31 January 2017

IN THIS BULLETIN

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NEWS

Seagrass Study Gets Underway In Back Sound This Spring (NC, USA)

18 January 2017, Public Radio East

A large scale seagrass study, the first of its kind, is underway at the coast. Artificial seagrass meadows will be built in Back Sound this spring to observe how fragmenting affects fish colonization. Researchers at the University of North Carolina's Institute of Marine Sciences in Morehead City are involved in a three year study to learn more about seagrass beds.

Associate Professor Dr. Joel Fodrie says other than Florida, North Carolina has more seagrass than all the other East Coast states combined. Here locally, in Bogue Sound and Back Sound, Dr. Fodrie says the seagrass is patchier, made up of basketball to car sized clumps of seagrass spread out across the bottom. The current experiments are focusing on how the different orientations of grass beds affect how fish and crabs and shrimp do use the grass beds.

Dr. Fodrie received funding from the National Science Foundation, a $400,000 grant over the next three years, to conduct the study. For months now, several technicians at IMS have been hand making meter squared artificial seagrass mats to use in the experiment. It's a tedious process taking about two hours to make just one mat… but it's the standardized tool in seagrass ecology that closely mimics the natural movement and habitat functions of seagrass. The seagrass mats are made from a material called Vexar, essentially a plastic netting, and on the are tied lots of green ribbon. Curling ribbon, like you would use for wrapping a gift. Each section of ribbon is essentially six inches long, about the length of the seagrass in North Carolina.

Over the next two years, they hope to make a total of 3,600 mats with the help of the community, school groups and volunteers. If you're interested in helping with the construction of the artificial seagrass beds, call the Institute of Marine Sciences in Morehead City at 252-726-6841.
more…….. http://www.seagrasswatch.org/news.html

Water managers take steps to improve South Florida bays (FL, USA)
12 January 2017, Miami Herald

Biscayne Bay and Florida Bay, the two massive and ailing shallow bays that draw tourists and dollars from around the globe, both got a little first aid Thursday. South Florida water managers signed off on two measures designed to bring more freshwater to both. While they represent only a fraction of what's ultimately needed, the water and work covered by the projects is expected to begin repairing a fragment of wetlands that once fringed Biscayne Bay and reduce salty conditions in Florida Bay that wiped out nearly 25 square miles of seagrass in 2015.

The work was originally suggested as an emergency fix to deal with the worsening seagrass die-off after a regional drought set off a spike in salinity. A winter of record rain followed, flooding the sprawling water conservation area just north of Everglades National Park, which water managers seized on as a potential fix. The bay receives much of its water from rainfall, but historically also received about 42 percent of freshwater from the Everglades — mainly through Taylor Slough — which helped the unique quilt of basins survive extra-dry years.

Using existing canals and pumps, the district began diverting more water into the Florida Bay last year. The effort worked so well, the district decided to make the changes permanent. With additional plugs, rebuilt levees and larger pumps, district officials said last year the bay should receive about 6.5 billion more gallons of water a year, about a sixth of what the 2000 Comprehensive Everglades Restoration Plan called for. The fixes are "not the silver bullet", but it's something that can help keep the bay on life support until further restoration efforts are online.
more…….. http://www.seagrasswatch.org/news.html

This bay in Scandinavia has world record in carbon storing (Denmark)
12 January 2017, Science Daily

Forests are potent carbon sinks, but also the oceans' seagrasses can store enormous amounts of carbon. A little bay in Denmark stores a record amount of carbon. Efficient meadows of carbon storing seagrass are found in coastal areas in many parts of the world. But according to biologists one particular meadow in Denmark is by far the most efficient. The meadow is situated in the bay Thurøbund on the island Thurø in the South Funen Archipelago, Denmark.

Thurøbund is a very protected bay -- and also very productive. So the seagrass thrives and when the plants die they stay in the meadow. They are buried in the sediment and in this process their content of carbon gets stored with them. In Finland the seagrass grows in open coast areas, which means that the dead plants much more often are washed off to sea, taking the carbon with them.

