

# The Coastal Society

TCS Bulletin  
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## Glimpses of the Ocean: Capitol Hill Oceans Week 2008

by Ellen Gordon

Whether it's due to the electric air of an election year or a growing public perception of environmental crisis, the 8th annual Capitol Hill Oceans Week (CHOW) brought appearances from more members of Congress than previous years. Coordinated by the National Marine Sanctuaries Foundation (NMSF), this symposium is designed to bring together a wide range of stakeholders, including representatives of government,

*continued on page 3*

## An Educational Experience at the Adventure Aquarium in Camden, NJ

By Tali Engoltz

At the Adventure Aquarium in Camden, New Jersey, an exasperated fish named Gill is trying to figure out what or who is mucking up his ocean neighborhood. Perplexed, since there does not seem to be a direct and point source of pollution such as a sewage outfall anywhere nearby, Gill enlists the help of Steve, an unsuspecting Aquarium employee. Together they take a trip upstream only to end up at Steve's house where various

*continued on page 5*

### INSIDE

Message from the President.....	2
Editor's Desk.....	3
NewsNotes.....	6
Ocean Hall Exhibit.....	9
TCS Recovery Fund.....	10
Chapter Updates.....	10
TCS21 Sponsors.....	11
Upcoming Conferences.....	12
Board of Directors.....	13



## TCS 21 - The Coastal Society's 21st Biennial Conference Coastal Footprints: Minimizing Human Impacts, Maximizing Stewardship Redondo Beach, California June 29 - July 2, 2008

Concurrent sessions will encompass seven themes:

- Effective Integration of Coastal Science, Policy and Management
- International Coastal Management Concepts and Practices
- Integrating Social Equity into Coastal Management
- Coastal Energy Siting, Production and Consumption
- Coastal Land and Watershed Use
- Climate Change Impacts
- Working Waterfronts and Waterways

The conference will take place at the Crowne Plaza Hotel Redondo Beach, which has worked with us to minimize our own ecological footprint for this conference. Please join us at TCS 21 for interesting panels, presentations, posters, field trips, workshops and discussions! For detailed information on all aspects of the Conference, including how to register, visit: <http://www.thecoastalsociety.org/conference/tcs21/>



*Footprints, that perhaps another,  
Sailing o'er life's solemn main,  
a forlorn and shipwrecked brother,  
Seeing, shall take heart again.*

-Henry Wadsworth Longfellow, *A Psalm of Life*

Dear TCS Member,


As we near our 21st International Conference, members of the TCS 21 Planning Committee are making final arrangements amidst the growing excitement of seeing old friends and colleagues and making new ones. Redondo Beach is a perfect spot: restaurants, the bike path, the beach and the harbor await our participants just outside the hotel door. And, as an urban coastal area, it is a perfect location for our community to discuss, brainstorm and witness the challenges of the footprint we find on the coast, the footprint we want to create, and the footprint that we want to leave behind.

The coastal management community understands that the footsteps are leading us toward a crossroads: coastal areas serve as the front lines for climate change; global trade is pushing for increased port and transportation capacity; ecosystems and coastal and ocean wildlife are stressed; the demographics of coastal management leadership are changing. But, a crossroads brings opportunities for fresh perspectives, different decisions, and new partners. It will take no less than this to address our complex coastal management challenges today and tomorrow.

While the three and a half days in Redondo Beach is only one piece of the puzzle, I hope our community can use that time to think critically, open up to new ideas, energize around a common vision, engage with individuals and entities that we haven't before, and leave the conference with an understanding of what steps we can take as individuals to revitalize coastal management.

This opportunity is only possible because of the work of the TCS 21 Planning Committee and our generous sponsors. I want to personally thank the Planning Committee for all its hard work in pulling the conference together. I am particularly proud of our program, our partners, and the energy that these individuals have brought to the conference. I especially want to thank Jim Fawcett, Kate Killerlain Morrison, Christine Patrick, Lisa Schiavinato, and Judy Tucker who each picked up roles beyond those assigned to them... always with good humor and professionalism.

I look forward to seeing you at the conference!



