30 September 2019

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IN THIS BULLETIN

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NEWS

An Unlikely Weapon in the Fight Against Climate Change (Australia)

29 September 2019, Truthdig

Climate scientists say seabed carbon storage could be a new ally to help reduce greenhouse gas emissions by a volume greater than all the carbon dioxide pumped into the atmosphere from the planet's coal-burning power stations. In a detailed argument in the journal Science, Ove Hoegh-Guldberg of the University of Queensland, Eliza Northrop of the World Resources Institute in Washington DC and Jane Lubchenco of Oregon State University outline five areas of action that could mitigate potentially calamitous climate change driven by profligate use of fossil fuels. These include renewable energy, shipping and transport, protection of marine and coastal ecosystems, fisheries and aquaculture and – perhaps in future – carbon storage on the sea bed.

If the world's nations pursue ocean policy ambitions in the right way, they could reduce global greenhouse gas emissions by up to 4 billion tonnes of CO2 equivalent by 2030 and up to 11 billion by 2050. And this could tot up to 21% of the reductions required in 2050 to limit warming to the declared 1.5°C target favoured at the Paris climate summit in 2015, and up to a fourth of all emissions for the formal 2°C target identified in the agreement.

They point out, the sea itself is a carbon consumer. Mangrove swamps, seagrass meadows and salt marshes could be considered as "blue carbon ecosystems" in the way that terrestrial forests are considered "sinks" for atmospheric carbon. These coastal and submarine "forests" make up only1.5% of the area of the land-based forests and woodlands, but their loss and degradation are equivalent to 8.4% of carbon emissions from terrestrial forests now being destroyed by human intrusion. So it would pay to restore and protect such marine habitats.
more……..https://www.truthdig.com/articles/an-unlikely-ally-in-the-fight-against-climate-change/

Plastic trash threatens dugong survival in Palawan (Philippines)

28 September 2019, by Keith Anthony Fabro, Rappler

The seas surrounding the Calamianes Island Group (CIG), are considered one of the last strongholds in the country of the dugong (*Dugong dugon*). Last week, the US Agency for International Development's (USAID) Fish Right Program introduced a conservation mascot to the delight of the community. The presence of dugongs "in the area suggests that Busuanga's marine habitats, such as seagrass beds, are still healthy," said Dr. Joan Castro, executive vice president of PATH Foundation Philippines, Inc. (PFPI), a non-profit organization, which is a partner of the University of Rhode Island in implementing the 5-year program that aims to promote sustainable and resilient fisheries in the CIG. "The mascot symbolizes the community effort to conserve these marine habitats, including the seagrass which is key in nurturing marine life like dugong," Castro added.

As a flagship species, the iconic dugong would help advance marine biodiversity conservation in the CIG that also includes the towns of Coron, Culion and Linapacan. With over 1 million hectares municipal waters, the biodiverse CIG is one of the Philippines' richest fishing grounds. To highlight how this species is threatened by the marine trash problem, the launch of the dugong mascot coincided with the International Coastal Cleanup celebration on September 21.

Ramilo's non-profit group, a partner of PFPI, is dedicated to conserving the dugong. Results of their recent regular seagrass monitoring showed that marine trash like plastic bottles and bags end up on the seagrass habitat. As of 2018, Calamianes has 19 existing marine protected areas (MPAs) covering an area of at least 15,308 hectares. Of these MPAs, 9% are seagrass areas. An additional 31 MPAs were being proposed, which would include much of the seagrass areas within the CIG. As the dugongs and seagrass habitats play vital roles in the fisheries' sustainability, their demise could deal a big blow to the family of over 19,000 fisherfolk in Calamianes.
more……..https://www.rappler.com/science-nature/environment/241293-plastic-trash-threatens-dugong-survival-in-palawan

Gold Coast diving company fears marine life will die when Broadwater dredging begins (QLD, Australia)

28 September 2019, by Emily Halloran, Gold Coast Bulletin

Divers fear marine creatures will die, particularly resident dugongs, when dredging begins in the Southport Broadwater in October. Queensland Scuba Diving owner Mark Salter said yesterday he is gearing up for "another battle" to keep his business afloat and to save marine life in the Broadwater. Mr Salter created a dive site on the northern corner of Wavebreak Island almost four decades ago. But when the Gold Coast Waterways Authority began dredging there in 2016 he found himself out of pocket for thousands of dollars and his dive company received damaging reviews online because of the murky water.

"They are dredging the southern channel and putting it on the eastern side of Wavebreak Island — right on top of the dugong habitat! "It took years for the seagrass to grow back. We didn't see dugongs for years and now we finally have dugongs back and they are doing to destroy the seagrass again. There are two resident dugongs living there."

Mr Salter has written to the authority as well as the Department of Environment and Science, Department of Agriculture and Fisheries, the Queensland Park and Wildlife Service and the city council. He hopes to meet with authorities.

But waterways authority acting CEO Jessica Bourner said it was a $500,000 project out of the $20 million waterways management program and dredging needed to be completed. Dredging had to be undertaken to keep the popular channel safe and navigable for boaties, she said. “This includes dredging of the South Wavebreak Island Channel. This will not only benefit waterway users but will provide work for a local dredging contractor,” she said. She said the authority would be observing marine life during dredging, monitoring water quality and operating during the day to avoid using artificial lighting.
more……..https://www.goldcoastbulletin.com.au/lifestyle/pets-and-wildlife/gold-coast-diving-company-fears-marine-life-will-die-when-broadwater-dredging-begins/news-story/ad9ac266618b73d1c637c3ec68f604e8

Armengol warning about "ecological crisis" (Spain)

28 September 2019, Majorca Daily Bulletin

In the context of Friday's climate strike, President Armengol said that the science about the "ecological crisis" is clear. "The planet is suffering and we are losing the race against a climate change that is accelerating." It is also clear that if climate change is not mitigated, "Spain will be one of the countries which is most affected".