Thurøbund stores ca. 27,000 grams of carbon (gC) pr. square meter. This figure has never been measured to be more than 10,000-11,000 gC pr. m2 in other parts of the world. According to the new study Danish seagrass meadows store 3-4 times more carbon than Finnish meadows.
more…….. http://www.seagrasswatch.org/news.html

Jury's out on impact of wreck on marine life (QLD, Australia)
12 January 2017, Whitsunday Times

Love it or hate it, the wreck of the Whitsunday Magic in Pioneer Bay is a curiosity many can't ignore; but wildlife advocates are warning of the detrimental effects of increased visitors to the wreck. The steel three-masted schooner sank while moored at a Shute Harbour jetty in 2011. It was re-floated and moored in Pioneer Bay before getting into trouble again during severe storms, and became stuck in the mud in early 2013. The wreck has significantly increased recreational boat traffic to the west of Pigeon Island in Pioneer bay and tourist operators frequent that part of the bay multiple times a day on jet-skis, in a jet boat and an amphibious duck.

Reef Catchments coast and biodiversity officer Olivia Brodhurst has identified Cannonvale Beach as a nesting site for the "vulnerable" listed flatback turtle and acknowledged an increase in water craft in the vicinity could affect marine

life. The main messages for users of the area now are to avoid going over the seagrass beds where turtles and dugong are feeding. Go slow in nearby waters and if you see a stranded or injured animal, including a turtle floating for an extended time, call the RSPCA. Ms Brodhurst said 15% of turtles stranded in Queensland were related to boat strike and reported dugong trails had recently been seen in the seagrass beds near Pigeon Island and the mammals were being monitored.

Libby Edge, from Eco Barge, said information on turtle numbers around the Whitsundays was limited due to the lack of studies into the animals. However, she said Pioneer Bay was a "heavy use" area for turtles and dugong feeding on the seagrass. A Transport and Main Roads spokesperson said the wreck "does not pose an imminent threat to the environment".
more…….. http://www.seagrasswatch.org/news.html

Send water south resonates at Everglades Coalition Conference (FL, USA)
11 January 2017, Fort Myers Beach Observer

This time last year, Captain Daniel Andrews had never heard of the Everglades Coalition. The Fort Myers native just knew that fishing wasn't doing well. The seagrass beds and oyster reefs he had fished with his father were disappearing. Now, a year later, the co-founder of nonprofit *Captains for Clean Water* found himself sitting on a panel at the 32nd Annual Everglades Coalition Conference, speaking about Florida's water quality crisis. As a local businessman directly affected by poor water quality, Andrews has been educating himself over the last year to grasp what's happening and what to do about it.

Andrews was just one of a myriad of panelists and experts representing local, state and national agencies and organizations who attended the conference hosted by the Sanibel Captiva Conservation Foundation, held Jan. 5-8 at the Sanibel Harbor Marriott Resort. Despite the diversity, a common concern united the 300-some attendees: Florida's water quality issues and how to solve them.

Water quality issues stemming from the man-made rerouting of water away from the Everglades and of freshwater released from Lake Okeechobee into the Caloosahatchee and St. Lucie Rivers has been a growing problem in the state for years. However in 2016, the issues came to a head after intense rains in January and February pushed the Lake Okeechobee dam to a dangerous edge. The Army Corps of Engineers began releases of the water into the rivers. Fast forward a few months and Florida was making national headlines due to algal blooms and the presence of a toxic variety of cyanobacteria that was endangering human health on the east coast and creeping its way to the west coast.
more…….. http://www.seagrasswatch.org/news.html

Greens back Cockburn port (WA, Australian)
06 January 2017, The West Australian

The WA Greens have thrown their weight behind a new port in Cockburn Sound, declaring a belief that it could be built without unacceptable environmental damage. Greens MLC Lynn MacLaren said the proposed location was in the middle of the Kwinana industrial strip, which had been the site of industry and dredging for decades. Ms MacLaren said the seagrass in Cockburn Sound must be protected — but the sound's healthiest seagrass beds, which the Greens want protected, are in the south of Cockburn Sound at Mangles Bay, and on the east side of Garden Island — not on the Kwinana industrial strip.