*Sincerely,  
Kristen M. Fletcher  
TCS President*

The views expressed herein are those of the authors and do not necessarily represent TCS nor its Board.



As I write this, gas prices in the mid-Atlantic region of the U.S. are averaging \$4.10/gallon for the cheapest grade (does anyone use "premium" anymore?), while a year ago, a gallon averaged \$3.01. That's an epic change! Indeed, Americans love affair with the automobile is finally beginning to lose some of its luster. Spiraling gas prices also exacerbate already-rising food costs. While the poor are hardest hit, even middle class America is now feeling the pinch. In countries around the world, increasing food and gas prices are producing severe political stress on those in power.

Surveys indicate that Americans are changing their habits; shifting out of their cars and onto mass transit, trading their SUVs in for hybrids, and vacationing closer to home. Economic gurus peer into their crystal balls but can't agree on future impacts; while our per capita gas consumption is dropping, will decreased demand foster a drop in gasoline prices, or will the growing international market counter that trend, and keep prices rising?

Beyond our individual responses, how will nations react to the oil squeeze? Here in the U.S., pressure has begun to accelerate on the ocean and coastal zone, most recently with calls from President George Bush, Senator John McCain and Governor Charlie Crist of Florida to repeal the 27 year old ban on offshore oil and gas drilling. Interestingly, the federal Energy Information Administration estimates that access to U.S. coastal regions would not have a significant impact on domestic crude oil and natural gas production or prices before 2030. On the other hand, impacts to our coastal resources would be felt long before then. As we are all aware, offshore drilling is only one of the potential energy scenarios that could affect our oceans and coasts. Of course, coastal energy siting, production and consumption is one of the seven themes for concurrent sessions at TCS21! I look forward to learning much more about this issue and so many others at, "Coastal Footprints: Minimizing Human Impacts, Maximizing Stewardship" in Redondo Beach.

- Ellen Gordon  
TCS Editor

*continued from page 1*

academia, industry and nonprofit organizations. This year, in NMSF's own words, "Climate change is finally a part of the public dialog, and it is incumbent on all of us to make sure that our largest natural resource, the ocean, gets the attention it deserves."

"Her Deepness," Sylvia Earle, tireless advocate for the ocean and Time Magazine's very first "Hero of the Planet," spoke on the topic of coral reefs. She described heart-breaking return visits to some reef sites after the passage of decades, where she found them largely devoid of their major predators. And yet, despite the bad news, Dr. Earle retains her optimism and exhorted the audience not to give up, to continue to spread the word about what is happening and why. "We cannot go back, but we can make the future better."

Dr. Lara Hansen of EcoAdapt emphasized that global climate change exacerbates other changes already ongoing in reefs. She pointed out that even if we immediately ceased pumping CO<sub>2</sub> into the atmosphere, the oceans would continue uptake of already emitted CO<sub>2</sub> until they saturate, and hence would continue to acidify. Dr. Hansen advocated a 90% reduction in CO<sub>2</sub> output by 2050, advising that we must encourage reef resilience by limiting other impacts, so the reefs can better cope with warming temperatures.

Over two and a half days, panels spanned topics from mitigation to aquaculture, from marine debris to human health. Herewith, a sampling of statistics presented by speakers:

- Value of ocean resources worldwide, including fish, seafood, tourism and coastal protection; \$375-\$650 billion
- U.S reef tourism: 45 million visits, \$17 billion in spending
- 80% of coral reef cover has been lost in the Caribbean in the last 20 years
- Reefs, the "rainforests of the sea," contain somewhere between 1-9 million species
- Reefs are 1% of the world's oceans, yet provide habitat for 1/3 of its marine species
- In 2006, there were 34,358 days of beach closures in the U.S.
- In the U.S., 7 million cases of gastroenteritis are contracted annually by beachgoers
- 61% of sick and stranded, sampled marine wildlife exhibited resistance to 1 to as many as 10 common antibiotics.
- The coastal zone supports nearly 40% of the global population even though it's just 5% of the world's habitable band
- 71% of the world's coastal population is within 50 km of an estuary

