



Seagrass-Watch e-Bulletin

Le Morne, Mauritius

30 November 2021

Seagrass-Watch's electronic news service, providing marine and coastal news of international and national interest. 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	2
Seed bags planted to help restore the health of Solent's waters (England, UK)	2
CGI's free STEM From Home project presents a whole new world of interactive learning for learning for young people (United Kingdom)	2
Australian Ethical doubles down on climate & tech answers with inaugural 2021 (QLD, Australia).....	2
Florida's manatees are on the ropes (FL, USA)	3
Environmental workers concerned over discovery of dead 'dugong' (Philippines).....	3
Seagrass (Wales, UK).....	3
Queen conch under threat: overharvesting leads to sea snail's decline (Trinidad and Tobago).....	3
Data on Seychelles' seagrass, a vital carbon sink, is shared at climate conference (Seychelles).....	4
Blue Carbon International Policy Challenge (Scotland, UK)	4
New bid to protect Bay's precious seagrass (England, UK)	4
Kenya to COP26: Prioritise Blue Economy in talks (Kenya)	5
Penang hopes to gazette man-made island next year (Malaysia)	5
Sea grass begins to recover in Charlotte Harbor (FL, USA)	5
Carbon offset is greenwashing, critics say (South Africa)	6
These hidden carbon sinks may prove crucial for our survival (Colombia)	6
Are oceans more valuable as carbon sinks than as a source of oil and natural gas? (England, UK).....	6
There's been a huge spike in injured and unwell turtles in south-east Queensland (QLD, Australia).....	7
How to restore seagrass habitat to tackle climate change and biodiversity loss (England, UK)	7
The problem with blue carbon: can seagrass be replanted ... by hand? (Scotland, UK)	7
A natural CO2-sink thanks to symbiotic bacteria (Germany).....	8
Poor water quality and trawling take toll on seagrass (QLD, Australia).....	8
CONFERENCES	9
14 th International Seagrass Biology Workshop (ISBW14) (Annapolis, 07-12 August 2022)	9
58 th Australian Marine Science Association conference (AMSA 2022) (Cairns, Australia, 07-11 August 2022).....	9
15 th International Coral Reef Symposium (ICRS 2022) (Bremen, Germany, 03-08 July 2022)	9
SEAGRASS-WATCH PUBLICATIONS:	10
SEAGRASS-WATCH on YouTube	10
SEAGRASS & OTHER MATTERS	10
World Seagrass Day	10
SeagrassSpotter.....	10
World Seagrass Association	10
World Seagrass Association on Twitter @Seagrass_WSA.....	11
Dugong & Seagrass Research Toolkit	11
FROM HQ.....	11
Past E-bulletins	11
Frequently Asked Questions	11
Educational Videos h.....	11
Magazine.....	11
Virtual Herbarium	11
Future sampling dates.....	11

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

Seed bags planted to help restore the health of Solent's waters (England, UK)

30 November 2021, Planet Radio

Volunteers have been preparing 10,000 special seed bags to help boost the underwater eco-system of the Solent. The Ocean Conservation Trust is carrying out planting four hectares of seedbags at the end of November and early December from Milford on Sea all the way to Chichester Harbour. Volunteers, have been volunteering to pack 10,000 biodegradable hessian seed bags at the National Marine Aquarium in Plymouth.

Fiona Crouch, Natural England project manager for ReMEDIES, said "This is an exciting moment for our restoration work in the Solent and a real journey for our seeds as they make their way from the seabed to the lab and, eventually, back to the seabed again. 'As well as restoring seagrass, our partnership is exploring the pressures that seagrass beds are facing from recreational activities in the marine environment. By working together to reduce the impact that these activities can have on the sensitive seabed, we hope to minimise further loss.

"The Ocean Conservation Trust is also trialling an alternative method of growing seagrass seeds to seedling using hessian 'pillows'. "The biodegradable pillows are stuffed with seeds and grown in the special cultivation lab at the NMA before being transferred to the seabed. Like the bags, the pillows breakdown naturally over time, leaving only the plant behind." Amelia Newman, Ocean Conservation Trust seagrass cultivation officer for ReMEDIES, said "We've been working hard to trial new methods of seagrass restoration for the project. "The advantage of using these pillows is that we can see the shoots come up and control light levels in the lab accordingly. "Then we can transfer multiple seedlings - pillow and all - onto the seabed once the seedlings are strong, healthy, and their roots have begun to mesh. It gives them a great start and we're excited to see the results."

