



Seagrass-Watch e-Bulletin

Le Morne, Mauritius

30 April 2021

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NEWS

Florida budget sets \$8 million aside to help Florida manatees (FL, USA)

29 April 2021, WTSP.com

The unprecedented rate at which Florida's manatees are dying has prompted lawmakers to direct \$8 million from the state's budget towards aiding the native sea cows. The funding would go towards habitat restoration and restoring manatees' access to springs.

Florida manatees have been dying at record numbers early in 2021. Florida's Fish and Wildlife Conservation Commission has reported nearly 700 manatee deaths this year. That is almost three times the five-year average. FWC has said a majority of the deaths have been attributed to a "reduction in food availability," meaning a loss of seagrass.

Since 2009, 58 percent of the seagrass in the lagoon system has disappeared, choked off from sunlight as a result of an over-saturation of nutrients in the water. Seagrass is food for hundreds of thousands of animals and home to even more. The loss of seagrass has been especially hard on the manatees that graze on it. The U.S. Fish and Wildlife Service is currently investigating the recent spike in deaths after declaring the increase an Unusual Mortality Event (UME).

more.....<https://www.wtsp.com/article/news/regional/florida/florida-manatee-state-budget/67-49f0522e-e3fd-42c9-8685-646d4d40499a>

New research shows long-term recovery possible for areas impacted by seagrass die-off (FL, USA)

29 April 2021, Mirage News

Nearly 10,000 acres of lush seagrass vanished from Florida Bay between 1987 and 1991, leading to massive ecological changes in the region near the Florida Keys. Abundance of the seagrass, *Thalassia testudinum*, more commonly known as turtlegrass, a foundation species of the Florida Bay ecosystem, decreased extensively during what is considered to be one of the largest declines in seagrass cover in recent history.

Researchers from the University of South Florida, the Florida Fish and Wildlife Conservation Commission (FWC) and the University of North Carolina Wilmington documented the response of seagrasses after the die-off. Their detailed data collection for over 20 years across the large area of impact has provided unique insight into seagrass resiliency or the ability of a coastal ecosystem to recover after the extensive loss. This study, published in "Scientific Reports," is extremely timely as the work provides a framework for how future recovery of a new seagrass die-off, recorded in 2015 in the same location, may still be possible.

The study shows that the entire sequence of die-off, algal blooms and recovery took 17-23 years. Both the long duration of the study and large area over which the data were systematically collected were unique to reports of seagrass recovery. Also, most studies of marine populations that recover from some kind of disturbance are linked to human intervention, such as removing a source of pollution, but in this case the recovery required no human activities. A number of features that underlie the seagrass recovery: the system was remote, remnants of seagrass leftover after the die-off served as a catalyst for repopulation and having multiple species of seagrass present increases the likelihood for recovery. This study can serve as a framework for other regions experiencing seagrass die-off, including once again in Florida Bay. Their work warns that evaluation of ecosystem resiliency may take decades to detect, mandating long-term studies.

more.....<https://www.miragenews.com/new-research-shows-long-term-recovery-possible-551833/>

Mermaid Gin commits to protecting seagrass meadows (United Kingdom)

28 April 2021, Drinks International

Mermaid Gin, produced by The Isle of Wight Distillery, has committed to support the restoration and protection of its local seagrass meadows. As part of an initiative run by Hampshire & Isle of Wight Wildlife Trust, the activity will see the distillery positioned as a 'marine champion' of the Solent – a stretch of water that runs between the Isle of Wight and England.

Xavier Baker, co-founder of the Isle of Wight Distillery, said: "Through our Net Zero initiative, we're already supporting seagrass meadows abroad, but wanted to also have impact locally. "The Solent's very dear to us all at the distillery, so we're delighted to be part of the #WilderSolent initiative.

Dr Tim Ferrero, senior marine biologist at Hampshire & Isle of Wight Wildlife Trust added: "Enabling seagrass to restore to its historical levels needs a multi-faceted approach. "Our Solent Seagrass Restoration Project is one part of

the puzzle but equally as important is increasing awareness and support for this incredible marine species. This partnership will help inspire others and create a movement of businesses and individuals acting for seagrass, as well as other marine wildlife living in these waters.”

[more.....https://drinksint.com/news/fullstory.php/aid/9527/Mermaid_Gin_commits_to_protecting_seagrass_meadows.html](https://drinksint.com/news/fullstory.php/aid/9527/Mermaid_Gin_commits_to_protecting_seagrass_meadows.html)

UK Government urged to accelerate ocean protection in COP26 plans (United Kingdom)

27 April 2021, *edie.net*

Major UK nature charities including WWF and RSPB have unveiled plans to assess the UK Government's measures to conserve and restore marine habitats this year, urging Ministers to take action ahead of COP26 this November. The charities collaboratively developed the so-called 'Marine Scorecard' after Ministers declared 2021 to be the "marine super year" in January. This declaration was aligned with the UN dubbing the 2020s the 'Ocean Decade' and 'Decade of Ecosystem Restoration'.

A total of 17 metrics are detailed in the scorecard. Some concern broad, long-term policy frameworks, such as ensuring that legally binding targets on nature are added to the Environment Bill as Promised, and reforming offshore planning to ensure that the wind sector's planned expansion does not negatively impact biodiversity. Other scorecard metrics are more specific, covering issues including the monitoring of fishing vessels; species-specific regulations on bycatch; specific recovery projects and scaling up 'blue carbon'. 'Blue carbon' projects are those which sequester carbon using nature-based solutions in marine habitats, such as seagrass and salt marshes.

The organisations contributing to the scorecard are Buglife, Greenpeace, Institute of Fisheries Management, Marine Conservation Society, Orca, RSPB, RSPCA, Surfers Against Sewage, Whale and Dolphin Conservation (WDC), The Wildlife Trusts, Wildfowl & Wetlands Trust (WWT) and WWF. All are Wildlife and Countryside Link members, and the Link is coordinating the scheme. "In the UK, over half the environment we have is under the sea," chair of the Link's marine group Chris Tuckett said. The extent to which seas can combat heating and sequester carbon, with co-benefits to biodiversity, could be boosted with targeted action. For example, it is estimated that if all the UK's seagrass was restored, it could lock up about 3% of the country's annual CO2 emissions.

