
## 30 June 2015

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## IN THIS BULLETIN



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# NEWS

## *Environment Minister to announce another $8 million for monitoring and reporting on Great Barrier Reef "to the world" (Australia)*

*30 June 2015, News.com.au*

Australia is going to drop an $8 million cash bomb on the floor of the United Nations chamber tomorrow where the country has been called to account over its perceived lack of protection for the Great Barrier Reef. Environment Minister Greg Hunt is to be given one minute to speak to UNESCO's World Heritage Committee and its 21-member world delegation over why the reef should not be put on a "danger" list.

As part of a draft plan for protecting the reef from further degradation from farm fertiliser run off and other now shelved plans for ports expansion, dredging, and dumping of dredge spoil in the oceans, Hunt is set to say another $8 million will be provided for monitoring and reporting "to the world". The Integrated Monitoring and Reporting Programme, to be coordinated by the Great Barrier Reef Marine Park Authority, would lock in the commitment to deliver Prime Minister Tony Abbott's Reef 2050 Plan.

Both the Federal and Queensland State governments have been under immense pressure to prove it is taking global concern over the state of the reef seriously. Both had already pledged $485 million this year and the cash drop in the chamber in Bonn Germany is being seen as a last minute sweetener. A danger listing would effectively lock out Australia's future development of ports and mining exploration and curtail the $6 billion a year tourism industry and shipping trade. Federal Cabinet had also been warned it could significantly affect vital commodities trade with European banks, notably Deutsche Bank, unlikely to want to back any resource project that could be an environmental concern or indirectly affect a UN danger protected reef covering 348,000sqkm of north eastern coastline.

*more…….. http://www.seagrasswatch.org/news.html*

## *It's time for the new Great Barrier Reef expert panel to wade into the issue (Australia)*

*30 June 2015, The Conversation AU*

Federal environment minister Greg Hunt has announced the make-up of the Independent Expert Panel of 16 leading experts who will advise the government on actions and priorities relating to the Great Barrier Reef. Over recent years there have been lots of panels, and even more reports, about the Reef and its health. So what will the new one bring to the table? We will mainly be advising on how best to progress with the Reef 2050 Plan – the umbrella for protecting and managing the Great Barrier Reef from today until 2050. It is a key component of the federal and Queensland governments' response to the recommendations of the UNESCO World Heritage Committee.

Recent concerns over whether or not the Great Barrier Reef should be added to the official list of World Heritage In Danger rested partly on whether or not state and federal governments are taking appropriate steps to reverse the Reef's clear decline over the past several decades.

The Reef 2050 Plan, announced earlier this year by Prime Minister Tony Abbott and Queensland Premier Annastasia Palaszczuk, together with federal and state environment ministers, aims to protect the Outstanding Universal Values (OUV) that define the Great Barrier Reef World Heritage Area. The plan consists of hundreds of actions, as well as several clear targets, such as:

Improving water quality by reducing dissolved inorganic nitrogen loads in priority areas by at least 50% by 2018, on the way to achieving an overall reduction of 80% in inorganic nitrogen by 2025.

Reducing pesticide loads by at least 60% in priority areas by 2018

Improving the net condition of natural wetlands and riverside vegetation by 2020

Stabilising or increasing the populations of dolphins, dugongs and turtles by 2020.

The new independent expert panel features a balance of expertise, including ecologists, water quality experts and climate change experts, as well as agricultural and conservation scientists. Australia's Chief Scientist Ian Chubb will chair the panel, which besides supporting the implementation and review of the Reef 2050 Plan will also advise on the Reef Water Quality Protection Plan, help guide the Reef Trust, and perform other related actions aimed at reversing the downward trend of the Reef's health.

*more…….. http://www.seagrasswatch.org/news.html*

## *Call for more protection for seagrass meadows (Wales, UK)*

*27 June 2015, BBC News*

Seagrasses - the underwater plants that act as nursery grounds for young fish - need more protection, say scientists. Monitoring of seagrass meadows off the North Wales coast found areas damaged by the likes of boat moorings, anchors and vehicles crossing at low tide had reduced value to the ecosystem. Fewer species of fish were found where seagrass was degraded, according to research published in PeerJ journal.

The seagrass studied was near the village of Porthdinllaen, in Gwynned. Researchers at Swansea University studied areas with both high and low cover over a 28-hectare stretch of sea bed. They also sampled fish living in the underwater meadows of flowering plants. There was a three-fold reduction in the diversity of fish species and invertebrates, such as prawns, shrimp, juvenile cod and juvenile plaice, in areas of low cover, said lead researcher Dr Richard Unsworth. He said that in the areas that had become damaged, there was "a reduction in diversity of the species and in the value of the habitat for juvenile fish".

The seagrass is in a special area of conservation, which is a strictly protected site under the European Habitats Directive. However, despite this protection it was still being degraded, he said. Dr Jean-Luc Solandt of the Marine Conservation Society said the study reaffirmed that seagrass meadows are important habitats that should be protected.

*more…….. http://www.seagrasswatch.org/news.html*

*Related articles:*
*http://nation.com.pk/snippets/28-Jun-2015/call-for-more-protection-for-seagrass-meadows*

### *Want to experience the estuaries up close? (FL, USA)*

*26 June 2015, Boca Beacon*

The Florida Department of Environmental Protection is hoping that bringing people into close contact with the nature around them will help convince people of the need for preservation. They have begun shuttling people to see the preserves firsthand, for free. Stephanie Erickson, CHAP environmental specialist added that she hopes people will take from the experience a better understanding of seagrass beds and why it's important to protect them.

Florida's 2,000,000 acres of seagrass beds filter water, stabilize sandy bottoms, and provide shelter for marine life – over 80 percent of all recreationally and commercially important fish species depend on seagrass in some way, according to material provided by CHAP. But they are also susceptible to human activity, particularly damage from boat. Efforts to rehabilitate and replant seagrasses have been supplemented by F.L. 253.04 (3)(a), which makes destruction of seagrass in Aquatic Preserves a violation of law that carries a penalty of up to $1,000.

CHAP monitors not only seagrass, but water quality and colonial nesting birds, and keeps invasive species like Australian Pines and Asian Green Mussels at bay. The trips last approximately two hours and gear, obtained through a grant, is provided, but participants should wear a bathing suit and bring any needed towels, water, or sun protection like hats and sunscreen.

*more…….. http://www.seagrasswatch.org/news.html*

### *Great Barrier Reef water quality to be monitored in real time in pollution crackdown (QLD, Australia)*

*26 June 2015, The Guardian*

The Queensland government will use new real-time water quality monitoring to take action against industrial and agricultural polluters of the Great Barrier Reef, says the state environment minister. Steven Miles also defended the role of the state's largest coalminer, BHP Billiton Mitsubishi Alliance (BMA), as a cornerstone investor in the "eReef" tool, despite carbon-driven climate change being the reef's greatest long-term threat.

