Seagrass-Watch e-Bulletin

Le Morne, Mauritius

31 August 2021

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

NEWS

Seagrass meadows: creating underwater soil (Wales, UK)

31 August 2021, The Naked Scientists

Kelp forests and seaweed farms aren't the only way our oceans can trap carbon. Seagrasses are remarkable plants that form underwater grassy meadows, and are able to trap tiny particles of organic matter and form a stable, carbon-rich sediment that prevents greenhouse gases from being released into the atmosphere. Sally Le Page chatted with Leanne Cullen-Unsworth, the director of research at Project Seagrass to find out more about this unassuming ecosystem

more……https://www.thenakedscientists.com/articles/interviews/seagrass-meadows-creating-underwater-soil

SA's coastal environment gets a significant boost (SA, Australia)

31 August 2021, Premier of South Australia

South Australia's coastal environment is getting a significant boost with the delivery of the country's largest ever seagrass restoration project to protect against erosion, support fish populations and improve biodiversity and water quality. The $1 million seagrass restoration project is re-establishing around 10 hectares of seagrass off the Adelaide metropolitan coastline with sandbags dropped into the ocean at strategically selected sites between Glenelg and Semaphore.

Minister for Environment and Water David Speirs said seagrass meadows help protect Adelaide's seabed against erosion and support a healthy marine environment. "Over the last half century, around one third of seagrass along the Adelaide metropolitan coast has been lost and while we have seen some natural regeneration it's imperative that we work to restore these seagrasses as they're really important to the marine environment. "It will take several years for the seagrass to full establish and we will continue to monitor the progress."

Minister for Primary Industries and Regional Development David Basham said the sandbag drops are done at strategic locations and at specific times to maximise the chance of success. "The seagrass restoration project will use a technique developed in South Australia, which places hessian sacks on the sea floor near seagrass meadows, for young seagrass to attach to and grow," Minister Basham said. "Trials undertaken in 2019 have been successful between Largs Bay and Hove which helped identify suitable sites for seagrass restoration work."

more……https://www.premier.sa.gov.au/news/media-releases/news/sas-coastal-environment-gets-a-significant-boost

Local students participate in Science Under Sail (QLD, Australia)

29 August 2021, Bundaberg Now

Seven Grade 10 students and a teacher from Bundaberg Christian College have spent a week on the reef as part of experiential learning with Science Under Sail Australia. Over the course of the week, the students have been investigating marine science components of their curriculum through the mapping of coral and underwater seagrass.

Director of Science Under Sail Australia Dr James Udie says the expeditions were much more than just a week away on the Great Barrier Reef. "This expedition heads out to the Capricorn Bunkers and Pancake Creek between Bundaberg and Gladstone on the mainland. We will be doing surveys where the seagrass and coral live along with testing water clarity and quality," Dr Udie said.

Dr Udie said he had feedback from teachers after their students have participated in the program about an increase in leadership capabilities and being willing to participate and step up and ask questions if they don't understand something. "Students participate in data collection, video editing, data entry on spreadsheets as well as learning more about steering a yacht this size and participating in cooking meals in the galley," he said.

more……https://www.bundabergnow.com/2021/08/29/local-students-participate-in-science-under-sail/

Works to reduce sea grass in popular swimming spot (Vic, Australia)

26 August 2021, Bay 93.9 Geelong

Dredging will commence at Eastern Beach this week to reduce the seagrass build up within the swimming enclosure. The works are expected to take around two weeks depending on weather.

Deputy Mayor Trent Sullivan said it was important to take care of the beach reserve. "We've tried a number of methods to reduce the build-up of seagrass over the years because it grows so easily," Cr Sullivan said. "This year we're dredging the top layers of the seabed to try and ensure swimmers can enjoy clearer water this summer."

The city said the dredging would be undertaken under an approved Environmental Management Plan. It warned spoil from the works will appear and there will be an odour. but the spoil will be buried over with clean sand.

more……https://www.bay939.com.au/news/local-news/128765-works-to-reduce-sea-grass-in-popular-swimming-spot

Underwater gardeners restore seagrass meadows to keep oceans healthy (Wales, UK)

19 August 2021, Mongabay.com

A group of researchers is preparing to dive into the shallow waters of Dale Bay in Wales. They're on a mission to monitor the restoration of the local species of seagrass, *Zostera marina*, also known as eelgrass, as part of a program spearheaded in 2014 by Project Seagrass, a U.K.-based charity that works to restore seagrass meadows and turn research into conservation projects worldwide.