*continued on page 4*



continued from page 3

- 25% of all anthropogenic CO<sub>2</sub> emissions have been stored in the ocean
- The oceans are 0.1 pH units (reminder: pH scale is logarithmic) more acidic than they were 100 years ago
- We are currently measuring concentrations of about 360 ppm CO<sub>2</sub> in the ocean; at 500 ppm CO<sub>2</sub>, the entire structure of the coral reefs dissolve

Though some were more general and others much more specific, all those members of Congress who spoke were forcible in their stated convictions about the need to address climate change. Representative Brian Baird (D-WA) was first to air the issue of ocean acidification. He pointed out that while members of Congress might be skeptical of climate change, they cannot deny the cold hard facts of acidification. He made it very clear that he believes the "administration is clueless," and that political and financial incentives are arrayed to ensure that they not "get the concept." Representative Baird also advised that, "Just getting information out to people doesn't change their behavior; it has to be provided in a strategic fashion."

Senator John Kerry (D-MA) arrived to speak about accelerating impacts on the ocean, emphasizing that the ocean is giving us warning signals that we must heed. Highlighting the challenge before us, he spoke of how deeply threatened it is.

Representative Wayne Gilchrist (R-MD) spoke of specific problems in Chesapeake Bay, the impacts that a warming earth might have on the Bay, and the importance of striving for solutions. He believes that the energy crisis and climate change require a "global effort and ingenuity on a scale never before seen on this planet."

Representative Sam Farr (D-CA) discussed the incredible patchwork that governs oceans at the Federal level, including 140 laws and 40 agencies. He pointed out that while we have Oceans Week, we still don't have a cogent Ocean Policy or any standards for performance. He spoke of humanity's disregard for the planet's ecosystem, and the need to give people the opportunity to understand the impact of their choices. Representative Farr questioned why the press hasn't addressed one ocean question to the presidential campaigns. He admonished the audience to "recommit to being communicators," to help people understand why additional oil drilling isn't the answer to our energy woes. He added that we need to publish the concerns facing our oceans in the every-day magazines that people are reading. In his far-ranging discussion, Farr pointed out a lesser known economic impact of rising

sea-level; the U.S. claims an enormous 200 mile exclusive economic zone (EEZ). In the Pacific, it's based in part on oceanic islands and atolls. If the ocean rises, those atolls that are barely a foot above sea level will submerge; what happens to our EEZ then?

Senator Sheldon Whitehouse (D-RI) thought the symposium was certainly an interesting time to be on Capitol Hill, with concurrent ongoing efforts in the Senate to introduce the McCain/Lieberman/Boxer Climate Security Act. He mentioned a provocative procedural maneuver from the previous day, when "the obstructive minority" objected to the standard ritual of waiving the reading of the bill. Absent that waiver, House clerical staff followed the rules and for nine hours, read the 429 page Climate Security bill. The senator made clear that despite that tactic, and even though the Act would not gain passage during the 110th Congress, the effort had been productive, "preparing the ground" for the next Congress and next president.

There were of course many others who spoke about the multiple challenges facing the oceans. NOAA sent a number of managers to address the audience. On issues ranging from coral reef conservation, to fisheries, to marine sanctuaries, to marine debris, to aquaculture, NOAA deputy undersecretaries and office directors and regional managers spoke to the issues. Academia was also well-represented, as were nongovernmental organizations.

On the issue of human health and ocean health and what's on the horizon, it's evident that increasing ocean temperatures don't bode well for us. Whether it's an increase in naturally occurring pathogen concentrations-from brevetoxins to cholera; increased shoreline erosion and drowning of mangroves-the latter habitat for tunicates that are a possible source of potent anti-cancer agents; or loss of places that are important spiritually, either in a cultural sense to those who live nearby, or psychologically, to those who are distant, but for whom it's important to know that oceans and coastlines do more than merely survive.