[more.....https://www.edie.net/news/4/UK-Government-urged-to-accelerate-ocean-protection-in-COP26-plans/](https://www.edie.net/news/4/UK-Government-urged-to-accelerate-ocean-protection-in-COP26-plans/)

Earth Day special: How Qatar is protecting vulnerable species, habitats and natural wonders (Qatar)

22 April 2021, *Travel Daily*

To mark Earth Day, Qatar National Tourism Council (QNTC) is celebrating the conservation of a favourite local aquatic mammal, the dugong, which is the subject of an upcoming exhibition at the National Museum of Qatar. Shining the spotlight on these gentle giants, QNTC is encouraging tourists to learn more about the dugong's underwater world off the Arabian Gulf and the efforts to protect the vulnerable species and their habitat.

Home to the second largest population of dugongs globally, Qatar's continued efforts to study and protect the marine mammals resulted in a rare sighting of a group of 840 dugongs in 2020. Collaborative efforts to educate the public on this iconic marine mammal have also culminated in the upcoming exhibition 'Seagrass Tales, Dugongs Trails' at the National Museum of Qatar, opening under the patronage of Sheikha Al Mayassa bint Hamad, chairperson of Qatar Museums.

Ismail Al-Shaikh, Technical Research Supervisor for ExxonMobil Research Qatar, commented: "We have been studying dugongs at our centre for more than seven years now as part of ExxonMobil's ongoing commitment to support environmental management efforts in Qatar. Dugongs play an important role in marine ecosystems – they contribute to maintaining healthy seagrass meadows that help ensure vegetative balance for a healthy ecosystem. With the species currently classified as vulnerable, we hope that our research will continue to support the population growth of these serene animals, so that they can continue to flourish in Qatar and beyond."

[more.....https://www.traveldailymedia.com/earth-day-special-how-qatar-is-protecting-vulnerable-species-habitats-and-natural-wonders/](https://www.traveldailymedia.com/earth-day-special-how-qatar-is-protecting-vulnerable-species-habitats-and-natural-wonders/)

Companies get involved to help restore seagrass beds (Bermuda)

23 April 2021, *Royal Gazette*

Corporate sponsors are among those helping the Bermuda Seagrass Project expand the seagrass restoration efforts initiated by the Bermuda Government's Department of Environment and Natural Resources. Global environmental organisation Climate Wise said there has been support from BF&M, PwC Bermuda, and SailGP, as well as by private individuals. Climate Wise is co-ordinating the project group as well as assisting with fundraising, governance and reporting. Announcing the expansion, Climate Wise said the restoration of seagrass on the Bermuda platform will provide a suite of benefits to the island's marine environment.

Since designing and testing the novel approach of cages to protect and allow seagrass to re-establish, the DENR has worked alongside a number of local entities, including Climate Wise, to build a project of “true public-private partnership”, the organisation said. Stephen Castree, a founder of Climate Wise, said: “The Bermuda Seagrass Project brings together leading local corporate supporters of the environment; the science community; tourism; and education in an exciting and dynamic way whilst also regenerating a fabulous carbon sequestration bio-resource which can help heal our damaged environment.

Roland Andy Burrows, CEO of the Bermuda Business Development Agency, said: “Bermuda has a strong culture of climate awareness and is committed to playing its part in improving and sustaining the environment here at home and on an international scale. “In addition to investing in our biodiversity, projects like these invest in our diverse and energetic human capital, support career opportunities and contribute to Bermuda’s economic development. We thank all those who are involved and are delighted to see this project progress.”

[more.....https://www.royalgazette.com/local-business/business/article/20210422/companies-get-involved-to-help-restore-seagrass-beds/](https://www.royalgazette.com/local-business/business/article/20210422/companies-get-involved-to-help-restore-seagrass-beds/)

Muuvment Launches New CSR Platform (Bermuda)

22 April 2021, *Bernews*

Bermuda-based social impact software development company Muuvment Ltd is now offering Muuvment Purpose, an “online platform that offers clients support to their Corporate Social Responsibility [CSR] mandates through powerful interactive video campaigns.”

“As part of its broad strategic commitment to CSR, the management and staff of specialty insurer and reinsurer Aspen Bermuda Limited have taken action to protect the local marine environment and to support the community through a “Saving Seagrass” campaign delivered by Muuvment. “Focused on interactive video content that is an integral part of the Muuvment platform, the three-month campaign involved Aspen employees participating in related actions involving financial donations, volunteering and lifestyle pledges. “In partnership with Waterstart, the campaign culminated with Aspen employees spending March 12 on Burt’s Island doing important conservation work – deploying turtle exclusion cages, collecting spat and monitoring water quality – in an effort to protect Bermuda’s precious seagrasses.

Mark Cloutier, Group CEO of Aspen Group said, “It is becoming increasingly important for corporations to demonstrate a strong sense of social purpose and we have been working hard to develop our CSR strategy. The ‘Saving Seagrass’ campaign has resonated strongly with our local team and contributes to a broader community effort to bring back to health Bermuda’s seagrass meadows.”

[more.....https://bernews.com/2021/04/muuvment-launches-new-csr-platform/](https://bernews.com/2021/04/muuvment-launches-new-csr-platform/)

Abu Dhabi's Mubadala announces \$1.5m annual funding for conservation (Abu Dhabi, UAE)

22 April 2021, *gulfbusiness.com*

Abu Dhabi-based sovereign investor Mubadala has announced a \$1.5m annual grant to the Mohamed bin Zayed Species Conservation Fund (MBZ Fund) to support conservation initiatives around the world. The funds will go towards supporting endangered flora and fauna in Africa and Asia, with a focus on countries where Mubadala has portfolio companies including Guinea, Indonesia, Thailand.

In Guinea, funds will be directed to preserving endangered marine species including critically endangered marine turtles, the Atlantic humpbacked dolphin (*Sousa teuszii*), and the African manatee (*Trichechus senegalensis*). In Indonesia, funds will go towards supporting coral reefs and seagrass in the Makasaar Strait. In Thailand, the support will focus on migratory wading birds.