Armengol pointed to summers being five weeks longer than they were in the 1980s, to the increased risk of forest fires and drought, and to the greater threat to agriculture. Rising sea levels threaten the coasts of the Balearics and Spain. "The beaches will disappear." The president referred to pollution that is reducing Europeans' life expectancy by 2.2 years and to climate change that is making people "less intelligent". Increases in contaminating emissions result in falls in cognitive performance.

While climate action is a global challenge, there need to be local responses. In this regard she cited examples of Balearic legislation, such as the *Posidonia* seagrass decree and the law for sustainable mobility.
more……..https://www.majorcadailybulletin.com/news/local/2019/09/28/58307/armengol-warning-about-ecological-crisis.html

Four arrested for poaching aquatic mammal dugong (India)

27 September 2019, Times of India

The forest department rescued a dugong and arrested four people from Mimisal, a coastal village in Pudukottai district, for poaching it on Wednesday. Dugong, which is protected under the Wildlife Protection Act, 1972, is found extensively in shallow waters along Pudukottai coastal regions.

Four fishermen from Puthukudi in Pudukottai were arrested for fishing the dugong and bringing it to the shore with an intent to sell it. On a tip off, a team of coastal security group (CSG) from Thirupunavasal intercepted the boat. They found the live dugong in the boat and took all of them in custody and handed them over to the forest department personnel. Weighting over a 100 kg, the rescued dugong from was released back into the sea by the forest personnel. These mammals feed on sea grass along the continental shelf of the Pudukottai coast.

In March this year, one of the two dugong that got entangled in a fishing net along the Pudukottai coast near Manamelkudi died. Forest department personnel managed to save the other and released it with the help of fishermen community.
more……..https://timesofindia.indiatimes.com/city/trichy/four-arrested-for-poaching-aquatic-mammal-dugong/articleshow/71319179.cms

Dugongs: looking to the gentle sea creature's past may guard its future (South Africa)

25 September 2019, The Conversation Africa

Conservation of species requires robust scientific data. Because dugongs are now so rare in the wild, my colleagues and I decided to investigate the genetic population structure of dugongs using material available in museum collections in Europe. This gave us an idea about how dugong populations are connected and how genetically different they are from each other.

Our work started with investigations into the availability of samples in the form of skeletal material – teeth, tusks or bones – in museums. These could provide a crucial source of dugongs’ DNA. A number of European museums agreed to work with us. Historically, scientific expeditions of European powers led to the description and collection of exotic animals. These specimens were used to build important research collections in European museums, as well as to provide material for public exhibitions. Our sampling took place over three years and involved travelling to most major Western European natural history museum collections. We managed to gather samples from 176 dugongs in this way, which originated from countries throughout the original range of the dugong and dated as far back as 1827.

Our study revealed the existence of previously unknown, new genetic lineages in the Indian Ocean. It highlighted other surprising results. Perhaps the most important was that all individuals from Madagascar – today a very small and little understood population of dugongs – belonged to a unique and genetically divergent population. This indicates that this population deserves a high conservation status. We also found a significant drop in the genetic diversity in the Indian Ocean samples collected after 1950, most likely as a reflection of the rapidly decreasing population sizes in the region. Our work also highlights once again how important historical knowledge is if we want to make good and informed decisions for the future. About one third (35.03%) of the samples used in our study originated from one of the largest marine mammal collections in the world, the Natural History Museum in London, UK.
more……..http://theconversation.com/dugongs-looking-to-the-gentle-sea-creatures-past-may-guard-its-future-122902

Blue Leaders Call to Action on Ocean and Climate (Seychelles)

25 September 2019, Office of the President of the Republic of Seychelles (press release)

On the sidelines of the 74th Session of the United Nations General Assembly, President Danny Faure attended the Blue Leaders Breakfast event where he addressed fellow ocean leaders on the urgency of ocean conservation as part of climate change actions. “The world cannot succeed in addressing climate change without ambitious ocean climate action. We cannot ensure the health, resilience, sustainability and productivity of the ocean without immediate and aggressive measures to combat the climate crisis” said the President.

The event coincided with the release of Summary Findings of the Intergovernmental Panel on Climate Change (IPCC) Special Report on the Ocean and the Cryosphere linked to the COP25 to be held in Chile in December 2019. Speaking to the audience President Faure emphasized on specific examples of Seychelles NDC for 2020 focused on the protection of the marine environment and ecosystems. “Our NDC for 2020 will have a chapter dedicated to ocean climate action and blue carbon ecosystems, looking at sea grass, mangroves and coral reefs is one of the most effective carbon sinks in Seychelles’ vast Exclusive Economic Zone of 1.4 million square kilometres” added the President. President also highlighted actions undertaken by Seychelles committed to ocean action and already as a leader in nature, ecosystem-based solutions and adaptation to climate change.
more……..http://www.statehouse.gov.sc/news/4603/blue-leaders-call-to-action-on-ocean-and-climate

Devastating floods will go from being 'once-a-century' events now to happening EVERY YEAR by 2050, damning UN report warns (Monaco)

25 September 2019, By Joe Pinkstone, DailyMail

A new UN report warns that climate change is causing an unprecedented amount of damage to the world's oceans and will cause devastation if emissions are left unchecked. The latest special report from the Intergovernmental Panel on Climate Change (IPCC) found that by 2050, many coastal regions will experience once-a-century weather catastrophes every year, affecting millions and causing devastation. It also said that sharp emissions cuts are needed to curb the changes as the world has already experienced 1°C of warming.