The online tracking, which models the effect of sediment and chemicals in reef waters via satellite, will be showcased to world heritage committee members in Germany next week before Unesco's final ruling on whether to list the reef as "in danger". Scientists hope the tracker will help transform stewardship of the reef, with the public able to measure progress in checking flows of sediments, nutrients and pesticides into reef waters via local rivers. Scientists hope satellite advancements will soon enable viewers to go from square kilometres to square metres at high resolution. Their aim is to achieve realtime monitoring, as opposed to daily monitoring, by 2017. Crown of thorns starfish outbreaks, and the health of coral and seagrasses will also be monitored.

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*http://cowracommunitynews.com/viewnews.php?newsid=9509&id=15*

### *Study finds Tampa Bay seagrass growth, bottom health improving (FL, USA)*

*25 June 2015, 83degreesmedia*

A 20-year study of Tampa Bay's benthic ecological region shows that as a whole, Tampa Bay's waters are in fair-to-good condition. Middle and Lower Tampa Bay, which comprise over 50 percent of Tampa Bay's surface area, were rated "Good." Hillsborough Bay and some of the smaller or more heavily urbanized bodies of water within Tampa Bay (including Boca Ciega Bay, Terra Ceia Bay and Manatee River) were ranked "Poor." Old Tampa Bay was rated "Fair." The 20-Year Tampa Bay Benthic Community Trends Study, released by the Environmental Protection

Commission of Hillsborough County, was conducted from 1993-2012. Ratings were determined using criteria from the EPA's National Coastal Assessment program and the Tampa Bay Benthic Index.

Study results reveal continued improvement in Tampa Bay's "fair to good" regions, Dr. David Karlen, the EPC Chief Environmental Scientist who authored the report, explained in a news release. The report includes recommendations for the future monitoring of benthic communities in Tampa Bay, although additional funding is required to support continued analysis and monitoring programs. Another indicator that Tampa Bay is in good shape: seagrass is flourishing. Like a benthic ecological region, seagrasses can be a good measure of a body of water's overall health. In the case of Tampa Bay, it's on the rise.
*more…….. http://www.seagrasswatch.org/news.html*

### *Adani confirms work halted at controversial coal project by the Great Barrier Reef (QLD, Australia)*

*25 June 2015, MINING.com*

Indian conglomerate Adani Mining has halted preparatory engineering work on its debated Carmichael project in Queensland, Australia, one of the world's biggest untapped thermal coal deposits. The company, which cited uncertainty and delays in approvals, said that despite the challenges it remains committed to the project, which has been at the centre of an ongoing the battle among environmentalists, the company and the fossil fuel industry.

But the Queensland government denied Thursday any responsibility on the delays, adding that —to date— all state regulatory processes have been completed to schedule, as reported by The Guardian. Adani has signed up buyers for about 70% of the 40 million tonnes coal the Carmichael project is due to produce in its first phase, with production expected to begin in late 2017.

The massive project is mainly waiting for on environmental approval to deepen Abbot Point port on the fringe of Australia' Great Barrier Reef in order to ship the coal, a proposal generating opposition worldwide. An earlier plan to dump 3 million cubic metres of soil dredged at the port of Abbot Point into the sea about 25 km (15 miles) from the Great Barrier Reef was rejected.
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*http://timesofindia.indiatimes.com/business/india-business/Adani-may-junk-16bn-Oz-project/articleshow/47808851.cms*

### *The Giant cow that swam the ocean (UK)*

*25 June 2015, BBC Earth*

Not so long ago, a sailor navigating the cold waters of the northern Pacific Ocean might have had every chance of being confronted by a giant cow. This cow would have measured 10 metres long, and weighed between five and ten tonnes. And it would have been the most adept swimmer, spending its days cruising the seas, grazing on fields of grass growing underwater. The cow in question was known as Steller's sea cow. It is now extinct, having left this earth almost 250 years ago.

Steller's sea cow .. belonged to a different group of mammals, known as the Sirenia, named after the mermaids of Greek mythology that were known as sirens. But Steller's sea cow (*Hydrodamalis gigas*) was much, much bigger. It reached a length of 10 metres and different sources suggest it could have weighed anywhere between 4,000-11,000 kgs. It also lacked teeth, surviving by using a pair of broad horny pads to chew kelp.

Surprisingly perhaps, the first recorded sighting of a Steller's sea cow didn't happen until 1741, when a sailing expedition led by Captain Vitus Bering of the Russian Navy was marooned on an desolate, treeless uninhabited island, later named Bering Island, in what is today known as the Bering Sea. The sailors survived by hunting and eating the huge sea cow. Those sailors that escaped Bering Island spread word of the bounty of meat to be found off its shores. Each year new expeditions hunted the animals. One report stated that one sea cow could feed 33 men for a month, and it was thought sailors stored the meat on ships to feed themselves on voyages lasting up to a year. Incredibly, the last sea cow was reported killed in 1768, just 27 years after the island and species had been discovered by modern man.
*more…….. http://www.seagrasswatch.org/news.html*

## *Preston Primary School pupils to learn about the importance of seagrass (UK)*

*24 June 2015, Torquay Herald Express*

Preston Primary School will be one of the first in the South West to learn about the importance of seagrass to marine species. The Community Seagrass Initiative will be visiting schools to deliver a series of interactive assemblies where they hope to increase awareness of seagrass habitats and allow children to develop a greater emotional investment in undersea environments to ensure their protection in the future.

Mark Parry, Community Seagrass Initiative Plymouth Project Manager, added: "Our CSI schools outreach programme will aim to provide opportunities for the younger generations to learn about seagrass, and its importance to many of our marine species. "The sessions will also be a great way for teachers and pupils to find out how they can get involved in our citizen CSI events and become marine citizen scientists themselves. "

Spearheaded by the National Marine Aquarium, the Community Seagrass Initiative is in partnership with Plymouth University Maine Institute, Torbay Coast and Countryside Trust, Weymouth SEALIFE and Living Coasts – and was made possible by a £475,000 grant received by the Heritage Lottery Fund last year.
*more…….. http://www.seagrasswatch.org/news.html*

## *US Ambassador ``Dooms`` Japanese Dugong: Greenpeace (Japan)*

*21 June 2015, PanOrient News*

The U.S. Ambassador to Japan, Ms. Caroline Kennedy, has rejected local opposition of construction of a new U.S military base at Henoko in Okinawa which, according to Greenpeace, threatens extinction of the critically endangered Japanese dugong.

