



## SEAGRASS-WATCH E-BULLETIN

### 29 July 2007

Seagrass-Watch's electronic news service, providing marine and coastal news of international and national interest. Seagrass-Watch welcomes feedback on the bulletins, and you are free to distribute it amongst your own networks. [www.seagrasswatch.org](http://www.seagrasswatch.org)

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#### NEWS

##### ***The island paradise built on a garbage dump (Singapore)***

July 26, 2007, London, England (CNN)

Garbage dumps are generally not associated with thriving coral reefs, vast mangrove plantations and rare bird species. Yet on Pulau Semakau off Singapore, this is exactly what you will find: just beside a secluded ecological zone that harbors dozens of rare plant, bird and fish species lies the world's first ecological offshore landfill.

Located 8 kilometers south of Singapore and covering an area of 3.5 square kilometers, the Semakau Landfill was designed by engineers and environmentalists at Singapore's National Environment Agency (NEA). It consists of two small islands that have been connected by a rock embankment. The area inside the landfill is divided into 11 bays, known as 'cells', which are lined with thick plastic and clay to prevent any harmful material from seeping into the sea. The landfill, which cost around \$400 million, can hold up to 63 million cubic meters of rubbish, enough to satisfy Singapore's waste disposal needs until 2040.

What distinguishes Semakau from other landfills is that it is clean and free of smell. Two mangrove groves that were destroyed when the embankment was built have been replanted near the landfill and today they

serve as biological indicators for the local environment. Together with the island's other ecosystems such as seagrass meadows, coral reefs and sandy shores, the mangroves serve as a habitat for a variety of birds, fish and plants.

"Great effort went into making sure that the impact of the landfill on Pulau Semakau's biodiversity was minimized. In fact, biodiversity remains high and we have not lost a single species because of the landfill," says Wang Luan Keng, an education and research officer at the Raffles Museum of Biodiversity Research (RMBR) in Singapore.

In July 2005, the government decided to open the western part of Semakau up to the public for recreational purposes. Today there are guided nature walks along the island's coast, while sports fishing and bird watching associations also organize special excursions to the island. "When we do the tours around the island, we have a powerful message," says Ria Tan, an associate at the RMBR and owner of a popular Web site, wildsingapore.com. "We tell people: 'Look how beautiful this is, and imagine what could be destroyed if the landfill had to be expanded.' This makes them think and when they go home they are more careful about how they deal with waste."

Thus, the Semakau Landfill project has inadvertently turned into more than just a trash dump; it is becoming an educational project and could serve as a model for sustainable urban development around the world. "It is of course a compromise, but in the context of urban living I think it is a good one. Some nature lovers criticize the project, but in the end we have to throw our rubbish somewhere and this is a good solution," says Tan.

[more.....http://www.seagrasswatch.org/news.html](http://www.seagrasswatch.org/news.html)

### ***Fishermen fight to save livelihood (Persekutuan, Malaysia)***

July 26 2007, By R. Sittamparam, New Straits Times

Fisherman Abdul Rahman Salleh put his 11 children through school on the money that he made catching fish in the Sungai Pulai estuary. But these days, he has little to show for hours of work. Abdul Rahman, who represents 500 fishermen from Pendas to Gelang Patah, has been forced to sell his house to make ends meet.

He said the estuary's bounty has been in decline over the last 20 years following the construction of a port, bridge and power plant. As if that were not bad enough, there are now plans to build an industrial estate in the area which will host heavy industries. These include makers of plastics, paints, pesticides and chemical products. There will also be a chemical incinerator and facilities to process toxic and hazardous wastes.

Part of the development eats into a 91sq km area that is gazetted as protected wetlands under the Ramsar Convention. More than 900ha of mangroves could be cleared and 15ha of submerged land along the river's west bank reclaimed, according to the mandatory study on the project's environmental impact. This could cause some 500 families living here to lose their traditional way of life and source of income.