A representative of the wind power industry spoke to the importance of offshore wind generation as part of the solution to the energy crisis and global warming. Jim Larnaard of Blue Water Wind told the audience that a 350MW offshore wind farm would help avoid: 1.0 million lbs CO<sub>2</sub>, 6.9 million lbs SO<sub>x</sub>, and 2.6 million lbs NO<sub>x</sub>. After presentations informative and impassioned on dead zones, coastal resilience and adaptive strategies, integrated approaches and ocean zoning, from scientists and from managers, the final panel was entitled, "A Conversation with Ocean Policymakers." Comprised of Capitol Hill Committee staffers and their liaisons at two federal agencies

continued on page 5

with ocean responsibilities--NOAA and the Department of the Interior (DOI)--all of the panelists emphasized that the "Congressional ship" is slow to come about. The ship metaphor extended to letting the audience know that while the bow has begun to turn, it will take time for the bulk of the ship to follow. It was a surprise to no one in the audience that Congressional action would take time. Nonetheless, it was a disconcerting follow-up to the many urgent presentations.

Eric Webster, Office of Legislative Affairs (OLA) at NOAA emphasized that hearings being held that very day on ocean acidification were a significant step forward. He spoke of the importance of Coastal Zone Management Act reauthorization to how land use will respond to climate change. Rob Howarth, OLA at DOI emphasized strategy and timing. Shimere Williams, majority staff to the Energy and Environment Subcommittee, House Committee on Science and Technology, indicated that it was important for Congress to hear from those with ocean expertise. Dave Jansen, majority staff to the House Subcommittee on Oceans, Fisheries and Wildlife, House Committee on Natural Resources spoke of the need to reach out and build broader coalitions in the House; those members without an ocean constituency need to be convinced of the urgency of the issue. Kris Sarri, majority staff for the Subcommittee on Oceans, Atmosphere, Fisheries and Coastguard, Senate Commerce, Science and Transportation Committee spoke of the importance of laying the groundwork for the 111th Congress. She suggested that those who care about the ocean need to be talking to more than just friends; it's vital to start convincing those who aren't paying attention.

Staff urged the audience to keep emailing, keep contacting, keep pushing, and keep the issues before the staff—even when those staffers appear to be getting annoyed! More people and more voices are going to be necessary to get the attention of enough members of Congress. Inevitably, there will be brick walls standing in the way; somehow, someday, a way must be found to go over or go around those obstacles. That means thinking outside the box and using whatever techniques work, including celebrities whose presence can bring attention to the problem. Staffers differed somewhat on whether the ocean community needs to get together behind a big encompassing bill or take a grand idea and break it down into small pieces. But they reminded everyone that it's going to take long term vision; the effort doesn't end with passage of a law or even several laws. Authority is important, but without the funding, i.e., appropriations, nothing worthwhile will happen.



sources of nonpoint source (NPS) pollution are found to be the culprit of the messy scene down the shore.

Gill is part video animation and part puppet. Steve is an education expert at the Adventure Aquarium. The theater production was a component of an education program funded by the New Jersey Coastal Management Program (NJCMP).

Early in 2006, the NJCMP entered into a formal agreement with the New Jersey Academy of Aquatic Sciences (NJAAS)--a nonprofit organization whose mission is to promote understanding, appreciation, and protection of aquatic life and habitats through research and education--to implement a nonpoint source pollution education program for visitors to the aquarium during the summer season. An aquarium is the perfect setting for such a project as there is a specific target audience, the resources and infrastructure available to produce and display a unique and interactive program, and the incentive for changing one's behaviors is on display at the aquarium; the fish, organisms, and habitats. The goals of the program were to educate visitors about the causes of NPS and its impacts, to convey this information in a relaxed atmosphere incorporating an element of entertainment into the learning experience, and to demonstrate actions that visitors can take to reduce their contribution to NPS. The project strove to increase the ecological understanding of the audience, to cultivate a desire to protect the creatures visitors have become intimately aware of in their journey through the aquarium, and to encourage them to change their behavior to protect the aquatic environment.