On Friday (June 19), Okinawa Governor Takeshi Onaga met U.S. Ambassador to Japan Caroline Kennedy and expressed opposition to plans to relocate the U.S. Marine Corps' Futenma air station in Ginowan to the Henoko coastal district in Nago, both in the southern Japan prefecture. During the talks, Kennedy reiterated that the planned relocation is "the only solution" to avoid the continued use of the current Futenma base, according to a statement issued by the U.S. embassy in Tokyo. But Governor Onaga said that Kennedy did not respond to his request to allow the prefectural government to conduct environmental research in U.S. military-controlled waters off Henoko.

Greenpeace Japan said it has delivered over 53,326 signatures to the US embassy in Tokyo as a sign of global support for the Okinawan's struggle to save the last remaining Japanese dugong. They, along with the Okinawan prefectural government, local community groups and other NGOs have raised concerns about the irreversible environmental impact of the base installation in Oura Bay, Henoko.
*more…….. http://www.seagrasswatch.org/news.html*

## *Predicting sediment flow in coastal vegetation (MA, USA)*

*16 June 2015, Phys.Org*

Seagrass, kelp beds, mangroves, and other aquatic vegetation are often considered "ecosystem engineers" for their ability to essentially create their own habitats: Aquatic leaves and reeds slow the flow of water, encouraging sediments to settle nearby to form a foundation on which more plants can grow. In large part, sediment transport determines the survival of coastal marshes and mangroves: Plant growth depends on the accumulation of sediment to the seafloor. When strong storms or currents carry sediment away, underwater forests can also wash away, exposing coastlines and riverbanks to erosion.

Now researchers at Massachusetts Institute of Technology (MIT) have developed a simple model that can help scientists understand how and when sediments move through a region of aquatic vegetation, such as a wetland. The researchers say engineers may use this model to design better ways to restore seagrass, mangroves, and other underwater plant beds. For example, using the model, scientists may be able to identify locations where aquatic vegetation may be less prone to erosion.

To estimate sediment transport in aquatic environments, one key factor is what's known as "bed shear stress", which gives scientists an idea of how sediments move across the seafloor. In a large, 10-meter recirculating water tank lined with a bottom layer of plastic, the researchers erected thousands of thin dowels to simulate sturdy, marsh-like reeds. They then deposited polymer particles in the water, and ran a pump to circulate water through the tank. Using a technique called laser Doppler velocimetry, they aimed a pair of lasers into the tank at various depths and positions. The researchers used the lasers' backscattering to calculate the particles' velocity at a particular location.
*more…….. http://www.seagrasswatch.org/news.html*

## *Turtle rescued from poachers (Cayman Is.)*

*18 June 2015, Cayman Compass*

Poachers were disturbed in the act as they attempted to drag a 400 pound [180kg] nesting green sea turtle off a West Bay beach. The three men fled the area, leaving the turtle lying on its back, after they were interrupted by a fisherman, out with his dog, at around 4:30 a.m. Wednesday.

Police and Department of Environment officials were called to the scene and the turtle was helped safely back to the sea. Department of Environment enforcement officer Mark Orr said it had taken four people to lift the turtle over the ironshore and back to the water. He said Department of Environment patrols, which monitor the beaches and tag nesting turtles, do their best to protect the animals and prevent poaching, but incidents continue to occur.

A 400 pound turtle could have made the men more than $1,000 on the black market, Mr. Orr believes. He said turtles were a "target of opportunity" for poachers. The Department of Environment typically sees around two to three incidents of turtle poaching every year.

*more…….. http://www.seagrasswatch.org/news.html*

## *Improvements in wastewater treatment produce cleaner coastal waters in Catalonia (Spain)*

*June 10th, 2015 in Earth / Environment*

A study, published in the journal Ecological Indicators proves that Catalan coastal waters are in a good ecological status. In order to make such a positive statement, the study analysed the evolution of the seagrass *Posidonia oceanica*, a species that shows an extraordinary sensitivity to changes in water quality. Water quality improvement is largely due to the implementation of better wastewater treatment systems.

Water quality improvement has occurred along the Catalan coast (Spain), but it has been particularly important in the most affected and damaged areas. For the period 2003 to 2010, improvements in several plant physiological and biochemical parameters have been detected; they indicate not only a nutrient and organic matter reduction, but also an increase of water transparency. From 1990 to 2010, wastewater treatment plants were ameliorated and three hundred new ones were built in Catalonia. These actions reduced nutrient and organic matter discharges into the sea.

Considering public investments made in improving coastal water quality, authors highlight that it is necessary to have a powerful tool to evaluate the effectiveness of interventions and guide environmental policies. Therefore, monitoring programmes, like the one in which this study is based, must continue to receive institutional and economic support.

*more…….. http://www.seagrasswatch.org/news.html*

## *World Heritage Council to decide if Great Barrier Reef endangered (QLD, Australia)*

*30 June 2015, by Brian Williams, The Courier-Mail*

Queensland Environment Minister Steven Miles will blitz World Heritage Committee members tonight in Bonn, Germany, in a last-gasp effort to ensure the Great Barrier Reef is not listed as endangered. Mr Miles said he had already spoken to about 10 of the 21 WHC members, but would continue lobbying until the last moment. He and federal Environment Minister Greg Hunt also hope to get one minute each to address the WHC meeting.

Must Read

Conservation group WWF also hopes to put its case. Chief executive Dermot O'Groman said WWF supported UNESCO's draft decision last month not to list the Great Barrier Reef World Heritage Area as endangered because it would keep the pressure on Australia to turn promises into action.

Mr Miles said he was confident the WHC would not list the Reef as endangered, and he did not consider Australia was on probation, but rather that checks would be made to ensure that Australia was doing what it said it would do. Mr Miles said he was not aware of any of the 21 WHC members who had complaints about Australia's efforts to restore the Reef.

*Full story: http://www.couriermail.com.au/news/queensland/world-heritage-council-to-decide-if-great-barrier-reef-endangered/story-fnihsrf2-1227420553366*

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## *Dugongs were once on the menu for fishermen in Abu Dhabi (UAE)*

*28 June 2015, by Vesela Todorova, The National UAE*

The dugongs that live in the waters around the UAE enjoy a protected life, with harsh punishments for anyone caught hunting the gentle mammals. In the past, the animals, which can weigh up to 300 kilograms, had been an important source of protein for fishermen.

Findings at an archaeological site on the island of Marawah have shown the relationship between man and dugong was well established by the late Stone Age. The remains were found to be 7,500 years old. Dr Mark Beech, head of coastal heritage and palaeontology at Abu Dhabi Tourism and Culture Authority said dugongs were most probably killed for food, although the presence of human remains within the building indicated they may have been placed as an offering. This is not the only piece of evidence pointing to the ceremonial use of dugongs. A 40-centimetre mound containing the remains of about 40 animals was found on the island of Akab in Umm Al Quwain. More than 6,000 years old, the dugong remains were part of a complex and intentional arrangement. Skulls were found aligned in rows facing east, while bundles of ribs painted with ochre dye were laid in front of the first row of skulls.