“With this agreement, we are retaining and restoring endangered species globally, thereby underscoring the importance of the private sector in protecting our ecosystems and paving the way for a better future for the next generations,” said Razan Khalifa Al Mubarak, managing director of the MBZ Fund.

[more.....https://gulfbusiness.com/abu-dhabis-mubadala-announces-1-5m-annual-funding-for-conservation/](https://gulfbusiness.com/abu-dhabis-mubadala-announces-1-5m-annual-funding-for-conservation/)

Seagrass Beds at Sebastian Inlet Shows 6+ Acre Gains (FL, USA)

21 April 2021, *Sebastian Daily*

Using aerial surveying, analysis, and field verification, marine biologists from Atkins North America have found an increase in seagrass in the Sebastian Inlet shoal-wide, approximately 6.24 acres, and no new boat propeller scarring. The 145-acre area, divided into six zones and monitored annually, contained six of the seven different species of seagrasses found in the Indian River Lagoon. Each one of the zones showed a net increase. Seagrass coverage totaled 114.96 acres in the area surveyed.

Shoal grass and Johnson’s seagrass continue to be the dominant species with observed manatee grass returning to the flood tidal shoal in the last few years. In the past (2008-2011), manatee grass and shoal grass were the dominant

www.seagrasswatch.org

types, and Johnson's seagrass was a minor component; however, after 2012, shoal grass and Johnson's seagrass have been dominant. The water exchange between the Indian River Lagoon and the Atlantic Ocean has a positive impact on water quality within the lagoon, and has promoted an accelerated resurgence of seagrass beds on the western flood shoal at the Inlet as compared to other parts of the lagoon.

During the August 2020 groundtruthing effort, biologists visited the 16 potential prop scar locations identified in a July aerial image, assessing them for validity. No prop scars were field verified from the aerial imagery. This is a change from 2019, when 34 prop scars were field-validated; however, prior to 2019 the number of prop scars validated during survey events was typically low.

[more.....https://www.sebastiandaily.com/inlet/seagrass-beds-at-sebastian-inlet-shows-6-acre-gains-28373/](https://www.sebastiandaily.com/inlet/seagrass-beds-at-sebastian-inlet-shows-6-acre-gains-28373/)

Mangroves, seagrass habitats under threat as sea levels rise (Singapore)

22 April 2021, *The Straits Times*

Rising sea levels do not just affect human settlements but also impact mangroves and seagrass habitats, which are at risk of being submerged. Should that happen, it could affect the ability of these natural habitats to "mitigate and adapt to climate change", said Dr Zeng Yiwen from the NUS Centre for Nature-based Climate Solutions yesterday.

Dr Zeng said mangrove and seagrass habitats are by nature very adaptable, so when the sea level rises, they can move farther inland. However, when the land behind these habitats is being developed, a barrier forms, blocking their inland progress. Coupled with the potential for storm surges and change in hydrology, these habitats have come under threat.

Professor Benjamin Horton, director of the Earth Observatory of Singapore at Nanyang Technological University and also a panellist at the webinar, said: "If we don't do anything about climate change, that rate (of sea level rise) will be 30mm per year in 50 years. There's not one engineering solution that can solve that. Your corals, your submerged aquatic vegetation and your mangroves will all go extinct."

[more.....https://www.straitstimes.com/singapore/mangroves-seagrass-habitats-under-threat-as-sea-levels-rise](https://www.straitstimes.com/singapore/mangroves-seagrass-habitats-under-threat-as-sea-levels-rise)

Appeal for seagrass spotters (United Kingdom)

21 April 2021, by Julia Henney, *ITV News*

Conservationists are asking Guernsey beachgoers to report any sightings of seagrass, or eelgrass, as it is sometimes known. The UK has lost 90% of its seagrass meadows, with almost half this loss occurring within the last 30 years. This is largely down to pollution, dredging and trawling and coastal development.

Seagrass is one of our most important habitats, its a nursery ground for juvenile fish and its home to the most incredible wildlife including seahorses. But its also an amazing carbon store, so it actually sequesters carbon dioxide from the atmosphere about 20 times more efficiently than a rainforest. So when we're looking at tackling climate change and mitigating the impact eelgrass is really important in that fight.

[more.....https://www.itv.com/news/channel/2021-04-21/appeal-for-seagrass-spotters](https://www.itv.com/news/channel/2021-04-21/appeal-for-seagrass-spotters)

Drone technology gives bird's eye view of Peel-Harvey Estuary seagrass (WA, Australia)

21 April 2021, *Mirage News*

The survey of the Peel-Harvey Estuary seagrass population was completed in Mandurah today with Water Minister Dave Kelly on hand to inspect the drone technology being utilised for aerial mapping. Seagrass surveys are normally carried out using an underwater camera mounted on a vessel to observe which seagrass species are present, their density and any potential signs of stress. Drone technology is also being utilised to map the distribution of seagrass in the Peel-Harvey estuary. The drone imagery will enable the mapping of estuary areas that are too shallow to access by boat.

The distribution of different species of seagrass, and what condition they are in, provides important information about the overall health of an estuary and can identify local areas of concern. In the field, the Department of Water and Environmental Regulation (DWER) seagrass team have surveyed more than 450 locations within the 130km² estuary over the last month, finding four species of seagrasses, including one previously unrecorded in the Peel-Harvey estuary.

[more.....https://www.miragenews.com/drone-technology-gives-birds-eye-view-of-peel-546990/](https://www.miragenews.com/drone-technology-gives-birds-eye-view-of-peel-546990/)

Scientists Sequence Genome of Extinct Steller's Sea Cow (Norway)

Apr 19, 2021 by Natali Anderson, *Sci-News.com*

A multinational team of researchers has successfully sequenced and analyzed the genome of the Steller's sea cow (*Hydrodamalis gigas*), an extinct species with its closest relative being the dugong. Their results show that this large

aquatic mammal definitively embarked on the road toward extinction long before the arrival of the first Paleolithic hunter-gatherers in the Beringia, which is estimated to have occurred at least 25,000-30,000 years ago.

