30 September 2015

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IN THIS BULLETIN

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NEWS

Scientists Say Indonesia Seagrass Meadows Degradation Threatens Food Security (Indonesia)

01 September 2015, Jakarta Globe

A team of British scientists is launching a project this week that will investigate the condition of seagrass meadows off the coasts of Indonesia's South Sulawesi province – amid growing concerns over losses of the important marine ecosystem across the archipelago.

Richard Unsworth, a marine biologist from Britain's Swansea University and the leader of the project, said that seagrass meadows were as important as mangrove forests and coral reefs were to marine life and food security. Unsworth says these meadows provide an important nursery ground for many species of commercial fish and sea invertebrates. Previous reports suggest that over 600 species of fish in Southeast Asia utilize seagrass meadows at some point during their life. Unsworth cited the findings of his team's previous study at Southeast Sulawesi's Wakatobi island. The study found that seagrasses there provided a habitat for at least 70 percent of the fish species caught for consumption in the area.

But while no study has been dedicated to examine the condition of seagrass meadows across Indonesia, reports of sightings – or lack thereof – by fishermen in many coastal areas in the archipelago suggest alarming losses of the important marine ecosystem. Unsworth said it looked like only seagrasses in very remote locations in the country were in very healthy condition. He said climate change was known to have long-term impacts on seagrasses, “but we need to understand the factors that are driving and disturbing seagrasses at a smaller scale. Because that's really important in terms of understanding how resilient they will be into the future.” Unsworth and his team recently published a research article in an international journal called Marine Pollution Bulletin – which explains how seagrasses need to be made more resilient.

The project to be launched this week, meanwhile, is taking place off Selayar island and in the Spermonde archipelago in the neighboring province of South Sulawesi, and is targeted to last two or three years. Unsworth said the new study was seeking to examine wider links between seagrass meadows and food security.
more…….. http://www.seagrasswatch.org/news.html

Biofluorescent sea turtle which glows red and green discovered off Solomon Islands (Solomon Islands)

30 September 2015, Metro
Scientists have discovered a glowing sea turtle and it’s utterly glorious. The team were filming a piece on biofluorescence in coral and small sharks off the coast of the Solomon Islands, when they stumbled upon a neon glowing sea turtle. Due to the fact that it can’t be seen by the naked human eye, scientists only discovered biofluorescence in marine life relatively recently; but David Gruber explained that since making the discovery, they’ve started to find it ‘everywhere’.

But while the phenomenon was already known to exist in various types of marine life, the hawksbill turtle is the very first reptile known to be biofluorescent. Talking about the discovery, David Gruber explained that they now have a lot of work to do to work out exactly how the turtles use their biofluorescence. However he went on to add that further research is going to be tricky due to dwindling numbers of sea turtles.
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Researchers monitor seagrass in Caloosahatchee (USA)

29 September 2015, The News-Press
The scientists couldn't see their feet in the meter-deep water of the Caloosahatchee River last week — tannins from freshwater runoff had turned the river a deep reddish brown. But Mark Thompson and Rick Bartleson of the Sanibel-Captiva Conservation Foundation Marine Laboratory had a job to do: Go underwater with masks and snorkels and document the density of shoal grass (*Halodule*) on the river bottom near Iona.

In a study dating back to 2004, marine lab researchers are looking at the effects of high freshwater flows on the river's seagrass species (shoal grass, turtle grass and manatee grass). During the dry season, little rain falls, so little fresh water is added to the flow of the Caloosahatchee; during the wet season, rain falling on the Caloosahatchee watershed between the mouth of the river and Lake Okeechobee runs into the river, lowering salinity the estuary. As Okeechobee fills during the rainy season, water managers release fresh water down the river to prevent flooding in the communities surrounding the lake. If freshwater runoff and releases make the river too fresh, seagrasses can die, and if high flows turn water dark, seagrasses can die from lack of sunlight.

SCCF monitors seagrasses at six sites from Iona to Tarpon Bay and two control sites near Demere Key in Pine Island Sound that are not significantly influenced by the Caloosahatchee. This summer, releases from Lake Okeechobee have been low, but heavy rains in September caused runoff that lowered salinity and turned the water dark.