The late Islamic period graveyard near Al Ghubba village on Marawah also points to the ceremonial significance of dugong remains. During a survey in 1992, scientists found graves that had been dug between the 16th and 18th century. Two of them had dugong remains placed beside them. This, said Dr Beech, was a variation on traditional Islamic practice that relies on simple grave markers for headstones.

Dr Himansu Das, unit head for marine threatened species and habitats at the Environment Agency Abu Dhabi, said One of the reasons the waters around Marawah were declared protected was to preserve its extensive seagrass beds, which provide food for dugongs. About 1,600 of the animals live in the area, Dr Das said.
*Full story: http://www.thenational.ae/uae/environment/dugongs-were-once-on-the-menu-for-fishermen-in-abu-dhabi*

## *Volunteers work to rebuild damaged West Bay oyster habitat (FL, USA)*

*20 June 2015, by Collin Breaux, The News Herald*

West Bay has suffered ecological damage, but the community won't sit idly by. Volunteers hauled oyster shells into bags Saturday morning as part of a restoration project. The shells will be placed along West Bay, said biologist Katie Konchair, who works with the Florida Fish and Wildlife Conservation Commission, one of the project partners.

According to the FWC, discharge from beaches area wastewater and commercial shrimp farming dating back to the 1970s has caused severe damage to seagrass beds in West Bay. Saturday's project aimed to lay about 1 acre of oyster reef habitat along the west shore of West Bay. The restored oyster reef will foster the recovery of about 30 acres of seagrass habitat, according to the FWC.

As the heat kicked up, Konchair worked with about 20 volunteers at the oyster shell site under the State 79 bridge. Volunteers took frequent swigs of water as they climbed atop the hills of shells to fill the bags and tie them with fiber twine. Others loaded shells into buckets and stacked the bags.
*Full story: http://www.newsherald.com/outdoors/volunteers-work-to-rebuild-damaged-west-bay-oyster-habitat-1.493079*

*Related articles:*
*http://www.newsherald.com/outdoors/fwc-seeks-volunteers-for-assembly-of-oyster-reef-materials-1.490428*

## *Dredge opponents decry seagrass impact (FL, USA)*

*16 June 2015, by Alex Mahadevan YourObserver.com*

Save Our Siesta Sand 2 has called attention to the potential disruption of up to five acres of seagrass beds as part of the Lido Beach renourishment project. As the U.S. Army Corps of Engineers continues its quest for state permitting to renourish Lido Beach, opponents of dredging Big Pass have found more reasons to be wary of the project.

In a June 9 email to Sarasota County Environmental Manager John Ryan, Army Corps ecologist Aubree Hershorin noted that the project could potentially impact between two and five acres of seagrass beds. In a follow-up email, Ryan notes that the county has experienced a rebound in seagrass acreage, which is an indicator of healthy bays.

The Florida Department of Environmental Protection asked the Army Corps to provide more information about impacts to seagrass and ways in which they plan to offset them, among other queries in a formal Request for Additional Information filed in April. The Corps will have to satisfy that request before a permit is issued. In the SOSS2 release, van Roekens said that past efforts to transplant seagrass have been "disappointing."
*Full story: http://www.yourobserver.com/article/dredge-opponents-decry-seagrass-impact*

### *Manual dealing with rescued marine animals out (Philippines)*

*16 June 2015, Philippine Information Agency*

The Department of Environment and Natural Resources-Biodiversity Management Bureau and the Marine Wildlife Watch of the Philippines have recently launched a three-volume online manual series on what to do with rescued marine animals. The series would give a clear guide to the general public on how to rescue stranded or captured marine animals. Forester Dennis Piñosa of the DENR-6 Conservation and Development Division, said the manual provides ample knowledge to anyone on the proper handling and reporting of captured sea animals, particularly marine turtles (pawikan) and seacow (dugong).

Piñosa said the manual includes information on how to identify sea animals, the procedures on handling them according to body conditions, how to manage and rehabilitate them and the needed forms to fill out and submit to authorities. On the other hand, DENR Regional Director Jim Sampulna said that among those the manual seeks to address is the problem of stranded sea animals which end up being slaughtered for food or kept captive.

Electronic copies of the manuals can be downloaded for free at www.mwwphilippines.org.
*Full story: http://news.pia.gov.ph/article/view/911434351185/manual-dealing-with-rescued-marine-animals-out*

### *Consult biologists before reclaiming (Cebu, Philippines)*

*16 June 2015, by Linette Ramos Cantalejo & Flornisa M. Gitgano, The Sun Star*

Warning Cebuanos against the negative implications of reclamations, a national scientist advised mayors of Toledo City and Cordova to consult oceanographers and marine biologists before pursuing their projects. Dr. Angel Alcala, a marine biologist, said reclamation projects, no matter how small, will have a negative impact on marine resources, the coastal communities and their livelihood.

Alcala joined foreign and local environment conservation groups opposing the reclamation project within the Tañon Strait, which was declared a protected area because of its rich marine resources, including whales, dolphins and sea turtles. The proposed reclamation project covering 11 hectares of a coastal area in Barangay Poblacion, Toledo City should be stopped since it is within the Tanon Strait, Alcala said. As for the proposed reclamation of a 1,500-hectare area off Cordova, Alcala said it would not only damage the seagrass beds in the coastal town, it would also reduce fish production there. Seagrass beds, he said, are nursery areas for fish larvae. Alcala further explained that reclamation projects change the natural course of the currents, which results in erosion in some coastal areas.

In some reclaimed areas like the Manila Bay, he said that the reclamation caused the prevalence of harmful algal bloom, which in turn resulted in economic losses among fishermen since they could no longer sell their catch due to red tide organisms.

Interviewed separately, Cordova Mayor Adelino Sitoy said that SM Prime Holdings Inc. has been coordinating with an agency abroad and University of San Carlos to have a marine biologist or scientist who can look into how the reclamation project might affect the town. Mayor Sitoy said that the Philippines Reclamation Authority will provide the requirements for the reclamation, including the presence of a marine biologist. He said the town has provided health and education programs to about 3,000 fishermen, and that fishers will be prioritized for jobs once work on the reclamation starts.
*Full story: http://www.sunstar.com.ph/cebu/local-news/2015/06/16/consult-biologists-reclaiming-413448*

### *Kangaroo Island marine officers using homemade cameras to track fish interaction with seagrass (SA, Australia)*

*16 Jun 2015, by Brooke Neindorf, ABC Online*

Homemade cameras are being used to track the movement of fish species around South Australia's Kangaroo Island. Marine officers with Natural Resources Kangaroo Island have set up their own cameras to keep an eye on the fish, as well as monitor their interaction with seagrass. Coastal marine officer Alicia McArdle said it was a less invasive way of looking at where fish assemble.