[more.....https://planetradio.co.uk/wave-105/local/news/seed-bags-planted-to-help-restore-the-health-of-solents-waters/](https://planetradio.co.uk/wave-105/local/news/seed-bags-planted-to-help-restore-the-health-of-solents-waters/)

CGI's free STEM From Home project presents a whole new world of interactive learning for learning for young people (United Kingdom)

29 November 2021, The Herald

COP26 has just seen the world's leaders descend on Glasgow – and to help children understand the issues and what they can contribute to the fight against climate change, technology company CGI have released free online material as a fun, engaging educational tool. The programme was born from the Science, Technology, Engineering and Maths (STEM) camps that CGI had been running before the lockdowns in UK schools and communities to encourage students to think about a STEM career.

The latest packs were released to coincide with COP26 in November. One was a partnership with the Data Communications Company (DCC), which operates the secure nationwide network for smart meters in Britain, and another was a CGI partnership with environmental charity Project Seagrass. Project Seagrass, which is protecting and building carbon dioxide absorbing seagrass sites along the UK coast, is also working closely with CGI. Its CEO and co-founder Dr Richard J Lilley said: "As someone who taught science for six years in a secondary school setting I sincerely appreciate the efforts that CGI have taken in creating these resources. Students respond positively to relevant, curated and contemporary STEM exercises because it makes the content they are learning relatable, and the skills they are developing feel directly applicable in a 'real world' setting."

The partnership is part of CGI's No Planet B initiative and global net zero commitments. As part of the sponsorship, CGI has committed to planting 50 bags of seagrass seed in a Welsh habitat, and its employees – which CGI calls members – have an option to carry out volunteer work with the charity. Working on a pro-bono basis with Project Seagrass, CGI will also deliver insights using its GeoData360 Earth Observation Platform that leverages data from the European Space Agency's Copernicus Satellite Earth Observation Mission.

"The pack gives children an introduction to Project Seagrass and why the charity is making this effort to save and preserve seagrass," explained Kittow. "They can do a bit of their own research into seagrass and there is a step-by-step video explaining how to make a Secchi Disk as well as a wordsearch and coding activities in the pack." Kittow said both packs had been well received, with teachers particularly pleased to have interesting material linked to the real world.

[more.....https://www.heraldscotland.com/business_hq/19748390.cgi-free-stem-home-project-presents-whole-new-world-interactive-learning-young-people/](https://www.heraldscotland.com/business_hq/19748390.cgi-free-stem-home-project-presents-whole-new-world-interactive-learning-young-people/)

Australian Ethical doubles down on climate & tech answers with inaugural 2021 (QLD, Australia)

29 November 2021 Clear Publicist

Receiver researchers at Central Queensland University will reseed around 20 hectares of seagrass inside of the Port of Gladstone utilizing UAVs (drones) for targeted seed dispersal, demonstrating a new method of seagrass

restoration that is scalable throughout Australia. UAVs will map the restoration web-sites employing Light-weight Detection and Ranging (LiDAR) and multispectral imaging to evaluate focus on destinations for restoration.

[more.....https://www.clearpublicist.com/australian-ethical-asxae-doubles-down-on-climate-tech-answers-with-inaugural-2021-visionary-grants/](https://www.clearpublicist.com/australian-ethical-asxae-doubles-down-on-climate-tech-answers-with-inaugural-2021-visionary-grants/)

Florida's manatees are on the ropes (FL, USA)

28 November 2021, Bradenton Times

Florida's manatees have come back from where they stood on the brink of extinction in the late 1960s, when only a few hundred individuals remained in the wild. Today over 6,000 of the herbivorous "sea cows" swim the Indian River Lagoon and Florida's other near-shore waterways. So it's hard to believe that 2021 has been the worst year in recorded history for manatees, with Florida wildlife officials reporting a whopping 1003 manatee deaths in state waters so far this year. That's a 37 percent increase in manatee deaths over 2020, when biologists recorded 637 kills.

More than half of 2021's deaths have been in the Indian River Lagoon, a 156-mile east-central Florida coastal estuary that stretches across six counties. However, over the past 20 years tens of thousands of acres of seagrass have vanished; the University of Florida estimates that up to 95 percent of seagrass is gone from some areas of the Lagoon. The main culprit is runoff from fertilizer and septic systems, which has polluted the water and promoted toxic algae blooms. These blooms deplete the water's oxygen levels and cloud its surface, decreasing the amount of light available to seagrasses for photosynthesis.

While it is currently illegal in Florida to feed manatees in the wild, conservation groups like Save the Manatee Club are now considering taking matters into their own hands by providing "supplemental feedings" to halt the unprecedented starvations. Meanwhile, rescuing injured or starving manatees remains a top priority of the group, which has helped rescue upwards of 130 manatees in 2021 alone while also funding facilities to rehab injured manatees so they can return to the wild.

