31 May 2020

Seagrass-Watch's electronic news service, providing marine and coastal news of international and national interest. Abbreviated/edited articles are presented with links to their source. Seagrass-Watch HQ recommends that readers exercise their own skill and care with respect to their use of the information in this bulletin and that readers carefully evaluate the accuracy, currency, completeness and relevance of the material in the bulletin for their purposes. You are free to distribute it amongst your own networks.

IN THIS BULLETIN

NEWS 1
Seagrass Update: What's happening in our marine meadows? (NY, USA) 1
Why North Carolina's Seagrass Is “A Diamond in the Rough” (NC, USA) 2
World Dugong Day 2020: Marine mammal fighting for survival in Indian waters (India) 2
Seagrasses will benefit from global change (Portugal) 3
Ecosystem off Cham Islands recovers after COVID-19 (Vietnam) 3
Virus prevalence associated with habitat (Mexico) 3
Carcass of a Dugong found near Sethukarai shore (Tamil Nadu, India) 4
Sea slugs and seagrass: A mystery solved (FL, USA) 4
In March, sounds appearing to be dugong calls recorded 23 times total (Okinawa, Japan) 4
Federal appeals court allows US military base construction in Okinawa despite environmental concerns (Okinawa, Japan) 5
Rising ocean temperatures threaten seagrass meadows and their ability to hold carbon (VA, USA) 5
Seagrass Solutions (VA, USA) 6
CONFERENCES 6
The 14th International Seagrass Biology Workshop (ISBW14) (Annapolis, Maryland, USA Summer 2022) 6
14th International Coral Reef Symposium (ICRS 2020) (Bremen, Northern Germany, 2021). 6
SEAGRASS-WATCH on YouTube 7
Seagrass & other matters 7
World Seagrass Day http://wsa.seagrassonline.org/world-seagrass-day/ 7
SeagrassSpotter https://seagrassspotter.org/ 7
World Seagrass Association http://wsa.seagrassonline.org 7
World Seagrass Association on Twitter @Seagrass_WSA 7
Dugong & Seagrass Research Toolkit http://www.conservation.tools/ 7
FROM HQ 8
Past E-bulletins 8
Frequently Asked Questions 8
Magazine 8
Virtual Herbarium 8
Future sampling dates 8

Please note: links to sources were active on date of publication. Some sources remove links periodically.

NEWS

Seagrass Update: What's happening in our marine meadows? (NY, USA)

29 May 2020, fishersisland.net

The Fishers Island Seagrass Management (FISM) Coalition is entering its second year as a participant in MPA Watch. MPA Watch is a “network of programs that support healthy oceans through community science by collecting human use data in and around [our] protected areas”. Here on Fishers Island, the FISM Coalition is exploring options to designate Seagrass Management Areas, or SMAs, a type of MPA designed to protect eelgrass meadows.

Eelgrass meadows were once abundant throughout Long Island Sound, but now only 10% of the meadows remain. This precipitous decline was caused by, and continues to be caused by, factors such as pollution, algal blooms, boating activity, diseases and climate change. Fishers Island is fortunate to have about a quarter of the Sound’s remaining eelgrass along its coast and it is critical that these remaining meadows are protected and conserved in the form of SMAs.

In 2012, the New York State legislature passed the Seagrass Protection Act. This act directs the New York State Department of Environmental Conservation to create SMAs in consultation with local governments and relevant stakeholders. SMAs must have an accompanying seagrass management plan to specifying allowed and regulated activities within the SMA. The management plans will also be developed with the assistance and guidance of coastal municipalities and stakeholders. A goal of the FISM Coalition is to establish co-management of the island's seagrass ecosystems, whereby the Island community, the Town and the State share seagrass management authority and responsibility. SMAs and seagrass management plans will aim to sustain recreational and commercial activities, so long as these activities are not detrimental to seagrass health.
more……https://fishersisland.net/seagrass-update-whats-happening-in-our-marine-meadows/

Why North Carolina's Seagrass Is "A Diamond in the Rough" (NC, USA)

28 May 2020, The Pew Charitable Trusts (blog)

Seagrasses are found throughout the coastal U.S., where they support wildlife, improve water quality, and help buffer shorelines from waves and storms. On the Atlantic coast, no state has more seagrass meadows than North Carolina. The Pew Charitable Trusts is working with state agencies and other North Carolina partners to protect this resource. One partner is Dr. Jud Kenworthy, who retired from the National Oceanic and Atmospheric Administration after 33 years working as a biologist focused on seagrass and salt marsh habitats. He is an adjunct professor at the University of North Carolina Wilmington and advises the Albemarle-Pamlico National Estuary Partnership and the state on seagrass monitoring and assessment. In this Q&A, Kenworthy explains the value of protecting North Carolina's seagrass. This interview has been edited for clarity and length.