The new study, which examines the oceans, coasts and the cryosphere or frozen areas of the world, warns of huge increases in flooding damage, melting ice caps and glaciers and more ocean heatwaves that bleach and kill coral. More than 100 scientists from around the world have assessed the latest science about the role of climate change on ocean, coastal, polar and mountain systems, and the human communities that depend on them. The final draft, which has been agreed by countries meeting in Monaco, also warns of damage to fish stocks and seafood which millions rely on. The report covers what can be done to alleviate the problems, such as the importance of protecting the oceans and restoring habitats which absorb and store carbon such as seagrass beds in shallow waters.

A key finding from the IPCC ocean report is that fragile habitats such as seagrass meadows and kelp forests are at high risk if global warming exceeds 2C above pre-industrial temperatures, while warm water corals are already at high risk and face 'a very high risk' even if global warming is limited to 1.5C.
more……..https://www.dailymail.co.uk/sciencetech/article-7502375/Damning-report-reveals-unprecedented-levels-change-worlds-oceans.html

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Eilat coral reefs robust despite warming Red Sea — government report (Israel)

24 September 2019, by Sue Surkes, The Times of Israel

Coral reefs in the Gulf of Eilat are robust, despite rising temperatures in the Red Sea, an annual government report published Tuesday said, while warning that massive coastal development projects currently at the planning stage must be closely monitored to ensure they don't add further pressure. The report, issued by the Environmental Protection Ministry and covering 2018, said the reefs' condition remain stable. Average coral density was marginally lower than that recorded in 2016 and 2017, but significantly higher than during the early years of monitoring, which began in 2004, indicating the fluctuations are natural.

The annual report of the Israel National Monitoring Program at the Gulf of Eilat, authored by Dr. Yonathan Shaked, director of the program, and the program's scientific director Prof. Amatzia Genin, warned that urban development poses a key challenge for marine ecosystems. Sewage, water infused with fertilizers, rain that runs off into the sea carrying pollutants with it, and fish farms are just some of the sources that, if they reach the sea, can increase the nutrient content and cause rapid growth of algae, which can take space and light from young corals, inhibiting the growth of reefs.

The report urged the creation of a marine nature reserve off of Eilat's northern coast to protect carpets of seagrass that stabilize the sandy sea bottom, protecting it from the effects of storms, and provide food, habitat, and nursery areas for many vertebrate and invertebrate species. Seagrass cover appears to be unstable over the years, the report said, but it is still early to diagnose why.
more……..https://www.timesofisrael.com/eilat-coral-reefs-robust-despite-warming-red-sea-government-report/

Conserve underwater meadows to save sea cows, fishermen urged (India)

24 September 2019, by M T Saju, Times of India

Cows eat grass. What do sea cows (dugongs) eat? Seagrass. In Tamil Nadu, Palk Bay and the Gulf of Mannar attract dugongs because these areas have more seagrass compared to other coastal areas. However, the region is witnessing a sharp decline in seagrass due to rampant use of trawlers and push nets and other commercial activity.

To create awareness among people about the importance of dugongs, the Organisation for Marine ConseNation, Awareness and Research Palk Bay Centre (OM CAR) has printed 10,000 pamphlets to distribute at schools in Thanjavur, Ramanathapuram and Tuticorin. The idea is to create awareness among people about dugongs and seagrass habitats through children. The pamphlets in Tamil with pictures of rescued dugongs speak about the steps to be taken to protect the animals declared Scheduled I species in the Wildlife Protection Act, 1972. "Shore seines, push and trawl nets, anchors and propellers destroy seagrass. Pollution from coastal towns, pesticides, chemical fertilizers and shrimp farms are the major source of pollution in Palk Bay. This leads to eutrophication and growth of mono-species algal formation above the seagrass meadows in the coastal waters," said Vedharajan Balaji, a marine scientist and director of the OMCAR centre in Thanjavur.

"Boat operations need to be regulated in dugong feeding habitats. Push nets (small outboard boat-based drag nets) should be banned as they are the highest numbers operated over the near shore seagrass beds, which damages the meadows," said Balaji, who will distribute the pamphlets to students from next week. The exact number of dugongs in the Palk Bay region is not known. "Based on secondary data, publications indicated that less than 240 dugongs are left in Indian waters and majority of them in Palk Bay and Gulf of Mannar regions," he said.
more……..https://timesofindia.indiatimes.com/city/chennai/conserve-underwater-meadows-to-save-sea-cows-fishermen-urged/articleshow/71266140.cms

Seagrass, Vital to Wildlife and Ocean Health, Thrives Along Florida's Gulf Coast (FL, USA)

23 September 2019, by Holly Binns, The Pew Charitable Trusts

An approximately 400,000-acre habitat along Florida's Nature Coast—which encompasses the shorelines of Citrus, Hernando, and Pasco counties bordering the Gulf of Mexico north of Tampa—is one of the healthiest seagrass habitats in the state. The area is home to the "Manatee Capital of the World" and offers world-class fishing and other recreational opportunities that draw hundreds of thousands of tourists, support thousands of jobs, and generate millions of dollars annually. Protecting seagrass is vital to the health of the oceans as well as to businesses and coastal economies.