Ms McArdle said it was not a new way of monitoring species. "We are using something called a baited remote underwater video system (BRUV) and the ones that most people would use in a larger research community are quite large and expensive. So the officers developed their own video set-up using items they found in the office.

The research will give the marine officers a baseline of what is the waters around Kangaroo Island, but more importantly Ms McArdle said it it would also help with management options into the future.
*Full story: http://www.abc.net.au/news/2015-06-16/using-home-made-cameras-to-track-fish-movement/6546068*

## *Research pact signed to protect ecology (Qatar)*

*15 June 2015, The Gulf Times*

The General Directorate of Natural Reserves Private Engineering Office (PEO) and ExxonMobil Research Qatar (EMRQ) have signed a memorandum of understanding (MoU) to protect Qatar's ecology. The MoU provides a collective framework for the research and resources needed to fulfill long-term goals of increasing knowledge about marine habitats and species in Qatar.

Under the newly signed MoU, EMRQ will leverage existing information gathered with its research partners, Qatar University and Texas A&M at Galveston, on the local population of dugongs. The MoU also enables EMRQ to provide PEO with technical advice, scientific data and technology transfer, as well as training and capacity building opportunities, among others. Dr Jennifer Dupont's (EMRQ research director) team will work collaboratively with academic research partners, along with government agencies such as the PEO, to secure necessary resources and scientific expertise needed to ensure dugongs are protected and live unhindered in their natural habitat.

Historically, dugongs have had a cultural and economic importance to Qataris, having been used as both an economic and food resource in the Arabian Gulf for more than 7,500 years. Qatar is home to the largest population of dugongs outside of Australia with two of the three most important regions in the Arabian Gulf. Currently, dugongs in Qatar face challenges including incidental fishing and habitat degradation.

*Full story: http://www.gulf-times.com/qatar/178/details/443413/research-pact-signed-to-protect-ecology*

## *Anti-Ħondoq front evaporates (Malta)*

*14 June 2015, by Alan Deidun, Times of Malta*

While the proposals for Ħondoq ir-Rummien had attracted so much opposition, the response so far to those for Tas-Simar, barely a kilometre away, have, strangely, been much more subdued. The premature unveiling of proposals by the Milan office of Chapman Taylor for the redevelopment of the unsightly quarry at Tas-Simar along the south-eastern coast of Gozo opened a veritable can of worms and has concurrently revealed the fickleness of some past environmental campaigns. The Tas-Simar site includes a proposed yacht marina, luxury apartments/villas, a hotel and a cruise liner harbour to boot.

The public knee-jerk reaction to the proposed cruise terminal at Tas-Simar was generally a positive one, since the perceived restoration of an eyesore and its redevelopment in a project to kickstart the perpetually ailing Gozitan economy wins brownie points with many individuals. Few of these realise the repercussions on the marine environment of such a development, which will entail land reclamation on a massive scale. The proposed gargantuan breakwater arm needs to come to terms with the unremitting northeast winds to which the site is so blatantly exposed.

It has been pointed out from the outset that Tas-Simar lies within the North-East marine protected area (MPA), designated by virtue of the extensive *Posidonia oceanica* (Neptune grass) seagrass meadows that grow in the waters of this MPA. Developing a cruise liner terminal and a yacht marina – two coastal developments that have among the most serious impact on the marine environment – at Tas-Simar is tantamount to developing a residential area within a forest.

Detractors of the marine conservation argument rebut by saying that Gozitans need jobs, not alka, as the Neptune grass is known in Maltese. Well, you could hardly have a more short-sighted argument than this. Gozo's waters are pulling the crowds for their bathing quality and their submerged assets which are ideal for scuba diving. Healthy seagrass meadows are part of the reason for the attractiveness of these waters. Wherever such meadows have been obliterated, such as at Portomaso marina and in Marsaxlokk Bay, the diversity of marine life, underwater appeal and water quality in general has suffered.

*Full story: http://www.timesofmalta.com/articles/view/20150614/environment/anti-hondoq-front-evaporates.572484*

## *Plea to restore vegetation clearing laws to help reduce farm run-off to Great Barrier Reef (QLD, Australia)*

*12 June 2015, by Brian Williams, The Courier-Mail*

Great Barrier Reef catchment vegetation clearing has skyrocketed an astounding 229 per cent, putting at risk plans to wind back coral-killing farm run-off. Auditor-General Andrew Greaves found clearing in that region jumped from 31,000ha per year in 2008-09 to 102,000ha per year in 2012-14. Some of the clearing has -occurred on Cape York, threatening the last major section of the inshore Reef deemed in -excellent condition.

In March, The Courier-Mail reported that statewide clearing was understood to have jumped from 100,000ha in 2010 to about 275,000ha now. This is an area about nine times the size of North Stradbroke Island and occurred after laws were eased by the Newman government. Wilderness Society spokesman Tim Seelig yesterday said Premier Annastacia Palaszc-zuk had committed to restore clearing laws before the election but had done nothing.

AgForce president Grant Maudsley said 90 per cent of farms in Reef regions were committed to joining the industry's voluntary best practice management program (BMP) within three years. Environment Minister Steven Miles said he would prefer to work with farmers on improving water quality. Environmental Justice Australia lawyer Ariane Wilkinson has just released a report by Australian and inter-national lawyers that says the Reef World Heritage area should be listed as in danger by UNESCO due to degradation and overdevelopment. Before vegetation laws were introduced in 1999, more than 750,000ha a year were cleared.
*Full story: http://www.couriermail.com.au/news/queensland/plea-to-restore-vegetation-clearing-laws-to-help-reduce-farm-run-off-to-great-barrier-reef/story-fnn8dlfs-1227393616353*

### *Great Barrier Reef: Public reporting of water quality 'misleading at worst', Queensland auditor-general says (QLD, Australia)*
*10 June 2015, ABC Online*

A report from Queensland's auditor-general has questioned the State Government's claim that water quality on the Great Barrier Reef is improving. The auditor-general's report examines the Queensland Government's handling of agricultural run-off from farms over the last 12 years. It found the State Government's response has been uncoordinated, lacks purpose, and holds no-one accountable. The auditor-general's report said Queensland was yet to design a program for its contribution to the Reef Plan, which was developed 12 years ago. It said a 2014 reef report card's claims the decline in water quality had been reversed was not necessarily true.

