



SEAGRASS-WATCH E-BULLETIN

17 February 2008

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NEWS

Ocean Map Charts Path of Human Destruction

14 February 2008, By Eli Kintisch, ScienceNOW Daily News

BOSTON--Four years in the making, a groundbreaking new map of the state of the world's oceans was released today, and its message is stark: Human activity has left a mark on nearly every square kilometer of sea, severely compromising ecosystems in more than 40% of waters.

The map combines 17 anthropogenic stressors, including coastal runoff and pollution, warming water temperature due to human-induced climate change, oil rigs that damage the sea floor, and five different kinds of fishing. Hundreds of experts worked to weigh and compare the stressors, overlaying them on top of maps that the scientists built of various ecosystems, with data obtained from shipping maps, satellite imagery, and scientific buoys. Then marine scientists modeled how different ecosystems would be affected by the stressors, mapping so-called impact scores onto square-kilometer-sized parcels worldwide. The scores correspond to colored pixels on the new map.

Those figures are sobering, says marine ecologist Benjamin Halpern of the National Center for Ecological Analysis and Synthesis in Santa Barbara, California, who led the effort. The data suggest, for example, that ecosystems found in rocky reefs and on continental shelves "are being impacted even more" than coastal coral reefs, which get much more attention. But coral reefs are in bad shape themselves: The map indicates that nearly half of global reefs are experiencing serious, multiple impacts, including damage from fishing and ocean acidification.

"The takeaway message of the paper is that one needs to take into account the cumulative effects of different threats to the ocean," says Duke University marine ecologist Larry Crowder, who wasn't part of the effort. Still, although the map is a "bold attempt," Crowder notes that it is far from comprehensive. Some very severely threatened ecosystems, such as certain rare reefs, are too small to show up on the map, he notes, and other data, such as the cumulative impact of fishing historically, are simply not available. Scientists in the broader community will be able to update the various data sets that form the map, which could fill some of these gaps.

more..... <http://www.seagrasswatch.org/news.html>
 Related links: <http://www.hindu.com/thehindu/holnus/008200802151755.htm>
<http://www.newsobserver.com/news/story/946093.html>

Healthy Seagrass (Cairns, Australia)

07 February 2008, The Cairns Post, p. 21

Seagrass-Watch reports that despite water temperatures of up to 38C, meadows at Yule Point and Green Island have "never looked better". Mean seagrass cover was the highest since monitoring started in 2000 and canopy heights were also seasonally high, providing good cover and food for marine animals.

For more information on Green Island and Yule Point sites..... <http://www.seagrasswatch.org/news.html>.

Port Phillip Bay samples within green limits (Australia)

16 February, 2008, Melbourne Herald Sun

The first tests of dredging in Port Phillip Bay show the amount of sediment being stirred up is well within safe limits. The Port of Melbourne Corporation yesterday released turbidity readings taken from monitoring buoys anchored at key locations in the bay. The clean bill of health comes as 15 business groups and unions unite to promote the \$1 billion project to deepen the bay's shipping channels.

Tests in the first week recorded a peak of 12 nephelometric turbidity units (a measure of suspended sediment) at the monitoring buoy closest to the dredge. This was a third of the 35-unit limit in that area.

PoMC executive general manager Nick Easy said the test results showed the bay's assets were being protected. Mr Easy said turbidity buoys had been placed to protect assets including seagrass, seabirds, fish, and sea squirts. He defended a lack of monitoring of St Kilda's penguin population in the project's environmental management plan, saying programs to monitor them already existed.

Full story and source: <http://www.news.com.au/heraldsun/story/0,21985,23221107-2862,00.html>

Power-Plant Flue Gas Enhances the Productivity of Seagrass (Tempe,AZ,USA)

13 February 2008, CO2 Science Magazine

In a fascinating study that appeared as the lead article of volume 344 of the scientific journal Marine Ecology Progress Series, Palacios and Zimmerman (2007) describe a unique experiment they conducted at the Duke Energy-North America Power Plant at Moss Landing, California (USA), where flue gas generated by the power plant furnace was piped approximately 1 km to a site where it was bubbled through outdoor flow-through seawater aquaria at rates that produced four different aqueous CO2 treatments,

The researchers report that the elevated CO2 "led to significantly higher reproductive output, below-ground biomass and vegetative proliferation of new shoots in light-replete treatments," i.e., those receiving light at 33% of the surface irradiance level. More specifically, they write that "shoots growing at 36 μM CO₂(aq) were 25% larger than those in the unenriched treatment [16 μM CO₂(aq)]," while "at 85 μM CO₂(aq) shoots were 50% larger than those in the unenriched treatment and at 1123 μM CO₂(aq) shoots were almost twice as large as those in the unenriched treatment." In addition, they found that at 1123 μM CO₂(aq) "22% of the shoots differentiated into flowers, more than twice the flowering output of the other treatments at this light level."