"We are essentially doing underwater gardening," says Richard Lilley, director and co-founder of Project Seagrass. Like plants on land, the seagrass around the U.K. starts growing in the spring. And then in the summer, it starts producing its seed. To collect the seeds needed for the restoration project in Dale Bay, divers swam through some of the remaining seagrass meadows in other areas of the U.K., carefully snapped the seed pods off, and brought them back to the lab. Seeds were then scooped into hessian bags, placed on a rope 1 meter (3 feet) apart from each other, and laid on the seafloor in Dale. From that little cluster, the seagrass will expand to fill up each meter over the next seven to 10 years.

But the scope of Project Seagrass also goes beyond the country's coasts. Its scientists work in Indonesia, Malaysia, the Philippines, Thailand and Timor-Leste under the scope of the International Climate Initiative to share knowledge by engaging local NGOs and communities in seagrass conservation practices. "Seagrass is important in each of these five populations. When that part of the ocean becomes unhealthy, it has a direct effect on them," Lilley says. In addition to providing food security and income for local communities, seagrass meadows often play some role in bringing fish to our markets. Healthy seagrass creates a positive ripple effect that cascades throughout the entire ecosystem.

more…….https://news.mongabay.com/2021/08/underwater-gardeners-restore-seagrass-meadows-to-keep-oceans-healthy/

Put Florida's manatees back on the endangered species list, before it's too late (FL, USA)

17 August 2021, Sun Sentinel

The manatee death toll of 905 through Aug. 5 exceeds the deadliest year on record — 830 in 2013 — and we still have nearly four months to go in 2021. The state is calling it an "unusual mortality event." More like a catastrophe for one of Florida's most beloved and unique creatures, an aquatic mammal whose numbers have been steadily rebounding for 30 years.

This state's longtime neglect of our waters is bearing some bitter fruit. Pollution has resulted in widespread and persistent algae blooms, which are clouding the water and killing the seagrass beds that manatees feed on, especially in the brackish waters of the Indian River Lagoon. The solutions are long-term, but one immediate way to call attention to the crisis is to restore the manatee to the federal list of endangered species.

Pat Rose, the longtime executive director of the Save the Manatee Club, was sounding the alarm back in February. Today, he believes about 20% of the nearly 4,000 manatees that comprise Florida's East Coast population have died since late December. Rose thinks that relisting manatees as federally endangered will create a greater imperative for Florida to stop dawdling and take steps it should have long ago, like getting septic tanks hooked up to sewer systems and upgrading those sewer plants so the water they're releasing is much cleaner than it is now.

more…….https://www.sun-sentinel.com/opinion/editorials/os-op-manatee-record-deaths-florida-endangered-species-20210817-6wyfmie5mfethlyoctjicnqoeu-story.html

Seagrass beds have 'completely collapsed' in last four years (Bermuda)

17 August 2021, Royal Gazette

Many acres of seagrass beds crucial for the survival of sea turtles and other marine life have "completely collapsed" over the last four years, according to a leading environmental group. The Bermuda Turtle Project says "immediate changes" are needed to save the remaining seagrass beds and to help new ones to grow.

While praising the conservation and research efforts already being carried out by the Department of Environment and Natural Resources to protect seagrass habitats, Jennifer Gray, director of the Bermuda Turtle Project (BTP), said more needs to be done. Ms Gray said the BTP is resuming its in-water research this week after a 24-month absence caused by the Covid-19 pandemic. She said: "Once thriving seagrass beds have been in decline for some two decades, but over the last 48 months many acres of this critical habitat have completely collapsed with not a blade of grass left.