Seagrass is like salt marsh, only completely submerged. It anchors itself and takes up nutrients from the sediment, and then as it photosynthesizes, pumps oxygen to its roots, aerating the water and submerged soils. This makes it possible for some species, like polychaete worms, to live in this sediment. And these species feed a lot of animals, like flounder, speckled trout, and red drum, that are important—to the ecosystem and to recreational and commercial fishermen. Some waterfowl also love seagrass, and North Carolina has a phenomenal duck-hunting economy that draws people from all over the world.

Our large, high-salinity seagrass meadows are healthy, and our goal should be to conserve this good resource, although we should keep an eye on parts that may be experiencing issues, like in Bogue Sound. We have different problems with our low-salinity systems, which are sensitive to precipitation and are much closer to land-based threats such as runoff. And despite not having a comprehensive monitoring program, what we can piece together suggests that we may have lost at least 50% of our low-salinity SAV over the past 40 or 50 years. We need an intervention-recovery-restoration approach for our low-salinity meadows. The state is in the midst of updating its Coastal Habitat Protection Plan, and I've been pleased to see a diverse group of people with a range of expertise coming to it with energy and enthusiasm. I think we can make real progress conserving and restoring this amazing resource.
more……https://www.pewtrusts.org/en/research-and-analysis/articles/2020/05/28/why-north-carolinas-seagrass-is-a-diamond-in-the-rough

World Dugong Day 2020: Marine mammal fighting for survival in Indian waters (India)

27 May 2020, by Ashis Senapati, Down To Earth Magazine

The dugong is fighting for its survival in Indian waters and unless conserved, could one day become extinct, experts have said on the eve of 'World Dugong Day' on May 28, 2020. Dugongs are an endangered marine species like sea turtles, seahorses, sea cucumbers and others. They are protected in India under Schedule I of the Wild (Life) Protection Act, 1972.

There were just 250 dugongs in the Gulf of Mannar in Tamil Nadu, the Andaman and Nicobar Islands and the Gulf of Kutch in Gujarat according to the 2013 survey report of the Zoological Survey of India (ZSI). "In 2010, we had counted 250 dugongs through a boat survey," K Sivakumar, a senior scientist of the department of Endangered Species Management at the Wildlife Institute of India (WII), Dehradun, said. "This year, we will count the dugongs with the help of underwater drone cameras, he added".

Dugongs graze on seagrass, and can consume up to 40 kilograms of seagrass in a day. Human activities such as the destruction and modification of habitat, pollution, rampant illegal fishing activities, vessel strikes, unsustainable hunting or poaching and unplanned tourism are the main threats to dugongs. A decade back, fishermen used to sell dugong meat at Rs 1,000 per kilogram in Tamil Nadu, Gujarat and Andaman. Many gullible people used to consume the meat under the wrong impression that it would cool their body temperature. The killings have stopped though, ever since, the WII began awareness drives among people. We often organise dugong protection awareness camps among local fishermen and others in the seaside villages of Tamil Nadu, Gujarat and the Andamans, Sivakumar said. The loss of seagrass beds due to ocean floor trawling was the most important factor behind dwindling dugong populations in many parts of the world, Sivakumar said.

more……https://www.downtoearth.org.in/news/wildlife-biodiversity/world-dugong-day-2020-marine-mammal-fighting-for-survival-in-indian-waters-71413

Related articles

Appeals Court Sides with Pentagon, Refuses to Halt MCAS Futenma Relocation over Endangered Species (8 May 2020, Military.com)
https://www.military.com/daily-news/2020/05/08/appeals-court-sides-pentagon-refuses-halt-mcas-futenma-relocation-over-endangered-species.html