Florida boasts more than 2.5 million acres of seagrass, including the largest continuous beds in the country. Areas of seagrass extend at least 14 miles offshore. Scientists have not yet mapped potential areas farther out. Seagrass is light-loving and generally exists close to land in shallow water, but along Florida's Nature Coast, it is able to grow abundantly in deeper waters farther offshore because the ocean floor slopes gently and the water is clear.
more……..https://www.pewtrusts.org/en/research-and-analysis/articles/2019/09/23/seagrass-vital-to-wildlife-and-ocean-health-thrives-along-floridas-gulf-coast

Reef protection laws pass despite industry attacks on their scientific basis (QLD, Australia)

19 September 2019, by Ben Smee, The Guardian

The Queensland government has passed new regulations to limit agricultural pollution damaging the Great Barrier Reef in the face of a hostile campaign that has sought to discredit consensus science. On Tuesday the state made relatively minor commitments to agricultural groups, including an undertaking not to vary new limits for farm sediment and chemical runoff into reef catchments for at least five years. The laws were passed without amendment on Thursday afternoon after a debate that oscillated between authentic concern about the impact of regulation on primary producers and hysterical attempts to discredit robust science that warns agricultural pollution is a significant threat to the health of the reef.

One Liberal National party MP, Colin Boyce, said the reef protection bill was "socialist, fake, Green-Labor climate dogma". The state's environment minister, Leeanne Enoch, said some of the attacks on consensus science during the debate had been "outrageous". "You need to work from evidence and scientific fact," she said. Enoch told the ABC on Wednesday the reef was at risk of an endangered listing by the Unesco world heritage committee, and that the state needed to accelerate measures to improve water quality. "Two recent scientific reports released last month – the federal government's outlook report and the water quality report card that was a joint initiative between the federal and Queensland governments – showed urgent action was needed to ensure the survival of Australia's most treasured natural wonder," Enoch said. "We know the two biggest threats to the reef are climate change and water quality, and the laws passed today will help improve water quality flowing to the Great Barrier Reef."

The regulations were recommended by a 2016 water quality taskforce, and introduced by the Labor state government after progress to improve water quality stagnated. Voluntary and industry-led "best management practice" programs have been run for more than a decade. The most recent water quality report detailed a lack of progress and the relatively low takeup of those programs. The new regulations empower government officers to access relevant farm data, such as purchase records for agricultural chemicals, to ensure farm practices are environmentally sound.
more……..https://www.theguardian.com/environment/2019/sep/19/reef-protection-laws-pass-despite-industry-attacks-on-their-scientific-basis

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Coal threatens emerging sea cucumber culture in Palawan (Philippines)

17 September 2019, by Mavic Conde, Rappler

A recently concluded research on sea cucumber confirmed that Narra town in Puerto Princesa, Palawan, is suitable for profitable sea cucumber (locally known as balatan) farming. Sea cucumbers have been used as food and medicinal cure in Asian countries, especially in China. The demand for it expanded because of aquaculture and biomedical research programs, according to a 2011 study published at National Center for Biotechnology Information (NCBI).

Western Philippines University's Rodulf Anthony Balisco, the project head of the 2019 research on sea cucumber said "Rasa Island and Caguisan are suitable sites for sea cucumber culture because both have good seagrass cover, where sea cucumber species are commonly found, particularly the sandfish (*Holothuria scabra*) which is among the highly exploited invertebrates because of its high commercial value." He added that seagrass protects species from strong wave actions, making it perfect for culture and sea ranching activities. In return, sea cucumbers help make seagrass beds productive by distributing nutrients (pooping) and removing excess organic matter in the sediment and water (eating), according to The Nature Conservancy.

However, the proposed coal plant in Narra – which now has an environmental compliance certificate from the Department of Environment and Natural Resources – threatens this development, especially since these are within the 50-kilometer radius zone of Barangay Bato-Bato, the coal plant site. "This can also affect the sea cucumber growth if untreated water is discharged to the sea, along with siltation from road construction and mining," Balisco said.
more……..https://www.rappler.com/science-nature/environment/240237-coal-threatens-emerging-sea-cucumber-culture-palawan

New Report: WA's Iconic Cockatoo Threatened by Climate Change (WA, Australia)

17 September 2019, Mirage News

The Climate Council's new report looks at WA's iconic Carnaby's black cockatoo, jarrah forests, and seagrass beds which are being severely affected by climate change. "The places that Australians identify with and the wildlife that they cherish are suffering because of intensifying climate change," said Climate Councillor and lead report author, Professor Lesley Hughes. "Australia's ecosystems are being transformed before our eyes. Already bruised and battered by land clearing and invasive species, climate change is adding insult to injury," she said.

Australia is home to more than a million species of plants and animals, yet our track record on conservation is woeful; climate change is making it even harder to protect our natural ecosystems and unique wildlife. Climate change is warming our oceans with many adverse effects, including more underwater heatwaves. A severe underwater heatwave in Shark Bay in 2011 killed almost 90% of seagrass at some sites. The World Heritage-listed site is home to the most extensive and diverse seagrass beds in the world, covering almost 5,000 square kilometres. These beds store vast amounts of carbon, and provide food and shelter for dugongs and many species of fish. "The underwater heatwave in Shark Bay that killed vast swathes of seagrass likely also resulted in the release of several million tonnes of carbon dioxide, from the sediments, into the atmosphere," she said.

"Australia needs to take a far bolder approach to conservation to ensure our species and ecosystems are as resilient as possible to worsening extreme weather," said Professor Hughes. "The Federal Government is standing by while Australia's unique ecosystems and wildlife are decimated. We must drastically reduce our contribution to climate change by phasing out fossil fuels and implementing a credible climate policy across all sectors," she said.
more……..https://www.miragenews.com/new-report-wa-s-iconic-cockatoo-threatened-by-climate-change/

Researcher warns against tourism's impact on Marsa Alam's Dugongs (Egypt)

16 September 2019, by Al-Masry Al-Youm, Egypt Independent

Environmental researcher Ahmed Shawky warned against the negative impact of tourism on Dugongs in the Red Sea's Gulf of Abu Dabab, Marsa Alam, and several other areas in the region, as they are considered to be one of the most important marine animals attracting tourists. Shawky told Al-Masry Al-Youm that their numbers are very small in the Egyptian Red Sea coast, and Marsa Alam is one of the few areas they are scattered in, where each spot is typically characterized by the presence of a single Dugong.