To investigate the population history of the Steller's sea cow, Dr. Artem Nedoluzhko of Nord University in Norway and colleagues sequenced the extinct mammal's nuclear and mitochondrial genomes, from a well-preserved petrous bone housed in the Kaliningrad Museum of the Ocean. Their analysis shows that the gene diversity of the last population of the Steller's sea cow was low and comparable to the last woolly mammoth population that inhabited Wrangel Island 4,000 years ago.

They also suggested that the marine animal was doomed to extinction, even without the direct killing of the last population, because of the overhunting on sea otters and the co-occurring loss of kelp forests in this region. "This marine mammal was most likely a victim of significant climate changes during the Pleistocene and the associated environmental and biodiversity changes," the authors said. "Due to several morphological traits Steller's sea cows could not dive deep, so when the sea retreated and the temperature dropped, the number of suitable feeding sites for the animals decreased. The starvation and the associated fragmentation of distribution possibly led to the origin of the small, separate refugia on the North Pacific islands for this mammal."

[more.....http://www.sci-news.com/genetics/stellers-sea-cow-genome-09569.html](http://www.sci-news.com/genetics/stellers-sea-cow-genome-09569.html)

Conserving seagrass- the ecosystem engineers (India)

18 Apr 2021, *Telangana Today*

Seagrasses occur all along with the coastal areas of India. They are abundant in the Palk Strait and Gulf of Mannar in Tamil Nadu. In the Gulf of Mannar, seagrasses abound in the waters around the islands of Kurusadi, Pumarichan, Pullivasal, and Thalaiyari. All six genera and 11 species of seagrasses are found here.

Some of the important seagrasses are Sea Cow Grass (*Cymodocea serrulata*), Thready Seagrass (*Cymodocea rotundata*), Needle Seagrass (*Syringodium isoetifolium*), Flat-tipped Seagrass (*Halodule uninervis*), Spoon Seagrass (*Halophila ovalis*) and Ribbon Grass (*Enhalus acoroides*). These were once abundant in the Gulf of Mannar region but are now threatened. Some endangered marine organisms like dugong, green turtle, etc, graze directly on seagrass leaves. Many other microorganisms take the nutrients indirectly from seagrasses.

[more.....https://telanganatoday.com/conserving-seagrass-the-ecosystem-engineers](https://telanganatoday.com/conserving-seagrass-the-ecosystem-engineers)

Largest seagrass planting effort begins in Plymouth Sound (England, UK)

16 April 2021, *Scuba Diver Magazine*

Natural England and the Ocean Conservation Trust have announced that work on England's largest seagrass planting effort is taking place from 21 April in Plymouth Sound National Marine Park. A total of 16,000 seagrass seed bags and 2,200 seedling bags are being planted as part of the LIFE Recreation ReMEDIES project being led by Natural England to help support and improve the resilience of our marine environment. The planting is being carried out by project partner the Ocean Conservation Trust.

The four-year project aims to plant a total of eight hectares of seagrass meadows – four hectares in Plymouth Sound and four hectares in the Solent Maritime Special Area of Conservation. The seagrass seeds have been bagged at the National Marine Aquarium in Plymouth by Aquarium and Ocean Conservation Trust staff, as well as volunteers. Seedlings have been growing in the Aquarium's special seagrass laboratory since January.

It is estimated that the UK may have lost up to 92 per cent of its seagrass, so this project is hugely important in protecting and developing seagrass meadows off our coasts. In addition to planting new seagrass meadows, ReMEDIES is working to protect existing ones by helping recreational users to minimise impacts on these sensitive habitats. Natural England and ReMEDIES partners plan to extend the benefits of this work beyond the UK to assist with international marine recovery efforts. Techniques and evidence gathered will be captured and shared with marine conservation organisations across Europe to allow them to learn from and replicate the work.

[more.....https://www.scubadivermag.com/largest-seagrass-planting-effort-begins-in-plymouth-sound/](https://www.scubadivermag.com/largest-seagrass-planting-effort-begins-in-plymouth-sound/)

Related articles

Thousands of seed bags planted in England's largest seagrass planting effort (21 April 2021, [centrafifetimes.com](https://www.centrafifetimes.com))

<https://www.centrafifetimes.com/news/national-news/19247007.thousands-seed-bags-planted-englands-largest-seagrass-planting-effort/>

Ocean rewilding: England's largest seagrass restoration project gets under way (21 April 2021, [Positive.News](https://www.positive.news))

<https://www.positive.news/environment/ocean-rewilding-englands-largest-seagrass-restoration-project-gets-under-way/>

Seagrass meadow restoration project aims to store carbon and boost biodiversity on UK's south coast (22 April 2021, [The Independent](https://www.independent.co.uk))

<https://www.independent.co.uk/climate-change/news/seagrass-meadows-plymouth-carbon-biodiversity-b1835180.html>

Enormous underwater meadows planted in the UK to fight climate change (28 April 2021, [Euronews](https://www.euronews.com))

<https://www.euronews.com/green/2021/04/28/enormous-underwater-meadows-planted-in-the-uk-to-fight-climate-change>

Manatee birth surprises, delights crowd at Siesta Harbor (FL, USA)

15 April 2021, WWSB

A group of onlookers thought they were watching a manatee in distress in a canal in Siesta Harbor. One of the people on the dock was Cindy Burnett, a volunteer at Mote Marine Laboratory. She was on the phone with Mote's Standing Investigations Program hotline when they realized this was a rare sight -- the manatee was giving birth.

Mote researchers are actually familiar with the new mom, said Staff Biologist Jennifer Johnson "We first documented this manatee, U2494, in January 2005 at Lee County Manatee Park in Fort Myers, and we had 10 total sightings of her from 2005-2019," she said. "We've also documented at least three other calves with her throughout the years, making April 12th's birth at least her fourth."

Kerri Scolardi, a senior biologist at Mote says sightings on the Suncoast will be common. "Many manatees are still in their spring distribution areas, so we can expect to see a lot of manatees on the move in the coming weeks, including mom and calf pairs, as local waters continue to warm." Scolardi said boaters should be extra vigilant. "This is a very important time for everyone recreating out on the water to remain vigilant in abiding by best practices to keep manatees safe."

