



31 October 2013

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NEWS

Sulfur points the way to seagrass health (Aust)

27 October 2013, Science Network Western Australia

A new technique for assessing seagrass health in the Swan and Canning Rivers has been developed by West Australian and Danish researchers. The Department of Water, in collaboration with Southern Denmark University, completed a study and found sulfur was a good indicator of seagrass stress.

Six sites were chosen to cover a range of habitats across seagrass distribution in the Swan-Canning estuary, including those more influenced by riverine water and others closer to the marine end. It is believed the total area of seagrass in these two rivers has diminished since the 1980s. "Understanding the health of seagrass is a complex matter," Dr Kierny Kilminster, from the DoW's water science division, says. Dr Kilminster says it is already known that seagrasses need good light conditions to thrive but the study has also highlighted the importance of sediment condition. "Seagrasses are often exposed to sulfide from the sediment—and sulfide is toxic to plants—but their ability to cope with this stress has not been well understood," she says. "The new technique links the growth response of the seagrass with a way to measure how much sulfide has entered the plant.

Dr Kilminster says the amount of nutrients entering the estuary has reduced either through catchment management actions or reduced rainfall—but the estuary sediments have become increasingly organic-rich and these are conditions that promote sulfide generation. She says management of the Swan-Canning estuary in recent decades has focused on inorganic nutrient reduction, such as fertilisers, but this study highlights we also need to be concerned about organic matter including manure.

[more..... http://www.seagrasswatch.org/news.html](http://www.seagrasswatch.org/news.html)

Seagrass researcher lauded as environment champion (Singapore)

27 October 2013, Straits Times

Ms Siti Maryam's passion for seagrass has drawn ridicule on many occasions from those who've met her but yesterday, she was among 10 role models cited at the Clean and Green Campaign for their efforts to preserve the environment. For the past six years, the marine biologist has been leading a team of 200 volunteers on monthly trips to Pulau Semakau and Chek Jawa to track the health of seagrass meadows. "If you like your seafood - your prawns and your crabs - you have to like seagrass.

It is where they hatch their young," the 32-year-old said. Seagrass meadows are declining world-wide, the National University of Singapore doctorate student said, and the risk of them disappearing in Singapore is "quite high". The greatest challenge she faces is convincing people about the importance of seagrass. It is vital to having a vibrant marine ecosystem. Without a healthy level of seagrass, sea creatures with shells - prawns and crabs - will not have a suitable habitat to reproduce. Her team of volunteers includes students and working adults, and they submit their findings to the National Parks Board.

But why pick seagrass for her research? She said: "If coral reefs are the stars of the marine world, the seagrass is the one at the back, making everything look good."

[more..... http://www.seagrasswatch.org/news.html](http://www.seagrasswatch.org/news.html)

Phu Quoc moves to protect endangered 'sea cow' (VietNam)

09 October 2013, VietNamNet Bridge

The animal protection organisation Wildlife At Risk (WAR) and the Phu Quoc Island Preservation Zone together launched a campaign in the island district on October 6, calling for the protection of Dugongs and other rare marine animals in danger of extinction. Hundreds of provincial leaders, students, local people and tourists joined the event, during which they learned about the animal, the threats it faces in Vietnam and the urgent protection measures needed to keep it safe.

The participants signed pledges voicing their commitment to protecting the Dugong and other endangered animals while marching around the district to spread the message among the public. WAR Director Nguyen Vu Khoi said the activity is part of a project on the protection of Dugong and bio-diversification in Phu Quoc Island during the 2013-2015 period.

Dugongs are thought to live for up to 70 years. Adults can grow to 3 metres in length and weigh up to 450 kilograms. They are hunted for food, oil, traditional medicine and jewelry, and listed globally as vulnerable to extinction. The Red Book of Vietnam has also put the Dugong on the list of "critically endangered" animals as the population is less than 100 around both Phu Quoc and Con Dao islands.