Marsa Alam has many tourist boats, which take down tourists to watch these rare mammals and swim with them. He urged tourism companies and diving guides to focus on environmental awareness towards tourists, especially regarding the dangers rubber boats and speeding ones pose to Dugongs.

According to conjour.world Dugongs are the only known herbivorous marine mammal and are listed by the International Union for Conservation of Nature (IUCN) as being vulnerable to extinction due to human activities and hunting. This creature can support a weight of 400kg, reach lengths of up to five meters, and live for up to 70 years. Coloration in mature Dugongs can be seen as a light brown, whereas calves are found to be more of a pale shade.
more……..https://egyptindependent.com/researcher-warns-of-tourisms-impact-on-marsa-alams-manatees/

Studying Earth's climate by living under the sea (FL, USA)

16 September 2019, KOLR, CBS NEWS

About five miles off Islamorata, in the Florida Keys, is an underwater lab called the Aquarius Reef Base. The only way to get to it is to scuba dive. The lab sits 50 feet down on the ocean floor and has only recently come back into service after being knocked out of commission by Hurricane Irma two years ago. The storm damaged the surface unit that provides power and pumps air down to the lab at enough pressure to keep the air in and the water out. Marine scientist Jim Fourqurean spends a lot of time down here as part of the Florida International University team that runs the place. Once you're in it, it feels like an underwater RV, with a difference.

One of the major projects the Aquarius scientists are working on is the damage of Hurricane Irma to the seagrass beds that grow just off the coast. "There's as much CO_2 stored in seagrass meadows as there is in tropical forests on an acre-by-acre basis," Fourquerean said. "Which is a good thing, but we're losing seagrasses faster than we're losing coral reefs," said Fourquerean. Not only that, because turtles eat seagrass, and there are fewer sharks around to eat turtles, the grass never gets a chance to grow back. So, just having sharks in the area, controls the numbers of turtles that are eating the seagrass"

More and more, the world's oceans and what they mean for greenhouse gases (and so, for global warming) is becoming a crucial part of climate science, and that study is made a whole lot easier if you can live down here.
more……..https://www.ozarksfirst.com/local-news/studying-earths-climate-by-living-under-the-sea/

Virginia plan will bolster bay's health (VA, USA)

16 September 2019, By Virginian-Pilot, The Virginian-Pilot

A few decades ago, saving the Chesapeake Bay looked like a lost cause. But, through concerted efforts across the region that feeds the bay — with Virginia taking a leading role — that goal is within reach. The plan of action for Virginia that Gov. Ralph Northam released late in August outlines strong and realistic measures to lead the final push. Years of hard work and cooperation have yielded measurable results in the quality of the water and the vibrancy of the creatures and plants that live in and near it.

The bay is beginning to recover noticeably from the sad, polluted, near-death state it had sunk to by the 1970s. Seagrass beds are reviving, providing crucial underwater habitat. The bay's recovery is good for all of Virginia, and the broader region, as it promotes a better economy including fisheries and tourism, and a better environment with benefits that extend beyond the critical one of water quality. Using smarter practices in farming, handling wastewater and protecting fragile habitat makes this a healthier, more pleasant place to live for people as well as wildlife.

But to reach the goal, more work and resources are needed. Northam acknowledged that reality when he issued his draft plan in April for the final third of the federally mandated 15-year campaign to save the bay. The plan is required under a so-called "pollution diet" the federal Environmental Protection Agency ordered for Virginia and the other five states in the bay's watershed in 2010. Under the Clean Water Act, the EPA ordered the states to adopt strong anti-pollution measures to reduce levels of nitrogen, phosphorus and sediment going into the bay by 2025. Virginia's plan for the final phase includes more emphasis on environmentally sound farming practices such as pasture management and on planting trees to control erosion along riverbanks. It provides for new technologies at sewage treatment plants and better ways to deal with storm-water runoff in cities. It calls for tougher measures but also financial assistance and tax credits for achieving them. The plan is good, but any plan is only as good as its implementation. The General Assembly needs to step up its funding for clean-water initiatives as the commonwealth begins to follow the plan.
more……..https://www.pilotonline.com/opinion/vp-ed-editorial-cheseapeake-bay-cleanup-20190916-744whtqlz5fzbgl67rgalvtabi-story.html

Another dead dugong found off the coast of Trang (Thailand)

15 September 2019, The Thaiger

Another dead dugong has been discovered floating in the Andaman Sea, between Koh Ya in Trang and Koh Ngai Island in Krabi. The corpse was discovered yesterday by a local tour boat. The find was reported to the 10th office of marine and coastal resources, by Mr. Somsak Panthumet, president of Trang professional tourist guides, as he led a tour group on an island-hopping tour in the Andaman Sea.

Somsak reportedly took pictures of the eviscerated dugong corpse as evidence to be handed over to the officials. He was also told to tie the dead dugong to some floating containers to make it easier to relocate. However, when a boat

was dispatched to collect the corpse, officials failed to find it after five hours of searching in strong winds and rough seas. Officials say they will resume the search again when the weather calms down.