[more.....https://thebradentontimes.com/florida-s-manatees-are-on-the-ropes-p23711-137.htm](https://thebradentontimes.com/florida-s-manatees-are-on-the-ropes-p23711-137.htm)

Environmental workers concerned over discovery of dead 'dugong' (Philippines)

17 November 2021, Philippine News Agency

Environment personnel in Sarangani have raised concern over the discovery of a dead sea cow (dugong) on the shores of Kiamba town, Sarangani province. Joy Ologuin, area superintendent of the Sarangani Bay Protected Seascape (SBPS), said on Wednesday the dead marine mammal was initially reported by local residents to have washed ashore at a portion of Barangay Poblacion. She said the Municipal Environment and Natural Resources Office (MENRO) and the Community Environment and Natural Resources Office (CENRO) in Kiamba immediately verified the matter and found the carcass of the female sea cow.

Ologuin said she ordered the immediate burial near the site of the marine mammal in coordination with local stakeholders. MENRO and CENRO personnel are currently looking into the possible causes of the death of the 2.7-meter sea cow, which is among the flagship species of the SBPS.

[more.....https://www.pna.gov.ph/articles/1160048](https://www.pna.gov.ph/articles/1160048)

Seagrass (Wales, UK)

16 November 2021, CGTN Europe

To mark the UN Biodiversity Summit in Kunming, RAZOR took a look back at some of its most dynamic biodiversity stories. Seagrass is a flowering plant that grows in the sea, provides a habitat for various species and captures carbon 35 times quicker than a rainforest. But in the last century, Seagrass has suffered a massive global decline because of pollution, overfishing and coastal developments.

Jo Colan has traveled to Dale in the west of Wales to meet a team of scientists who have pioneered an underwater seagrass restoration project, which is turning the tide for the plants.

[more.....https://newseu.cgtn.com/news/2021-11-16/Seagrass-and-the-elephants-long-march-home-RAZOR-full-episode-15f3sNylLvq/index.html](https://newseu.cgtn.com/news/2021-11-16/Seagrass-and-the-elephants-long-march-home-RAZOR-full-episode-15f3sNylLvq/index.html)

Queen conch under threat: overharvesting leads to sea snail's decline (Trinidad and Tobago)

14 November 2021, Trinidad and Tobago Newsday

While the queen conch (*Lobatus gigas*) is a popular local delicacy that is often included in many dishes, aquatic ecologist Dr Ryan S Mohammed will prefer to see these sea snails included on a list of protected animals. Mohammed is calling for their protection in TT given researchers fear they are being overhunted. For now, Mohammed is calling for a temporary ban on the harvesting of queen conchs in TT.

If this is done, Mohammed thinks researchers will be able to get more data on the health of their population, give these sea snails a chance to replenish and give authorities time to plan a managed conch fishery as is already being done in some islands. But overharvesting isn't the only way people are contributing to the decline of these sea snails.

Given queen conchs lay their eggs in seagrass nests, Mohammed said they require specific conditions in their habitats – like healthy seagrass – to successfully reproduce. Seagrass loss in TT due to climate change, coupled with losses due to marine pollution, can affect the ability of queen conchs to successfully reproduce thus leading to a decline in their population. Like every animal, the queen conch plays a vital ecological role. Mohammed explained, “They are grazers, so they would eat a lot of your surface algae and substrate. They will also eat a lot of algae that are among the seagrass, so that the seagrass could have better space to grow. “It’s all a balance and connected because the ecological function of the seagrass is important as they remove excess nitrates and ammonia from the water. “We need the conch present to maintain a proper vegetational balance in the ecosystem because without the conch, you’ll have an explosion in growth of the different kinds of algae which will in turn have a trickle-down effect.”
[more.....https://newsday.co.tt/2021/11/14/queen-conch-under-threat-overharvesting-leads-to-sea-snails-decline/](https://newsday.co.tt/2021/11/14/queen-conch-under-threat-overharvesting-leads-to-sea-snails-decline/)

Data on Seychelles' seagrass, a vital carbon sink, is shared at climate conference (Seychelles)

14 November 2021, Seychelles News Agency

Initial data gathered from a mapping study on Seychelles' seagrass meadows was presented at the UN climate conference COP26 in Glasgow, Scotland, said Jeanne Mortimer, the lead consultant. The information will also be used when Seychelles discusses issues surrounding its carbon footprint with other countries.

The Seychelles' seagrass and carbon mapping project costs around \$1 million and is spearheaded by the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT). The project has three main phases: mapping seagrass using satellite imagery; data field collections on seagrass meadows; and data analysis on seagrass extend and carbon stock.

Mortimer pointed out that "we have general ideas of where it is easy to find seagrass, but there is still so much to learn, and some of it we will only be able to tell when we are on the seabed." She said this is why this study was important as "you can't have a healthy marine environment without having a healthy seagrass environment, but people tend to take that for granted, going oh yeah it's just seagrass!" Seychelles has also embarked on an ambitious journey to protect 100 percent of its seagrass habitats by 2030.