[more.....https://www.mysuncoast.com/2021/04/15/manatee-birth-surprises-delights-crowd-siesta-harbor/](https://www.mysuncoast.com/2021/04/15/manatee-birth-surprises-delights-crowd-siesta-harbor/)

Water Street owner gets permit to begin oyster farming in Copano Bay (TX, USA)

14 April 2021, by Brian Burns, KIIITV.com

A local restaurant owner Brad Lomax, is bringing oyster farming to the Coastal Bend on an eight acre farm in Copano Bay. Oyster farming, which exists along both east and west U.S. coasts, was only approved in Texas two years ago. Lomax is getting ready to place oyster cages on eight acres in the south end of Copano Bay. It's a float system of raising oysters. The nearly indestructible floats suspend the combination net bags and wooden cages near the surface to allow oysters to grow faster than they do naturally on the ocean bottom.

During their growth, each oyster filters between 40 and 50 gallons of water a day while they feed. Lomax said the farm should be in operation this summer. Steen Gunderson, CEO and president of BBI Group, manufacturers of oyster farming equipment, says oyster farming is not only environmentally friendly but also acts to repair damaged bays and estuaries. "Systems have been brought into essentially water desert scapes so that nothing but sand. Within a couple of years of the Oyster Gro system, you see seagrass and eelgrass coming back onto the sea floor."

Lomax says he's supporting legislation which will create an advisory committee to help streamline the permitting process for the oyster farming industry on the Texas Gulf Coast. "If we can develop an industry that satisfies consumer tastes and helps the environment, man, we're, we're ahead of the game."

[more.....https://www.kiitv.com/article/money/business/water-street-owner-starts-oyster-farming/503-061aeda0-e1f7-4a31-8192-d9e73b5fee3d](https://www.kiitv.com/article/money/business/water-street-owner-starts-oyster-farming/503-061aeda0-e1f7-4a31-8192-d9e73b5fee3d)

Manatees in the middle of a die-off on Florida's East Coast (FL, USA)

13 April 2021, by Jay Cashmere, WPTV.com

The manatee has always been a poster for promoting tourism yet each year protecting this threatened species grows more problematic. "I'm so distressed so many are dying," said Dr. Edith Widder, co-founder of ORCA, Ocean Research and Conservation Association. Widder and her researchers have been collecting samples from the St Lucie River. They're plotting pollution maps to find out what's at the bottom and where it came from. "We've been measuring as much as 10-foot deep muck," said Widder. "Seagrass can't grow in it." The connection between less seagrass and more muck has been a contributing factor in the growing number of manatee mortalities this year.

Six hundred thirty-seven manatees died across the state of Florida last year alone. Already as of this writing, the Florida Fish and Wildlife Conservation Commission has recorded 613 manatee deaths just in the first four months of 2021. The numbers are growing daily. At this rate, six manatees are dying each day. It's so bad it has created an unusual mortality event. That means state and federal investigators are trying to identify the cause.

Researchers agree, a cascade of pollution that filters from backyards, sewers, algae blooms and discharges are slowly suffocating the cleanliness of our ecosystem. Stopping it at its source, they said, is key and education is the only way to get there. If manatees are an indicator of the health of our environment and they're dying daily in near-record numbers, perhaps it is time to start listening to them.

[more.....https://www.wptv.com/news/protecting-paradise/manatees-in-the-middle-of-a-die-off-on-floridas-east-coast](https://www.wptv.com/news/protecting-paradise/manatees-in-the-middle-of-a-die-off-on-floridas-east-coast)

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Manatee Mortality Skyrockets: Plans from Florida Officials (14 April 2021, Florida Political Review)

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More Florida manatees have died this year than all of 2020, most in Indian River Lagoon (14 April 2021, TCPalm)

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Manatees making annual migration to coastal waters for summer months (14 April 2021, The News-Press)
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Manatee deaths on the rise in Florida: Lack of seagrass could be to blame (14 April 2021, WWSB)
<https://www.mysuncoast.com/2021/04/15/manatee-deaths-rise-florida-lack-seagrass-could-be-blame/>

Why the Market for 'Blue Carbon' Credits May Be Poised to Take Off

13 April 2021, by Nicola Jones, Yale Environment 360

Off the shores of Virginia, vast meadows of seagrass sway in the shallow waters. Over the past two decades, conservation scientists have spread more than 70 million seeds in the bays there, restoring 3,600 hectares of an ecosystem devastated by disease in the 1930s. The work has brought back eelgrass (*Zostera marina*) — and is now absorbing the equivalent of nearly half a metric ton of CO₂ per hectare per year. Now, the Virginia Nature Conservancy is aiming to turn those tons into carbon credits that it can sell for cash.

The collaborative project — with planting done by the Virginia Institute of Marine Science (VIMS) and the Nature Conservancy, and long-term carbon data provided by the University of Virginia — is the first seagrass project in the world to apply for carbon credit certification with the Washington-based nonprofit Verra, the world's largest overseer of carbon credit projects. "It's proof of concept," says Christopher Patrick, director of the VIMS seagrass restoration and monitoring program. "We're not going to change global climate with this one project. But we can show it's a viable approach."

The rules to allow these other ecosystems to claim credits are new. In 2015, Verra published its first methodology to give credits to tidal wetland and seagrass restoration, but only last September did Verra expand its rules to cover wetland conservation. Amy Schmid, ecologist and manager of natural climate solutions development for Verra, says, "there's a lot of demand for blue carbon credits." So far, though, marine-based efforts have lagged behind land-based forestation projects. But the ocean's capacity for keeping global warming in check — while also providing food, boosting biodiversity, and protecting local coasts from storms and tides — is huge. "The market is small but growing exponentially," agrees marine ecologist Oscar Serrano at Edith Cowan University in Perth, who has helped to catalog the capacity for Australia's blue carbon reserves in mitigating climate change.