More dugongs beach in TN, but poaching drops (29 May 2020, Times of India)
https://timesofindia.indiatimes.com/city/madurai/more-dugongs-beach-in-tn-but-poaching-drops/articleshow/76079551.cms

Dugongs' plight in sea-grass meadows (30 May 2020, OrissaPOST)
https://www.orissapost.com/dugongs-plight-in-sea-grass-meadows/

Seagrasses will benefit from global change (Portugal)

25 May 2020, Phys.Org

Research shows that "ocean warming increases the nitrogen demand of a globally distributed seagrass, *Z. marina*, and that this demand may be met by an increasing uptake of organic nitrogen," reveals Ana Alexandre, a seagrass ecologist from the Centre of Marine Sciences (CCMAR) who led the research. The scientists from CCMAR and Bangor University used an innovative approach that combined field observations of the rates of nitrogen acquisition by the seagrass in three sites along its latitudinal range (Iceland, United Kingdom and Portugal) with the species' acquisition responses to temperature manipulation obtained from laboratory experiments.

"Seagrasses typically show a preference for inorganic nitrogen, usually ammonium, but it was not yet known how this preference would shift with temperature," explains Ana Alexandre. The author adds that "The rationale behind this shift was that the rate of regeneration of inorganic nitrogen through microbial processes is expected to be higher in warmer environments while the availability of organic nitrogen is expected to be lower."

According to Paul Hill from Bangor University's School of Natural Sciences, the results now published "indicate that warming increases the total acquisition of nitrogen by the seagrass, as well as the relative contribution of organic nitrogen to the plant's total nitrogen acquisition. Because the uptake of organic nitrogen by microbes also increases with temperature, warming will potentially enhance the competition for this nitrogen source between the seagrass and its microbial communities." This study shows that oceans' warming increases the capacity of seagrasses to capture nitrogen, contributing to maintenance of water quality and biodiversity, and increasing the potential for carbon capture.

more……https://phys.org/news/2020-05-seagrasses-benefit-global.html

Ecosystem off Cham Islands recovers after COVID-19 (Vietnam)

23 May 2020, sggpnews

After returning from a regular inspection on coral reefs and ecosystems at eight sites off the Cham Islands last week, experts and staff from the Cham Island Maritime Protected Area (MPA), reported less tourism activities and waste would help the marine ecosystem in waters off the islands recover after the two-month social distancing order due to the COVID-19 pandemic. They said over-tourism resulted in degradation of the ecosystem off the islands in recent years.

During the two-month social distancing order, the islands, a popular attraction welcoming 2,000 tourists each day, did not record any diving tours or boat trips. Vice director of the MPA, Nguyen Van Vu suggested that the islands reduce the number of visitors from a maximum of 3,000 to 1,000 each day to reduce pressure on the marine ecosystem. He said the islands need a break for marine species and seafood resources to recover. The islands often receive 5 tons of waste each day, which mostly was in-organic waste from tourists, not including waste water and fresh water consumption as well as seafood and forestry products.

According to the MPA, the islands are already overloaded, with a fleet of 152 boats including 145 speed boats travelling between Cua Dai Port in Hoi An and the Islands. A report said the rapid increase of speed boats and fishing vessels was the main reason for 66 per cent of sea grass off the islands being destroyed between 2009-18. The islands, 20km off the coast of Hoi An , which was recognised as a World Biosphere Reserve in 2009, is one of few places in Vietnam successfully campaigning against plastic bags.

more……https://sggpnews.org.vn/national/ecosystem-off-cham-islands-recovers-after-covid19-86925.html

Virus prevalence associated with habitat (Mexico)

21 May 2020, by Swansea University

Levels of virus infection in lobsters seem to be related to habitat and other species, new studies of Caribbean marine protected areas have shown. The findings will support efforts to safeguard Caribbean spiny lobsters (*Panulirus argus*), which are a vital food source for communities across the region and world. They also boost our understanding of how viruses spread—disease dynamics—and of the ecology of fragile environments such as tropical reef lagoons and seagrass ecosystems.