[more..... http://www.seagrasswatch.org/news.html](http://www.seagrasswatch.org/news.html)

Study of marine mammal, dugong, set to start in Gulf of Mannar (India)

08 Oct 2013, Times of India

The state forest department will soon undertake a study on the population of marine mammal, dugong, at the Gulf of Mannar Marine National Park (GOMMNP). The project will commence probably late this month under the Tamil Nadu Biodiversity and Greening Project (TNBGP), forest officials said. The study will look into the dugong population and the seagrass beds where the marine animal is concentrated.

The marine park, with its 21 uninhabited islets, is a protected area in the Gulf of Mannar stretching from Dhanushkodi to Tuticorin. Deepak S Bilgi, the wildlife warden of the park, said the study will be undertaken for six months and one

research organisation will be involved in it. On the objective of the study, Bilgi said the department will come out with conservation measures of dugongs based on the study findings. "We will work on improving their habitat, the seagrass beds, and carry out conservation activities to increase their population," he said.

The previous study carried out at the park in 2007 estimated the dugong population at around 150. Though the animal has no threat from marine predators, they suffer external threat in the form of human intervention. They face habitat loss due to extensive fishing. The bottom trawling method carried out by fishermen in the region is a serious threat to dugongs as it adversely affects the growth of seagrass. In bottom trawling, nets are dropped to the seabed, leading to the destruction of the fauna and the seagrass which the dugongs feed.

more..... <http://www.seagrasswatch.org/news.html>

Dugong activity unlikely to sway Futenma plans (Japan)

07 October 2013, Stars and Stripes

It's unclear if recent evidence of endangered dugong activity would add fresh ammunition to a debate over allowing Marine Corps runways to be built in an Okinawa bay, according to the island's prefectural government. The Japan Ministry of Defense confirmed this week the protected marine mammals were eating seagrass in Oura Bay last year, but that information was not included in the findings in a landmark environmental assessment of the runways filed with Okinawa prefecture in December.

Okinawa has been weighing the ministry assessment for months and is expected to make a decision this winter on whether to allow Tokyo to fill a section of the bay for the new U.S. air facility, which will expand Camp Schwab and create a replacement for controversial Marine Corps Air Station Futenma. The Futenma move to Oura Bay has long been part of U.S.-Japan plans to realign forces in the Pacific, though the relocation has been stalled for years due to local opposition.

A ministry survey showing dugongs grazed on seagrass in the bay between April and June of 2012 was released following a records request by Japanese media and was confirmed by Stars and Stripes. Okinawa Gov. Hirokazu Nakaima declined to comment this week on whether the survey may affect his decision on Tokyo's application to reclaim land for the runways. But a spokesman said his office had already been considering the dugong activity recorded by the Ministry of Defense in and around Oura Bay in recent years.

A 7,000-page environmental study compiled by the Ministry of Defense and delivered to Okinawa last year was applauded by the United States as progress toward the Futenma move. It found that three dugongs were spotted in the area in recent years but sparse evidence of activity in Oura Bay where the runways will be located. Overall, the ministry reported that the runway fill project could be done without significant harm to the coastal environment, including the slow-moving mammals and their habitat in the bay. A panel of Okinawa scientists and experts that advises Gov. Nakaima disputed that claim last year, saying the runway construction could cause irreparable harm to many animals and plants in the area. The ministry assessment given to Okinawa will not be reconsidered, a Ministry of Defense spokesman told Stars and Stripes. Meanwhile, the ministry will continue dugong monitoring in Oura Bay and the surrounding coast.

more..... <http://www.seagrasswatch.org/news.html>

Dead dugong floats on to beach (Aus)

06 October 2013, The Satellite

A dugong that took up residence in the Mooloolaba bay has died and its body washed ashore. Lifeguards said the dugong was found wrapped in a shark net off Mooloolaba Beach but it is believed to have been sick and was dead before it became entangled. It was seen stranded in the net early yesterday morning and a fisherman reportedly cut the net to release its body.