[more.....https://e360.yale.edu/features/why-the-market-for-blue-carbon-credits-may-be-poised-to-take-off](https://e360.yale.edu/features/why-the-market-for-blue-carbon-credits-may-be-poised-to-take-off)

Great Pond Foundation, MVC Team Up for First-of-Its-Kind Eelgrass Mapping Project

12 April 2021, by Noah Asimow, The Vineyard Gazette - Martha's Vineyard News

Stitching together nearly 1,500 high-resolution drone images, the Edgartown Great Pond Foundation has teamed up with the Martha's Vineyard Commission to produce a first-of-its-kind map of eelgrass in Slough Cove, hoping to gain a better understanding of the vital seagrass in the Island's coastal ponds. The map — an interactive, digital mosaic — was made possible by a grant from the Edey Foundation and is part of the foundation's broader blue carbon initiative to measure how much carbon is stored in the Great Pond and other marine ecosystems on the Island.

It is the first updated map of eelgrass in the pond since 1951. Once ubiquitous in the Island's marine ecosystems, eelgrass had declined precipitously for decades before experiencing a resurgence in the past five years, Foundation executive director Emily Reddington said, prompting the new mapping project. The foundation decided to focus the mapping on Slough Cove, a narrow eastern finger of the pond that has seen increased development in recent decades, hopeful that it could be used as a model for the rest of the pond down the road.

After the images were compiled, Great Pond foundation staff ground-truthed the map with state data, and worked out a formula to determine the amount of carbon stored in Slough Cove's approximately seven acres of seagrass meadows. Depending on analysis methods, Mr. Bouck estimated that the cove alone stores between 418 and 523 tons of carbon. Seagrass and coastal ponds are four times more efficient for sequestering carbon from the atmosphere than forests, and store carbon twice as fast, Ms. Reddington said. Although that doesn't diminish the significance of land-based conservation, Ms. Reddington said the findings add perspective on the importance of restoring marine ecosystems. "If you're getting the choice to conserve an acre of forest or an acre of seagrass, you're going to get a lot more bang for your buck with your seagrass," Ms. Reddington said.

[more.....https://vineyardgazette.com/news/2021/04/12/great-pond-foundation-mvc-team-first-its-kind-eelgrass-mapping-project](https://vineyardgazette.com/news/2021/04/12/great-pond-foundation-mvc-team-first-its-kind-eelgrass-mapping-project)

New project to restore seagrass and tackle climate change launches

09 April 2021, by Claire Thorpe, On The Wight

Hampshire and Isle of Wight Wildlife Trust has launched an exciting new partnership with Boskalis Westminster Ltd to undertake a seagrass restoration project within the Solent, starting with an important research and development phase. The Solent Seagrass Restoration Project, which will be led by the Trust's Senior Marine Biologist Dr Tim Ferrero, aims to identify the best methodology for restoring this hugely important marine species within the Solent, whilst also monitoring the habitat as a provider of carbon sequestration.

“By regenerating seagrass habitats, we will create a Wilder Solent, supporting increased biodiversity and sustainable fisheries, promoting greater ecosystem services, cleaner water and creating a natural blue carbon solution to mitigate the effects of climate change,” Dr Fererro said. The Solent Seagrass Restoration Project is a vital piece of the puzzle in working towards the Trust’s vision and in partnership with Boskalis Westminster, the Trust aims to restore seagrass habitats in the Solent to their historical levels and in all locations that could support it.

This project contributes to the Boskalis ambition to further develop nature-based infrastructure solutions to protect and enhance coastal ecosystems. In addition to beginning work on the research and development phase of the project, the Trust will also be working to increase awareness of seagrass and its vital role in tackling the climate and ecological emergencies.

[more.....https://onthewright.com/new-project-to-restore-seagrass-and-tackle-climate-change-launches/](https://onthewright.com/new-project-to-restore-seagrass-and-tackle-climate-change-launches/)

Rare footage of the world's biggest seagrass meadow

08 April 2021, Yahoo News

Beneath the waves, in a remote corner of the Indian Ocean, rising from the seabed thousands of meters below, is the Saya de Malha bank. Scientists believe it's home to the largest seagrass meadow in the world - carpeting an area the size of Switzerland. This vast aquatic wilderness of carbon-dioxide capturing plants could play a crucial role in tackling climate change.

The Greenpeace ship Arctic Sunrise, with a team of scientists on board, navigated to the isolated spot - roughly located between the Seychelles and Mauritius. Once above the plateau, researchers got to work. Seagrass leaves found floating in the water were collected for analysis, as well as samples to identify some of the thousands of species thought to thrive in the Saya de Malha ecosystem. A remotely operated underwater vehicle was deployed to record rare footage from deeper parts of the bank.

[more.....https://news.yahoo.com/rare-footage-worlds-biggest-seagrass-081616215.html](https://news.yahoo.com/rare-footage-worlds-biggest-seagrass-081616215.html)

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<https://www.dailysabah.com/life/environment/seagrass-key-climate-ally-being-destroyed-by-human-activity>

Shrinking sea meadows store more carbon than forests. Scientists are racing to track what's left. (20 April 2021, Washington Post)

https://www.washingtonpost.com/health/shrinking-sea-meadows-store-more-carbon-than-forests-scientists-are-racing-to-track-whats-left/2021/04/16/f72a80c4-9881-11eb-962b-78c1d8228819_story.html

Piney Point crisis: How manatees could be impacted by wastewater leak (FL, USA)

07 April 2021, by Daisy Ruth, WFLA

As the wastewater leak situation continues at the Piney Point reservoir, many are worried about the effects the water spilling out will have on Florida’s wildlife, especially the threatened West Indian manatee. As Floridians have seen, an unrelated “unusual mortality event” in the mammal has been confirmed on Florida’s east coast due to death of seagrass, the manatee’s main source of food.

Clearwater Marine Aquarium Research Institute’s Executive Director Dr. James Powell said he and his team are concerned that the additional nutrients spilling from Piney Point and going in to Tampa Bay could potentially cause algal blooms. He said those blooms would decrease visibility and clarity of water in seagrass habitats, a cause for concern like Florida’s east coast.

While officials are confident in new outpour models at Piney Point, with the pond now containing less than 300 million gallons of contaminated water as authorities work to drain it, when asked, Dr. Powell said a worst case scenario begins with seagrass. “I would certainly expect it to be catastrophic, first on seagrasses and also just feeding that algal bloom,” he said. “I could see a major ecological shift occurring and potentially a tipping point – again this is, you know, speculation.” Dr. Powell said manatees in the short term may be able to swim out of the way but many other species would be “impacted immediately.”