The announcement signals the environmental movement may be willing to accept a Cockburn Sound port as a trade-off for protecting the Beeliar wetlands from Roe Highway stage 8. Opposition Leader Mark McGowan said on Wednesday that Labor would scrap the Roe 8 project if elected in March. Ms MacLaren said about 85 per cent of the sound's original seagrass had been lost, and to date no one had been able to fully successfully regrow it.
more…….. http://www.seagrasswatch.org/news.html

Barging In (TX, USA)
05 Jan 2017, Texas Observer

When Mike Edwards walked into the Corpus Christi office of the U.S. Army Corps of Engineers one June afternoon in 2014, he came prepared. His task: convince six state and federal agencies, including the Army Corps and the Texas General Land Office, to sign off on a plan to build a barge mooring facility in an ecologically sensitive part of the Texas coast. Edwards told the agencies' representatives, that the Port of Corpus Christi had gotten so busy that barges were backed up and while waiting for room at the port, they were nosing up on the shoreline, running their engines and killing seagrass. The proposed temporary mooring facility would stretch for a mile and a half and keep the barges tied up in deeper water, away from the shoreline and off the seagrass.

In July 2014, the Texas Parks and Wildlife Department asked how they planned to protect seagrass that might be affected by the development, but Edwards told them in an email there was "NO sea grass." Six months later, in January 2015, Lydia Ann Channel Moorings LLC had its permit from the Army Corps and a lease from the General

Land Office (GLO), which owns submerged lands along the coast. The Army Corps allowed Edwards and his partners to skip public notice and an environmental assessment.

But not all was as it seemed. Edwards and his crew would violate the terms of their permit by building a large-scale docking operation, more elaborate than the one they'd pitched the Corps. Only months later, long after the permit was issued and the dock was in operation, would the residents of Port Aransas discover the truth. The locals, who have since sued the Corps for granting the facility a permit. In September 2016, in response to the lawsuit, the Army Corps revoked the facility's permit for "not accurately" describing the scope of the operation and misleading the agency about "the underlying need for the project from a public interest review perspective." Soon after, the GLO told the company its lease was in default and could be terminated immediately. However, the fleeting facility is still operating.
more…….. http://www.seagrasswatch.org/news.html

Department of State and Foreign Diplomats Help Restore Chesapeake Bay Underwater Seagrass (DC, USA)

04 January 2017, Newsroom America

As part of the Department of State's Greening Diplomacy Initiative (GDI), representatives from twelve foreign embassies, the World Bank, the Office of Foreign Missions (OFM), and the Office of Oceans, Environment and Science (OES) will work together to grow and plant seagrass in the Potomac River, in support of the Chesapeake Bay Foundation's Grasses for the Masses program.

The project, called "Restore the Bay," will launch January 10, 2017, in Washington, D.C., when representatives from the embassies of China, Costa Rica, Finland, Germany, Indonesia, Iraq, Malta, Pakistan, Slovenia, Somalia, Spain, Switzerland, United Arab Emirates, the World Bank, GDI, OFM, and OES attend a training workshop provided by the Chesapeake Bay Foundation. Embassy representatives will learn to grow seagrasses, which they will then continue to grow in their chanceries over the next several months. The project will culminate on June 5, 2017, in celebration of World Environment Day, when participating foreign embassies will join representatives from the Department of State and the Chesapeake Bay Foundation at Mason Neck State Park in Lorton, Virginia, to plant their underwater grasses in the Potomac River.
more…….. http://www.seagrasswatch.org/news.html

Replumbing South Florida (FL, USA)