[more.....http://www.seychellesnewsagency.com/articles/15773/Data+on+Seychelles%27+seagrass%2C+a+vital+carbon+sink%2C+i+s+shared+at+climate+conference](http://www.seychellesnewsagency.com/articles/15773/Data+on+Seychelles%27+seagrass%2C+a+vital+carbon+sink%2C+i+s+shared+at+climate+conference)

Blue Carbon International Policy Challenge (Scotland, UK)

11 November 2021, The Scottish Government

The way in which marine and coastal habitats such as saltmarshes and seagrass store carbon is to be explored and tested through a new Scottish-led initiative to help tackle the twin crises of climate change and biodiversity loss. The Blue Carbon International Policy Challenge will make awards of £10,000 available for up to five successful projects that can demonstrate how they will establish policy blueprints for domestic and international action after COP26.

The challenge seeks to bring together private, public and third sector organisations from across the globe to increase our knowledge of blue carbon and identify how to move from research to action. Rural Affairs Secretary Mairi Gougeon announced the challenge at the Blue Carbon Conference in Edinburgh - run by the Scottish Blue Carbon Forum (SBCF) in partnership with the University of St Andrews and the Scottish Government.

“Scotland is already playing a leading role in research on blue carbon. Given the size of our seas, our commitment to marine conservation and our well established work on blue carbon, as well as our decisive action to address climate change, I am keen that continues. We must move as fast as we can from research into testing and taking action,” Ms Gougeon said.

[more.....https://www.gov.scot/news/blue-carbon-international-policy-challenge/](https://www.gov.scot/news/blue-carbon-international-policy-challenge/)

New bid to protect Bay's precious seagrass (England, UK)

11 November 2021, Torbay Weekly

Three brand new boat moorings designed to protect Tor Bay's seagrass meadows have been installed at Fishcombe Cove - the first of their kind in Tor Bay. Wild Planet Trust has installed the mooring buoys as part of the #SaveOurSeagrass campaign established in 2018. The campaign has been supported by Totnes-based underwater measuring instrument manufacturer, Valeport. Along with other funders, this support has also enabled a dedicated group of volunteer divers to monitor the Tor Bay seagrass beds to determine the best place for moorings and survey the health of our seagrass.

Although the seagrass areas in Tor Bay are voluntary no-anchoring zones, Wild Planet Trust is actively looking to encourage water enthusiasts and boat users to respect the seagrass by not anchoring at the known seagrass locations and use these new permitted moorings. The design of this new mooring system means damage to seagrass is prevented as the mooring chains are suspended above the seabed.

[more.....https://www.torbayweekly.co.uk/news/torbay-seagrass-protect-8477200](https://www.torbayweekly.co.uk/news/torbay-seagrass-protect-8477200)

Kenya to COP26: Prioritise Blue Economy in talks (Kenya)

11 November 2021, *The Standard*

Kenya has called upon nations to prioritise the ocean action agenda at the UN climate negotiations in Glasgow to save biodiversity from effects of global warming.

“The role of the ocean in climate change mitigation and adaptation, as well as the burden that the ocean ecosystem has to bear due to the impacts of climate change are well documented,” said the Fisheries, Aquaculture and the Blue Economy PS Francis Owino in Glasgow, Tuesday. “COP26 therefore provides us, friends of the Ocean, with a lifetime opportunity to call for increased resources for global ocean – climate action to support protection, restoration and sustainable management of ocean ecosystems, including blue carbon habitats,” he said.

“To address the ever-growing threats to fragile sea grass and coral reef ecosystems, we have developed a conservation strategy,” he said. The PS added that in partnership with World Bank and other stakeholders, Kenya had embarked on development of a Marine Spatial Plan, a step towards achieving a Sustainable Ocean Plan by 2025. “We have additionally committed to putting 30 per cent of our oceans under highly protected Marine Protected Areas by 2030,” Owino said.

[more.....https://www.standardmedia.co.ke/national/article/2001428828/kenya-to-cop26-prioritise-blue-economy-in-talks](https://www.standardmedia.co.ke/national/article/2001428828/kenya-to-cop26-prioritise-blue-economy-in-talks)

Penang hopes to gazette man-made island next year (Malaysia)

10 November 2021, *The Sun Daily*

Penang hopes to gazette the man-made island located next to the first Penang bridge as soon as next year and develop the area to be a ‘Middle Bank Marine Sanctuary’. State Environment and Welfare Committee chairman, Phee Boon Poh said the area has the largest seagrass meadow in the country, on top of featuring a vast array of marine life and serving as a feeding ground for various marine creatures. “This is our commitment to the people to preserve our heritage and we are working towards developing this marine sanctuary.