[more.....https://www.wfla.com/news/local-news/manatee-county/piney-point-crisis-how-manatees-could-be-impacted-by-wastewater-leak/](https://www.wfla.com/news/local-news/manatee-county/piney-point-crisis-how-manatees-could-be-impacted-by-wastewater-leak/)

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Environmental concerns mount as millions of gallons of wastewater head towards Tampa Bay (06 April 2021, FOX 13 Tampa Bay)

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As danger of major breach recedes, Florida seeks long-term solution for troubled plant (07 April 2021, Washington Post)

https://www.washingtonpost.com/climate-environment/as-danger-of-major-breach-recedes-florida-seeks-long-term-solution-for-troubled-plant/2021/04/06/f0c00748-96f8-11eb-b28d-bfa7bb5cb2a5_story.html

Red Tide is cause of concern near Piney Point discharge in Tampa Bay (24 April 2021, Tampa Bay Times)

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Bradenton Beach dredge project gears up

06 April 2021, by Kelsey Mako, *The Anna Maria Islander*

The Bradenton Beach dredging and seagrass mitigation project will begin this month with the goal to create a more navigable channel. The mitigation contractor was set to begin staging its equipment April 2, according to city attorney Ricinda Perry. The contractor, AquaTech Eco Consultants LLC, will begin the seagrass mitigation portion of the project, staking out the planting areas.

Mitigation, essential to dredging projects because it reduces losses incurred from stirring up the bay bottom by putting in new plants, will take place before dredging. Dredging will begin in mid-April or early May. The project is on track to be completed by early September, with a state deadline for completion of the project by Dec. 31.

Dredging will take place from the South Coquina Boat Ramp, 1465 Gulf Drive S., northward to the Historic Bridge Street Pier, 200 Bridge St. Perry said the project is important to Bradenton Beach because the channel is extremely shallow, causing boats to run aground.

[more.....https://www.islander.org/2021/04/bradenton-beach-dredge-project-gears-up/](https://www.islander.org/2021/04/bradenton-beach-dredge-project-gears-up/)

Cuba's coast resilience project benefits from multi-million US dollar grant (Cuba)

04 April 2021, *Jamaica Observer*

A coastal resilience project along Cuba's south coast has benefited from US\$23.9 million dollars that was recently approved by the Green Climate Fund (GCF). GCF financing will be provided during the project's first eight years and will complement US\$20.3 million of dedicated financing that will be provided by the Government of Cuba for the implementation of an ecosystem-based adaptation approach for coastal protection. The 30-year 'Mi Costa' project will enhance climate resilience for over 440,000 Cubans and protect vulnerable coastal habitats.

UNDP Latin America and the Caribbean notes Cuba is highly vulnerable to the impacts of climate change. It says while the Cuban Government has made impressive gains towards sustainable development, coastal erosion, flooding, saline intrusion, drought and sea-level rise, threaten these hard-won economic and social gains. Projections show that if no intervention is made by the end of the 21st Century, up to 21 coastal communities will disappear entirely in Cuba, with 98 more severely affected by climate-related threats.

“By taking cost-effective ecosystem-based approaches, this innovative project will protect and restore natural habitats, reefs, seagrasses and mangroves, and help communities to protect their environment from the present and future risks posed by these severe tropical storms and hurricanes, sea-level rise and other climate change related risks. A key aspect of the project will be its focus on working with communities and local authorities to fully understand the value of ecosystems to their own resilience and livelihoods,” said Dr Maritza García, President of the Environment Agency. These steps will improve the health of over 9,000 hectares of seagrass beds and approximately 134 kilometres of coral reef crests — essential protections from rising seas and storm surges.

[more.....https://www.jamaicaobserver.com/latestnews/Cubas_coast_resilience_project_benefits_from_multi-million_US](https://www.jamaicaobserver.com/latestnews/Cubas_coast_resilience_project_benefits_from_multi-million_US)

What's good for the ocean may also be good for business

By Tatiana Schlossberg, *The Denver Post*

Marty Odlin, who grew up and lives on the Maine coast, remembers what the ocean used to be like. But in the last few years, he said, he has seen lots of seagrass and many other species virtually disappear from the shoreline. Using his training as an engineer, Odlin has decided to try to reverse that decline with his Portland based company, Running Tide. Using a combination of robotics, sensors and machine learning, he is building an aquaculture operation that is selling oysters now and eventually clams. He is also using that system to grow kelp to pull carbon dioxide from the atmosphere and permanently sequester it by burying it on the ocean floor, and sell carbon offsets. The company also plans to restore sea grass, to help the coastal ecosystem by bringing back biodiversity and improving water quality, among other benefits.

Odlin's plans are one of a number of efforts in the “blue economy,” a term used to describe commercial activity on the oceans, seas and coasts. He and others are trying to prove that ocean conservation, sustainable fishing and carbon sequestration can be good for business, especially as global shipping, aquaculture and the appetite for wild seafood increases around the world.

Blue economy projects require a more hands-on approach to saving the ocean and a more deliberate overlap of business and conservation, which have historically been at odds, said Odlin, the founder of Running Tide. “We have to take a more active role in solving the problem that we're seeing,” he said. “And how do you take a more active role? The moral imperative is that you have to build something at the scale of the problem.” Otherwise, he said, “generations in front of us are not going to forgive us.”

[more.....https://www.denverpost.com/2021/04/03/ocean-conservation-business/](https://www.denverpost.com/2021/04/03/ocean-conservation-business/)

Seagrasses Turn Back the Clock on Ocean Acidification (CA, USA)

31 March 2021, by Kat Kerlin, UC Davis

Spanning six years and seven seagrass meadows along the California coast, a paper from the University of California, Davis, is the most extensive study yet of how seagrasses can buffer ocean acidification. The study, published in the journal *Global Change Biology*, found that these unsung ecosystems can alleviate low pH, or more acidic, conditions for extended periods of time, even at night in the absence of photosynthesis. It found the grasses can reduce local acidity by up to 30 percent.