The research, led by Dr. Charlotte Davies, now of Swansea University, took place with colleagues at the National Autonomous University of Mexico's Reef Systems Unit. They focused on a threat to this species called *Panulirus argus* virus 1 (PaV1). Discovered in 2000, PaV1 is the first known naturally occurring virus in lobsters. The virus is a particular threat to juvenile lobsters, so tackling it is vital in protecting the species. The team examined lobsters in two marine protected areas in the Mexican Caribbean: the Sian Ka'an Biosphere Reserve and the National Reef Park of Puerto Morelos, where the virus has been present since 2001. They carried out the systematic assessment of virus prevalence across both sites, once a year for two years in Sian Ka'an and seasonally over 4 years in Puerto Morelos. Each site was separated into zones with differing features such as water depth, sediment and extent of vegetation.

The team found: The rate of infection overall was highest amongst smaller juvenile lobsters, and true prevalence could be as high as 32% across populations; In Sian Ka'an, they found that significantly more lobsters with PaV1 lived in the highly vegetated seagrass meadows, compared to the coral reefs—indicating that there may be something in the seagrass which is preventing the virus spreading. Recent research elsewhere has shown that coastal seagrass meadows can trap some pathogens, greatly reducing the number that reach the open ocean and benefiting humans and marine life. However, in Puerto Morelos, where the lobsters are smaller and the ecosystem is very different, variations in habitat in the lagoon did not significantly influence the prevalence of the virus, showing that results may be site-specific.
more…….https://phys.org/news/2020-05-virus-prevalence-habitat.html

Carcass of a Dugong found near Sethukarai shore (Tamil Nadu, India)
20 May 2020, The Hindu

The carcass of a three year-old dugong was found floating near Sethukarai shore on Wednesday. Local fishermen informed forest officials of Kilakarai division. Kilakarai region is part of the Gulf of Mannar (GoM) marine habitat. The last dugong death occurred around a year ago in the division.

Led by Forest Range Officer S. Sikkandar Batcha, the officials drew the carcass to the shore and conducted a postmortem. Mr. Batcha said the mammal was 2.2 m long and 1.6 m wide. It had a circumference of 3.3 m. There were minor injuries on the face. Although the cause of death was yet to be ascertained, the animal could have hit a rock or a vessel. It was buried along the seashore.

The estimated population of Dugongs in the GoM region and Palk Bay habitat is estimated to be around 140. In December last, a Dugong died after colliding against a boat in Anandapuram seashore near Azhagankulam.
more…….https://www.thehindu.com/news/cities/Madurai/carcass-of-a-dugong-found-near-sethukarai-shore/article31633401.ece

Sea slugs and seagrass: A mystery solved (FL, USA)
20 May 2020, Island Reporter

Sanibel-Captiva Conservation Foundation Marine Lab scientists recently have been out in the J.N. "Ding" Darling National Wildlife Refuge performing an annual survey of seagrass health. Last year's survey led to a mysterious abundance of a sea slug on a carpet of algae. "We return to the same spots each year and count species and numbers of shoots, seagrass height and look at other measures to gauge trends in seagrass health. This year we will also be looking for the return of an unusual event discovered last year while doing these surveys," Research Associate Mark Thompson said.

Last year, while surveying within the impoundments on Wildlife Drive, the first thing they noticed was a layer of carpet-like algae over much of the seagrass in our survey area. "It is not good for the seagrass to be buried beneath a thick layer of algae and our survey found much of the seagrass was gone. The next thing we noticed was a swarm of small yellow and greenish slugs hanging on to the algae and sticking to our wet suits," Thompson said. After consulting with slug and algal experts, the sea slug was identified as an *Oxynoe* sacoglossan which was feeding on *Caulerpa fastigiata*. Studies have found that the animals eat the *Caulerpa* and then modify or concentrate the chemicals found in the *Caulerpa* to form toxic defense weapons. Additionally, *Oxynoe* are greenish for a reason - they are kleptoplastic, which means they steal chloroplasts from the *Caulerpa* they eat. The chloroplasts then continue to function inside the sea slug and provide it additional food.