Full story and source: <http://www.co2science.org/scripts/CO2ScienceB2C/articles/V11/N7/EDIT.jsp>

Dredging 'destroying scallops' (Melbourne, Victoria, Australia)

11 February 2008, The Age

Sediment from the Port Phillip Bay dredging is wiping out scallop grounds along the Mornington Peninsula, it has been claimed. Scuba diver Rubens Monaco said he and a colleague dived one kilometre from where the dredge Queen of the Netherlands had just swept through on Saturday, and what they saw "was pretty devastating". The sea floor was normally the habitat of seagrass, scallops, invertebrate animals such as sandworms, different fish, small stingrays and octopuses, he said.

Port of Melbourne chief executive Stephen Bradford said he was not aware of any problems over the dredging and declined to comment on progress made.

Full story and source: <http://www.theage.com.au/news/national/dredging-destroying-scallops/2008/02/10/1202578607536.html>

New report shows N. Naples mangrove forest improving (Naples,FL,USA)

9 February, 2008, By ERIC STAATS, Bonitanews

The Clam Bay mangrove forest in North Naples is on the mend overall but showing new signs of stress in some places, according to a new monitoring report. A 50-acre mangrove die-off in the 1990s prompted Pelican Bay taxpayers, Collier County officials and Pelican Bay developer WCI to launch a rescue mission, digging channels through the forest to improve flushing.

In a report released last week, Pelican Bay Services Division consultants Turrell, Hall and Associates estimate 70 acres of mangroves aren't at optimum health compared to almost 75 acres in that category in 2006.

As for sea grasses, Turrell, Hall and Associates expanded its monitoring in 2007 to cover the whole bay. The expanded monitoring found seagrass beds that hadn't been found before but the report doesn't estimate seagrass acreage. Seagrasses and water quality will be getting more attention later this month.

Full story and source: <http://www.naplesnews.com/news/2008/feb/09/new-report-shows-n-naples-mangrove-forest-improvin/>

Melbourne dredging Environmental Management Plan approved

Transport and Logistics News - Sydney, NSW, Australia

The Environmental Management Plan (EMP), the 'rule book' for the Channel Deepening Project, has been given the green light. Port of Melbourne Corporation (PoMC) today received the Federal Government approval for the EMP, which details the environmental protections for Port Phillip Bay during the Channel Deepening Project. The Federal Minister's approval of the 127 page document follows that of the Victorian Minister for Environment and Climate Change, Mr Gavin Jennings, late last year.

The EMP also comprises 13 baywide monitoring programs and detailed work methods to provide broader information on the status of key species, habitats and ecological processes in the bay. The programs will focus on fish stocks in the bay, water quality, little penguins, nutrient cycling, plume intensity, contaminants in fish, algal bloom, Ramsar wetlands and seagrass. The programs involve the use of various monitoring methods such as satellite imagery, aerial photography, sampling for laboratory analysis, individual site monitoring, data collection, surveys, field measurements and mapping.

The EMP is now available on the web. To view the EMP, please visit the Channel Deepening Project website www.channelproject.com.

Full story and source: <http://tandlnews.com.au/2008/02/05/article/JFLBDCYCRR.html>

Oceans And Coasts Initiative Will Focus On Offshore Resources (Honolulu, HI, USA)

05 February, 2008 pacific magazine

U.S. President George W. Bush is proposing \$7.9 million to launch a Department of the Interior initiative to help protect ocean and coastal resources through unique partnerships to clean up marine debris, conserve coral reefs, improve ocean science and map vital areas of the U.S. extended continental shelf. This increase is part of the Department's overall contribution of \$956 million to implement the Ocean Action Plan in 2009.

"Marine ecosystems are neither inexhaustible nor indestructible. They are vulnerable natural resources that need our coordinated and concerted care," Secretary of the Interior Dirk Kempthorne said in unveiling the initiative today. "By working with state, regional and international organizations, we can better manage and protect ocean areas, coral reefs, barrier islands, bays, deltas and wetlands. We can reduce the spread of aquatic diseases. And by doing that, we can help protect communities, economies and wildlife that depend on these resources."