Despite 2013 seagrass losses in the river, densities were back up at the beginning of this summer because freshwater flows the past two years have been low. Ultimately, SCCF seagrass data could help water managers make decisions about discharges from Lake Okeechobee, research scientist Rick Bartleson said.
more…….. http://www.seagrasswatch.org/news.html

Ocean predators can help reset our planet's thermostat

29 September 2015, The Conversation

For a long time we've known that changes to the structure of food webs – particularly due to loss of top predators – can alter ecosystem function. This happens most notably in situations where loss of predators at the top of the food chain releases organisms lower in the food chain from top-down regulatory control. This is known as "trophic downgrading". With the loss of some 90% of the ocean's top predators, trophic downgrading has become all too common. This upsets ecosystems, but in our article we also report its effects on the capacity of the oceans to trap and store carbon.

This can occur in multiple ecosystems, with the most striking examples in the coastal zone. This is where the majority of the ocean's carbon is stored, within seagrass, saltmarsh and mangrove ecosystems – commonly known as "blue carbon" ecosystems. When predators such as sharks and other large fish are removed from blue carbon ecosystems, resulting increases in plant-eating organisms can destroy the capacity of blue carbon habitats to sequester carbon. For example, in seagrass meadows of Bermuda and Indonesia, less predation on herbivores has resulted in spectacular losses of vegetation, with removal of 90–100% of the above-ground vegetation. Such losses of vegetation can also destabilise carbon that has been buried and accumulated over millions of years. For example, a 1.5-square-kilometre die-off of saltmarsh in Cape Cod, Massachusetts, caused by recreational overharvesting of predatory fish and crabs, freed around 248,000 tonnes of below-ground carbon.

Stronger conservation efforts and modification of fishing regulations can help restore marine predator populations, and thereby help maintain the important indirect role that predators play in climate change mitigation. It's about restoring balance so that we have, for example, healthy and natural numbers of both sea turtles and sharks. Policy and management need to reflect this important realisation as a matter of urgency. More than 100 million sharks may be killed in fisheries each year, but if we can grant these predators great protection they may just help to save us in return.

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Indian River Lagoon improving (USA)

25 September 2015, Bay News 9

Scientists at the Florida Institute of Technology say water quality is improving after years of dead dolphins, manatees and fish washing ashore. "They've seen some of the seagrass rebounding, but there's definitely still work to be done," said Robert Weaver, assistant professor of ocean engineering at Florida Tech. Scientists, researchers, engineers and residents will look at how to improve the health of the ecologically and economically important estuary in Brevard County, at its first ever Indian River Lagoon Research Institute Technical Conference, which takes place Friday and Saturday.

Engineers are working to remove muck from the Indian River in an effort to help the seagrass grow. Muck and nutrients have hampered the growth of seagrass, which is a main food source for marine life. Another option that will be discussed at the conference is using a pipe to flush ocean water into the lagoon near Port Canaveral. Another way to reduce nutrients from the lagoon is a rainy season ban on fertilizer use. Currently, all Space Coast county and city governments have banned the use of nutrient-harmful fertilizers during the rainy season.

Scientists said reintroducing oysters into the lagoon can help filter the water. Brevard Zoo officials will be distributing tiny baby oysters to homeowners along the lagoon Friday and Saturday to help grow the oyster population.

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

Scientists find turtles on Great Barrier Reef are absorbing a cocktail of chemicals (Australia)

24 September 2015, NEWS.com.au

Scientists trying to work out why more than 100 green turtles died in June and July 2012 at Upstart Bay near Ayr, took blood samples from 1131 animals, finding a range of chemicals associated with industry and agriculture. They included cobalt, molybdenum and antimony and high levels of stress-related compounds that often are a sign of chemical exposure. University of Queensland scientists think a combination of chemicals rather than one particular substance might be impacting the creatures.

These findings go to the heart of a five-year conservation campaign for better Reef care, which has argued that flows from farms, mines, industry and urban areas must be cut. Turtles were also surveyed in the relatively pristine Howick Group of Islands as well as Upstart and Cleveland bays. University of Queensland Associate Professor Caroline Gaus said tests indicated turtles from Upstart Bay also had signs of systemic stress with markedly higher inflammatory responses.

The research has the potential to turn on its head a long-held theory that the ocean was so big that contaminants were diluted to such an extent that it remained a relatively healthy environment for marine creatures. “People should be aware that many of the chemicals we flush down the toilet, apply to our gardens, spray on crops, or use in factories can end up in turtles and we don’t yet know how it is affecting them.”
more…….. http://www.seagrasswatch.org/news.html

High-tech fertilisers and innovation have to come to the Great Barrier Reef's rescue (Australia)

23 September 2015, The Conversation AU
The latest report card on Great Barrier Reef water quality shows signs of improvement, but the health of the marine environment close to the shore remains poor, driven by pollution runoff from the land. Among the good news is that pollution levels in reef waters have declined in the past five years, and most pollutants seem to track towards the pollution reduction targets set for 2018.