[more.....https://www.thesundaily.my/local/penang-hopes-to-gazette-man-made-island-next-year-XG8549312](https://www.thesundaily.my/local/penang-hopes-to-gazette-man-made-island-next-year-XG8549312)

Sea grass begins to recover in Charlotte Harbor (FL, USA)

07 November 2021, *yoursun.com*

Early reconnaissance of seagrass beds shows some recovery in Charlotte Harbor and Lemon Bay, one of the region’s lead environmental scientists reported. The good news comes on the heels of reports of 23-50% seagrass losses in certain parts of Charlotte County marine waters. The loss of seagrass has been named as the cause of starvation for manatees on Florida’s east coast.

Biologist Betty Staugler presented the seagrass news to the Beaches and Shores Advisory Committee. Evidence of recovering seagrass comes from volunteer snorkelers in the Eyes of Seagrass program Staugler began in 2019 when she was the county’s extension agent for the University of Florida. Trained volunteers go out each year in April and July and survey underwater quadrats for amounts and species of seagrass as well as macro-algae. In a south county coastal area between Alligator Creek and Burnt Store Marina, the snorkelers saw the abundance of seagrass go from a low of 25% in 2019 to 45% this summer. At the same time, macro-algae went from a high of 60% in 2019 to 25% this summer.

Red tide and macro-algae are named as possible precursors to the loss of seagrass in parts of Charlotte Harbor reported earlier this year, particularly along the eastern wall that includes Ponce de Leon Park to Burnt Store Marina in Punta Gorda. Development in Charlotte Harbor and Southwest Florida is proceeding at a rapid pace. Also proceeding are other measures to protect water bodies, including removal of septic systems and planned improvements to sewage treatment, Charlotte County’s new Water Quality Manager Brandon Moody has said. He is also planning to dramatically expand water quality sampling to include inland canals in the county’s most populated neighborhoods.

[more.....https://www.yoursun.com/charlotte/news/sea-grass-begins-to-recover-in-charlotte-harbor/article_15466ace-3e6c-11ec-9440-1399428df694.html](https://www.yoursun.com/charlotte/news/sea-grass-begins-to-recover-in-charlotte-harbor/article_15466ace-3e6c-11ec-9440-1399428df694.html)

Carbon offset is greenwashing, critics say (South Africa)

07 November 2021, Mail & Guardian

With global warming harming land, marine and coastal life, some conservationists are turning their eyes to financing their protection through carbon market trading. It is a highly contentious issue at the United Nations climate talks (COP26), and was left unresolved at the last meeting in 2019 at COP25 in Madrid, Spain. Jennifer Morgan, executive director of Greenpeace International, said that “offsetting doesn’t stop carbon entering the atmosphere and warming our world, it just keeps it off the ledgers of the governments and companies responsible”.

The Blue Natural Capital Financing Facility, which focuses on marine conservation finance, believes that marine conservation must move to income generating activities, and move away from reliance on donors. It is touting the use of carbon credits to support conservation initiatives. In projects in the Philippines, the Caribbean’s Belize, Kenya, Tanzania, Mexico and several other places, the BNCFF said commercialised conservation projects are shown to be beneficial both for the marine environment, and coastal communities. In Kenya the Marine Fisheries Research Institute uses seagrass conservation to sell carbon credits to fossil fuel businesses, who use these projects to “offset” their emissions at source.

Concerned over what putting a price on carbon mitigation means for nature solutions, global bodies such as the International Union for Conservation of Nature have put out guidelines to avoid harming biodiversity and people. COP26 in Glasgow, Scotland, is expected to establish a rule book on the global carbon market under the Paris Agreement. The rule book, which has been under discussion for more than two decades, is meant to safeguard the climate finance mechanism from allocating credits for poor quality projects.

[more.....https://mg.co.za/environment/2021-11-07-carbon-offset-is-greenwashing-critics-say/](https://mg.co.za/environment/2021-11-07-carbon-offset-is-greenwashing-critics-say/)

These hidden carbon sinks may prove crucial for our survival (Colombia)

07 November 2021, Mother Jones

Marine ecosystems of seagrass, mangrove, and salt marsh are powerful CO2 scrubbers. The Cispatá conservation project, a collaboration between Colombia’s Marine and Coastal Research Institute (Invemar), Conservation International (CI) and Apple, has attracted the attention of marine scientists, researchers and corporations, as it is among the first to measure and sell a new type of credit to fund conservation: “blue carbon.”