"Along with the disappearance of seagrass comes numerous consequences comprising disturbance and shifting of the marine sediments that were once held stable by the root systems of the seagrass and a vulnerability to the arrival of potentially invasive species, especially algae. "Even more troubling is the seeming departure of once-visible species like fish and sea turtles. She said research is needed on other causes of seagrass decline including seagrass pathogens and disease, some of which have wiped out similar habitats on the US coastlines and could have easily arrived in Bermuda. In the meantime, she said other immediate steps can be taken to arrest the decline

in the seagrass and sea turtle and fish populations, including: protecting sharks and other natural predators in order to return to a more natural balance in the food web and ecosystem and Introducing marine protected areas (MPAs) where harmful fishing practices, anchoring, engine outputs and propeller scarring are eliminated.
more…….https://www.royalgazette.com/environment/news/article/20210817/seagrass-beds-have-completely-collapsed-in-last-four-years/

Seagrass seeds collected for Solent restoration project (England, UK)

17 August 2021, Daily Echo

Over half a million seeds have been collected from healthy seagrass meadows to be planted across the Solent. The seeds have been taken from meadows around Osborne Bay, Yarmouth and Bouldnor in the Solent to replant in areas where seagrass has been lost or degraded. Now more seed collection dives are due to take place in Looe and Falmouth, Cornwall this month as part of England's largest seagrass planting programme.

The Natural England-led LIFE Recreation ReMEDIES partnership sees the collected seeds stored and cared for at the partnership's special cultivation laboratory in the National Marine Aquarium, Plymouth before being bagged by volunteers, transported back to the Solent and returned to the seabed over winter. The ambition is to plant a total of four hectares in the Solent Maritime Special Area of Conservation, although the exact planting site is yet to be decided.

Fiona Crouch, ReMEDIES Project Manager for Natural England, 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."
more…….https://www.dailyecho.co.uk/news/19517216.seagrass-seeds-collected-solent-restoration-project/

Related article
Divers shift seagrass seeds and nets (26 August 2021, Divernet)
https://divernet.com/2021/08/26/divers-shift-seagrass-seeds-and-nets/

Port Geographe seagrass wrack removal a success (WA, Australia)

16 August 2021, Busselton Dunsborough Mail

Residents in Port Geographe are overjoyed after seagrass wrack was successfully removed from Western Beach by the Department of Transport (DoT) in July. The accumulation of seagrass wrack on Western Beach has been a problem for more than two decades, occurring since the development of Port Geographe and work to reconfigure the groyne.

The Department used earthmoving equipment to break down compacted faces of seagrass wrack and pushed it towards the water line prior to westerly wind events, encouraging dispersal by waves and currents. Tireless campaigner Peter Maccora has pushed for a solution to the seagrass wrack problem for 26 years, saying he had seen positive signs in relation to the trial which started in July.

"The [Department] finally listened to me and what local residents have been saying for many years, that seagrass wrack arrives on the beaches between May, June and July," he said. "It also clears from the beaches in July and August. "Unfortunately, due to the construction of the Port Geographe breakwaters this natural flow of seagrass wrack west to east has been impeded. "The purpose of the trial works to breakup and push seagrass wrack into the ocean and is designed to assist nature during the winter clearing storm process. "Already most of the seagrass wrack that was trapped along the Western Beach between Morgan Street and Groyne Road has bypassed. "The works already conducted have placed us in the best position in terms of a beach amenity I have seen since the construction of the Port Geographe breakwaters and gives us confidence that the trial to begin works earlier has been a resounding success.
more…….https://www.busseltonmail.com.au/story/7383778/seagrass-wrack-trial-working-at-port-geographe/

Tale of survival continues for Chesapeake's famous manatee (FL, USA)

14 August 2021, The Southern Maryland Chronicle

Florida wildlife officials on Feb. 5 rescued a 1,100-pound male manatee in Florida after he was spotted swimming sideways, a signal of distress. Suffering from malnutrition and severe pneumonia, he was taken to SeaWorld Orlando for rehabilitation. Rescuers soon realized they had just saved an icon. A decade after his last confirmed sighting anywhere, Chessie the manatee — famous for his northerly treks to the Chesapeake Bay — was still alive. The distinctive scars on his back betrayed his identity as the manatee that stunned the scientific world in 1994 with his first foray into the Chesapeake, for which he was named. At the time, he was the first documented manatee to be spotted in Maryland.