In his recommendations, auditor-general Andrew Greaves said there was a need for more stringent monitoring on farms and the suite of water quality programs must be reviewed to ensure they were working. The report also called for the new Office of the Great Barrier Reef to be held accountable for the health of the reef.
*Full story: http://www.abc.net.au/news/2015-06-10/public-reporting-barrier-reef-water-quality-misleading-at-worst/6535202*

*Related articles:*
*http://www.couriermail.com.au/news/queensland/auditor-generals-reef-report-wouldnt-change-unesco-position-on-commitments-minister-says/story-fnn8dlfs-1227392076415*
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*http://www.brisbanetimes.com.au/queensland/unesco-not-misled-on-reef-ministers-20150610-ghl0l4.html*

### *Scientists call for Great Kimberley Marine Park to have the same protection as the Great Barrier Reef (WA, Australia)*
*09 June 2015, by Trevor Paddenburg, PerthNow*

Scientists are calling for a planned Kimberley marine park to have the same level of protection as the Great Barrier Reef. The 100 scientists, backed by three of the nation's leading marine science organisations, want high-level protection for the marine reserves that will collectively form the Great Kimberley Marine Park. The protection would include a ban on fishing in roughly a third of the five planned reserves, in an effort to secure the future of "some of the most remarkable and pristine reefs" in Australia and to boost the local economy through tourism.

In a statement released on Sunday, the scientists warned the State Government to act now while the region was still pristine. They say alongside the Arctic and Antarctica, the Kimberley is one of only three near-pristine ocean areas left in the world. The Barnett Government is finalising plans to create five new marine reserves by 2016, covering landmarks like Camden Sound and Horizontal Falls, but the level of protection the area will receive is not yet known.

Co-ordinating author Gary Kendrick, from the University of Western Australia, said the Kimberley deserved the same protection as the Great Barrier Reef because it boasted some of the toughest corals and seagrasses in the world, including seagrasses that can survive in 40C waters. Acting Environment Minister Ken Baston said his Government was "considering the options available for the protection of these proposed marine parks" and intends on releasing draft management plans for the parks in the coming months. He said a "balanced outcome" was necessary to ensure protection of the area's remarkable habitats and wildlife.
*Full story: http://www.heraldsun.com.au/news/national/scientists-call-for-great-kimberley-marine-park-to-have-the-same-protection-as-the-great-barrier-reef/story-fnii5thm-1227389656417*

### *Dugong conservation gets an uplift (Abu Dhabi, UAE)*
*08 June 2015, Khaleej Times*

The 16-year long partnership between the Environment Agency — Abu Dhabi (EAD) and Total has been extended once again for the conservation of dugongs, an endangered marine mammal. The UAE has the second largest population of dugongs in the world, after Australia.

Total Abu Al Bukhoosh and Total E&P UAE agreed to continue their sponsorship of the EAD's Dugong Conservation Programme, which has been exclusively sponsored by Total since they ventured into an initiative to protect the endangered species.

Razan Khalifa Al Mubarak, secretary-general of the EAD, said: "Since 1999 (thanks to the support of Total), the EAD has conducted detailed studies of the local dugong population. These studies have helped us better understand the dugongs." "We have a population of about 2,800 dugongs in the UAE, which represent 40 per cent of all dugongs in the Arabian Gulf," said Dr Himansu Sekhar Das, head of Marine Threatened Species and Habitats, Terrestrial and Marine Biodiversity Sector at the EAD. "Dugongs are a unique indicator of the marine ecosystem. If dugongs are around, it means the water and the seagrass are good," Dr Das told Khaleej Times.
*Full story: https://en-maktoob.news.yahoo.com/dugong-conservation-gets-uplift-055544359.html*

*Related articles:*
*http://www.abudhabicityguide.com/news/news-details.asp?newsid=19423&newstype=Local%20News*
*https://en-maktoob.news.yahoo.com/uae-proud-world-second-largest-dugong-population-055539678.html*

## *Officials to give overview of Eau Gallie River dredging (FL, USA)*

*08 June 2015, by Jim Waymer, Florida Today*

The St. Johns River Water Management District will host a meeting Thursday in Melbourne to update the public on the status of the Eau Gallie River dredging project. Officials with the district, the city of Melbourne and Taylor Engineering will present information on dredging plans and the project schedule. The project will dredge at least 625,000 cubic yards (about 41,000 dump truck loads) of muck from the main stem of the 4-mile-long Eau Gallie River, as well as the southern branch of its tributary, Elbow Creek. The estimated $17 million to $24 million project is expected to improve navigation and water quality.

A half-century buildup of muck that resembles "black mayonnaise" coats the lagoon bottom and that of its tributaries, in some spots more than 10 feet thick. It's mostly soil runoff from sod, construction sites, farming and erosion along lagoon tributaries, but also rotting algae and dead plants.

Muck limits seagrass growth and the fish and organisms that need seagrass to survive. It contributes to bacterial decay, which consumes oxygen, causing fish kills. Muck also produces noxious chemical compounds, such as the hydrogen sulfide that creates the lagoon's occasional rotten-egg smell. Some scientists say contaminants in the muck deposits may be contributing to wildlife health problems. Scientists say dredging out muck could vastly improve the lagoon, and better land-use practices are needed to prevent more muck from entering the estuary.
*Full story: http://www.floridatoday.com/story/news/local/2015/06/08/officials-give-overview-eau-gallie-river-dredging/28691911/*

## *Qld to ban new Great Barrier Reef ports (QLD, Australia)*

*3 Jun 2015, News.com.au*

Queensland will ban all new Great Barrier Reef ports under some of the "toughest laws in the world". State Development Minister Anthony Lynham says the laws back up the government's Reef 2050 Long Term Sustainability Plan. The Sustainable Ports Bill will stop new ports being built along the entire reef coast. Instead all port development will be concentrated in four priority ports - Gladstone, Hay Point/Mackay, Abbot Point and Townsville. Dr Lynham says any new development will be restricted to within those port limits.

Mandatory masterplans will be drawn up for each existing priority port to ensure any expansion is sustainable, he said. The proposed laws also ban the dumping of dredge spoil in the ocean and instead promote the beneficial reuse of spoil. If reuse isn't possible, the laws allow for the dumping of spoil on land.

UNESCO's World Heritage Committee made a draft decision to leave the Great Barrier Reef off its "in-danger" list on Friday. Conservation group WWF said the proposed laws were a good start but urged the government to go further. WWF Australia CEO Dermot O'Gorman said barge-to-ship coal loading, known as trans-shipping, and dumping dredge spoil from marina development in the ocean should also be banned. "The World Heritage Committee has put Australia on probation."
*Full story: http://www.news.com.au/national/breaking-news/ban-on-new-ports-near-great-barrier-reef/story-e6frfku9-1227381789259*

## *Great Barrier Reef Marine Park ban on capital dredge material disposal (QLD, Australia)*

*05 June 2015, Reef in Brief Edition 37*

The Australian Government has established a new regulation that ends the disposal of dredge material in the Great Barrier Reef Marine Park from capital dredging projects such as port developments. The regulation, under the Great Barrier Reef Marine Park Regulations 1983, came into effect on 2 June 2015. The effect of the regulation is as follows:
- The Authority must not grant a permission for conduct that includes dumping of capital dredge material in the Marine Park.