"On our coasts, nearly 80 percent of U.S. estuaries are threatened," Secretary Kempthorne said. "We have lost as much as 90 percent of the sea grass in parts of the Gulf Coast. We are losing coastal wetlands that protect us from major storms, purify water, and serve as nurseries for marine fisheries. Pollution and other human-caused threats are stressing coral reefs around the world."

Included in the Ocean and Coastal Frontiers Initiative is an increase of \$4.0 million to define U.S. jurisdiction of the extended continental shelf under Law of the Sea requirements. Many nations that border the Arctic are now staking seabed claims beyond 200 miles to secure rights to minerals and energy resources in the area. The project would assure the United States has the geologic and geophysical information needed to determine extended continental shelf boundaries successfully. The entire extended continental shelf includes energy and mineral resources with an estimated value in excess of \$1 trillion.

Full story and source: <http://www.pacificmagazine.net/news/2008/02/05/oceans-and-coasts-initiative-will-focus-on-offshore-resources>

Endangered Okinawa Dugong Saved from US Marine Corps – For 3 Months (Hereford, England, UK)

January 2008, Wildlife Extra

The seagrass habitat of the endangered Okinawa dugong is safe from the U.S. Department of Defense, at least for the next 90 days. The sea mammal will continue to swim in Henoko Bay off the Japanese island of Okinawa in the place where the United States plans to build an airbase.

A federal judge in San Francisco Wednesday has ruled that the Department of Defense, DOD, is in violation of the National Historic Preservation Act for failing to consider the impacts of a new airbase on the dugong in order to avoid or mitigate any harm. The act requires agencies of the U.S. government to consider the impacts on cultural and historic resources in other nations when undertaking activities outside the United States.

The lawsuit was brought by three individual Japanese citizens, six American and Japanese environmental associations, and the Okinawa dugong, which is listed as a plaintiff in court documents. In her ruling, Judge Marilyn

Hall Patel wrote, 'The current record contains no evidence that a single official from the DOD with responsibility for the FRF has considered or assessed the available information on the dugong or the effects of the FRF.'

Judge Patel ordered the Department of Defense to 'submit to the court, within 90 days, information necessary to evaluate the impacts of the FRF on the dugong' and to 'identify the DOD official or officials with authorization and responsibility for reviewing and considering the information for purposes of mitigation. The court is troubled that the 2006 Roadmap embodying final plans for the construction of the FRF has received the highest levels of approvals from the U.S. Secretaries of Defense and State. Yet, the impacts of the FRF on the dugong are currently not well-understood,' wrote Judge Patel.

Full story and source: <http://www.wildlifeextra.com/okinawa-dugong927.html>

Dangar Seagrass Project seeks interested community members

Visitors and locals to the Hawkesbury River this summer have been treated to environment workshops discussing Dangar Island seagrass. Workshop attendees joined representatives from FishCare, the Marine and Coastal Community Network, the NSW Volunteer Rescue Association and the Central Coast Community Environment Network to observe first hand how important seagrass is for the juvenile fish, sea horses, pipefish and turtles that live there.

The Summer workshops held at Dangar Island proved popular with the local community, indicating a high level of interest for protecting the seagrass bed. People interested in future seagrass activities should contact Kristy Guise at Hornsby Council on 9847 6899. The Dangar Island Seagrass Protection and Education program is a joint initiative between Hornsby Council and the Hawkesbury Nepean Catchment Management Authority, funded through the Natural Heritage Trust.

FROM HQ

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

Seagrass-Watch News Issue 31 <http://www.seagrasswatch.org/newsletters.html>

Seagrass-Watch Shop <http://www.seagrasswatch.org/shop.html>

Virtual Herbarium <http://www.seagrasswatch.org/herbarium.html>

Giveaways <http://www.seagrasswatch.org/shop.html#GIVE1>

- Seagrasses of Australia
- Phytoplankton Guide
- Seagrass Biology (Volume 2 only)
- Bookmarks
- Stickers
- Seagrass-Watch Newsletter 31 (hardcopy)
- Seagrass-Watch Newsletter 30 (hardcopy)
- Seagrass-Watch Newsletter 29 (hardcopy)
- Seagrass-Watch Newsletter 28 (hardcopy)

Future sampling dates <http://www.seagrasswatch.org/sampling.html>

Handy Seagrass Links <http://www.seagrasswatch.org/links.html>

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