A record number of manatees has perished in Florida this year in what experts are calling an unprecedented die-off. Marine scientists say most of the 890 deaths, as tabulated through July 30, are linked to a massive decline in seagrass on the state's East Coast that has robbed the gentle mammals of their primary food source. More than 10% of the state's population of manatees, as calculated by the federal Fish and Wildlife agency, is believed to have been wiped out during the "unusual mortality event." The deaths and rescues have slackened in recent months as warmer temperatures have allowed the lumbering creatures to travel more widely to munch seagrass beds elsewhere, according to the Florida Fish and Wildlife Conservation Commission.

Chessie, tipping the scales at 1,500 pounds, was released May 12 just north of West Palm Beach, FL. By May 23, he had trekked to the mouth of the St. Johns River near Jacksonville, about 300 miles up the coast. Over the next month, the satellite tracker showed him swimming several miles up the river as well as farther north along the coast to within a few hundred yards of the Florida-Georgia state line. But after the tag sent up a signal near Blount Island in the St. Johns on June 27, there were no more pings. Where and when Chessie will pop up again is anyone's guess now. Ross urged anyone who spots a belt-wearing manatee to report the sighting to their state's wildlife agency.
more…….https://southernmarylandchronicle.com/2021/08/14/tale-of-survival-continues-for-chesapeakes-famous-manatee/

Are mangroves and seagrasses the key to net emissions reduction? (Australia)
13 August 2021, The Mandarin

The CSIRO and BHP are undertaking a new research program that will attempt to measure and quantify the net emissions reduction potential of 'blue carbon' and restore Australia's coastal ecosystems. The $3.3 million research into 'blue carbon' potential, which includes mangroves, seagrasses and tidal marshes, also aims to show the value of other benefits these ecosystems offer coastal protection, fisheries and biodiversity.

According to CSIRO research scientist and project co-leader Dr Andy Steven, conserving and restoring blue carbon ecosystems could have positive effects on the environment and local communities. The CSIRO had adopted a co-investment model for the blue carbon project, which is one of several industry partnerships that the agency has entered to develop solutions for climate change. The findings of the work, and its tools, will be made publicly available to investors, project developers and communities.

Researchers from the CSIRO and other national universities will participate in the 30-month project in two streams and use satellite-based earth observation technology and computer modelling to estimate the blue carbon net emissions reduction potential. The first research stream will focus on estimating blue carbon's carbon abatement potential, while the second stream will develop ways of quantifying the additional benefits that accrue to fisheries, biodiversity and coastal risk reduction.
more…….https://www.themandarin.com.au/165737-are-mangroves-and-seagrasses-the-key-to-net-emissions-reduction/

How a biologist is volunteering to track invasive species, monitor health of North Shore bays (Canada)
11 August 2021, CBC.ca

Large areas of two bays in the P.E.I. community of North Shore are thriving, says biologist Sarah Stewart-Clark, but there are some areas of concern. Stewart-Clark is a biology professor at Dalhousie University and grew up enjoying the beaches and bays around Tracadie, Covehead and Brackley. A few years ago she was named co-chair of the Sustainability of Bays Committee, a voluntary position, where she has been making records of the ecological health of the area, above and below the water.

Stewart-Clark said she has found some beautiful eelgrass meadows. She has also been examining items along the surface of the water, such as channel buoys and wharfs, for evidence of invasive species. She is seeing signs that green crabs, an invasive species which first began to establish populations in eastern P.E.I., are having a negative impact on the bays. "What I'm seeing is some evidence of eelgrass being uprooted by green crab," said Stewart-Clark, adding that is not the only threat the meadows are facing.

"I'm very concerned about the sea lettuce that is overgrowing the eelgrass because it can then block the sunlight from being able to reach sea grass. You know, there's really healthy spots and there's spots that are cause for concern." Sea lettuce can grow quickly when there are excess nutrients in the water, and in previous years agriculture has been cited as a source of these nutrients.
more…….https://www.cbc.ca/news/canada/prince-edward-island/pei-stewart-clark-north-shore-bays-1.6135770

Exeter tech firm works on pioneering robotic boat project (England, UK)
10 August 2021, Business Live

A technology business and the University of Plymouth's Marine Institute have been awarded more than £266,000 for a pioneering project using autonomous vessels equipped with acoustic sensors to map seagrass beds. The proposed system centres on the use of low-impact, fully electric, uncrewed data acquisition platforms and non-invasive survey

techniques, and will involve developing and training new machine-learning algorithms to classify underwater vegetation.