Sunshine Coast life guard assistant supervisor, Trent Robinson, said the dugong had been swimming around the bay for several weeks. The animal washed ashore about 50m south of the Mooloolaba lifesavers' tower, where it attracted large crowds of onlookers throughout the afternoon.

more..... <http://www.seagrasswatch.org/news.html>

Scientists ponder Cockburn Sound's ecological mysteries (Aus)

01 October 2013, Science Network Western Australia

Little is known about the microbial ecology of Cockburn Sound – but researchers from the University of WA and Edith Cowan University are investigating its seagrass root and rhizome sediments and how the presence of seagrasses enhances microbial functions. UWA Indian Ocean Marine Research Centre research fellow Dr Bonnie Laverock is exploring how microbes contribute to both the success and productivity of seagrass seedlings and adult plants.

"I'm interested in carbon and nitrogen cycling microorganisms and how their processing of organic matter and inorganic nutrients, such as nitrate or nitrite, may affect seagrasses," she says. "I research microbes using molecular
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techniques with DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) to investigate the abundance and activity of specific microbial genes.

“Seagrasses are known to have closely associated communities of nitrogen-fixing bacteria in their root/rhizome systems – these bacteria ‘fix’ nitrogen gas, therefore making it biologically available for uptake by the seagrasses. “I’m also interested in the overall community structure of the bacteria and how it varies between seagrass beds and in comparison to bare sediments.” Working with colleagues, Dr Laverock aims to link these changes in community structure to differences in carbon mineralisation and nutrient fluxes inside and outside of seagrass beds to better understand microbial processes in seagrass meadows.

more..... <http://www.seagrasswatch.org/news.html>

Scientists Find 12-Million-Year-Old Fossils of Sea Cow (Aus)

02 October 2013, Sci-News.com

Paleontologists from Museum Victoria, Australia, and the Smithsonian Institution have rediscovered what they claim are the oldest sirenian fossils ever found in the Indo-Pacific region. The 12-million-year-old fossils – vertebrae and ribs – were discovered in the Selminum Tem cave in the Hindenburg Range, Western Province of Papua New Guinea, more than 30 years ago, but remained unstudied. “Until now, Australasia didn’t have a particularly ancient fossil record of sea cows, the group of marine mammals that includes our living dugongs,” said Dr Erich Fitzgerald from Museum Victoria, who with colleagues described the fossils in the *Journal of Vertebrate Paleontology*.

“The fossils provide a vital perspective on the relationship modern sea cows have with Australia’s northern marine ecosystems,” Dr Fitzgerald said. “Modern-day dugongs are major consumers of seagrass, and, by doing so, have a tremendous impact on the structure of the ecosystem. Previously, it was thought that sea cows were fairly new arrivals in Australasia, and that their relationship with sea-grass ecosystems here was a recent event.

This new evidence suggests sea cows have been an important component of Australasia’s marine ecosystems for at least 12 million years and that their role in the long-term health of these environments may be substantial. The Miocene sea cow fossils are also the earliest mammal recorded from the island of New Guinea.

more..... <http://www.seagrasswatch.org/news.html>

New technique helps biologists save the world's threatened seagrass meadows (Aus)

01 October 2013, Phys.Org

Danish and Australian biologists have developed a technique to determine if seagrass contain sulfur. If the seagrass contains sulfur, it is an indication that the seabed is stressed and that the water environment is threatened. The technique will help biologists all over the world in their effort to save the world's seagrass meadows.

"It cannot always be seen by the naked eye if a seagrass plant is thriving or not. Therefore, it is necessary to develop methods that reveal the health state of the plant and what causes the failure to thrive. Now we have such a technique", says professor Marianne Holmer from the Department of Biology at the University of Southern Denmark. For many years she has studied the ecology and biogeochemistry of seagrass in temperate and tropical ecosystems.

According to Marianne Holmer, biologists today have good knowledge of how light and water quality affect seagrasses, while it is more complicated to understand how sediment conditions affect seagrasses. Together with her colleague Kierny Kilminster from the Department of Water in Western Australia, she has now developed a technique that can detect whether the sediment conditions are a problem for the seagrasses. "We take a small piece of plant tissue from a seagrass and bring it back to the lab. Here we analyze it in a so-called mass spectrometer, and this shows us if the plant tissue contains sulfur. If we find sulfur in the plant tissue, it means that the plant has absorbed sulfide from the seabed, and this means that the seabed is not a healthy environment for the seagrass", explains Marianne Holmer.

more..... <http://www.seagrasswatch.org/news.html>

River waste water plan 'threatens reef' (Aus)

31 October 2013, The West Australian

Plans to let more mines release excess water into Queensland rivers will pose a threat to the Great Barrier Reef, the Greens say. Deputy Premier Jeff Seeney has told parliament he expects more mines to carry out the practice under a pilot program this wet season. He says discharges will only proceed under strict environmental conditions.