In addition to the theater production featuring Gill and Steve, the NJAAS purchased a coastal EnviroScape model and additional accessories to demonstrate to aquarium visitors how nonpoint source pollution flows throughout the watershed and eventually into the estuary and ocean waters. The presentations using the EnviroScape focused on urban inputs, agricultural, and industrial sources of nonpoint source pollution, including those from a coastal marina facility. A staff member answered questions, presented interesting facts, dispelled myths and misconceptions, and entertained with small hands-on types of activities focusing on the causes of NPS and its impacts. The information presented during the program included a definition of NPS, how it impacts the coastal environment and marine and aquatic life, a description of the activities that contribute to NPS, an introduction to the policies, programs, and rules in place in New Jersey to reduce NPS pollution and its impacts, and a list of tips on how to reduce human-based contributions through minor changes in behavior.

*continued on page 6*



The NJAAS also distributed beach balls with a unique logo displaying artistic renditions of sea creatures with the message, "At the Beach or Far Away, Be a Part of the Nonpoint Source Pollution Solution." The goal was to remind visitors of the lessons learned in the demonstration program and the link between people, marine fauna and flora, coastal habitats, and conservation.

The educational program continued through the summer and fall season at the aquarium and at camp programs in the city of Camden reaching approximately 1300 children and Aquarium visitors. The collaboration between the NJ Coastal Management Program and the NJAAS was a successful, unique partnership to engage aquarium visitors in the wonder of the aquatic world and demonstrate how their actions can either harm or protect it.

Tali Engoltz, Tali.Engoltz@dep.state.nj.us, is the Clean Marina Program Coordinator for the New Jersey Dept. of Environmental Protection. She has helped implement recycling programs for boat shrink wrap material and monofilament fishing line, as well as facilitating the completion of Hudson River Waterfront Walkway in northern NJ. She's recently been selected as an Environmental Leadership Program Fellow, Delaware Valley Region. Tali also serves as a member of the Board of The Coastal Society.



NOAA Photo Library

#### EPA Clarifies the Need for Discharge Permits

On June 9, the Environmental Protection Agency (EPA) announced a rule clarifying that National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act (CWA) are not required for transfers of water from one body of water to another. Discharge permits are typically required when pollutants are released into rivers, streams, and other surface waters. EPA asserts that the focus of the permits should be on water pollution, not water movement. This issue has been the center of several court cases, including a Supreme Court case where the Court did not rule on the issue. From CSO Weekly. <http://www.msnbc.msn.com/id/25077016/>; <http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceeac8525735900400c27/66d1aca0a9c7030d852574630051e99b!OpenDocument>; <http://www.supremecourt.us.gov/opinions/03pdf/02-626.pdf>.

#### Largest Environmental College in the World

The University of Washington, Seattle, says it is planning to launch "the largest environmental college in the world" in the fall of 2009. Plans call for its new College of the Environment to have nearly 100 faculty and more than 1,100 students, with an annual budget of more than \$60 million. From the Yale Forum on Climate Change and the Media. [www.yaleclimatemediaforum.org/news/0508/\\_news\\_udub.htm](http://www.yaleclimatemediaforum.org/news/0508/_news_udub.htm)

#### Climate Change and Endangered Species

The U.S. District Court for the Eastern District of California has now twice held that, where the best available science indicates that climate change could adversely affect listed species or critical habitat, NOAA Fisheries ("NOAA") and the U.S. Fish and Wildlife Service (collectively, the "Services") must analyze that information during consultations performed under Section 7 of the Endangered Species Act ("ESA"). Pacific Coast Fed'n of Fishermen's Ass'ns v. Gutierrez ("PCFFA v. Gutierrez"); Natural Resources Def. Council v. Kempthorne ("NRDC v. Kempthorne"). This trend follows similar case law under the National Environmental Policy Act ("NEPA") and state NEPA analogues in which courts are increasingly requiring agencies to analyze climate change impacts during environmental assessments. Several listing petitions based on the effects of climate change on certain species are also currently pending before both Services. If these species are listed, the Services may be required to conduct substantive analyses of climate change effects on those species and their habitat during consultations. Excerpted from an article by Jessica Ferrell, Marten Law Group's Environmental News. <http://www.martenlaw.com/news/?20080507-climate-change-effects>