03 January 2017, Fly Rod & Reel Magazine

After heavy rains last winter the Army Corps of Engineers protected cattle ranchers, dairy farmers and sugarcane growers in Lake Okeechobee's watershed by dumping their polluted water on distant residents of the Atlantic and Gulf coasts. The massive, nutrient-laden torrent was vented east down the Saint Lucie River toward Stuart and west through the Caloosahatchee River toward Fort Myers and Sanibel Island. Atypical only in severity, the diversion added to the ongoing devastation of two sprawling estuaries vital to fish, shellfish, corals, birds and marine mammals. This time at least 161 cities suffered, many blighted by blooms of toxic cyanobacteria that kills aquatic life as it nears salt water. What's more, the regular slugs of fresh water from Lake Okeechobee have killed seagrass, free-ranging shellfish and oysters that filter out pollutants and provide food and habitat for fish. Recovery takes years. The recreational-fishing industry in the affected area has been devastated and areas that had been paved with oyster bars and lush turtle grass are now biological deserts. Marine scientist Dr. Grant Gilmore said the loss of seagrass has been "catastrophic

The hydrological "improvements" that allow the Corps to dump pollution generated by residents of the Lake Okeechobee watershed on residents of the Atlantic and Gulf coasts started with the 30-foot-high, 143-mile-long Hoover Dike, which girdles the lake and was completed by the Corps in 1967. It desiccated a huge portion of the Everglades, attracting an invasion by the sugarcane industry - the main factor in reducing the Everglades footprint by 50 percent. To protect that industry, the Corps gutterized the Saint Lucie and Caloosahatchee Rivers, turning them into drainage canals to vent Okeechobee's water east and west. Before this replumbing, rainwater collected in aquifers and wetlands that filtered out sediments, sucked up phosphorus and nitrogen, and gradually recharged the Kissimmee. Then the winding, unimproved river and its flourishing pickerelweed and sawgrass continued the cleansing process. Soft, sweet water flowed into the lake, Everglades and, finally, Florida Bay.

The replumbed lake devastates Florida Bay, and for the exact opposite reason it devastates the Atlantic and Gulf coasts. Instead of dying from too much water, the bay is dying from too little. With little fresh water, the bay now serves as a giant evaporating basin. Warm blankets of very salty water settle into basins. Hot, hypersaline conditions dramatically reduce the water's capacity to hold dissolved oxygen. Seagrass dies, and the decaying process consumes even more dissolved oxygen. Fish kills are routine. According to Dr. Stephen Davis, a wetlands ecologist with the Everglades Foundation, Florida Bay has lost about 50,000 acres of seagrass, and the die-off is expanding.

There's only one fix, however, and it's not quick. It's the 30-year, $10 billion Comprehensive Everglades Restoration Plan. We're 16 years into it, and there have been major delays. The plan entails huge reservoirs and storm-water

treatment areas (STAs) completed north and south of the lake. Two of the northern STAs don't work, and six STAs covering 57,000 acres have reduced phosphorus to between 15 and 20 ppb, but to preserve the ecological health of the Everglades, phosphorus needs to get down to 10 ppb. Although there's no quick fix for South Florida, the future is far from hopeless. Restoration is expensive, but a study by the Everglades Foundation reveals that for every dollar invested there is a $4 return.
more…….. http://www.seagrasswatch.org/news.html

Dugong washed ashore near Uchipuli (India)
03 January 2017, The Hindu

The carcass of a well-grown male dugong was washed ashore in Pudumadam area near Uchipuli in the district on Tuesday. On being alerted by local fishermen and Marine Police of Coastal Security Group (CSG), S. Sathish, Forest Range Officer (Mandapam Range), inspected the carcass and buried it on the seashore after a post-mortem.