Coal mines will have to show they're improving how they manage mine water, and invest in systems to minimise its generation and capture. "They will have to make a substantial investment in this area to receive the benefits from increases in release opportunities," Mr Seeney said on Thursday. "We will expect a number of coal mines will be able to demonstrate that they can meet these performance benchmarks." Four coal mines in central Queensland were given permission to release legacy water into the Fitzroy and Isaac river catchments last wet season.

The expected expansion of the program has angered Greens Senator Larissa Waters. "This is Campbell Newman putting our waterways at risk to save the big mining companies a few dollars," she said in a statement. She said it was madness to allow waste water laden with salt and heavy metals to flow into waterways. "With many of our rivers flowing into the Great Barrier Reef, the Newman government is also jeopardising water quality of this World Heritage Area," she said. "The Newman government continues to ignore UNESCO's warning that the reef could be added to the list of World Heritage sites in danger within a year because it's being overrun by development." The state government says independent water monitoring from last wet season showed metal levels across the catchment were well below relevant water quality guidelines.

<http://au.news.yahoo.com/a/19620000/river-waste-water-plan-threatens-reef/>

Turtle conservation awareness successful (Fiji)

31 October 2013, Fiji Broadcasting Corporation

The World Wildlife Fund for Nature campaign to raise awareness about turtle conservation is proving effective. WWF Marine Species Coordinator Laitia Tamata says they're seeing positive results. "There have been a tremendous success in turtle conservation work, the communities themselves have begun to change their mindset and they are looking at turtle conservation in a different perspective rather than just enjoying it for now. They're able to input management so that there's some turtle left for the future."

WWF is working with relevant partners to save the turtle population. The project started in 2010 with only fifteen turtle monitors and today there are eighty turtle monitors. Tamata says some turtle monitors were turtle hunters themselves. "Turtle monitors have been trained on turtle biology, their life cycle, what can they do in terms of monitoring includes collecting data during nesting season, going out and spending a night or two on the beaches and just waiting for the female or the mother turtles to come and lay eggs." WWF has worked on ten different sites and now people in the Lomaiviti Group are interested in conserving turtles. The main goal is to influence the management of turtles in the country.

<http://www.fbc.com.fj/fiji/14964/turtle-conservation-awareness-successful>

Florida manatees dying at record pace (USA)

30 October 2013, USA TODAY

Toxic, oxygen-depleting algae blooms are killing manatees at a record-breaking pace this year in Florida, biologists say. Through Tuesday, 769 endangered sea cows have died so far this year across the Sunshine State, the Save the Manatee Club reported. That constitutes Florida's largest annual manatee die-off since record-keeping began, with two more months left to go. The previous record of 766 documented dead manatees was set in 2010. That's when hundreds succumbed to cold stress during an unusually chilly winter and spring, Florida Fish and Wildlife Conservation Commission biologists determined.

"Here we are, just a few years later. And now we've broken that record, which we thought probably would never be broken," said Patrick Rose, Save the Manatee Club executive director. "With two really bad years, we're quite concerned about where we are with the population, and what needs to be done to protect it going forward," Rose said. Two "unusual mortality events" are prime contributors to this year's unprecedented losses, said Katie Tripp, Save the Manatee Club's director of science and conservation. One is a toxic red-tide bloom that killed 276 manatees this winter and spring in southwest Florida. The poisonous bloom was centered in the Fort Myers-Cape Coral region. The other event is the still-unexplained Indian River Lagoon die-off that has claimed more than 100 manatees.

One precursor was a massive 2011 algae "superbloom" that killed 47,000 acres of lagoon seagrass — the manatees' primary food source. Consecutive cold winters and extended drought, coupled with a decades-long buildup of nitrogen and other contaminants, may have shocked the ecosystem into one dominated by algae, rather than seagrass.