Protecting and restoring seagrass, mangrove and salt marsh ecosystems could help absorb the equivalent of as much as 1.4 billion tons of emissions a year by 2050. These ecosystems are some of the most threatened in the world by coastal development—damaged by farming, harmful fishing practices and pollution—so protecting and restoring them is expensive. Enter the carbon-offset market. Some conservation groups are selling carbon credits to fund their work. For example, Verra, a non-profit organization based in the US that administers the world’s leading carbon-credit standard, estimates that the carbon emissions mitigated by Cispatá to be almost 1m tonnes over three decades—the equivalent of greenhouse gas emissions from the annual mileage of 214,000 cars.

María Claudia Diazgranados, a marine biologist and CI’s blue carbon director in Colombia, said: “We have been looking for a way to fund this ecosystem for years. Some 50 percent of mangroves have been lost from the Caribbean coast over the past three decades, due to cattle ranching, roads, and tourism.” The money from selling blue carbon credits will go directly to communities to fund the Cispatá mangrove restoration. CI, which is also working with local partners and communities, hopes the credits will cover half of the project’s \$600,000 operating costs. “The carbon market is not the goal, it’s the cherry on top,” says Diazgranados.

[more.....https://www.motherjones.com/environment/2021/11/blue-carbon-co2-carbon-sink-save-planet-seagrass-mangrove-salt-marsh-cypress/](https://www.motherjones.com/environment/2021/11/blue-carbon-co2-carbon-sink-save-planet-seagrass-mangrove-salt-marsh-cypress/)

Are oceans more valuable as carbon sinks than as a source of oil and natural gas? (England, UK)

06 November 2021, gCaptain

Scientists want to find out just how much the seas and oceans can help in the battle against climate change. A multimillion dollar partnership between insurance group Convex Group Ltd and the Blue Marine Foundation will allow researchers to spend five years building an open-access database showing how much carbon the world’s seabeds can store.

It’s a relatively unstudied field compared with other forms of carbon sinks such as forests. The United Nations has backed the idea of a “blue economy” that connects economic growth to ocean protection, for example by incentivizing countries to do more to keep the waters clean. “The ocean and its resources, while vital to all life on earth, are currently misunderstood and neglected,” said Professor Callum Roberts at the University of Exeter in England, the lead scientist on the Seascope Survey. The study will try to deduce “the amount of carbon stored in coastal seascapes and on the continental shelves, as well as how vulnerable these stores are to man-made damage,” he said.

The blue economy has already become a feature of sovereign debt markets after the Seychelles pioneered a blue bond in 2018. The U.K.'s Office of National Statistics posited in an April study that the country's seabed could be more valuable as a carbon sink than as a source of oil and natural gas, though the estimates were limited due to the lack of data.

more.....<https://gcaptain.com/oceans-more-valuable-carbon-sink-source-of-oil-natural-gas/>

There's been a huge spike in injured and unwell turtles in south-east Queensland (QLD, Australia)

07 November 2021, ABC

There has been a "massive spike" in the amount of injured and unwell sea turtles needing care in south-east Queensland, turtle experts say. Veterinarians at Sea World on the Gold Coast have already seen a record 80 turtles come into their facility this year. The previous high for a year was in 2014 when 71 turtles were cared for at the centre. To the north, Australia Zoo have had 79 turtles come into their care from the Gold Coast, Redlands, Moreton Bay and Sunshine Coast regions — easily the most in recent years.

Many turtles brought into Sea World suffered from "floating syndrome", which could be caused by multiple factors, including parasites and poor water quality. Turtle rehabilitation coordinator Siobhan Houlihan said despite that inherent information gap, turtles were affected by "a lot of things that are caused by humans". Other ailments included boat strikes and fishing line entanglement or ingestion.

Queensland Parks and Wildlife senior conservation officer Ian Bell said this sort of uptick "really is closely linked to the El Niño Southern Oscillation Index, and it can have a positive or a negative effect". Dr Bell said in strong El Niño conditions there was less rainfall and more sunlight penetration of the sea water, excellent conditions for seagrass growth. "A year or so after a strong El Niño event, we see a very high nesting season because there's lots of nice, fat adult females that are ready to go and lay eggs," Dr Bell said. "On the other hand, if we have a strong La Niña incidence ... we see a lot of rainfall, a lot of runoff, the waters very turbid, and sunlight penetration is poor so the seagrass doesn't go so well." Dr Bell said the effect sediment could have on this crucial food source was "a bit like throwing a tarpaulin over your lawn". Quandamooka Aboriginal Land and Sea Management Agency manager Darren Burns said the sediment's impact on water quality was visible.

more.....<https://www.abc.net.au/news/2021-11-07/qld-sea-turtles-in-south-east-injured-unwell-moreton-bay/100586364>

How to restore seagrass habitat to tackle climate change and biodiversity loss (England, UK)

05 November 2021, Mirage News

A pioneering toolkit for restoring vital seagrass beds in the UK and Ireland has been created by conservation scientists; providing a practical guide for anyone wanting to help re-establish the natural 'blue-carbon' habitats around the coast. The Seagrass Restoration Handbook, commissioned by the Environment Agency, is the first-of-its-kind in England, and is an official output of the UN Decade of Restoration.