continued on page 7



### Senate Stops Debate on Climate Bill

On June 4, Senate floor debate began with opening remarks on S. 3036, the Lieberman-Warner Climate Security Act of 2008. The bill, originally introduced last fall by Senators John Warner (R-VA) and Joseph Lieberman (I/D-CT) as S. 2191 calls for close to a 70 percent reduction in greenhouse gas emissions by 2050 using an emissions trading system. S. 3036 was introduced in recent weeks by Senator Barbara Boxer (D-CA), in cooperation with the original authors, to serve as a substitute for S. 2191. On June 6, the Senate voted 48-36 against passage, but supporters were encouraged by the increase in supporters, as compared to related bills offered in previous years. Look to 2009 for reintroduction of bills that address greenhouse gases and climate change. (some excerpt from CSO Weekly). To read the bill: <http://www.thomas.gov/cgi-bin/query/C?c110:./temp/~c110hVkeLe>.

### Mangroves and Cyclones

Cyclone Nargis tore across the Irrawaddy Delta in Myanmar/Burma on May 2 and 3. With 120-mph sustained winds, the canal waters whipped into a 12-foot wave that surged 25 miles (40.2 kilometers) inland and left approximately 2.4 million people badly affected, according to the United Nations.

Almost 95 percent of houses and buildings in seven townships near the delta were destroyed when the cyclone made landfall the evening of May 2. Ken Reeves, director of forecasting for AccuWeather.com said, "The Irrawaddy Delta is huge, and the interaction of water and land lying right at sea level allowed the tidal surge to deliver maximum penetration of sea water over land."

Besides being a low-lying area close to the sea, a majority of the land along the delta has been cleared of mangroves and converted into rice paddies and shrimp farms during the past decade. This industrial development has removed what scientists say could be nature's best defense against storm surges. National Geographic News/Associated Press. [http://news.nationalgeographic.com/news/2008/05/080508-AP-the-perfect\\_2.html](http://news.nationalgeographic.com/news/2008/05/080508-AP-the-perfect_2.html)  
<http://www.nytimes.com/2008/05/12/world/asia/12myanmar.html>  
<http://uk.reuters.com/article/UKNews1/idUKB-KK14044220080506>

### Commercial Fisheries May Collapse Within 50 Years

A study, presented to delegates from 191 countries in the UN's Convention on Biological Diversity on Thursday, said recent pressure on commodity and food prices highlighted the effects of the loss of biodiversity to society. "Urgent

remedial action is essential because species loss and ecosystem degradation are inextricably linked to human well-being," said Pavan Sukhdev, a banker at Deutsche Bank and the main author of the report.

The idea of the report is to spur action to safeguard wildlife in the way Britain's Stern report sparked action to fight climate change after the economic costs were outlined, German Environment Minister Sigmar Gabriel said. European Environment Commissioner Stavros Dimas said the study proved biodiversity was not just about saving pandas and tigers but underscored the need to preserve natural wealth. Delegates and environment groups praised the report, entitled "The Economics of Ecosystems and Biodiversity," saying the figures helped make the case for integrating biodiversity into policy.

Sukhdev warned that research showed the world's commercial fisheries are likely to have collapsed within 50 years unless trends are reversed. That would be devastating for the 1 billion people who rely on fisheries for protein and could lead to up to \$80 billion to \$100 billion in income loss for the sector. The report says assigning just 1 percent of global GDP could achieve significant improvements in air and water quality and human health as well as ensure progress towards climate targets. Excerpted from Reuters News Service, PlanetArk. [www.planetark.com/newstory.cfm?newsid=48561&newsdate=30-May-2008](http://www.planetark.com/newstory.cfm?newsid=48561&newsdate=30-May-2008)