<http://www.usatoday.com/story/news/nation/2013/10/30/florida-manatees-dying-at-record-pace/3318113/>

Minister delays decision on Abbot Point dredging proposal (Aus)

25 October 2013, The Queensland Times

The Federal Environment Minister has delayed any decision on the Abbot Point 3 million tonne dredging proposal until December 13 this year. A document filed by the Environment Department showed a decision, which was not announced at the time, was officially made on Monday. The decision was made the same day Mr Hunt also deferred a decision on the Arrow Energy LNG plant at Gladstone, and the future of both projects may not be decided until mid-December.

Mr Hunt said in a statement the delay would give him time to consider the state government's recently-released ports strategy and the Great Barrier Reef strategic assessment. It is understood the minister will also visit Queensland in the near future, with stops at Gladstone and Mackay likely to be included. He said despite the additional delay to both decisions, the government has "moved to speed up the process", and promised the decision would be made "in line with the environmental law".

While environmentalists have welcomed the delay, they have again called on the minister to completely rule out both proposals, amid fears of the potential effects on the Great Barrier Reef. WWF Australia spokesman Richard Leck said the decision was a sign Mr Hunt was "prepared to fully consider the implications for the reef". But he said the delay gave Mr Hunt a chance to rule Abbot Point out altogether, following the release of scientific reports showing the impacts of dredging could be more far-reaching than thought only six months ago.

<http://www.qt.com.au/news/minister-delays-decision-abbot-point-dredging-prop/2062639/>

Time Running Out To Comment On Draft Seagrass Management Plan At Everglades National Park (USA)

23 October 2013, National Parks Traveler

With hopes of reducing damage caused to seagrass beds in Florida Bay, officials at Everglades National Park have crafted a management plan that strives to reduce prop scarring of the beds while also restoring damaged beds. The preferred approach under the plan is to create "a formal, comprehensive seagrass restoration program for Florida Bay, in conjunction with the proposed establishment of pole and troll zones in shallow areas to aid in reducing prop scarring and vessel groundings." The end goal is to create an adaptive restoration plan "for assessing, restoring, and monitoring vessel-induced damages to seagrasses."

Now, one of the interesting aspects of creating this plan is that Florida Bay is within the Marjory Stoneman Douglas Wilderness Area. As such, it is to be managed to preserve wilderness character. And, in that spirit, motorized boats could in theory be banned from entering the bay's waters that fall within this wilderness area. However, when the wilderness legislation was drafted in 1978, it specifically "recognized that motor boat use in some capacity would be part of the uses of Florida Bay and other marine waters given its vast size, traditional uses and related factors when it established only the bay bottom as wilderness," Fred Herling, the park's supervisory park planner, explained in an email. "The legislation left the surface and water column as non-wilderness."

Nevertheless, under the draft plan park officials are aiming to reduce impacts from props by creating "pole and troll" areas in the bay, where boaters are expected to turn off their boat's engines and use poles, paddles, or electric trolling motors to move about. Under the plan, roughly 131,400 acres, or one-third of Florida Bay, would be designated as pole-and-troll areas.

<http://www.nationalparkstraveler.com/2013/10/time-running-out-comment-draft-seagrass-management-plan-everglades-national-park24139>

Manatees make their home year round in Indian River County (USA)

23 October 2013, TCPalm

Some people love them. Some people despise them. Whatever side you are on, the manatee, an air breathing aquatic mammal that is genetically related to the elephant, is a unique feature of Florida's waterways. Due to a lack of insulating body fat and a low metabolic rate, the manatee is not able to tolerate water temperatures below 68 degrees. As a result, during the wintertime, manatees need to stay near bodies of warm water, either in springs or near outflows of warm water at power generation plants. When water temperatures heat up in the summer, their range extends along the coast in the Gulf of Mexico as far west as Texas and north in the Atlantic Ocean to Massachusetts.