The University of Portsmouth and ZSL (Zoological Society of London) led an international team of seagrass experts to create a 'how to' handbook full of practical guidance for local authorities, community partnerships, charities and environmental organisations who want to actively restore seagrass beds. Over the past five years, several scientific teams, notably from Project Seagrass, Swansea University and the Ocean Conservation Trust, have pioneered restoration efforts. The University of Portsmouth is currently doing further research into the connectivity between aquatic habitats, and ZSL Wetland Restoration Programme plans to apply the tool kit in the Greater Thames Estuary where over 300 hectares of seagrass has been lost.

By sharing scientific knowledge and research, this handbook will support groups to start a restoration project of their own. From providing advice on finding a suitable site, distributing seagrass seeds, biosecurity measures, and obtaining a licence. ZSL is urging world governments and policy makers to put nature at the heart of all decision making to truly tackle the global threats of climate change and biodiversity loss, and will be calling on leaders to make this commitment at COP26.

more.....<https://www.miragenews.com/how-to-restore-seagrass-habitat-to-tackle-667557/>

The problem with blue carbon: can seagrass be replanted ... by hand? (Scotland, UK)

05 November 2021, The Guardian

Inside a wooden boathouse on the shore of Loch Craignish, a mass of fronds sit in two 1,000-litre tanks. The fronds are seagrass, and they are filled with seeds. The laboratory may be low-tech, but it is the headquarters of a pioneering, community-led climate experiment. The goal is to restore the loch's once-thriving seagrass meadows. "We are trying to create a seismic change in the health of this sea loch," says Danny Renton, of Craignish Restoration of Marine & Coastal Habitats (Cromach) and founder of Seawilding, a charity backed by people living in the surrounding villages in Argyll and Bute.

Britain has roughly 17,700km of coastline, dotted with salt marshes and seagrass. Both habitats are the best understood stores of “blue carbon” – the carbon held in marine ecosystems. These blue carbon ecosystems sequester up to 2% of the UK’s carbon emissions a year, mostly in soil and, if undisturbed, can store it for millennia. In Scotland, blue carbon stores sequester 28.4 MtCO₂e (tonnes of carbon dioxide equivalent) a year, about three times more than Scotland’s forests combined.

A study earlier this year concluded that 92% of the UK’s seagrass has been lost in the past two centuries. The few patches of seagrass that remain in Loch Craignish are fragmented. “Loch Craignish is very typical,” says Renton, examining a map of the 10 remaining meadows. “Most lochs have had damage to the seabed by bottom trawling and aquaculture, with pollution, like nitrates, entering the water.” Renton’s aim is to enhance the meadows by half a hectare this year. But restoring seagrass, even by half a hectare, is labour-intensive and complex work. In August, 40 volunteers in wetsuits and snorkels swam over the remaining meadows to collect fronds full of seeds, which are now maturing in the tanks. After maturity, hundreds of thousands of seeds were filtered through pumps, then placed in tiny hessian bags, 50 in each, and planted, at one-metre intervals on the bed of the loch. The bags, weighted with sand to make them sink, help protect the seed from predators. With the survival rate of seagrass seeds at about 10%, it could take between five and seven years before the new seagrass growth connects with the old growth to form a meadow.

With the pressure on countries and companies to reach net zero, blue carbon is gaining international attention. Renton has been approached by companies keen to fund the Loch Craignish project in exchange for carbon credits. But he says it is “too early” to consider quantifying, let alone verifying, how the restoration work affects carbon storage.

more.....<https://www.theguardian.com/environment/2021/nov/05/seagrass-meadows-could-turn-tide-of-climate-crisis-aoe>

Related article

Sarah spreads the word on the benefits of seagrass (18 November 2021, The Oban Times)
<https://www.obantimes.co.uk/2021/11/18/sarah-spreads-the-word-on-the-benefits-of-seagrass/>

A natural CO₂-sink thanks to symbiotic bacteria (Germany)

03 November 2021, EurekAlert!

The habitat of many seagrasses is poor in nutrients, such as nitrogen, for much of the year. Although nitrogen is abundant in the sea in its elemental form (N₂), seagrasses cannot use it in this form. How can the plants still thrive? It is thanks to their now discovered microscopic partners: Bacterial symbionts living within the plants roots that convert N₂ gas into a form that the plants can use. Wiebke Mohr and her colleagues from the Max Planck Institute for Marine Microbiology in Bremen, Germany, Hydra Marine Sciences in Bühl, Germany, and the Swiss Water Research Institute Eawag now describe how this intimate relationship between seagrass and bacteria works.