The marine mammal was aged around 30 years, he said, adding it had the habitat in the Gulf of Mannar. Examination of injuries found on the carcass and preliminary analysis revealed that it could have died of injuries after hitting against rocks, he said. Sakthivel, scientist from Central Marine Fisheries Research Institute (CMFRI), examined the body and took blood and tissue samples for tests. The exact cause of the death would be known after the test results came in a week, Mr. Sathish said. The dugong could have died only a day or two days back as the carcass looked fresh. It measured 2.8 metres in length, with a circumference of 185 cm. It weighed about 350 kg, Mr. Sathish said.

This was the third carcass of dugong to be washed ashore from the Gulf of Mannar region in the last two years. Two carcasses were washed ashore in February and March in 2015. The death of the mammal has come at a time when the Gulf of Mannar Marine National Park of Forest Department launched 'Save Dugong' project with special focus on protecting the mammals in the Palk Bay. The department has also launched capacity building training programme after recruiting 'Friends of Dugong' from the fisherfolk.
more…….. http://www.seagrasswatch.org/news.html

Restoring seagrass under siege (CA, USA)
02 January 2017, Mongabay.com

You need a boogie board and a wetsuit to garden with Katharyn Boyer, a biology professor at San Francisco State University in California. They come in handy along the shorelines of the San Francisco Bay where Boyer and her colleagues are replanting eelgrass. For more than a decade, she's experimented with methods to replenish these underwater plants that create key habitats and buffer zones for coastal ecosystems. Figuring out reliable ways to grow more eelgrass could revitalize these critical areas and help other scientists reverse seagrass losses around the world.

In the Bay Area, the long strands of eelgrass provide shelter for fish nurseries, prime substrate for the sticky eggs of herring, and food for the small "grazers" that eat the algae coating on the grass. Although researchers estimate around 9,490 hectares (more than 23,000 acres) of the San Francisco coastline could support eelgrass beds, these plants grow on less than one percent of that shoreline. Surveys of the San Francisco Bay Area showed that eelgrass beds were on the upswing between 2003 and 2009. Since then, replanting success rates have been unpredictable. Restoration efforts got a boost from damage mitigation funds set aside after the 2007 Cosco Busan oil spill, when a tanker dumped more than 50,000 gallons of crude bunker into Bay waters. Now, a third of the way into a nine-year restoration program, Boyer is part of an effort to add four acres of eelgrass to the coastline each year. Ideally, adding this acreage will enable the new eelgrass beds to continue self-propagating after the project is over.

Replanting the eelgrass is painstaking work. Boyer brings out the boogie boards to haul gear or plants around shallow water sites where she anchors the new transplants with bamboo stakes. Each eelgrass shoot is twist-tied to the upper end of a stake. Then, cupping a hand over the plant, the end of the stake is buried. In about two weeks, the roots take hold. Another method, developed by her colleagues, uses "sucker sticks" to attach eelgrass with string and then groups the sticks on lengths of PVC piping, to more easily maneuver the plants in deeper waters — where the "gardeners" wear thicker wetsuits.

Many variables can affect planting success, notes Boyer. Genotyping may help identify if there's a "universal donor," one type of eelgrass that can grow anywhere. Or, plants may thrive on diversity and grow best when grouped with eelgrass from different areas. This year, scientists sequenced the eelgrass genome for the first time, and that information may offer more clues to maximize planting success.
more…….. http://www.seagrasswatch.org/news.html

Massive South Florida reservoir back in spotlight at conference (FL, USA)

01 January 2017, Miami Herald

A massive South Florida reservoir that is key to fixing the Everglades' faulty plumbing, and has divided water managers and environmentalists, will once again take center stage at an annual meeting on restoration next weekend. Drawing conservationists, politicians and scientists from across the state and Washington, the Fort Myers conference, titled "Three Estuaries, One Solution," comes about midway through restoration efforts, with the work well behind schedule — less than 18 percent of the $16 billion effort has been funded, according to the National Academies of Sciences' most recent update.