The development could also threaten the estuary's wildlife, such as the spotted seahorse and dugong. Twenty years ago, a substantial tract of mangrove forest was cleared to build the port and power plant. This resulted in heavy silting which led to heavy growth of seaweed. This, in turn, blocked sunlight filtering down to the seagrass beds, reducing the amount of food that was available to fish, prawns and dugong.

[more.....http://www.seagrasswatch.org/news.html](http://www.seagrasswatch.org/news.html)

### ***Few fish in Indian River Lagoon, says biologist (Stuart, FL, USA)***

July 28, 2007, By Jose De Wit, Stuart News

JENSEN BEACH — The once-thriving fish populations in the Indian River Lagoon are dwindling — and hardly anyone is paying attention, said biologist Grant Gilmore Jr. in a presentation during Friday's meeting of the Rivers Coalition.

Nutrient-rich discharges from Lake Okeechobee and pollution-laden stormwater runoff are killing off the lagoon's thick, shallow beds of seagrass. This is disrupting the breeding cycles of fish such as snook, drum and sea trout, whose offspring seek protection in the grass. And it is endangering the southern end of the Indian River Lagoon's reputation as the most diverse estuary in the U.S.

It's by studying the mating behavior of drum that Gilmore has been able to directly link discharges from Lake Okeechobee to changes in species' breeding patterns. He used sonar equipment and underwater microphones to record the loud grunts male drum use to attract females. "The amount of eggs they laid

was directly proportional to the amount of sound they made," Gilmore said. "And the amount of sound they made was directly proportional to the amount of runoff in the water."

Nutrient-rich water from Lake Okeechobee makes the estuary's shallow water cloudier and darker, making it harder for sea grass to recover from hurricanes. The St. Lucie Estuary is especially sensitive to sea grass loss, Gilmore said, because it's relatively small compared to other Florida estuaries. "Our estuary is small, so we have more to lose per unit area," Gilmore said. Gilmore said the Rivers Coalition's efforts to stop the Lake Okeechobee discharges are a good first step toward rehabilitating the Indian River Lagoon and its surrounding ecosystems.

*Full story & source <http://www.tcpalm.com/news/2007/jul/28/30few-fish-in-indian-river-lagoon-says-biologist/>*

### **Coastlines under threat from tourism industry (Hanoi, Vietnam)**

July 27 2007, Viet Nam News

With its striking coastline, Vietnam is quickly becoming a popular tourism destination, but at the cost of its eco-systems. Experts discuss ways to protect the ocean environment while aggressively developing the tourism industry with Thoi bao Kinh te Viet Nam (Vietnam Economic Times).

In the last few years, Vietnam's sea tourism has been developing at quite a good pace. The country's tourism industry is expected to attract between 7 and 7.5mil visitors and have an annual revenue of more than US\$2bil per year by 2010, says Director of the Institute for Aquaculture Economics and Planning, Nguyen Chu Hoi. Sea tourism is expected to account for 80% of all tourists to the country and contribute 70% of the total tourism revenue.

Under the pressures of development and poor natural resource exploitation practices, the country's mangrove forests have shrunk to 155,290ha - 100,000ha less than in 1990 - and is still decreasing. Experts have also warned that 50% of coral is under threat of extinction. Seagrass faces the same danger. Because the ecosystem is so interdependent, if one element is disturbed, all the other elements are endangered.

*Full story & source: <http://english.vietnamnet.vn/travel/2007/07/723292/>*

### **River tributaries have quality tale to tell (Fort Myers, FL, USA)**

July 26, 2007, By Kevin Lollar, The News-Press

After a month in Tarpon Bay, the Land/Ocean Biogeochemical Observatory (LOBO) show went on the road Wednesday — or, more precisely, on Caloosahatchee tributaries. LOBO collects and records water-quality in real time 24 hours a day. The instrument belongs to the Sanibel-Captiva Conservation Foundation Marine Laboratory.

Although river watchers have said for years that the Caloosahatchee has been going downhill, water quality came into focus after the very wet rainy seasons of 2004 and 2005 when low salinity and high nutrient levels caused a series of problems in the river and estuary, including massive algal blooms and the collapse of freshwater aquatic grass populations.