Manatees are herbivores (they love to eat plants!) and will eat 10 percent of their body weight each day. In the Indian River Lagoon, manatees graze on seagrass and algae. Under good conditions with plenty of clear water and low nutrient levels, seagrasses thrive and algae blooms are not rampant. But, according to scientists such as Brian Lapointe at Florida Atlantic University's Harbor Branch Oceanographic Institute, high nutrient levels possibly attributed to leaching from septic tanks have caused massive algae blooms that block sunlight and create devastating conditions for seagrass. In the last few years, the northern part of the Indian River Lagoon, America's most diverse estuary, has lost 47,000 acres of seagrass. As a result, manatees have resorted to eating gracilaria, a red macroalgae that is normally not toxic. Close to 300 manatees have died so far this year in the northern Indian River Lagoon. This is possibly related to eating large amounts of gracilaria rather than their normal diet of seagrass.

Since manatees are endangered, every county where they are found has a manatee protection plan. According to Indian River County's plan, the goal is to equitably balance manatee protection, habitat preservation and boating safety with commercial and recreational marine interests. The Florida Fish and Wildlife Conservation Commission, along with other organizations, monitor the manatee population throughout the state. To estimate the overall population numbers, aerial surveys, called synoptic surveys, are conducted during the coldest winter weather (December through March). Manatees congregate near known warm-water sites, such as natural springs, power plants and deep canals, when water temperatures decline lower than 68 degrees. Warmer than usual conditions in 2012 and 2013 were not conducive to synoptic surveys. Although manatees are found in Indian River County year-round, now that the weather will be cooling off, those that migrated north during the summer will make their way back into the Vero Beach area.

<http://www.tcpalm.com/news/2013/oct/23/manatees-make-their-home-year-round-in-county/>

Newly-released report blames dredging for harbour woes (Aus)

19 October 2013, Gladstone Observer

Queensland's seafood industry says serious questions have been left unanswered by a water quality report, released last week, which blamed highly turbid water on dredging activities in Gladstone Harbour. The WBDDO Water Quality: September and October 2011 report found that highly turbid waters during September and October 2011 occurred as a result of holes in the bund wall and dredge-related operations. It also found several potential harmful algal species, which had previously been associated with fish kills, although the findings showed the algae was present before the Al Mahaar dredge began.

The Queensland Seafood Industry Association has questioned the timing and non-release of reports that it says would have changed the outcome of the Independent Review of the Port of Gladstone. The QSIA responded to the report on fish and human health problems through a submission published in its latest industry magazine. The report said it considered the high levels of heavy metals found in turtles in the area difficult to interpret, as there was no baseline for comparison. The QSIA has questioned what baseline study supported the review's statement that it "was likely that the floods and the over-crowding were the predominant cause".

A response from the Gladstone Ports Corporation said the report was specially commissioned after higher turbidity readings were recorded due to extreme tidal movements, high winds and the porosity of the bund wall. The Gladstone Ports Corporation says it has always acknowledged that dredging contributes to localised increases in turbidity. Despite the increases, it says many independent reports have found that dredging in Gladstone harbour was not responsible for fish deaths or heavy metals. "Additionally, the impact of any increase in turbidity will first affect seagrass - hence the loss of seagrass in the 2010/2011 floods," GPC said. "Scientific data indicates that seagrass continues to recover since those floods even though dredging was taking place. "A recent independent study conducted by James Cook University found that Gladstone Harbour is one of the few locations along the developed Queensland coast where seagrasses have shown good recovery."

<http://www.gladstoneobserver.com.au/news/fishers-probe-report-validity/2056831/>

Herbicide runoff reduced to Great Barrier Reef (QLD, Australia)

16 October 2013, Phys.org

An innovative new approach to sugarcane plantation weed management trialled in select Great Barrier Reef (GBR) catchments has shown a 90 per cent reduction in runoff of highly soluble herbicides into waterways. In the lower Burdekin region of northern Australia, scientists from CSIRO's Water for a Healthy Country Flagship trialled a new technique for applying herbicides to raised beds of furrow irrigated sugar cane by using a specially adapted shielded sprayer. The technique minimises the likelihood of herbicides such as diuron, atrazine, ametryn and hexazinone coming into contact with irrigation water.