The Caloosahatchee River is famously eutrophic, dumping tons of the nutrients, nitrogen and phosphorus into the estuary annually and supporting blue-green algae blooms, red tide blooms, macroalgae (such as *Caulerpa*) blooms and now sacoglossan sea slug blooms on top of the macroalgae. "This year, we will be on the lookout for seagrass and the algae that covered much of it last year and the sea slug *Oxynoe* which covered much of the algae. It seems this beautiful small creature may also be an indicator that our waters have very high concentrations of nitrogen and phosphorus. They may actually help us get rid of some of the excess algae our nutrient pollution produces," he said.
more…….http://www.island-reporter.com/page/content.detail/id/592128/Sea-slugs-and-seagrass--A-mystery-solved.html?nav=5051

In March, sounds appearing to be dugong calls recorded 23 times total (Okinawa, Japan)
16 May 2020, by Ryukyu Shimpo, Ryukyushimpo

March marked the second month in a row in which sounds appearing to be dugong calls were recorded by an underwater recording device installed in the ocean at the Henoko base construction site, where a base is being built as part of the relocation of U.S. Marine Corps Air Station Futenma to Henoko, Nago. On May 15, the Okinawa Defense Bureau reported the dugong calls at a meeting of the "Environmental Monitoring Committee" expert commission. The sounds appearing to be dugong calls were recorded at the same spot as in February. The sounds were confirmed nine times on March 6, once on March 9, six times on March 13, twice on March 25, and five times on March 29. Meanwhile, no dugongs were sighted, and no seagrass feeding trails were seen.

In April, the Okinawa prefectural government instructed the Defense Bureau to stop the construction and do a survey of dugong activity, but according to the Defense Bureau, there was no discussion of stopping the construction at the meeting on May 15. The Defense Bureau will expand the surveys they have been carrying out already and aim to confirm the habitation status of the dugong.
more…….http://english.ryukyushimpo.jp/2020/05/22/32118/

Federal appeals court allows US military base construction in Okinawa despite environmental concerns (Okinawa, Japan)

08 May 2020, by Rebecca Salamacha, JURIST

A federal appeals court ruled Wednesday that the US military can construct a base in Okinawa, Japan, despite environmental activists' concerns over the base's construction threatening the local dugong population. The activists filed suit under the National Historic Preservation Act (NHPA).

A panel of federal judges heard the case. The panel concluded that the base's construction would not ultimately threaten the dugong population: The panel held that the Department's finding that its proposed action would have no adverse effect on the dugong was not arbitrary or capricious under Section 706 of the Administrative Procedure Act; Specifically, the panel held that substantial evidence supported the Department's conclusion that the presence of the dugong in the area on the new base was sporadic, even if it did not possess more robust baseline population data; and the Department reasonably concluded that there would be no adverse effects on the dugong as a result of the new base. The panel further held that the Department was not unreasonable when it failed to consider population fragmentation, disruption of travel routes, and loss of habitat required to sustain the population, in evaluating the impacts of the new base on the dugong. The panel also held that the Department rationally concluded that the construction and operation of the new base would not adversely impact the dugong population, and would have no adverse effect on the dugong's cultural significance.

Under the NHPA, the government entity must take into account the affects of its construction. Contrary to the court's decision, environmental activists claimed that the US Department of Defense failed to adequately consult local entities required and rationally base its determination on available evidence. Specifically, the activists wanted the Department of Defense to consult their organizations for information. The court found that the Department of Defense's consultation of the Japanese local government, review of studies, and conducting of new anthropological studies sufficed for consultation and rational determination requirements.
more…….https://www.jurist.org/news/2020/05/federal-appeals-court-allows-us-military-base-construction-in-okinawa-despite-environmental-concerns/

Related article
Appeals Court Sides with Pentagon, Refuses to Halt MCAS Futenma Relocation over Endangered Species (8 May 2020, Military.com)
https://www.military.com/daily-news/2020/05/08/appeals-court-sides-pentagon-refuses-halt-mcas-futenma-relocation-over-endangered-species.html
DOD's Finding that New Japanese Base Won't Harm Dugong Upheld (07 May 2020, Bloomberg Law)
https://news.bloomberglaw.com/environment-and-energy/dods-finding-that-new-japanese-base-wont-harm-dugong-upheld
Not everyone welcomes US Marines (30 May 2020, The Japan Times)
https://www.japantimes.co.jp/opinion/2020/05/30/reader-mail/not-everyone-welcomes-u-s-marines/#.XtwjludS-Uk

Rising ocean temperatures threaten seagrass meadows and their ability to hold carbon (VA, USA)

06 May 2020, Phys.Org

As carbon dioxide emissions continue to increase, scientists have recognized that seagrass meadows are important to mitigation because they have high rates of carbon storage. However, rising ocean temperatures threaten seagrass meadows and their ability to retain carbon. The situation underscores the need for ecosystem data on the vulnerability and resilience of these meadows and on the realistic potential of seagrasses for long-term carbon sequestration.