### Ocean Warming Trends

Warming trends in a third of the world's large ocean regions are two to four times greater than previously reported averages, increasing the risk to marine life and fisheries, a UN-backed environmental study said. Overfishing, coastal pollution and degradation of water quality were common in all 64 large marine ecosystems studied by scientists who contributed to the UN Environmental Programme report presented at the 4th Global Conference on Oceans, Coasts and Islands, Advancing Ecosystem Management and Integrated Coastal and Ocean Management by 2010 in the Context of Climate Change, in Hanoi, Vietnam in April. The report stated that in 18 of the 64 regions, "the accelerated warming trends are 2-4 times greater than the average trends reported in 2007 by the Intergovernmental Panel on Climate Change". The week-long Global Conferences On Oceans, Coasts and Islands is a forum for developing countries trying to improve ocean governance and coastal management, especially in the light of climate change. Scientists said the 800-page report focuses on the risk to the sustainability of the \$12.6 trillion value of goods and services produced each year in the so-called large marine ecosystems. The most



rapid warming was recorded in the Baltic Sea at 1.35 degrees Celsius in the past 25 years. Other areas under threat included the Yellow Sea, one of the most heavily over-fished and environmentally degraded seas in the world. Hundreds of millions of people live along or near its shores in China and the Korean Peninsula and pollution from industry and farmland was a particular threat. The report recommended that 29 ocean areas adjacent to developing countries should also cap the yield of annual fishery catches as a precaution.

[www.planetark.com/dailynewsstory.cfm/newsid/47866/newsDate/10-Apr-2008/story.htm](http://www.planetark.com/dailynewsstory.cfm/newsid/47866/newsDate/10-Apr-2008/story.htm)

#### Race for Antarctic Krill a Test for Green Management

Krill, tiny shrimp-like animals that grow to about 6 cm (2 inches) long, occur in vast schools in Antarctic waters and are the major source of food for whales, seals, penguins, and sea birds. Without krill, scientists say, the ecosystem in and around Antarctica could collapse, and they are worried that will happen. Krill is increasingly in demand because it is a rich source of omega-3 fatty acids, and has special enzymes that can be used for wide-ranging purposes, from cleaning wounds to cleaning contact lenses. Scientists and fishery regulators say that annual catches could jump to several million tons, from just over 100,000 tons, within five years as a result of soaring food prices, falling global fish stocks, and better ship-based processing technology.

Scientists say no one really knows how abundant krill are, with estimates ranging from about 200 million tons to 500 million tons. And no one really knows the exact numbers of whales, seals, and penguins that rely on krill or how climate change will affect those populations or krill numbers. Source: David Fogarty, *The Guardian*, 25 May 2008 <http://www.guardian.co.uk/business/feedarticle/7538859>

#### North Pacific Humpback Whale Population Rises

An international organization of more than 400 whale-watchers recently released a study estimating that there were between 18,000 and 20,000 humpback whales in the North Pacific in 2004-2006, a dramatic comeback for the majestic mammals over the past four decades. The study, which was sponsored by the National Oceanic and Atmospheric Administration and conducted by the organization SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks), is the most comprehensive analysis ever of any large whale population. At least half of the humpback whales migrate between

Alaska and Hawaii, and that population is the healthiest. Isolated populations that migrate to Russia from Japan and the Philippines have been taking longer to recover since whaling operations ceased. The Associated Press, 23 May 2008 <http://abcnews.go.com/Technology/WireStory?id=4916383&page=1>

#### Acidification of U.S. Continental Shelf Waters

Evidence of corrosive water caused by the ocean's absorption of carbon dioxide (CO<sub>2</sub>) was found less than 20 miles off the west coast of North America during a field study from Canada to Mexico last summer. This was the first time "acidified" ocean water has been found on the continental shelf of western North America.

"Acidification of the Earth's ocean water could have far-reaching impacts on the health of our near-shore environment, and on the sustainability of ecosystems that support human populations through nourishment and jobs," said Richard W. Spinrad, NOAA assistant administrator for oceanic and atmospheric research. "This research is vital to understanding the processes within the ocean, as well as the consequences of a carbon-rich atmosphere." [www.noaa.gov/stories2008/20080522\\_oceanacif.html](http://www.noaa.gov/stories2008/20080522_oceanacif.html)



NOAA Photo Library





## Volunteer Exhibit Hosts Needed for the New Ocean Hall at the Smithsonian

The Smithsonian's new Ocean Hall exhibit, developed in partnership with NOAA, is searching for volunteer exhibit hosts to help guide visitors through the awe-inspiring displays. