a great chance to teach young people about how to protect native fish and their habitat, whether they're freshwater or marine fish," he said.

"These are the kinds of messages the students can take home after this fishing classic."

# New tools to help students **monitor** Mackay's water quality

*Mackay teachers involved in the 'Science Sparkies' and leading environmental teachers recently received some necessary tools to help teach students about water quality monitoring and the Reef.*

The Mackay Local Marine Advisory Committee (LMAC), in partnership with the Reef Guardian Schools program, provided them with three water quality testing kits.

The kits will be used by the region's Education Queensland Primary Science Facilitators and teachers for primary school field work illustrating the link between catchment waterways and the Reef.

Mackay LMAC Chair Derek Ball said the Committee saw a need to provide students and teachers with a means to actively get out into the catchment and see first-hand just how our activities on the land can affect the Reef.

"Good scientists don't just happen and they don't last forever," he said.

"We need to support and nurture younger people in our community, to in time, take up the challenges of guiding management of the Great Barrier Reef."

Results from the monitoring will be used in classroom activities and passed on to Reef Catchments for use as part of their water quality monitoring program for the region.

Great Barrier Reef Marine Park Authority (GBRMPA) Regional Liaison Officer Carolyn Thompson applauded the Mackay LMAC's commitment to educating the next generation of Reef Guardians.

"These kits can be cost prohibitive for individual schools to purchase so this initiative provides a great boost to our education community and will see students actively engage in on-ground monitoring of local waterways," she said.

Reef Catchments provided training on the use of the water quality testing kits as well as macroinvertebrate identification and the importance of wetlands, biodiversity and sustainability.

The training was attended by Primary Science Facilitators, leading environmental teachers, Pioneer Catchment and Landcare volunteers, an Isaac Regional Council representative, and the Mackay LMAC, GBRMPA staff and the region's Earth Smart Science Coordinator.



Derek Ball, Sam Strang, Anna Berrigan, Peter Hungerford and Carolyn Thompson  
Photograph courtesy Reef Catchments

## Reef Guardian Schools get behind national campaign to **increase** public place recycling for **Keep Australia Beautiful Week**

*Recycling in Bowen and Collinsville recently received a boost with Reef Guardian Bowen State School receiving a \$2500 Keep Australia Beautiful grant, funded by the Coca-Cola Foundation.*

The grant will be used to introduce beverage container recycling at eight Reef Guardian Schools in the region.

Great Barrier Reef Marine Park Authority (GBRMPA) Reef Guardian Schools Education Officer Carolyn Luder said the grant would help participating Reef Guardian Schools

to reduce the amount of beverage containers unnecessarily being sent to landfill.

"It's a great way to educate the students and local community about good environmental practices and engage them at all levels," she said.

"The schools will collect data on the volume of beverage containers they collect at the school over the grant period and supply this information to Council.

"Whitsunday Regional Council, a participant in the Reef Guardian Council program, will provide an

additional \$1500 and waste management education for the schools, while both Cleanaway and Bert Bakk Scrap Dealer will provide in-kind support."

The project will involve approximately 2500 students from local Reef Guardian Schools supported by the GBRMPA, NQ Dry Tropics and Whitsunday Regional Council.



## Cairns Regional Council endorses sustainability checklist

*In an innovative first, a far north Queensland Reef Guardian Council has approved an internal checking system aimed at embedding sustainability into all aspects of the organisation.*

Cairns Regional Council Mayor Val Schier said the Sustainability Scorecard would provide an easy to use tool that would integrate the aims of the Corporate Sustainability Policy across Council operations.

"The scheme provides us with ways to measure the level of sustainability in Council activities right across the board. As well, it will increase staff awareness about the reduction of greenhouse gas emissions," she said.

The sustainability assessment will be in the form of a simple questionnaire completed electronically by staff and is designed to measure the sustainability of both project outcomes and delivery methods.

"The Scorecard is designed to improve resource efficiency, conserve biodiversity and enhance community health and well being," Val said.

"It will ensure Council delivers sound governance and economic development."

Great Barrier Reef Marine Park Authority Reef Guardian Programs Director Karen Vohland said this was an excellent environmental initiative.

"The Reef Guardian Council program is focused on achieving better environmental outcomes for the Great Barrier Reef through local government actions in natural resource management and improvements in local government and community capacity," she said.

"The Sustainability Scorecard will not only help ensure better sustainability outcomes for Council projects, it will also ensure those pressing issues facing the Great Barrier Reef, like climate change and carbon emissions, remain top of mind."

## Detention ponds stop flow of sediment to the Reef

*Visitors to the Tablelands can learn about an innovative series of sediment detention ponds built to capture much of the sediment that would otherwise end up in the Great Barrier Reef lagoon.*

An interpretive sign at the new detention basins at the corner of Griffin Road and Kennedy Highway in Tolga, near Atherton, informs the public about Council's plan to tackle the Tolga red floods.