Over an 11-year period, researchers at the National Science Foundation-funded Virginia Coast Reserve Long-Term Ecological Research site used innovative instruments to measure the metabolism of an eelgrass meadow that had been restored in 2001. The results are published in the journal Limnology and Oceanography. Throughout the study, the meadow experienced a unique sequence of conditions. In 2015, 14 years after the restoration began, a 90% die-

off occurred, likely caused by high water temperatures in the early growing season. A recovery period in 2016-2018 provided an opportunity to study the resilience of seagrass metabolism to temperature stress. By capturing data seasonally over many years, the team found that the seagrass ecosystem was in metabolic balance before the die-off but shifted to releasing significant amounts of carbon during the die-off, followed by a period of carbon gain during recovery.

The study suggests that seagrass meadow metabolism is variable, so frequent measurements are needed to gain realistic estimates of carbon sequestration over time. Scientists can use these data to assess how climate change is affecting seagrasses and the role seagrasses may play in mitigating climate change.
more……https://phys.org/news/2020-05-ocean-temperatures-threaten-seagrass-meadows.html

Seagrass Solutions (VA, USA)

04 May 2020, by Fariss Samarrai, University of Virginia

UVA environmental scientists are continuing to document the value of seagrass meadows for mitigating climate change. They conduct much of their research in the seaside bays of Virginia's Eastern Shore, working on the largest seagrass restoration project in the world. Last week former graduate student, Matthew Oreska, published a paper with his collaborators in the journal Scientific Reports that is the first to provide a full accounting of the net carbon gain that restored seagrasses can provide on the carbon trading market.

"Much of the current climate change discussion concerns efforts to reduce the amount of greenhouse gas pollution going into the atmosphere, but efforts to draw some of that pollution out of the atmosphere are equally helpful and may become increasingly important in coming years," Oreska said. "Seagrass restoration projects and other agriculture, forestry and land-use projects that restore a plant community, therefore, provide a relatively straightforward approach for generating negative emissions." The new UVA paper demonstrates the value of preserving and restoring these "blue carbon" ecosystems, providing a means for naturally removing and storing carbon for perhaps centuries.

"Both nature-based and technological strategies can put climate change in reverse by removing atmospheric carbon," said Karen McGlathery who directs UVA's Long-Term Ecological Research project on Virginia's Eastern Shore. "This is critical if we are to meet the Paris Climate Agreement goal of not exceeding 1.5 to 2 degrees Celsius of additional climate warming by the year 2100." The research is an example of the connection between science and policy, McGlathery said. Her research group has helped develop an international protocol by which carbon-producing companies can buy carbon credits in the voluntary carbon market and use those credits to pay for seagrass restoration. This is managed by the international environmental sustainability group Verra. This same research also has informed policy in Virginia. In March, Gov. Ralph Northam signed a bill, largely based on the UVA research, that allows carbon market participation for seagrasses and other aquatic vegetation. "This is exactly the kind of actionable research that we promote through the Environmental Resilience Institute," McGlathery said. "The new policy benefits our partner organization on the Eastern Shore, the Nature Conservancy, and others in generating funding for more seagrass restoration. It's a win-win."
more……https://news.virginia.edu/content/researchers-probing-links-between-pandemic-and-environment

CONFERENCES

The 14th International Seagrass Biology Workshop (ISBW14) (Annapolis, Maryland, USA Summer 2022)

Theme: " Signs of Success "

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 an excellent opportunity for the scientists working on various aspects of seagrass ecosystems to come together and discuss their latest findings.

The ISBW14 Chesapeake Bay will be held in Summer 2021 at the Graduate Annapolis Hotel, Annapolis, Maryland. This will be the first time ISBW has been hosted in the U.S.A. and the iconic Chesapeake Bay is the logical setting. Chesapeake Bay is an iconic estuary with a strong scientific and management history. The resurgence of seagrasses (including brackish water submersed aquatic vegetation) in the bay is the largest documented in the world, and clearly a "sign of success" to inspire seagrass scientists globally.