For instance, phosphorus in reef waters fell by 14.5%, suggesting that the targeted 20% reduction in phosphorus loads by 2018 is achievable. Pesticide and sediment loads fell by about half, tracking towards the 60% reduction target for pesticides, and a more modest goal of 20% reduction of sediment load by 2018. The bad news is that loads of dissolved inorganic nitrogen were lowered by only 17%, making it unlikely that the 50% reduction target will be reached by 2018. Nitrogen loads are up to nearly six times higher than natural background levels. Around 80,000 tonnes of pollutant nitrogen enters the Great Barrier Reef lagoon each year. The Burdekin, Wet Tropics and Mackay-Whitsunday regions contribute over 78% to the modelled dissolved inorganic nitrogen load primarily from agriculture.

In recent years, more robust attempts have aimed to reduce nitrogen surpluses in sugar cane production by adapting fertiliser recommendations to more specific yield targets. These consider locally projected yields, and specifically take into account soil quality and yield potential at farm and paddock level. Standing in the way of a rapid reduction of nitrogen pollution are several factors: the limited efficiency of urea fertiliser, degraded soils that have lost much of their ability to hold on to nitrogen, and growers unable to predict how much nitrogen they may lose from their soil. We urgently need technological innovations that reduce pollution at the least cost. This includes alternative sources of nitrogen, for example by growing sugarcane and legumes (which fix nitrogen from air) simultaneously. Allowing science based innovation to assist in the quest for solving the nitrogen problem is the way forward, and this requires an open mind and investment into exploring new approaches and breakthrough technologies.
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Canegrowers to examine details of the latest report card on health of the Great Barrier Reef (Australia)

22 September 2015, ABC Online
Canegrowers Queensland has defended its efforts to reduce farm run-off into the Great Barrier Reef, but acknowledged more growers need to adopt best management practices. Queensland Environment Minister Steven Miles specifically named the cane industry as the sector most in need of improvement, following the release of the latest report into water quality on the Reef.

Only 16 cane growers have completed accreditation in the industry's best management practice (BMP) program since it began in late 2013. But Canegrowers environment manager Matt Keally expected that number to significantly increase with more than 1,000 growers currently registered in the Smartcane BMP program. The target for Canegrowers is to have 380 fully accredited growers by 2018. Canegrowers chair, Paul Schembri, said the organisation would "work closely" with the state and federal governments to understand how the latest figures were reached and what could be done to speed up improvements.

The state's grazing sector is also under pressure to improve its practices, particularly in relation to erosion and pasture management. AgForce president, Grant Maudsley, said about 1,500 cattle producers, managing a combined 11 million hectares, are registered in the industry's BMP program.
more…….. http://www.seagrasswatch.org/news.html

Great Barrier Reef report reveals inshore marine environment remains poor (Australia)

21 September 2015, ABC Online
The overall condition of the Great Barrier Reef's inshore marine environment remains poor, the latest report card has shown. The report assessed run-off and the condition of the reef between 2009 and 2014, finding that sediment, nutrients and pesticide loads had decreased, however Queensland was far from meeting its targets. Industries trying to reduce run-off will need to improve to meet targets — only 14 per cent of the sugarcane industry met best practice for nutrient loads.

Queensland Environment Minister Steven Miles, who released the report on Monday, said there was more bad news than good in the report.

- Overall loss of wetlands continued between 2009 and 2013, although the rate of loss was lower than the previous periods.
- And overall forest loss in riverbank areas continued between 2009 and 2013, with an increased rate of loss compared to the previous periods.
- Inshore seagrass showed signs of recovery in some regions, but remained in poor condition overall.
- Inshore coral reefs also remained in poor condition, although there were modest improvements in juvenile coral density.
- Sediment and pesticide run-off had reduced by 12 per cent and 30 per cent respectively, but the particulate phosphorus target was exceeded in the Wet Tropics.

Sean Hoobin from the WWF said the report card was a "clear fail for previous programs". He said the State Government needed to enhance programs to get famers to change their habits. Russell Reichelt, the chairman of the Great Barrier Reef Marine Park Authority (GBRMPA), welcomed the report card. He said water quality was the second largest risk to the Great Barrier Reef and showed there needed to be "a step up" for change.
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https://www.greenleft.org.au/node/60190

Protection of our marine life requires more resilience

14 September 2015, Phys.Org
Management of the world's marine habitats needs to look beyond only Marine Protected Areas and put achieving ecosystem resilience at the top of the agenda, according to research by an international group of scientists led by Dr Richard Unsworth at Swansea University.