- The ban applies to existing permits for conduct that includes uncontained disposal of capital dredge material in the Marine Park where the permits have yet to expire.
*Full story: http://www.gbrmpa.gov.au/managing-the-reef/how-the-reefs-managed/dredging-and-dredge-material-disposal/public-comment-invited-on-limiting-capital-dredge-material-disposal-in-the-marine-park*

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*http://www.news-mail.com.au/news/state-government-says-bill-will-protect-reef/2661577/*
*http://www.dailymercury.com.au/news/law-will-stop-dredge-spoil-on-the-reef/2660994/*

## *The Vasse Wonnerup wetland on the 'cusp' of irreversible damage (WA, Australia)*

*05 June 2015, by Sharon Kennedy, ABC South West WA*

The Vasse Wonnerup wetland is two large bodies of fresh water just north of the townsite of Busselton. It is listed by the RAMSAR convention as a wetland of international significance. Scientists believe that nutrient loads in this internationally significant waterway could reach a tipping point where the wetland would not be able to recover. Studies into the delicate ecosystem have been ongoing at the wetland over the last decade and now a new project aims to fill in some of the gaps in knowledge.

One species of bird that would be affected by continually increasing nutrient levels is the black swan, WA's state fauna emblem. *Ruppia macrocarpa* is one of the black swan's main sources of food, explains Professor Jane Chambers. Professor Chambers is an Environmental scientist at Murdoch University and has been studying estuary seagrasses. The beds are also a habitat for a range of invertebrates that other birds feed upon. In addition, they help maintain water clarity.

Murdoch researchers have been monitoring the wetlands since 2006. The scientists have plotted a huge range of salinity and nutrients which change every year. Low rainfall years may cause high salinity while heavy rains bring nutrients down from the catchment. The blooms create macro algal mats which blanket the seagrass and cut off the sunlight needed for growth. Worse, says Professor Chambers, are the blooms of phytoplankton, toxic cyanobacteria, which are commonly known as blue green algae, killing fish and other wildlife. Current community media campaigns link fertiliser use on gardens to adverse changes in wetlands. While there is increased public awareness, says Ms Hugues-dit-Ciles, it is still too early to gauge their impact.
*Full story: http://www.abc.net.au/local/photos/2015/06/04/4249105.htm*

## *Alaska researchers study sea otters with unmanned aircraft (Alaska, USA)*

*04 June 2015, by Sue Mitchell, Phys.Org*

Watching marine life to gather data about behavior and abundance can be tedious and time-consuming for researchers, but recent studies indicate unmanned aircraft may offer a way around such obstacles. University of Alaska Fairbanks scientists conducted two field studies to see if unmanned aerial vehicle cameras at various altitudes can take high-resolution photographs of beaches at low tide and hover above sea otters without disturbing them.

The first study, with the U.S. Geological Survey, was to see if UAV cameras can take high-resolution video while hovering above sea otters to watch them feed without disturbing them. Currently, researchers have to stand on a beach with high-powered spotting telescopes to watch how long an otter dives for food, what it brings up and how long it takes to eat the morsel, said Daniel Monson, a wildlife researcher with the USGS Alaska Science Center. The telescopes allow visuals to certain distances but don't capture how and what sea otters eat farther from the beach. Unmanned aircraft might solve the observation problem if they don't alter the animal's behavior. For the most part, the otters didn't mind the whirring of the quadcopter and just kept eating, Monson said. Monson imagines unmanned aircraft might be a good way to upload data from tagged animals without having to recapture them. They also might help monitor the remote coastlines of the Aleutian Islands, where it's difficult for manned aircraft to fly.

The second study used unmanned aircraft to take photos of beaches at low tide to help make a monitoring program more efficient. If these trial studies prove useful, this technology could be used in many regions. ACUASI sent two small rotary wing aircraft to conduct the field tests in Homer, Alaska. Traditional beach fieldwork for the monitoring studies means Konar, Katrin Iken of SFOS and their team wait until the tide goes out to place a PVC pipe grid on the uncovered shore. Researchers then count snails, sea stars, kelp, clusters of seagrass and other living things in the quadrats. Work on one beach takes about four hours and ends when the tide comes back. The short time period also limits how much of the beach they can look at. Unmanned aircraft should be able to gather more data, she said. The tide mission had successes and setbacks, but this is to be expected in science, said Sam Vanderwaal, an ACUASI engineer and project manager.

*Full story: http://phys.org/news/2015-06-alaska-sea-otters-unmanned-aircraft.html*

*Related articles: http://www.newsminer.com/science_and_technology/alaska-researchers-may-use-drones-to-study-otters/article_12375806-0e7c-11e5-b68e-0f1dcaa4ccbf.html*

### *Groundbreaking study to test metabolism of dugongs to see how much food they need to survive (QLD, Australia)*

*03 Jun 2015, ABC Online*

A groundbreaking study is underway in Queensland to test the metabolic rate of dugongs to see how much food they need to survive. Biologists and veterinarians have headed out to Moreton Bay, off Brisbane, for the past seven years to assess the endangered mammals' clinical health, body condition and reproductive status. This year, in a world first, the metabolic rates of three wild dugongs will be measured. They will be held for a short time in a metabolic chamber on the boat deck and have their oxygen consumption measured. If dugong metabolism is high, as predicted, then their energy requirements will also be high, explaining why they grow so slowly on a low-energy seagrass diet.

The purpose behind the study is to find out how much food the dugongs need to survive and help determine if energy-rich seagrass habitats should be protected. Over an eight-day period, up to 20 wild dugongs will be examined for general health. University of Queensland dugong research team leader Janet Lanyon said regular monitoring of the health of individual dugongs was one of the most effective ways to identify threats to both the dugongs and their inshore seagrass habitats.

*Full story: http://www.abc.net.au/news/2015-06-03/groundbreaking-queensland-dugong-study-to-examine-metabolism/6519576*

### *Rainy season fertilizer bans start today (FL, USA)*

*01 June 1 2015, Jim Waymer, Florida Today*

Rainy season residential fertilizing bans kick in throughout Brevard County on June 1 and run through Sept. 30. Communities along the Indian River Lagoon enacted the rainy season fertilizer bans in recent years after intense algae blooms resulted in widespread seagrass loss and wildlife die-offs. It is also illegal to blow grass clippings into streets or stormwater drains at any time of the year. Clippings should be blown back into yards, bagged or composted. Violators can face fines of several hundred dollars, depending on where they live. Officials hope less fertilizer on grass will grow back more seagrass in the lagoon, by reducing the frequency and intensity of algae blooms.