Baron Catchment Coordinator Evizel Seymour said the signage helps raise awareness of the good work the Council and community organisations have undertaken.

"The signage is near the ponds, which are located at an area prone to flooding during heavy rain at Tolga within in the Barron River catchment," she said.

"During heavy rain, water is collected on a nearby slope and channelled down to the Barron River often flooding the highway and houses that are in its path."

The detention ponds capture some of the water on its way down the slope, decreasing the amount of flooding in the area.

Sediment is caught in the ponds, instead of entering the Barron River on its way to the Reef.

In addition, over 7000 trees, grasses and shrubs have been planted at this revegetation site to improve the water quality that enters the Barron River by reducing sediment loads and nutrients.

This was carried out by Barron Catchment Care's Green Corridor project and community volunteers from TREAT (Trees for the Evelyn and Atherton Tablelands) and Conservation Volunteers Australia.

"They have established astonishingly well, with 99 per cent survival which is truly amazing as we were planting in the midst of a drought at the time. It shows that with careful planning and constant attention that anything is possible," Evizel said.

These plants play a significant role in the Tolga red floods plan soaking up much of the stormwater and using the nutrients to grow.

The signage was made possible through a partnership between Barron Catchment Care and Tableland Regional Council (a Reef Guardian Council), with funds from both Federal and State grants.

"It was designed by a local graphic designer, printed by a local printing company which keeps everything local which in turn helps the local economy," Evizel said.



*New sign in Tolga shows how detention ponds protect the Great Barrier Reef*



# Reef Guardian Councils state **finalists** in Tidy Towns Awards

*Five Reef Guardian Councils were recently recognised as some of Queensland's most sustainable and environmentally friendly communities.*

Townsville City Council, Isaac and Whitsunday Regional Councils and Burdekin and Hinchinbrook Shire Councils were state finalists in Keep Australia Beautiful Queensland's Ergon Energy Tidy Towns Awards.

Isaac Mayor Cedric Marshall congratulated everyone in the community on their hard work in the lead up to the awards.

"It is amazing to see the dedication of people in our local communities, and even better to see their efforts recognised," he said.

"The Tidy Towns program is all about building community pride and fostering sustainable communities, and these awards prove that it is more than evident in the Isaac region."

Mackenzie River School contested in the Queensland Young Legends Award, Dysart for the RACQ Litter Prevention Award and Nebo for the Paradise and Bishopp Outdoor Advertising Heritage Award.

Dysart State High School and a local miner developed a street cleanup strategy with clean up parades every second week and so far 800kg of rubbish has been collected.

An education program within the school about rubbish and recycling is aiming to change the waste management habits of the community.

The Mackenzie River School has a range of comprehensive environmental and conservation projects that involve the whole school community.

Their vegetable garden with fruit trees, chickens, worms and composting produces food and eggs used in the canteen to provide healthy and nutritious food.

Recycling bins include a commercial recycling bin, which provides recycling opportunities for the whole community.

Two Reef Guardian Councils contested the award for Queensland's Tidiest Town, Burdekin Shire Council for Ayr and Whitsunday Regional Council for Bowen.

Burdekin Mayor Lyn McLaughlin said she was thrilled that everyone's hard work was formally recognised through the award.

"We've been actively working on a long-term plan to make the Burdekin a better and more attractive place to live,

and I think this award shows we're achieving that goal," she said.

"Over the past few years, there's been a lot of focus on tree planting and landscaping, upgrading our parks, building more footpaths, improving public amenities and keeping on top of vandalism."

Keep Australia Beautiful Queensland CEO Rick Burnett said the Ayr community achieved a comprehensive and long-term goal over a number of years to beautify the town and its environment.

"This well-planned upgrade driven by community spirit has enhanced a very attractive and liveable coastal town," he said.

Rick said the new Bowen Beach Front Development was a highlight with the beach being kept neat and tidy by the students of Bowen State School.

"All of the Bowen beaches are maintained by both the community and Council," he said.

"The Council's many partnerships throughout the community are applauded in delivering a high level of parkland maintenance and beautification."

Hinchinbrook Shire Council featured in the state finals for the Resource Recovery Award in collaboration with Environmental Health Service and Mams Plant Hire Pty Ltd.

Together, they facilitated the Shire's largest spring clean ever.

The new state-of-the-art Warren Hill Waste Management Facility encourages resource recovery where green waste, chemical drums, steel, waste oil and filters, and batteries are accepted free of charge for recycling.

Numerous kerbside collections of domestic waste including whitegoods and furniture are organised in all areas.

As a state finalist in Ergon Energy's Energy Conservation Champions Award, Townsville competed as Queensland's only Solar City.