The research published online this week in Marine Pollution Bulletin examined the ecosystem resilience of seagrass meadows globally. The work shows how the resilience of these productive ecosystems is becoming compromised by a range of local to global disturbances and stressors, resulting in ecological regime shifts that undermine their long-term viability. The paper examines over 150 sources in the academic literature and illustrates how the management of these systems needs to consider a series of features and modifiers that act as interacting influences on the resilience of the ecosystem. The paper concludes by providing a series of simple actions that marine conservation managers can take to improve ecosystem resilience.

Dr Richard Unsworth said: "The resilience of marine ecosystems is influenced by many factors, such as the health and proximity of adjacent habitats; the water quality; the supply of larvae and the presence of human disturbance. Management of biodiverse and important marine ecosystems like seagrass needs to consider more than just simple location specific protection, but instead consider the biological and environmental influences beyond the extent of its distribution."
more…….. http://www.seagrasswatch.org/news.html

Park plan puts boating restrictions on bay (USA)

09 September 2015, KeysNews.com

The shallow seagrass beds in the Florida Bay have endured years of propeller scarring while bonefish populations have steadily declined in the roughly 850 square miles Everglades National Park estuary, according to many environmentalists. The park, though, hopes to correct these problems through its newly released management plan. It, 12 years in the making, will restrict the use of combustion engines in a quarter of the bay, among other things.

The most controversial part of the plan deals with boating in the bay, the lifeblood of many flats fishermen in the Keys. The plan calls for about 26 percent, or 102,838 acres, of the bay to be designated as pole-troll zones. And it lays out another 6 percent, or 25,588 acres, as pole-troll-idle zones. Boaters will not be able to use their primary gas-powered engines in these areas.

John Adornato, senior regional director with the National Parks Conservation Association, expects the upside of the plan to be more fish as previously prop-scarred bay bottom is rejuvenated with seagrass. Capt. Duane Baker, commodore with the Florida Keys Fishing Guides Association, also worked hand-in-hand with the park for two years shaping the plan. Baker, though, was somewhat skeptical whether boaters are to blame for the dilapidated seagrass and decline in some fish populations.

The plan also calls for all fishermen entering the bay to take a boater education course their first time. Adornato said this item is the most important part of the plan because many boaters who travel south to the bay are unaware of the rules and restrictions in place. The plan is final, according to park officials, but will be implemented gradually over time. They say it will take a year or two to fully incorporate.

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Port Canaveral rail plan draws controversy (USA)

09 September 2015, Orlando Sentinel

Known as Central Florida's home for cruise ships, Port Canaveral wants to increase cargo by extending rail across the Indian River Lagoon and Merritt Island National Wildlife Refuge. The pending proposal by the Port Canaveral Authority has triggered criticism in Brevard County as likely to spoil some of the healthiest seagrass along the coast and encroach on a popular birding destination.

Facing mounting protest, chief executive officer John Walsh, the authority's top official has called opponents "radical" and "Luddites," pretending to care for the lagoon and refuge as a tactic to halt port growth. Sparks often fly during Florida's environmental tug-of-wars, but rarely does the head of a state agency publicly denigrate citizens who challenge development plans. Walsh's comments spread quickly and fueled an angry mood last Thursday during a meeting of Brevard County commissioners.

Although Brevard County commissioners have little control over port rail, they voted 5-0 to voice opposition to the proposed route across sea grass and wildlife refuge. The vote was brought about by Commissioner Jim Barfield, whose district includes the port. He doesn't oppose constructing rail elsewhere; he and many others favor a corridor on military land. Alternatives are a route north across Cape Canaveral Air Force Station and another west along the Beachline Expressway.

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

Breakwaters off Apollo Beach Nature Park create new wildlife habitats (USA)

07 September 2015, TBO.com

After some fits and starts, the Apollo Beach Nature Park restoration project is accomplishing its objective: restoring plant and animal habitat. Hillsborough County’s parks department has built seven offshore breakwater obstacles and a T-shaped jetty on the north end of the beach to buffer the shore from waves. That calming effect is bringing a lot of wildlife to the park’s shoreline, including egrets, ducks and stone crabs, said Ross Dickerson, county environmental lands manager.

The county’s restoration, which included earthwork and planting of native species, began in November, about five months late. Dickerson said it took longer than expected to get the permits from agencies including the U.S. Army Corps of Engineers, Port Tampa Bay and the Florida Department of Environmental Protection. Once the work began, the contractor hired by the county discovered seagrasses growing in the construction area — good news in a way, but also another delay. Seagrasses are protected and they had to be moved and replanted on the east side of the park before construction of the shoreline protection barriers could begin.

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

Dugong found dead in creek (Australia)

08 September 2015, Mackay Daily Mercury

A dugong was found dead in an estuarine system of Seaforth, after an unnamed recreational fisher reported the decomposing animal to the Mackay Recreational Fishers Alliance (MRFA). MRFA member John Bennett said it appeared the dugong had been dead for four days when it was found on Sunday.

Mr Bennett said the MRFA would not speculate on the animal's cause of death, and said National Parks and Wildlife would begin investigations this morning.

WWF-Australia released a statement asking the Queensland government to conduct an autopsy of the dugong. WWF Fisheries spokesman Jim Higgs said dugongs were listed as vulnerable to extinction. Mr Higgs said the incident highlighted a need for satellite monitoring of gill net operators to be introduced.

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

Dugong collected (Australia)

04 September 2015, Bundaberg News Mail

Ian Foster Griffith says he and his children have seen whales and dolphins in the ocean outside their Woongarra Scenic Dr home but never expected to find a dead dugong on the rocks.

Mr Foster Griffith said his boys Owen, 11, and Ewan, 9, sighted a ranger on the beach and went over to have a look but said what they discovered was "a bit sad". Mr Foster Griffith said the dugong did not have any marks or wounds on it and said Bundaberg Regional Council cleared the mammal away yesterday morning.

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

Saving Australia's sea turtles, one at a time (Australia)

01 September 2015, ABC online

Australia has a significant collection of sea turtles - six of the world's seven species live off the northern coastline, grazing on fragile seagrass beds and gracing the Great Barrier Reef with their dignified presence. But the sea turtles, as barometers of reef health, are struggling. Those seagrass beds are easily affected by runoff, of which there is quite a lot, including from Queensland's giant banana plantations. And great swathes of seagrass get wiped out by the cyclones that batter the coast each wet season. Turtles also get caught up in ghost nets, unattached fishing nets that drift around the Top End; Light pollution from coastal development confuses hatchlings trying to get out to sea; wild pigs lay waste to whole beaches worth of eggs; adults get injured in high boat traffic areas and catch nasty viruses that cause them to float. The local passion for turtles has seen a number of turtle hospitals spring up on the Queensland coast. So far, 400 volunteers have been formally trained in turtle rescue, which means sick turtles washing up in all sorts of remote areas can be recovered and cared for.

Veteran turtle hospital manager Jennie Gilbert, of the Cairns Turtle Rehab Centre, mothers her charges like babies and cries buckets when they leave. Her turtles often stay for years, with a group of around 200 volunteers hand feeding each one with protein-rich imported squid and prawns in order to get them back in condition as fast as possible.

Mick Hale and his partner Larissa (Yuku Baja Muliku program) started a turtle hospital in 2011, following Cyclone Yasi and extreme weather events, as the impact on the seagrass beds along the Great Barrier Reef coast was huge. They now have a new turtle facility at Archer Point, on traditional country, a half hour drive south from Cooktown. The turtles can stay for months, even years. The rangers of the Yuku Baja Muliku program despair about the amount of plastic rubbish they find daily on the beach at Archer Point. Some of it breaks down to tiny microscopic particles that can be mistaken for plankton. Most disturbing are the hard white plastic bleach bottles that wash up daily and come all the way from Indonesia. So is all the fuss and expense worth it: saving one turtle at a time? With overwhelming environmental pressures, Mick believes it's important that we do all we can.

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

This year's El Nino weather pattern could be strongest on record: experts

01 September 2015, www.reuters.com

The current El Nino weather phenomenon is expected peak between October and January and could turn into one of the strongest on record, experts from the World Meteorological Organization said at a news conference on Tuesday. Climate models and experts suggest surface waters in the east-central Pacific Ocean are likely to be more than 2 degrees hotter than average, potentially making this El Nino one of the strongest ever.

Typically, the warm air above the eastern Pacific is causing increased precipitation over the west coast of South America and dry conditions over the Australia/Indonesia archipelago and the Southeast Asia region, said Maxx Dilley, director of the WMO's Climate Prediction and Adaptation Branch. Climate scientists are better prepared than

ever with prediction models and data on El Nino patterns, but the impact of this El Nino in the northern hemisphere is hard to forecast because there is also an Arctic warming effect at work on the Atlantic jetstream current.