More information:
To get important updates, visit: https://isbw14.org/
Follow on
Facebook @ISBW14, twitter @ISBW14 , Instagram @isbw14 #isbw14

14th International Coral Reef Symposium (ICRS 2020) (Bremen, Northern Germany, 2021).

Theme: Tackling the Challenging Future of Coral Reefs

The ICRS is the leading global conference on coral reef science, management and conservation, sanctioned every 4 years by the International Coral Reef Society (ICRS). For the first time in its history, an ICRS will be held in Europe. ICRS 2020 will be the key event to develop science-based solutions addressing the present and future challenges of coral reefs, which are globally exposed to unprecedented anthropogenic pressures. The five-day program will present the latest scientific findings and ideas, provide a platform to build the essential bridges between coral reef science, conservation, politics, management and the public, and will promote public and political outreach.

Key Themes which include seagrass ecosystems:

Theme 3: Ecosystem functions and services
Theme 6: Unexplored and unexpected reefs
Theme 9: Global and local impacts
Theme 10: Organismal physiology, adaptation and acclimation

More information:
To get important updates, visit: https://www.icrs2020.de/

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 51,236 views to date)

Global distribution of seagrass meadows *https://www.youtube.com/watch?v=OPbmam_sitk*

Presentation on new scientific paper examining the global distribution of seagrass meadows by McKenzie, Nordlund, Jones, Cullen-Unsworth, Roelfsema and Unsworth *https://doi.org/10.1088/1748-9326/ab7d06*

Seagrass & other matters

World Seagrass Day http://wsa.seagrassonline.org/world-seagrass-day/

A global campaign for World Seagrass Day: Raising public awareness on the importance of seagrass meadows is central to efforts in the protection and conservation of seagrass meadows worldwide. The international seagrass research and conservation community, together with the undersigned, call on the United Nations to declare a World Seagrass Day to recognize the importance of seagrass meadows to the health and well-being of the planet, as well as the people, communities, flora, and fauna that rely on them. Show your support by signing the petition.

SeagrassSpotter https://seagrassspotter.org/

SeagrassSpotter seeks to expand the number of people studying seagrass from a handful of scientists to hundreds and potentially thousands of 'citizen scientists.'. As part of efforts to build a sustainable monitoring network, and by leveraging the enthusiasm of everyone from fishers to SCUBA divers to people on vacations at the beach, we'll create a more comprehensive picture of seagrass meadows around the globe. This in turn will inspire new scientific research and practical conservation measures that can help protect ocean habitats. Working together with citizen scientists all over the world, we'll accomplish big things for seagrass and other vulnerable marine species, but only with your help.

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

Keep up to date on what's happening with the around the world from the WSA. The World Seagrass Association is a global network of scientists and coastal managers committed to research, protection and management of the world's seagrasses. WSA members come from many countries and include leading scientists in marine and seagrass biology. The association supports training and information exchange and raises global awareness of seagrass science and environmental management issues.

World Seagrass Association on Twitter @Seagrass_WSA

Everything seagrass related. World Seagrass Association official account. Follow to stay up-to-date with global seagrass info. Moderator: LM Nordlund

Dugong & Seagrass Research Toolkit http://www.conservation.tools/

Dugongs and seagrass are under threat from human activities. By using this Toolkit you should be able to gather information to:

understand better the status of dugongs, seagrass and communities at your research site;
understand threats to dugongs and seagrasses and help find solutions to those threats;
understand the communities that value or may affect dugongs and seagrasses.

The toolkit will guide you to the techniques and tools most suitable to your team capacity, budget and timeline. By using the toolkit, you will also be helping to standardise data sets and methods across different countries and sites, allowing for better comparison of global dugong and seagrass conservation status. The Toolkit is designed for use by marine natural resource managers and decision-makers (government and non-government) and for dugong and seagrass researchers. The Toolkit will assist organisations to assess funding proposals by describing the scope of work, choice of techniques and tools, and budget.

FROM HQ

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

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

Magazine *http://www.seagrasswatch.org/magazine.html*

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

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

****

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