The resulting solution will monitor seagrass coverage and canopy height, with the sensors being trained to provide a rapid and robust coverage and biomass assessment that can inform ongoing monitoring programmes. The project, which will include more than 40 days of on-water validation and testing, will build upon existing seagrass research being performed by the university. It will be developed in Plymouth Sound and the South West, but could ultimately help researchers map, classify and monitor seagrass habitats globally.
more…….https://www.business-live.co.uk/news/exeter-tech-firm-works-pioneering-21271013

The sound of seagrass (Belgium)
09 August 2021, Physics Today

Seagrass leaves are threaded with air-filled channels known as aerenchyma. In 2009 Preston Wilson and Kenneth Dunton of the University of Texas at Austin hypothesized that the leaves' air phase, not their solid phase, dominated their acoustic response. With laboratory experiments, they demonstrated that the speed of sound through a Gulf of Mexico seagrass meadow was indeed dependent on the biomass—that is, on the leaves' mean density. But their simple two-phase model failed to predict the biomass dependence. A successful model, they argued, would require knowledge of the elastic properties of the seagrass tissue and its structure.

Wilson and his collaborators, Jay Johnson of the University of Michigan and the late Jean-Pierre Hermand of the Free University of Brussels, have now extended that earlier work. They placed leaves of seagrass inside a glass cylinder filled with artificial seawater. The cylinder acted as a one-dimensional resonator. A vibrating piston attached to one end of the cylinder drove sound waves through the water. Sweeping the piston's frequency from low to high established a succession of resonant standing waves of increasing mode number. Knowing the cylinder's length and presuming the modes went from 1 to 2 to 3 to 4 yielded the sound speed. The new set of measurements examined samples from *Posidonia oceanica* and *Cymodocea nodosa*, taken from sites off the Mediterranean islands of Sicily and Crete. Across all the samples, the difference in sound speed between only seawater and seawater containing seagrass ranged from −1.5 m/s per gram of biomass to −54 m/s per gram of biomass. However, the range within each sample was much narrower. For example, in the 73 samples of *P. oceanica* from Crete, the sound speed difference was −7+1.0−1.3m/s/g.

Johnson, Hermand, and Wilson also looked at the anatomy of seagrass leaves under a microscope. They showed that the volume of aerenchyma in *P. oceanica* leaves varies more strongly from top to bottom than in *C. nodosa* leaves. That difference was manifested in measurements made on two samples of *P. oceanica* leaves, one consisting of only their top halves; the other, only their bottom halves. Given the wide overall range in sound speed, the consistency of measurements from the same species and from the same site suggests that sound speed could serve as a potent diagnostic of the health of seagrass meadows.
more…….https://physicstoday.scitation.org/do/10.1063/PT.6.1.20210809a/full/

Florida steps up efforts to help save species (FL, USA)
09 August 2021, The Villages Daily Sun

Efforts to protect some of Florida's most vulnerable species from dying are expanding this summer. At the Florida Fish and Wildlife Conservation Commission's Aug. 4 meeting, staff heard new information about the ongoing manatee mortality event in the Indian River Lagoon, including that an end to the mortality event is uncertain and flare-ups could reoccur in coming seasons. Close to 900 manatees died in the first seven months of 2021, surpassing the record high of 830 from all of 2013.

Increasing manatee deaths bolstered new calls from Florida's representatives in federal office for the federal government to take action to save manatees. The record manatee mortality, in particular, drew high concern. On July 26, Sen. Marco Rubio announced he sent a letter urging the National Oceanic and Atmospheric Administration to do more to save manatees and restore the lagoon. Earlier this summer, two of the representatives who signed the letter — Republican Brian Mast and Democrat Stephanie Murphy — introduced a House bill known as the Marine Mammal Research and Response Act. If passed, it would increase funding for federal initiatives that support sick and injured manatees and research on the causes of manatee deaths.