Many of the herbicides used in the region are PSII herbicides that are known to negatively impact reef ecosystems. These waters discharge into the internationally recognised Great Barrier Reef World Heritage Area and subsequently into the Great Barrier Reef Marine Park. Improved farming techniques such as the shielded sprayer help keep herbicides on-farm have potential to have a significant and positive impact on water quality in the GBR. "The conventional application of herbicides in furrow-irrigated sugarcane production is to broadcast spray across the whole field using boom sprayers, which applies herbicides to both beds and furrows. Irrigation water then carries the herbicides with the tail water into the drainage channels, into nearby creeks and rivers and potentially into the GBR lagoon," CSIRO research leader, Dr Rai Kookana said. "These trial results are extremely encouraging, and clearly demonstrate that the use of precision herbicide application technologies by the industry, including using shielded sprayers for furrow-irrigated sugarcane cultivation, can be highly effective in reducing herbicide run-off."

CSIRO scientist Danni Oliver said the geography of the region meant that almost the entire flow from the Burdekin River Irrigation Area in the dry season (from July to January) was made up exclusively of irrigation water from sugarcane and other cropping. According to Jon Brodie of James Cook University the amount of some herbicides in creek and estuarine waters during this period regularly exceeds Australian water quality guidelines and could potentially affect, for example, coastal seagrass.

<http://phys.org/news/2013-10-herbicide-runoff-great-barrier-reef.html>

TCEC continues efforts to protect sea turtles (Indonesia)

14 October 2013, Jakarta Post

Serangan is renowned as home to Pura Sakenan, one of Bali's sacred temples, but most of all, it is known for its sea turtles. Sea turtles, categorized as an endangered species, have long been regarded as a sensitive issue in Bali. The decrease in population has caused the animal to be put under heavy legal protection. In Bali, people used to consume the meat as a daily meal, but more importantly, it was used in religious offerings. Serangan was notorious as the island's biggest black market for turtle meat and other turtle products, with around 30,000 turtles captured every year in illegal trading.

The massive hunt for turtles and the elaborate illegal trade in turtles and turtle meat drew severe criticism from the local community, as well as international environmentalists. Around ten residents of Serangan decided to take action against this illicit trade and the hunt for turtles. Supported by then Bali Governor Dewa Made Berata, the group established the Turtle Conservation and Education Center (TCEC) in 2006 as part of a comprehensive strategy to eradicate turtle trading on the island.

Located on a 2.4 hectare plot with a green garden and a large pond and tanks for turtles, the center is a safe place to protect and breed turtles. Made Karsa, secretary of TCEC, said that in addition to breeding and protecting turtles, the center was also used for exhibitions and education. In the following year, around 7,800 eggs were saved. While until mid-October this year, the number of eggs saved by the center had reached 9,300. The number of baby turtles released in 2012 was 5,650, while by mid-October around 5,480 baby turtles had been released into the sea.

<http://www.thejakartapost.com/news/2013/10/14/tcec-continues-efforts-protect-sea-turtles.html>

Aust-designed boat mooring invention helps save south-east Qld's dugongs (Aus)

11 October 2013, Yahoo!7 News

An Australian invention is dramatically improving the marine health of one of Queensland's busiest waterways, Moreton Bay. Newly-designed boat moorings are protecting endangered seagrass habitats, bringing native marine animals like dugongs back in herds. Moreton Bay is home to the largest population of dugongs living near an urban centre but about 15 per cent of their food source in the bay has been scratched away from boat chain moorings. That is similar to an area roughly the size of 90 football fields.

The invention by Des Maslen, a boatie from New South Wales, won a top award on ABC's The New Inventors program in 2007 for developing an environmentally friendly boat mooring device. The mooring works by replacing mooring chains with a floating plastic rope, connected to a floating suspension buoy. A series of the new devices were installed at more than 100 sites in Moreton Bay last year, thanks to about \$450,000 in federal funding and about \$50,000 from the Queensland Government. That is allowing sea-grass to grow back across an area of about 120 hectares.

About a fifth of boats moored in seagrass habitats in the bay are using the new devices. Environmental groups are now trying to source the money to install the remaining 400 moorings in seagrass zones at a cost of about \$2 million.