After viewing the pictures taken by the tour guide, an official admitted it was impossible to tell the gender, age or weight of the dead dugong which, he added, was the 10th this year to be found in the sea off Trang province. The seas around Koh Libong in Trang province is home to an estimated 200 dugong, Thailand's largest concentration, thanks to the area's abundance of sea grass.
more……..https://thethaiger.com/hot-news/environment/another-dead-dugong-found-off-the-coast-of-trang

Kwinana outer harbour plans give rise to the Fish Army, taking up the Roe 8 environment protest (WA, Australia)

14 September 2019, By Benjamin Gubana, ABC News

A new brand of militant activists are hoping to derail the WA Government's plans to build an outer harbour by waging an environmental war similar to the successful campaign to kill off the Roe 8 highway expansion. The Government's solution to managing forecast soaring container traffic and road congestion around Fremantle Port — which Roe 8 was designed to address — has been diverting this to a long-touted outer harbour in Kwinana. But even in its early stages, fishing groups and the Maritime Union of Australia (MUA) are mobilising an opposition hellbent on seeing it dead in the water.

The Government's Westport Taskforce forecast the current port to handle 3.8 million containers in 50 years' time, up from today's figure of 700,000. It recently released its shortlist of preferred options, all of which included some sort of freight handling in Kwinana. But the strongest option was the creation of a second standalone port to handle all of the freight. And it is these options that have some community groups up in arms.

The self proclaimed "Fish Army" is a group focused on saving the Cockburn Sound. Tackle shop owner and co-convenor Tim Barlow discounted speculation around the group's motives, saying his major concern was the environment. "The dredging itself will release all of the toxins, the heavy metals, the contaminants. "That plume will smother the seagrass. The seagrass is critically important to our environment. "And it's also the breeding ground for most of our species there and in particular snapper, which is what brought us to the fight."

Westport taskforce chairwoman Nicole Lockwood said she understood from the outset the importance of the environmental impact to the community. The Western Harbours Alliance (WHA) comprising community, business and local government groups was formed about the same time as the Westport Taskforce. Chairwoman Kim Dravnieks said the environment had been a key priority for the WHA, but she said the Government's process was working well. Ms Dravnieks questioned the level of support the Fish Army had, but was confident the Government's process would work.
more……..https://www.abc.net.au/news/2019-09-14/kwinana-outer-harbour-plan-gives-rise-to-fish-army-protest/11501718

'Seeing sharks is a good sign of healthy marine life' (Jersey, UK)

13 September 2019, Jersey Evening Post

Various sections of water around Jersey, the Minquiers and the Écréhous are protected or designated 'no mobile gear zones' – areas where dredging or trawling is not allowed. PhD student Sam Blampied is mid-way through a three-year study to see whether protected areas of sea around the Island are having a positive impact on marine wildlife and eco-systems.

Miss Blampied, a Plymouth University student, with support from Jersey Fisheries and Marine Resources as well as the Blue Marine Foundation, last year began work to see if such protected status is helping sea life. Early indications were that seagrass – an important nursery for juvenile marine species – around the reefs was doing well. She added that there have been a number of sightings of smooth hound and tope sharks, which can grow up to seven feet, as well as positive scallop populations. She said: 'It is important to see, now zones are in place, if they have an impact. Within three years it might be tricky to see changes to something like the maerl – it's our version of coral – habitat around Les Écréhous, as it grows slower, but it's important if we put measures in to protect marine life that we measure it to see if it is really worth it. 'Seeing shark populations is a good sign of healthy marine life as it means their food is present.'

Miss Blampied, one of four students carrying out the same research across the British Isles, is using cameras on lines attached to boats as 'bait cameras' and other methods to record data. One bait camera recorded a huge shoal of cat sharks while another captured images of a stingray. A 'potting study' – to assess the health of lobster and crab populations – is also being carried out.
more……..https://jerseyeveningpost.com/news/2019/09/13/seeing-sharks-is-a-good-sign-of-healthy-marine-life/

Madagascar's unique dugongs in danger (New Zealand)

12 September 2019, by University of Auckland, Phys.Org

Scientists have used historic DNA to discover some of the highest-risk populations of the endangered dugong are so genetically distinct, losing them would be the equivalent of losing a species of elephant. Scientists have long known Indian Ocean dugong populations are most at risk from extinction. "Similar to New Zealand's critically endangered Maui's dolphin, the Madagascar dugong is genetically unique according to the work we have done, and this really confirms our worst fears in terms of their survival," says Dr. Shane Lavery from the University of Auckland who worked on the study.

"The study confirms there is a very low level of gene flow between geographically isolated dugong populations so that if they disappear, we won't just lose a few more dugong, we will lose genetically distinct animals which, once lost, can never be recovered." "The plight of the dugong is yet another example of how destructive we humans can be to other species, and now in modern times the impacts of plastics pollution appear to be causing further population decline," says lead author Dr. Stephanie Plön from Nelson Mandela University and the African Earth Observation Network. "We hope that by showing the Indian Ocean dugong and in particular the Madagascar dugong are experiencing rapid biodiversity loss, we will contribute to more informed conservation decisions for this quite remarkable animal," Dr. Lavery says.

This latest research is the first to use ancient DNA from museum and university collections to carry out such a broad-based genetic study of dugong. Scientists used historic DNA, some more than 250 years old, because the scarcity of live animals means samples are increasingly difficult to collect. The historic DNA was painstakingly extracted from bone and teeth specimens collected between 1827 and 1996 from 162 individual dugong specimens. Fragments from the extinct giant 9m-long Steller's sea cow, closely related to the dugong, were also used in the study. The UK's Natural History Museum, which has one of the largest historic marine mammal collections in the world, supplied 62 of the 176 specimen samples.

more……..https://phys.org/news/2019-09-madagascar-unique-dugongs-danger.html

Related article

Rare Madagascar Dugong Is In Big Trouble (16 september 2019, WFAA.com)

https://www.wfaa.com/video/tech/science/amaze-lab/rare-madagascar-dugong-is-in-big-trouble/609-d21902d6-5fa5-47a6-9fe4-b051ffd34142

Trapped manatees swim free after workers create hole in Daytona marina (FL, USA)

12 September 2019, By Eileen Zaffiro-Kean, Daily Commercial

Crowds gathered at the Halifax Harbor Marina to watch and wait for the rescue of two trapped manatees. The sea cows entered a cove during Hurricane Dorian and became trapped behind sediment retention walls when water receded following the storm. After a painstaking, four-hour process to create an opening in the retention wall pushed down 24 feet into the riverbed, the mother manatee and her calf finally paddled out into the Halifax River sometime after 3 p.m. Wednesday.