Prior to introducing the bill, Murphy urged the U.S. Fish and Wildlife Service to investigate the recent manatee deaths, leading the agency to declare the deaths an unusual mortality event. This designation allowed using federal funds to reimburse the state and nonprofit groups for their efforts to rescue manatees.
more…….https://www.thevillagesdailysun.com/news/villages/florida-steps-up-efforts-to-help-save-species/article_651a00fc-f8c5-11eb-b021-5306d25fa075.html

Higher carbon and nitrogen emissions due to vanishing seagrass beds (Sweden)

05 August 2021, Innovation Origins

The loss of important seagrass beds in western Sweden since the 1980s has led to substantial soil erosion and the release of increased amounts of carbon and nitrogen. These substances contribute to climate change and unwanted growth of algae in the sea. This is evident from a new study by researchers from Gothenburg University, Stockholm University, Åbo Akademi University and the University of Southern Denmark.

The study showed for the first time that losing seagrass causes significant emissions of both carbon and nutrients in the environment. The researchers compared sediments in seagrass meadows with areas where seagrass meadows have been lost in southern Bohuslän on the Swedish west coast. The results show that seagrass meadows in Bohuslän are extremely efficient at storing both carbon and nutrients in the sediment. Especially seagrass beds in areas protected from waves have unusually high levels. The study also reveals that carbon and nitrogen levels are several times lower in the sediment where seagrass beds have vanished. At least 35 cm of the organic-rich sediment were found to be worn away which enabled carbon and nitrogen to escape. The results also show that seagrass beds in protected areas, with the largest carbon and nitrogen layers are the ones with the most sensitive sediment. These are most susceptible to erosion following the disappearance of seagrass.

Currently, seagrass meadows in both Denmark and Sweden are being restored. New seagrass shoots are being planted in fjords and other protected coastal areas where seagrass meadows were once common. This kind of approach is what is known as a 'nature-based solution.' You make use of nature's own solutions to capture and store carbon and nutrients by planting new seagrass meadows, rather than e.g. applying technological solutions.
more……https://innovationorigins.com/en/higher-carbon-and-nitrogen-emissions-due-to-disappearance-of-seagrass-beds/

Blue carbon can't wait

06 August 2021, Science Magazine

When the United Nations released its World Ocean Assessment in 2015, it was clear that the oceans were seriously degraded, with stressors on these environments projected to increase. The 2021 Assessment, released in April, shows that they have further declined, bringing us ever closer to losing the structure, function, and benefits of Earth's marine systems. One way forward might be to focus on "blue carbon" ecosystems and the incentives they offer through carbon credits linked to decreasing carbon emissions.

Blue carbon ecosystems include seagrass meadows, tidal marshes, and mangroves, all of which are among Earth's most efficient absorbers and long-term storers of carbon. This capacity for carbon storage also makes them sources of CO2 emissions when they are degraded or destroyed. As the United Nations Environment Programme states in its April 2021 report Making Peace with Nature, "Ecosystem restoration can simultaneously mitigate climate change, slow and reverse biodiversity decline and increase the benefits that people get from nature." Restoring blue carbon ecosystems could remove about 0.5% of current global emissions, with co-benefits for local ecosystems and livelihoods.

The growing blue carbon credit market allows organizations and countries that conserve and restore blue carbon ecosystems to claim or sell credits in global carbon credit markets. For example, a country that protects seagrass meadows, and hence reduces the risk of future carbon emissions, may receive carbon credits that fund their future protection. Carbon credits can also be claimed for areas damaged by natural events. Wherever blue carbon habitats have suffered losses, blue carbon credits may help support their restoration. So far, few countries have incorporated blue carbon strategies into their climate change mitigation policies. The Blue Carbon Initiative, created by UNESCO's Intergovernmental Oceanographic Commission, the International Union for Conservation of Nature, and Conservation International, encourages more countries to develop comprehensive methods for assessing blue carbon stores and emissions.
more……https://www.science.org/doi/full/10.1126/science.abl7128

Pew applauds Seychelles' pioneering plan to protect seagrass (Seychelles)

03 August 2021, PRNewswire

The Pew Charitable Trusts today praised the Government of Seychelles for its ambitious commitments to protect coastal wetlands within its updated Nationally Determined Contribution (NDC) to the Paris Agreement. The archipelago of 115 islands, one of the largest and diverse marine ecosystems on the planet, is home to a wealth of marine species and habitats, including seagrass—which is at the center of growing global interest in the role that nature-based solutions can play in addressing climate change.