<http://au.news.yahoo.com/thewest/a/-/newshome/19348546/aust-designed-boat-mooring-invention-helps-save-south-east-qlds-dugongs/>

Port of Brisbane water quality monitored by BMT WBM (QLD, Australia)

6 October 2013, by Marissa Calligeros, Brisbane Times

Brisbane-based environmental consultants BMT WBM will be responsible for monitoring the Port of Brisbane for the next six years, after securing a competitive tender. The company will assess the health of plant and animal habitats around the port, particularly the western foreshore of Moreton Bay.

The consultancy has been charged with monitoring water quality and the health of mangroves, seagrass and seawall flora and fauna, as well as assessing the impact of dredging at the port. Managing director Tony McAlister said the consultancy was committed to a "robust" environmental monitoring program.

Located on Fisherman Islands at the mouth of the Brisbane River, the Port of Brisbane is Australia's fastest growing multi-cargo port. It handles more than \$50 billion in annual trade – equivalent to about 20 per cent of Queensland's gross state product.

<http://www.brisbanetimes.com.au/queensland/port-of-brisbane-water-quality-monitored-by-bmt-wbm-20131016-2vltm.html>

GALLERY

Broome, WA (Australia): 19 - 20 October 2013 <http://www.seagrasswatch.org/gallery.html>

DPaW Office: 19 -20 October 2013

Demco: 21 October 2013

Port: 22 October 2013

CONFERENCES

CERF 2013 Conference (San Diego, California, 3-7 November 2013)

22nd Biennial Conference of the Coastal and Estuarine Research Federation
Toward Resilient Coasts and Estuaries, Science for Sustainable Solutions.

CERF advances understanding and wise stewardship of estuarine and coastal ecosystems worldwide. Its mission is to: Promote research in estuarine and coastal ecosystems, Support education of scientists, decision-makers and the public, and Facilitate communication among these groups. The 2013 scientific program offers four days of timely, exciting and diverse information on a vast array of estuarine and coastal subjects. Presentations will include discoveries and synthesis on the adaptive dynamics of coastal and estuarine ecosystems and human societies. Participants will explore how these dynamics and adaptations can be understood and managed at regional and global scales. CERF will convene about 1,600 Scientists, Managers and professionals in government, business, nonprofit and related organizations, and Graduate students. From North America's coastal states and provinces, as well as from more than 20 countries around the world, CERF conference attendees are scientists and managers who conduct research and observe/manage change within a variety of global coastal and estuarine habitats.

Topical sessions http://www.sgmeet.com/cerf2013/topical_sessions.asp :

SCI-041 Resilience in Coastal Ecosystems, Part 1: Impact of Stressors on Resilience, Stability, and Recovery in Communities Dominated by Seagrass or Benthic Algae
Convened by: Benjamin Fertig and Jessie Jarvis

SCI-042 Resilience in Coastal Ecosystems, Part 2: Evaluating and Conserving Resilience in Indo-Pacific Coastal Marine Habitats
Convened by: Robert Coles, Len McKenzie, and Michael Rasheed

SCI-043 Resilience in Coastal Ecosystems, Part 3: Resiliency of Coastal and Marine Ecosystems and the Services they Provide
Convened by: David Yoskowitz and Jim Morris

Please visit the conference & workshop web site for further details: <http://www.erf.org/cerf2013>

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 31,022 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 Giuseppe Di Carlo and notes from the field by Siti Yaakub.

FROM HQ

Past E-bulletins <http://www.seagrasswatch.org/publications.html#ebulletin>

Frequently Asked Questions <http://www.seagrasswatch.org/faq.html>

Seagrass-Watch Magazine <http://www.seagrasswatch.org/magazine.html>

Seagrass-Watch Shop <http://www.seagrasswatch.org/shop.html>

Virtual Herbarium <http://www.seagrasswatch.org/herbarium.html>

Giveaways <http://www.seagrasswatch.org/shop.html#GIVE1>

Future sampling dates <http://www.seagrasswatch.org/sampling.html>

Handy Seagrass Links <http://www.seagrasswatch.org/links.html>

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Seagrass-Watch E- Bulletin is compiled by Len McKenzie & Rudi Yoshida.