“It was assumed that the so-called fixed-nitrogen for the seagrasses comes from bacteria that live around their roots in the seafloor,” Mohr explains. “We now show that the relationship is much closer: The bacteria live inside the roots of the seagrass. This is the first time that such an intimate symbiosis has been shown in seagrasses. The bacteria that live in the seagrass roots are a new discovery. Mohr and her team named them *Celerinatantimonas neptuna*, after their host, the neptune grass (*Posidonia*).

As the seasons change, the amount of nutrients present in coastal water varies. In winter and spring, the nutrients present in the water and sediment seem sufficient for the seagrasses. “At that time, we do find scattered symbionts in the roots of the plants, but they are probably not very active,” says Mohr. In summer, when sunlight increases and more and more algae grow and consume the few available nutrients, nitrogen quickly becomes scarce. Then the symbionts take over. They directly supply the seagrasses with the nitrogen they need. This is how seagrasses can reach their largest growth in summer, when nutrients are most scarce in the environment.

more.....<https://www.eurekalert.org/news-releases/933160>

Related article

Newly Discovered Symbiosis Could Power Carbon Removal in The Sea (06 November 2021, Science Alert)
<https://www.sciencealert.com/newly-discovered-symbiosis-could-power-carbon-removal-in-the-sea>

Poor water quality and trawling take toll on seagrass (QLD, Australia)

02 November 2021, Griffith News - Griffith University

A team of researchers led by Griffith University used data from the places where seagrass trends have been assessed to calculate for all the world’s oceans where risks to this ecosystem are greatest. This will help to target monitoring geographically and ultimately focus conservation actions where they are most needed. The researchers found that poor water quality and destructive fisheries practices such as trawling are contributing to the global decline of seagrass meadows, which are vital habitats and food sources for marine species and act as climate regulators.

Published in PNAS, researchers from the Australian Rivers Institute and Coastal and Marine Research Centre modelled the trajectories of seagrass meadows in response to anthropogenic pressures at 395 sites around the world between 2000 and 2010. Seagrass meadows off Australian coastlines were among these sites, where meadows ranged from being increasing to rapidly declining. The authors assessed the impacts of eight factors and predicted

the regions at greatest risk of seagrass meadow decline. The results suggest that water quality and destructive trawl and dredge fishing had the strongest associations with rapid seagrass meadow decline.

The authors identified areas at high risk of seagrass loss, including in the North Sea, the Baltic Sea, the northern British Isles, the western North Atlantic, the Gulf of Saint Lawrence, the northeast Pacific Ocean, Japan, and several hotspots in Southeast Asia. "Seagrasses face multiple anthropogenic pressures, but a lack of monitoring renders the assessment of risks of seagrass decline challenging. "By identifying likely hotspots of change, we provide a stepping-stone to guide future monitoring efforts to support the protection of seagrass meadows."

more.....<https://news.griffith.edu.au/2021/11/02/poor-water-quality-and-trawling-take-toll-on-seagrass/>

CONFERENCES

14th International Seagrass Biology Workshop (ISBW14) (Annapolis, 07-12 August 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/>

Follow on Facebook @ISBW14, twitter @ISBW14 , Instagram @isbw14 #isbw14

58th Australian Marine Science Association conference (AMSA 2022) (Cairns, Australia, 07-11 August 2022)

Theme: " Change and Connections "

The annual Australian Marine Science Association conference (AMSA 2022) will enable you to share new experiences and advancements in knowledge and practice. The theme for the conference is to emphasize important linkages among environmental, ecological and social systems at a time characterised by rapid change across all these areas.

More information:

To get important updates, visit: <https://www.amsa2022.amsa.asn.au/>

15th International Coral Reef Symposium (ICRS 2022) (Bremen, Germany, 03-08 July 2022).

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). ICRS 2022 follows the success of the 14th ICRS Virtual event that was held in July 2021, and 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.icrs2022.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 52,967 views to date)

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

Presentation on 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 <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/>

DISCLAIMER

News articles posted as a free community service for the purposes of non-commercial education, research and study; review and the reporting of news; and archived for reference of students and researchers as a 'fair dealing' activity under Australian Copyright Law.

Seagrass-Watch HQ does not guarantee, and accepts no legal liability whatsoever arising from or connected to the accuracy, reliability, currency or completeness of any material contained in this bulletin. 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. This bulletin is not a substitute for independent professional advice and users should obtain any appropriate professional advice relevant to their particular circumstances. The material in this bulletin may include the views or recommendations of third parties, which do not necessarily reflect the views of Seagrass-Watch HQ or indicate its commitment to a particular course of action.

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