Seychelles' NDC includes a suite of bold steps to the protect its seagrass and mangrove ecosystems, including:
Fully mapping the extent of mangrove and seagrass ecosystems and conducting a first-time assessment of seagrass carbon stocks within Seychelles' waters.
Ensuring that at least 50% of the nation's mangrove and seagrass ecosystems are protected by 2025 and 100% are protected by 2030.

Establishing a long-term monitoring program for seagrass habitats and including the nation's blue carbon ecosystems within Seychelles' National Greenhouse Gas Inventory by 2025.

To support the Government of Seychelles' ambition to better account for and protect its seagrass ecosystems, Pew is partnering with the University of Seychelles, the University of Oxford, Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), The Nature Conservancy, Island Conservation Society, and a range of local stakeholders. The work is focused on applying the latest remote-sensing methods and carbon assessment techniques to develop a field-validated map of the extent of seagrass meadows and associated carbon stocks in Seychelles waters—a partnership designed to help support the country's bold ambition to ensure that at least 50% of its coastal wetlands are protected by 2025 and 100% by 2030. The new NDC also recognizes how Seychelles' ambitious plan can contribute to global understanding of this vital habitat.
more……https://www.prnewswire.com/news-releases/pew-applauds-seychelles-pioneering-plan-to-protect-seagrass-301346701.html

How replanted seagrass is restoring the ocean (VA, USA)

02 August 2021, YES! Magazine

When Karen McGlathery used to swim in the coastal bays off Virginia's Eastern Shore, the water would quickly turn cloudy and brown as sediment swirled around her. Now, 25 years later, for as far as she can swim, the water remains clear. The sediment is anchored in place by lush green seagrass meadows, teeming with fish, scallops, and crustaceans. McGlathery, an environmental sciences professor at the University of Virginia, is part of a team running the largest seagrass restoration project in the world in these coastal bays—and one of the most successful. The two-decade-long project is a "blueprint for restoring and maintaining healthy ecosystems," and proof that marine habitats can be brought back to life in a way that's self-sustaining.

In the 1930s, a wasting disease swept along the U.S. east coast, wiping out huge swaths of eelgrass. Where Virginia's coastal bays used to be carpeted in this species of seagrass, suddenly they were barren. "Everyone thought that eelgrass could never, ever get back," says Robert Orth, who was a marine biologist at the Virginia Institute of Marine Sciences (VIMS) until he retired this year. That changed in the late 1990s with the discovery of small patches of seagrass in the bay, the existence of which proved that conditions could once again support the plants. In 2001, Orth started an effort to physically rebuild the ocean ecosystem, seed by seed. From a moving boat, he and his team scattered seeds across four bays: South, Cobb, Spider Crab, and Hog Island. The seeds survived, growing into plants which, in turn, produced their own seeds. "Nature kind of took over," says Orth. "While we continue to put seeds in areas that don't have eelgrass, nature has been spreading eelgrass naturally."

Over the past 20 years, supported by an army of volunteers, the project team has sown nearly 75 million seeds. About 9,000 acres of coastal bays are now blanketed with eelgrass, which has improved water quality, increased marine biodiversity, and helped mitigate climate change by capturing and storing carbon. Restoration projects around the world are looking to Virginia for lessons. Richard Unsworth, associate professor of biosciences at Swansea University, is leading the U.K.'s biggest seagrass restoration project in the waters of Dale Bay in Pembrokeshire, Wales. "We've been using their science as a yardstick," he says. So far, he and his team have planted more than 1 million seeds, but his ambitions are bolder. "We want to apply the techniques that they're using [in Virginia] to rejuvenate the coastal seas of the U.K., at a similar scale, if not bigger."

Back in Virginia's bays, the next phase of the project is to see whether they can convert the carbon stored in the seagrass meadows into carbon credits to raise money for further restoration. That's where McGlathery's work feeds in; the long-term research from the project has allowed her to calculate precise data about how much carbon the seagrass stores.
more……https://www.yesmagazine.org/environment/2021/08/02/replanted-seagrass-is-restoring-the-ocean

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 52,544 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/*
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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.