This El Nino could also be followed abruptly by a cooling La Nina, which, along with the advance of global warming, was adding to the uncertainty, Carlson said. But he added that it is still unclear how global warming is affected the frequency or magnitude of El Nino events. Since 1950, strong El Nino events occurred in 1972-3, 1982-3 and 1997-8.
more…….. http://www.seagrasswatch.org/news.html

Blue planet report highlights losses

18 September 2015, Independent Online
WWF's Living Blue Planet Report has highlighted enormous losses in the world's oceans – but this was not just about "losing some fish and turtles", according to John Tanzer, director of WWF International marine programme. The report, released every two years, gives a current picture of the state of the oceans, and according to WWF's director-general, Marco Lambertini, it shows how humanity is "collectively mismanaging the ocean to the brink of collapse". Lambertini said within a single generation, people had severely damaged the oceans, both by catching fish faster than they could reproduce and by destroying fish nurseries such as estuaries, seagrass meadows, mangroves and corals.

The report measures trends in 10 380 populations of 3 038 species of marine mammals, birds, reptiles, amphibians and fish. These populations have declined by 52 percent between 1970 and 2010. Tuna, mackerels and bonitos show a decline of 74 percent between 1970 and 2010. There is no sign of their recovery. Researchers looked at three marine species – sharks, turtles and sea cucumbers – as they were good indicators of the level of stress on marine ecosystems.

More than 25 percent of all marine species live in coral reefs – and 75 percent of coral reefs are threatened, and could be lost altogether in 35 years. About 850 million people directly benefit from coral reefs, which provide food for hundreds of millions. Seagrass meadows, have declined by 30 percent over the last 100 years. Seagrass is also vital for storing carbon and can store more than twice as much as a forest. Nearly 20 percent of mangroves – or 3.6 million hectares – were destroyed between 1980 and 2005, mainly to build harbours and infrastructure, and for agriculture and tourism. Lamberti said considering the vital role oceans played in world economies, the mismanagement of the oceans was "simply unacceptable".
Full article: http://www.iol.co.za/scitech/science/environment/blue-planet-report-highlights-losses-1.1917907

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Mega-marina begins artificial reef (FL, USA)

01 September 2015, by John Charles Robbin, Miami Today

Flagstone Property Group's work to build the area's first deep water marina for super-yachts includes creation of an artificial reef. Flagstone is developing a corner of city-owned Watson Island into a multi-million dollar resort called Island Gardens. The developer said this week it has begun installation of the Brickell Mitigation Reef Site, designed to offset impacts to hard bottom habitat and foster new marine life. Upon completion, it could be home to approximately 5.43 acres of offsite habitat.

Development at The Deep Harbour at Island Gardens includes coral, sponge and seagrass relocation. This week, Flagstone released details of its overall environmental mitigation plan and work thus far has included:
•Removal of 2,000 seagrass plugs and transporting them to a temporary holding site. When the dredging phase is completed, these plugs will be replanted in the filled dredge hole.
•Identification of additional donor locations where 8,000 additional seagrass plugs will be removed and replanted.

The company said mitigation endeavors will continue for 5 years following completion of marina construction to ensure all mitigation goals have been fulfilled. Flagstone says it has invested more than $10 million in mitigation work for the marina so far. When the marina is finished it will be able to accommodate up to 50 mega- or super-yachts, up to lengths of about 550 feet, the developers say. Island Gardens is to include dual hotels, fractional residential units, high-end retail stores and the deep water marina.
Full article: http://www.miamitodaynews.com/2015/09/01/mega-marina-begins-artificial-reef/

Related article:
http://www.sandandgravel.com/news/article.asp?v1=20020

CONFERENCES

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

Mackay - Whitsunday, QLD (Australia):24 - 27 September 2015 http://www.seagrasswatch.org/gallery.html

Hydeaway Bay: 24 September 2015
Midge Point: 26 September 2015
Sarina: 27 September 2015

Far North QLD (Australia): 07 - 09 September 2015 http://www.seagrasswatch.org/gallery.html

Green Island: 07 September 2015
Yule Point: 08 September 2015
Dunk Island: 09 September 2015

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 38,679 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 Dr 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*

Virtual Herbarium *http://www.seagrasswatch.org/herbarium.html*

Future sampling dates *http://www.seagrasswatch.org/sampling.html*

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

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