The instrument measures the water for nitrates (which fuel algal blooms), chlorophyll (which indicates the presence of algae), tannins, turbidity and salinity, (which affect seagrass growth). Within the next few months, the foundation will have nine LOBOs, collecting water-quality data and sending it to the marine lab's Web site, where it will be available to anyone with Internet access. One LOBO will be in the Gulf of Mexico between the Sanibel Lighthouse and Fort Myers Beach; the rest will be in Pine Island Sound, as far north as Redfish Pass, and in the Caloosahatchee River, upstream as far as Moore Haven.

*Full story & source: <http://www.news-press.com/apps/pbcs.dll/article?AID=/20070726/NEWS0105/70725071/1075>*

### **Sarasota seeking seagrass survey volunteers (FL, United States)**

July 25, 2007, Bradenton Herald

SARASOTA -During the month of August, Sarasota County needs volunteers with boats to continue its local seagrass mapping program that began last winter. Recognizing that seagrass is vital to maintaining healthy aquatic ecosystems, the county began the effort last winter to provide supplemental information to the Southwest Florida Water Management District's program. The county's water resources staff decided to tap into the local boating community since they are in the water year-round, according to a county press release.

"It's no secret that seagrass holds the keys to unlocking mysteries in local waterways," Amanda Dominguez of the county's water resources department stated in the release. "For example, why do grass and algae thrive in some places and not others? We learn from watching seagrass and mapping its environment. It improves water quality, provides food and cover for a variety of wildlife and stabilizes shorelines."

"Using their own boats and kayaks, our first set of volunteers visited 386 places in February," Dominguez stated in the release. "Their descriptions of seagrass, algae, depth and water clarity should give us a better picture of the extent and types of seagrass in our bays. It should also help determine whether the red drift algae that lines our beaches is seasonal, or whether it persists throughout the year."

*Full story & source: <http://www.bradenton.com/breakingnews/story/106344.html>*

### ***Is Nutrient Loading A Smaller Problem Than We Think? (USA)***

July 25, 2007, Dauphin Island Sea Lab, Science Daily

A recent journal article in *Estuaries and Coasts* suggests that the problems with coastal seagrass destruction may not be so much due to eutrophication, as is commonly believed, but due to the depletion of top-level consumers in coastal and estuarine ecosystems.

Coastal science gospel states that eutrophication caused by elevated nutrient loadings has triggered major alterations of coastal ecosystem structure and function. The article, authored by Dauphin Island Sea Lab scientists Dr. Ken Heck and Dr. John Valentine, turns this conventional wisdom on its head, making the case that the cause of these problems can be found at the top, rather than the bottom, of the food web.

The authors assert that rather than nutrient loadings, the more likely culprit is the depletion of top-level consumers in coastal and estuarine ecosystems. Indirect effects of the removal of large consumers are often indistinguishable from effects of nutrient loading, they argue, and they present evidence gathered from more than 100 studies of coral reefs, rocky intertidal areas, and sea grass beds to support the claim.

This paradigm could have major repercussions for management of coastal ecosystems, considering the research and management emphasis of recent decades on nutrient control. Especially if upper trophic levels have been altered, nutrient reduction is unlikely to help restore benthic habitats, note the authors.

*Full story & source: <http://www.sciencedaily.com/releases/2007/07/070724161631.htm>*

### ***Vietnam set to open tropical biosphere reserve (Ho Chi Minh City, Vietnam)***

July 24, 2007, Thanh Nien Daily

Vietnam's Kien Giang province plans to set up a biosphere reserve, expected to be the largest in Southeast Asia and a model for almost all tropical ecosystems.

The Kien Giang Biosphere Reserve, scheduled to be inaugurated on December 1 this year, was recognized as a world biosphere reserve by UNESCO at its session in Paris in October last year.