While not a new issue, the contentious stand-off on the reservoir has grown testier this year, with incoming Florida Senate President Joe Negron vowing to push for purchasing 60,000 acres of sugar land south of Lake Okeechobee in the upcoming legislative session. But district spokesman Randy Smith said the governing board has not taken a position on the proposal by Negron, who over the summer met with environmentalists and farmers before concluding that the reservoir was the best fix for stopping dirty lake discharges and moving fresh water to Florida Bay. Over the last year, releases from the lake fouled both the St. Lucie and Caloosahatchee rivers, leaving the Treasure Coast coated with toxic algae for months. At least 25 miles of seagrass began dying in the bay in 2015.

The sugar industry and local farmers have also pitched the reservoir as an attack on a way of life. Hendry County Commissioner Janet Taylor created the Glades Lives Matter nonprofit in July with a Facebook page that echoes many of the sugar industry's complaints. While restoration has frequently been contentious, environmentalists worry that the district's strategy ignores science. Not having more storage south, according to the NAS report, threatens to derail ecological progress on the handful of projects under way.

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

Turtles navigate by sun: James Cook University scientists (QLD, Australia)

16 January 2017, The Brisbane Times

Turtle-wrangling scientists in north Queensland have discovered a previously unknown way the marine animals navigate their way home. Scientists from James Cook University caught and tagged 22 green sea turtles to observe how they found their way back after being taken into unfamiliar territory, and discovered the turtles appeared to use sunrise to help find their bearings.

Once caught and hauled onto the boat in a "labour intensive operation" sometimes involving four people, the turtles were tagged and then released in waters between eight and 28 kilometres from their home habitat. The researchers found that despite the different distances the turtles were taken from their home, they were all "equally capable" of finding their way back without difficulty. Dr Shimada said it is well known turtles have an "exceptional ability" to navigate, but how they manage to do it exactly remains mostly a mystery. He said that what they observed was during the daytime the turtles sort of go off the direct routes, but at sunrise when the sun shows true east most of the time it can be used to calibrate the internal compass to adjust where true east is. Dr Shimada also said it's plausible the turtles used sunrise rather than sunset to reset their direction as they rested overnight, and appeared to adjust their bearings first thing in the morning before they restarted their journey.

Full story: http://www.brisbanetimes.com.au/queensland/turtle-navigation-influenced-by-sunlight-james-cook-university-scientists-discover-20170116-gtsgob.html

CONFERENCES

Coastal & Estuarine Research Federation 24th Biennial Conference (CERF2017) (Providence, Rhode Island, USA, 5-9 November 2017)

Theme: Coastal Science at the Inflection Point: Celebrating Successes & Learning from Challenges

The CERF 2017 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 science, 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. Join us and over a thousand of your colleagues to network, celebrate our work, learn from each other and grow within our amazing profession.

Important Dates:

Abstract Submission Opens: 31 January 2017
Abstract Deadline: 1 May 2017
Conference Registration Opens in February!
Early Bird Registration Deadline: 15 May 2017
Student Travel Award Application Deadline: 4 August 2017
Presenter Confirmation/Registration Deadline: 5 September 2017
Registration Deadline: 5 September 2017
Advance Registration Deadline: 6 October 2017

for more information, visit http://www.erf.org/cerf-2017-biennial-conference

The 13th International Seagrass Biology Workshop (ISBW13) and World Seagrass Conference (June 2018, Singapore)

Theme: Under pressure – Seagrass science and conservation in stressful environments

The International Seagrass Biology Workshop (ISBW) is the only international meeting specifically tailored to seagrass scientists, professionals and students. 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 ISBW13 will be held in June 2018 at the National University of Singapore, Singapore, organized by National University of Singapore, National Parks Board, and DHI Water & Environment, Singapore.

More information:
To get important updates on ISBW13, register your interest here: *https://goo.gl/forms/TIIhDGhEx71m0tcj1*
Follow on Facebook @ISBW13 and Twitter #ISBW13

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 43,985 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

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