Last year, in the first summer of widespread bans in most of Brevard County, manufacturers distributed almost two-thirds less fertilizer here during peak months, state agriculture data shows. As the bans set in, lawn fertilizer distribution plummeted. Industry officials said it's too soon to read a trend, but some businesses aren't waiting. They're already selling new, more lagoon-friendly blends.

*Full story: http://www.floridatoday.com/story/news/local/2015/05/31/rainy-season-fertilizer-blackout-periods-kick-monday/28181195/*

*Related articles: http://www.mysuncoast.com/news/local/suncoast-fertilizer-ban-inconvenient-but-effective/article_61816e3e-0651-11e5-94f7-8fffb13bb602.html https://www.google.com/url?rct=j&sa=t&url=http://www.wtsp.com/story/news/local/2015/06/01/fertilzer-ban-june-1-september-30/28320395/&ct=ga&cd=CAEYACoUMTEwODY1ODczNjYwMDM4MjU3ODAyGmYyMGI5NzljMmM2YWVmMmU6Y29tOmVuOlVT&usg=AFQjCNFJT9qAQkVHBsnUBpRaOb7-q5iYTA*

## CONFERENCES

### *52nd Australian Marine Science Association Conference (AMSA 2015), Estuaries to Oceans (Geelong, July 5-9 2015)*

From the upper reaches of urban estuaries to the remote seas of the Southern ocean, marine science enables us to understand, conserve and sustainably manage our marine world. The focus of the 2015 AMSA conference, “Estuaries to Oceans” encompasses the importance of transitions, boundaries and connectivity in the dynamics of marine systems. ‘There are some exciting changes to the format of this year’s conference with the introduction of E-poster talks and a more focused approach to themes and symposia. See the program overview and presentations sections for more details.

The conference will be held on the shores of Port Phillip Bay, at Deakin University’s Waterfront campus in the central business district of Geelong. Originally built as woolstores in 1893, the buildings have been extensively renovated to create a modern and impressive campus centre. Geelong is Victoria’s largest regional city and is the gateway to the Great Ocean Road, beautiful surf beaches and an amazing wine region.’

THEMES:

- Applications of Integrated Model-observing Systems
- Behaviour, Movement and Tracking of Marine Megafauna
- Estuarine and Coastal Biogeochemistry

Estuarine Ecosystems
Marine biogeography: origins, connectivity and macro-ecology of the austral biota
Marine Contamination
Mathematical Modelling of Marine Systems and Beyond
New Approaches to Marine Production
Non-indigenous and Invasive species: what have we learned?
Population Connectivity: the ecology of larval dispersal and movement in marine environments
Using Monitoring to Map the Marine World
Valuing Marine and Coastal Ecosystem Services
Marine and coastal ecosystems play a fundamental role in providing a wide range of benefits to sustainable human wellbeing, to the
Open Theme (for contributions that do not fit named themes)

SYMPOSIA:
Are Marine Sanctuary Zones in Australia Adequate?
Marine Wastewater Outfalls in the 21st Century: still a solution or just dilution
Monitoring, evaluation and reporting on the health of Australia's marine environment: innovative ideas to progress current approaches
Marine habitat repair and restoration

*for more information, visit http://www.amsaconference.net/*

## *Coastal & Estuarine Research Federation 23rd Biennial Conference (CERF2015) (Portland, Oregon, USA, 8-12 November 2015)*

Theme: Grand Challenges in Estuarine and Coastal Science: Securing our Future

The CERF 2015 scientific program offers four days of timely, exciting and diverse information on a vast array of estuarine and coastal subjects. Presentations will examine new findings within CERF's traditional scientific, education and management disciplines and encourage interaction among coastal and estuarine scientists and managers. Additionally, the Scientific Program Committee plans to convene special sessions and workshops that promote intellectually stimulating discussions of the Grand Challenges in Coastal and Estuarine Science:

Managing and mitigating the risks of climate change – *shifts in precipitation and hydrologic patterns; wetland and species migrations; sea level rise; drought and water scarcity; severe storms, etc.*
Synergistic effects of ocean acidification with hypoxia, eutrophication or other conditions – *synthesis of information (e.g., from 2013 CERF) with new research results and methods for mitigating effects*
Polar estuaries and coasts – *physical oceanography, ice cover, biogeochemical interactions and impacts to coastal ecosystems*
Making data work – *advancement, management and integration of modern datasets (observing, genomics, bioinformatics) and capabilities to yield predictive models and tools*
Cities by the sea – *scientific exploration of dense and growing populations, economies and the built environment on coastal ecosystems; success stories from green infrastructure*
Estuaries under threat – *environmental change and variability associated with population growth, resource acquisition and scarcity, war/conflict, biodiversity loss and interactions in the next 50 years*
Multiple uses – *managing multiple, conflicting uses of coastal resources across the natural and sociological continuum; integration, quantification and valuation of ecosystem goods and services*

CERF 2015 sessions will include oral, poster and combined oral/poster formats. Those making submissions should be prepared to either act as a convener or chair of the session/workshop they are proposing, or identify an appropriate chair.

*for more information, visit http://www.erf.org/cerf2015*

## *The 12th International Seagrass Biology Workshop (ISBW12) (Wales, 17-23 October 2016)*

Theme: Declining seagrasses in a changing world.

The International Seagrass Biology Workshop (ISBW) provides a good opportunity for the scientists working on various aspects of seagrass ecosystems to come together and discuss their latest findings. The ISBW12 will be held from 17-23 October 2016 at Nant Gwytheyrn, Gwynedd, Wales, organized by Project Seagrass and the Seagrass Ecosystems Research Group The conference email address is ISBW2016@projectseagrass.org.

*for more information, visit http://isbw12.org/*

# GALLERY

**Townsville (QLD, Australia): 11 - 15 June 2015** http://www.seagrasswatch.org/gallery.html

Jerona: 11 June 2015
Magnetic Island: 12 June 2015
Shelley Beach: 13 June 2015
Bushland Beach: 15 June 2015

**Noosa (QLD, Australia): 18 April - 15 May 2015** http://www.seagrasswatch.org/gallery.html

# SEAGRASS-WATCH on YouTube

***Seagrass: Pastures of the sea*** *http://www.youtube.com/watch?v=66Y5vgswj20* or *http://www.seagrasswatch.org/seagrass.html*

Presentation on what seagrasses are and why they are important (over 37,877 views to date)

# …seagrass matters blog

***World Seagrass Association blog*** http://wsa.seagrassonline.org/blog/

Keep up to date on what's happening around the world from the WSA with regular updates from WSA President Dr Richard Unsworth and *notes from the field* by Siti Yaakub.

# FROM HQ

***Past E-bulletins*** *http://www.seagrasswatch.org/publications.html#ebulletin*
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***Seagrass-Watch Magazine*** *http://www.seagrasswatch.org/magazine.html*
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