The adult manatee and her calf might have been looking for safe harbor in the river during Hurricane Dorian last week when they became entrapped in a small cove just north of Marina Point Drive. The mother and baby manatee apparently swam into the area about three blocks south of Orange Avenue when storm surge and high tide had raised river levels. When the water dropped back down, the pair realized they were struck behind a corrugated vinyl wall placed for sediment retention. Over the past week, the mother repeatedly tried to scale the wall at high tide but couldn’t make it over. Even at high tide, about six inches of the barrier still sticks out of the water in the area where the wall height dips. When the tide drops, most of the wall stands about 2 or 3 feet above the water.

The original contractor of the stormwater structure unbolted and lifted one 18-inch-wide panel of the wall using a small backhoe, and then lifted the second 18-inch-wide section. It took the better part of four hours to get both panels about five feet off the riverbed to give the manatees a path to swim out. FWC regional biologist Nadia Gordon’s team went into the river in kayaks and put a net up to keep the manatees on the side of the retention pond farthest from the work going on with the wall. When the opening was ready, the net was lifted and the manatees swam toward the area where water was flowing out toward the river. Gordon said the retention walls will be discussed and possibly reconfigured “to make sure this doesn’t happen again.”

more……..https://www.dailycommercial.com/news/20190912/trapped-manatees-swim-free-after-workers-create-hole-in-daytona-marina

A new seagrass restoration scheme could be used to fight UK emissions (Wales, UK)

04 September 2019, by Jessica Carpani, The Telegraph

A new seagrass restoration scheme could be used to fight UK emissions, as it captures carbon 35 times quicker than a rainforest. The biggest seagrass restoration scheme in the UK will see one million seeds planted off of west Wales in a bid to help tackle climate change. The project, launched by Sky Ocean Rescue, WWF and Swansea University aims to restore 20,000 m^2 of the marine plant in Dale Bay, Pembrokeshire.

In the last century up to 92% of the UK's seagrass has disappeared due to pollution, runoff from the land, coast development, and damage from boat propellers and chain moorings. The plant captures carbon from the atmosphere up to 35 times faster than tropical rainforests, making it an important part of tackling climate change. Globally, it accounts for 10% of annual ocean carbon storage despite only taking up 0.2% of the seafloor, conservationists said. The freshly planted seagrass is expected to trap up to half a tonne of CO_2 per hectare each year once fully established, say experts.

The seeds have been gathered from existing meadows in shallow, sheltered areas along the UK coasts, reached by volunteers snorkelling, diving and wading in to get them. Placed in hessian bags to secure them, they will be planted this winter over 4.9 acres (20,000 square metres), which had lost its seagrass but is suitable for the plant's return. Dr Richard Unsworth, of Swansea University, who is also director of the conservation charity Project Seagrass, said: "Providing a demonstration of the potential for restoration of our marine environment to be meaningful will hopefully act as a catalyst for further recovery of our UK seas."

more……..https://www.telegraph.co.uk/news/2019/09/03/new-seagrass-restoration-scheme-could-used-fight-uk-emissions/

Related articles

Scheme launched to restore 'wonder plant' seagrass in UK waters (04 September 2019, Yahoo News UK)
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Could seaweed save us? WWF launches massive marine restoration scheme (04 September 2019, BusinessGreen)
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Wales to lead UK's biggest ever seagrass restoration (04 September 2019, ITV News)
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British seagrass could help tackle climate change (04 September 2019, Sky News)
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Seagrass planted off Pembrokeshire coast in project to fight climate change (04 September 2019, Western Telegraph)
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One million seeds to be planted in UK's biggest seagrass restoration scheme (04 September 2019, About Manchester)
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Sky partners with WWF on UK's biggest seagrass restoration scheme (04 September 2019, edie.net)
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More than a million seeds will be planted in Wales to fight climate change - but you won't be able to (04 September 2019, WalesOnline)
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Carbon-reducing seagrass to be planted off Pembrokeshire coast (04 September 2019, BBC News)
https://www.bbc.com/news/av/uk-wales-49573170/carbon-reducing-seagrass-to-be-planted-off-pembrokeshire-coast

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Seagrass is the 'wonder plant' beneath the waves – and the UK is trying to save it (05 September 2019, Herald Publicist)
https://heraldpublicist.com/seagrass-is-the-wonder-plant-beneath-the-waves-and-the-uk-is-trying-to-save-it/

Reef regulation protest hits Townsville (QLD, Australia)

3 Sep 2019, by Jessica Johnston, Queensland Country Life

Growers and graziers from across North Queensland came together in a show of force to protest against the state government's proposed new reef regulations in Townsville on Tuesday. A sea of green gathered outside the Townsville Entertainment Centre as politicians assembled inside for the first sitting day of regional parliament, being held in Townsville this week. Premier Annastacia Palaszczuk and Labor MPs were noticeably absent from the rally, where the LNP's Burdekin MP Dale Last pledged to fight against the regulations in the chamber.

"If this bill passes, it will have the biggest impact on you as farmers in the history of this state," Mr Last said. "This government will have you believe you're poisoning the reef with your fertiliser and chemicals and water run-off and I say that's bullshit. "Make no bones about it, some of our farmers are going to go to the wall because of this legislation and that's a bloody sad day for Queensland when that happens." Mr Last urged the farmers to continue the fight.