The project encourages the community in sustainable living through climate change awareness and many local community activities.

As part of the initiative, Citysolar works together with businesses and residents to create a collective energy wise response to climate change.

As part of this, Townsville's CBD administration building has the largest pre-commercial installation of photovoltaic panels in Australia.

Rick said there were some very high performing towns contesting the state Awards this year.

"These are communities that really understand and care about their local environment and its sustainability. They know about reducing carbon footprints and stopping litter and pollution."

## STOP PRESS

*Congratulations* to the State-wide winners of Queensland's 10 outstanding achievement awards including:  
**Environment Protection Award** - Whitsunday Regional Council  
**RACQ Litter Prevention Award** - Dysart



Mackenzie River School Principal Di Elletson with students Morghan Wight, Sara Schottelius and Wade Stewart

# Waterside recycling for Port Douglas boats

*Port Douglas' only marina is now the proud hub of waterside recycling thanks to a local partnership.*

Boaties, diners and locals of the Port Douglas marina can now do their bit in protecting the Great Barrier Reef after the area received extensive recycling facilities recently from the Cairns Regional Council.

Partnered by the Douglas Local Marine Advisory Committee (LMAC), Tangaroa Blue Ocean Care Society and Meridien Marina, the recycling project has the ability to cater for more than 100 boats and 40 businesses.

Visitors and crew on Reef-bound boats are now separating their plastic and glass from other rubbish while boat crews have attended a special training session run by the Council to make sure the waste is properly sorted.

LMAC Committee Chair Alex Mateer said although the program holds success, she acknowledges their work is far from over.

"Our next aim is to target cardboard and oiled water recycling," she said.

The project has provided the first effective means for recycling waste at the marina.

Plans to roll out a sewerage treatment facility within the next six months is in motion, which will provide boats with ways to dispose of waste in an environmentally friendly way.

The Port Douglas LMAC represents a diverse range of groups interested in protecting the local marine environment, including government authorities, Low Isles Preservation Society and boaties.

# Eco Barge Services leads the way to clean debris from beaches

*After removing over 50,000 kilos of marine debris from the Whitsunday Islands and surrounding coastlines, Eco Barge Services recently celebrated their first birthday.*

The new environmentally friendly operation has sustained an ongoing project to clean debris from beaches in the Whitsunday region with support from Reef Catchments.

Eco Barge Services Director Libby Edge said the waste removal program was extremely important for the survival of marine life in the area.

"Having a constant and ongoing marine debris removal program in place for the Whitsunday Islands is essential for our local marine life's safety and in turn will enhance our local tourism industry," she said.

"This is such a positive program and we are hoping to find sponsors to keep this program going in our region."

Eco Barge Services was a successful applicant for Reef Catchments Public Fund, which provides funds of up to \$5000 for local Mackay / Whitsunday groups, schools and organisations.

Eco Barge is made up of a network of 130 passionate volunteers who target local beaches and clear them of any marine plastic pollution.

Their work helps to protect the local marine life from the harmful effects of marine debris in the Whitsunday Region.

Eco Barge can only operate with funding from grants and sponsors. For more information visit [www.ecobargeservices.com](http://www.ecobargeservices.com).



*Eco Barge Services' volunteers are working hard to clean up the Great Barrier Reef*

# How corals fight back

*Australian researchers are getting one step closer to understanding the rapid decline of coral reefs, thanks to a breakthrough study linking coral immunity with its susceptibility to bleaching and disease.*

The discovery was made by three scientists from the Australian Research Council Centre of Excellence for Coral Reef Studies (ARC CoECCRS), James Cook University (JCU) and Newcastle University in the United Kingdom.

Lead author of the publication Caroline Palmer said understanding the immune system of reef-building corals would help to reduce the impact of

coral diseases and environmental stresses.

"Potentially, this will enable us to more accurately predict the vulnerability of coral reefs to disease and bleaching, before there are obvious signs of stress," she said.

"Our increased understanding of coral immune systems may therefore be used to address the causes rather than the symptoms of coral declines."

The study of coral immunity will enable scientists to better pre-empt the effects of different stresses on corals.

Chief investigator in the ARC CoECCRS and JCU Professor Bette Willis said the unique study broadened the

limited knowledge on the defence systems of corals, which was one of the main challenges facing scientists aiming to protect corals.

"Identifying and measuring the immune functions of several different corals allows us to predict which ones are particularly susceptible to stress," she said.

A key element of the coral immune system is melanin production, which is a classic part of immune responses found in invertebrates.

It provides a defence against disease-causing organisms in corals and may also be used to stop harmful UV light from reaching the symbiotic algae and causing bleaching.