For the study, the scientists deployed sensors between 2014 and 2019, collecting millions of data points stretching from Northern to Southern California. These include Bodega Harbor, three locations in Tomales Bay, plus Elkhorn Slough, Newport Bay and Mission Bay. Buffering occurred on average 65 percent of the time across these locations, which ranged from nearly pristine reserves to working ports, marinas and urban areas. Despite being the same species, eelgrass behavior and patterns changed from north to south, with some sites increasing pH better than others. Time of year was also an important factor, with more buffering occurring during the springtime when grasses were highly productive. "What is shocking is that we see effects of amelioration during the night as well as during the day, even when there's no photosynthesis," said lead author Aurora M. Ricart. "We also see periods of high pH lasting longer than 24 hours and sometimes longer than weeks, which is very exciting."

Northern California's Bodega Harbor and Tom's Point within Tomales Bay stood out as being particularly good at buffering ocean acidification. Pinpointing why and under what conditions that happens across varied seascapes remains among the questions for further study. The study carries implications for aquaculture management, as well as for climate change mitigation and conservation and restoration efforts. Researchers at the UC Davis Bodega Marine Laboratory and its interdisciplinary Bodega Ocean Acidification Research Group are working with coastal communities, shellfish growers, policymakers and other scientists on a variety of research projects aimed at understanding how changing seawater chemistry impacts ecologically and economically important coastal species in California.

[more.....https://www.ucdavis.edu/news/seagrasses-turn-back-clock-ocean-acidification](https://www.ucdavis.edu/news/seagrasses-turn-back-clock-ocean-acidification)

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Seagrasses Can Help Decrease Ocean Acidity: UC Davis Study (01 April 2021, Jefferson Public Radio)

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Seagrass Forests Counteract Ocean Acidification (05 April 2021, Scientific American)

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Scientists warn sea grasses store twice as much carbon dioxide as forests, but we are destroying them quickly (09 April 2021, The Hill)

<https://thehill.com/changing-america/sustainability/climate-change/547436-scientists-warn-sea-grasses-store-twice-as>

UC Davis researchers find that seagrasses can reduce the impact of ocean acidification (24 April 2021, The Aggie)

<https://theaggie.org/2021/04/23/uc-davis-researchers-find-that-seagrasses-can-reduce-the-impact-of-ocean-acidification/>

CONFERENCES

The 14th International Seagrass Biology Workshop (ISBW14) (Annapolis, 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 2022 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/>

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www.seagrasswatch.org

14th International Coral Reef Symposium (ICRS 2020) (Virtual, 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 PUBLICATIONS:

Seagrass ecosystems of the Pacific Island Countries and Territories: A global bright spot

L.J. McKenzie, R.L. Yoshida, J.W. Aini, S. Andréfouet, P.L. Colin, L.C. Cullen-Unsworth, A.T. Hughes, C.E. Payri, M. Rota, C. Shaw, P.A. Skelton, R.T. Tsuda, V.C. Vuki, R.K.F. Unsworth

Seagrass ecosystems exist throughout Pacific Island Countries and Territories (PICTs). Despite this area covering nearly 8% of the global ocean, information on seagrass distribution, biogeography, and status remains largely absent from the scientific literature. We confirm 16 seagrass species occur across 17 of the 22 PICTs with the highest number in Melanesia, followed by Micronesia and Polynesia respectively. The greatest diversity of seagrass occurs in Papua New Guinea (13 species), and attenuates eastward across the Pacific to two species in French Polynesia. We conservatively estimate seagrass extent to be 1446.2 km², with the greatest extent (84%) in Melanesia. We find seagrass condition in 65% of PICTs increasing or displaying no discernible trend since records began. Marine conservation across the region overwhelmingly focuses on coral reefs, with seagrass ecosystems marginalised in conservation legislation and policy. Traditional knowledge is playing a greater role in managing local seagrass resources and these approaches are having greater success than contemporary conservation approaches. In a world where the future of seagrass ecosystems is looking progressively dire, the Pacific Islands appears as a global bright spot, where pressures remain relatively low and seagrass more resilient.

https://www.seagrasswatch.org/mckenzie-et-al_2021b-2/

Seagrass ecosystem contributions to people's quality of life in the Pacific Island Countries and Territories

L.J. McKenzie, R.L. Yoshida, J.W. Aini, S. Andréfouet, P.L. Colin, L.C. Cullen-Unsworth, A.T. Hughes, C.E. Payri, M. Rota, C. Shaw, R.T. Tsuda, V.C. Vuki, R.K.F. Unsworth

Seagrass ecosystems provide critical contributions (goods and perceived benefits or detriments) for the livelihoods and wellbeing of Pacific Islander peoples. Through in-depth examination of the contributions provided by seagrass ecosystems across the Pacific Island Countries and Territories (PICTs), we find a greater quantity in the Near Oceania (New Guinea, the Bismarck Archipelago and the Solomon Islands) and western Micronesian (Palau and Northern Marianas) regions; indicating a stronger coupling between human society and seagrass ecosystems. We also find many non-material contributions historically have been overlooked and under-appreciated by decision-makers. Closer cultural connections likely motivate guardianship of seagrass ecosystems by Pacific communities to mitigate local anthropogenic pressures. Regional comparisons also shed light on general and specific aspects of the importance of seagrass ecosystems to Pacific Islanders, which are critical for forming evidence-based policy and management to ensure the long-term resilience of seagrass ecosystems and the contributions they provide.

https://www.seagrasswatch.org/mckenzie-et-al_2021a-2/

SEAGRASS-WATCH on YouTube

Seagrass: Pastures of the sea <http://www.youtube.com/watch?v=66Y5vgswj20> or

<https://www.seagrasswatch.org/podsnmore/>

Presentation on what seagrasses are and why they are important (over 52,410 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](https://twitter.com/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 <https://www.seagrasswatch.org/ebulletin/>

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

Educational Videos <https://www.seagrasswatch.org/education/>

Magazine <https://www.seagrasswatch.org/magazine/>

Virtual Herbarium <https://www.seagrasswatch.org/herbarium/>

Future sampling dates <https://www.seagrasswatch.org/upcomingevents/>

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