It spreads over 1.1 million hectares in Phu Quoc, Kien Hai, Hon Dat, Kien Luong, Ha Tien, An Bien, An Minh, and Vinh Thuan districts and Rach Gia town, and is home to many rare and endangered plants and animals, including seagrass, coral reefs, dugongs, and sea turtles.

*Full story & source: <http://www.thanhniennews.com/society/?catid=3&newsid=30330>*

### ***New Report Finds 80 Percent Loss of Coastal Marine Habitats in Europe (Ferndale, WA, USA)***

July 23, 2007 Emediawire

A new study published in the *Annual Review of Oceanography and Marine Biology* examines the drastic decline of coastal marine habitats across Europe and calls for regulatory changes to improve their protection. The report, titled "Loss, Status and Trends for Coastal Marine Habitats of Europe" was written by Mike Beck, marine scientist at The Nature Conservancy, and by University of Bologna research fellow Dr. Laura Airoidi.

Over the centuries, land reclamation, coastal development, over-fishing and pollution have nearly eliminated European wetlands, seagrass meadows, mussel beds, oyster reefs and other near-shore habitats that provide valuable resources to local communities and coastal livelihoods. The loss of these natural systems combined with the near extinction of native oyster reefs has caused significant economic damage across many European countries.

While recent studies have examined the extent of habitat loss and fragmentation in tropical environments, scientists' understanding of temperate marine habitat loss is considerably less developed.

"The lack of data on seagrasses, salt marshes and oyster reefs needs to be addressed in order to more effectively protect and restore these degraded areas," commented Airoldi. "These habitats border some of the most developed nations in the world across Europe and North America, and countries need to implement policies and improve management of these incredibly diverse and productive areas, for the benefit of their citizens."

To prevent further loss of wetlands, serious investment in restoration will be required, as well as cooperation across governmental agencies and non-governmental organizations. Very few healthy examples of these habitats remain in Europe, and the report recommends that they be immediately conserved within Natura 2000, a network of protected areas in the territory of the European Union.

*Full story & source:* <http://www.emediawire.com/releases/2007/7/emw541928.htm>

## GALLERY

**Lugger Bay, Mission Beach (Qld) : 29 July 2007** <http://www.seagrasswatch.org/gallery.html>

**Dunk Island, Mission Beach (Qld) : 28 July 2007** <http://www.seagrasswatch.org/gallery.html>

**Yule Point, Cairns (Qld) : 27 July 2007** <http://www.seagrasswatch.org/gallery.html>

**Green Island, Cairns (Qld) : 26 July 2007** <http://www.seagrasswatch.org/gallery.html>

**Napranum, Weipa (Qld) : 16 July 2007** <http://www.seagrasswatch.org/gallery.html>

## TRAINING WORKSHOPS

**Broome, Western Australia, September 1st - 2nd 2007** <http://www.seagrasswatch.org/training.html#wrkshop07>

*Location:* Lotteries House, Broome

*Participants:* Environs Kimberley & Kimberley Land Council

*Sponsor:* Environs Kimberley, Kimberley Land Council & Seagrass-Watch HQ

*Contact:* Danielle Bain (08 9192 7741 or 0414 841 519 or email [dans\\_al@westnet.com.au](mailto:dans_al@westnet.com.au))

*Registration:* <http://www.seagrasswatch.org/training.html#wrkshop07>

## PUBLICATIONS

**Whitsundays training workshop proceedings: 14th July 2007**

<http://www.seagrasswatch.org/training.html#Proceedings>

McKenzie, LJ, Mellors, JE and Yoshida, R (2007). Seagrass-Watch: Proceedings of a workshop for Monitoring Seagrass Habitats in the Whitsunday Region. QPWS Whitsunday Information Centre, Airlie Beach 14th July 2007. (Seagrass-Watch HQ, Cairns). 32pp. (1.4Mb)

## FROM HQ

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**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 29 (hardcopy)
- Seagrass-Watch Newsletter 28 (hardcopy)

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

**Seagrass-Watch News Issue 29** <http://www.seagrasswatch.org/newsletters.html>

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

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