Controversial marine scientist Professor Peter Ridd, who won an unfair dismissal case against his former employer James Cook University for speaking out about the reliability of the science being used regarding reef health, addressed the crowd. Dr Ridd maintains the regulations are based on flawed, unchecked science. "The Great Barrier Reef is sparkling and pristine," Dr Ridd said. "It is not damaged, or dying or under any threat from Queensland farmers.

more……..https://www.queenslandcountrylife.com.au/story/6361728/green-machine-unites-in-reef-fight/?cs=4733

AgForce backs calls for review of consensus science on Great Barrier Reef (QLD, Australia)

01 September 2019, The Guardian

Queensland's most influential farm lobby group, AgForce, has backed calls for a review of consensus science on the Great Barrier Reef, as the state's agricultural sector intensifies its campaign against proposed water quality regulations. On Friday the release of two key reports painted an alarming picture of the state of the reef. The Queensland-led water quality report – which rated the water quality at inner reefs as "poor" – highlighted the impact of land management practices that contribute to the degradation of the reef due to sediment and nutrient run-off. The findings were released at a critical point in debate about the Queensland government's proposed regulations, which would set variable pollution limits in separate reef catchments.

Agricultural groups say those regulations will have a significant impact on farmers; particularly graziers, sugarcane growers and tropical horticulture. Some farmers accept the consensus science, but claim the regulations are ill thought out and will have unintended consequences for primary producers. This is also the formal position of the LNP opposition. But increasingly, sober debate about the impact of the regulations has veered into science scepticism; pushed by the controversial scientist Peter Ridd, some of the larger peak industry bodies, backbench LNP MPs and opaque front groups.

The AgForce chief executive, Michael Guerin, in a statement to Guardian Australia sent before the release of the latest reef reports, said the organisation agreed with Ridd's calls for the science "to be more thoroughly examined and tested". Last week Guardian Australia revealed that an expert panel led by the former chief scientist Ian Chubb had warned ministers that Ridd is misrepresenting robust science about the plight of the reef, and compared his claims to the strategy used by the tobacco industry to raise doubt about the impact of smoking.

more……..https://www.theguardian.com/environment/2019/sep/02/agforce-backs-calls-for-review-of-consensus-science-on-great-barrier-reef

CONFERENCES

The 25th Biennial CERF Conference (Mobile, Alabama on 3–7 November, 2019)

Theme: "Responsive | Relevant | Ready"

CERF2019 endeavors to connect science and society in the collective goals of preserving the coastal and estuarine habitats, resources, and heritage. Through the conference, attendees will discuss the nature of research agendas that are directed at finding and solving problems, and how to engage stakeholders in that process. CERF2019 goal is to balance a natural and social scientific agenda with the food, music, and art emblematic of the central Gulf of Mexico. In keeping with tradition, CERF2019 hopes to create a seriously fun and memorable 25th Biennial CERF Conference.

Special session - Seagrasses: sentinel species in a changing world - a tribute to Dr. Susan Williams

Session co-chairs – Robert Orth and Ken Heck

Seagrasses are key sentinel species whose sensitivity to changing water quality is well known to warn of deteriorating conditions in coastal waters. The past five decades have seen great progress in understanding the biology of seagrasses, the ecology of the world's seagrass meadows and in valuing the many services they provide. During this time there have been paradigm shifts in our understanding of many fundamental processes that underpin the ecology of seagrass meadows. Among them is a revised understanding of the phylogeny and evolutionary history of seagrass lineages, the smaller role played by the consumption of detritus in seagrass food webs, and the larger role of direct consumption of seagrasses in energy flux. Additional advances include convincing evidence that seagrasses can be pollinated by small invertebrates, that microbial-seagrass interactions in the sediments and in the water column are a vast area only beginning to be explored and that individual seagrass clones can cover vast areas and exist for millennia. Other recent advances include a revised understanding of the widely varying dispersal abilities of different seagrass species, as revealed by the much improved ability to genotype seagrass clones and the rapidly advancing knowledge, aided by much trial and error, of how to improve the success of seagrass restoration efforts. We have also seen important advances in valuing the services provided by seagrass meadows, such as their important role as nursery habitat for a variety of economically important finfish and shellfish. In addition, their previously less well known services, such as their functioning as vast reservoirs of blue carbon, is becoming increasingly elucidated, with the implication that the continuing global decline of seagrass meadows has profound implications for earth's climate.

Seagrasses face many emerging challenges associated with our changing climate, including the effects of the alteration of temperatures, pH and dissolved oxygen, as well as the immigration and assimilation of tropical species, whose predatory, competitive and pathological effects on the ecology of seagrasses and their associated biotas may be enormous but which remain unknown and unpredictable.

This session will highlight the most exciting, recent advances in seagrass research by those at the forefront of the field, and is dedicated to Dr. Susan Williams, who, throughout her career, played a leadership role in seagrass ecology and mentored some of its leading practitioners. It will be of interest to researchers and resource managers faced with the challenge of preserving, restoring and managing seagrass resources.

To submit an abstract to this session, visit https://cerf.confex.com/cerf/2019/webprogrampreliminary/Session2039.html

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The 14th International Seagrass Biology Workshop (ISBW14) (Annapolis, Maryland, USA on 09–14 August 2020)

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 2020 will be held in August 2020 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:
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SEAGRASS-WATCH on YouTube

Seagrass: Pastures of the sea *http://www.youtube.com/watch?v=66Y5vgswj20* or *http://www.seagrasswatch.org/seagrass.html*
Presentation on what seagrasses are and why they are important (over 50,291 views to date)

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

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