# Marking the International Year of Biodiversity with a focus on the Reef's future

*With the United Nations International Year of Biodiversity in 2010 and with September being biodiversity month, it's an ideal time to raise awareness of the importance of plants, animals and habitats.*

The Great Barrier Reef Marine Park Authority (GBRMPA) is developing a Biodiversity Strategy to coordinate management actions to protect the amazing diversity of life in the Great Barrier Reef.

The strategy follows the release of the *Great Barrier Reef Outlook Report 2009* that identified a number of key priorities to the future outlook of the Reef, including climate change.

GBRMPA Ecosystem, Conservation and Sustainable Use Director Jon Day said the Strategy was important because almost all the Reef's biodiversity could be affected by climate change.

"This Strategy will address one of the areas outlined in the Outlook Report - that there are many programs in place to conserve and manage biodiversity, but there is no overarching framework to coordinate management actions," he said.

"The Strategy will seek to identify what we collectively are doing well and what areas will need improving to address the threats identified in the Outlook Report."

When the biodiversity of an ecosystem is impacted by threats, either natural or human, the ecosystem can become unbalanced, which can affect all life forms that depend on it.

"Discovering ways to increase the resilience of the ecosystem to the impacts of climate change will be an integral component of the strategy," Jon said.

"Our world relies on biodiversity, from the animals and plants to the micro-organisms too small for the eye to see.

"Biodiversity is the basis of all our food and resources, as well as many of our economic activities.

"Therefore biodiversity is not just desirable - it is essential. By protecting biodiversity, we are protecting both our future and future generations."

The Strategy recognises that a variety of stakeholders, across government and

the private sectors, play a crucial role in managing and conserving biodiversity.

The Strategy will be available for public comment in early 2011, with a completed strategy scheduled for release toward the middle of the year.

An information sheet outlining what the Biodiversity Strategy aims to do, and how it is being developed, is available on the GBRMPA website at [www.gbrmpa.gov.au](http://www.gbrmpa.gov.au).



*All life forms in the Great Barrier Reef depend on a healthy balanced ecosystem*



*The dugong is one of the threatened species addressed in the biodiversity strategy*



*Conserving biodiversity will help to protect coral reefs, for the future*

# Spotted eagle rays

Five white-spotted eagle rays are gliding through coral bommies at Reef HQ Aquarium, the world's largest living coral reef aquarium.

This is the first time pelagic rays have called the coral reef exhibition home.

These beautiful creatures add a different perspective to the already captivating exhibition.

These impressive bird-like creatures are endemic throughout the Great Barrier Reef Marine Park. Their presence in the coral reef exhibit provides a more holistic representation of the Reef.

The elegant rays are hard to miss with their acrobatic style movements where they appear to move in formation, much like a flock of birds or fighter jets.

Don't miss these white-spotted eagle rays during your next visit to Reef HQ Aquarium.



The white-spotted eagle rays move in formation

## Creature Feature

### Spotted eagle rays

Next time you visit Reef HQ Aquarium look out for white-spotted eagle rays gliding past the windows and remember a few of these interesting facts:

- White-spotted eagle rays have a diamond-shaped body with large triangular pectoral fins and a large head and snout. Their back is covered in small white spots or rings.
- The ray's 'v' shaped tooth structure helps it to crush prey, which are usually hard shelled creatures such as snails, crabs and lobsters. Once captured, the hard shells are crushed between two bony plates in the jaw and the hard parts are spat out, while soft parts are swallowed.
- They have one of the highest brain to body mass ratios among fish, this means eagle rays are likely to be one of the smarter marine creatures.
- The spotted eagle rays do not follow regular day-night cycle of most creatures, but instead follows a routine set by the tides.
- The creatures are considered near threatened by the

International Union for Conservation of Nature with the species at risk due to their small litter size, schooling behaviour and inshore habitat.

- They are thought to reach sexual maturity after four to six years, with females bearing a maximum of four pups per litter after a gestation period of one year.
- They have two to six venomous barbs on their tail that are used to defend themselves against predators.
- The eagle rays can be either solitary or found in large schools of up to several hundred individuals.
- There are more than 500 different kinds of rays known throughout the world, with scientists believing there are four different species of white-spotted rays.



## Calendar of events

2010

International Year of Biodiversity

September  
Biodiversity Month

16 September

International Day for the  
Preservation of the Ozone  
Layer

18 September

World Water Monitoring  
Day

22 September

World Car-Free Day

October  
International Walk to School  
Month

01 October

Walk To Work Day

05 October

World Habitat Day

13 October

Ride to Work Day

17 – 23 October

National Water Week

## GBRMPA contacts



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Help us look after the Great Barrier Reef  
by reducing our environmental footprint  
— receive SeaRead by email!

Let us know your email address at  
[searead@gbbrmpa.gov.au](mailto:searead@gbbrmpa.gov.au) or phone the GBRMPA  
on (07) 4750 0700

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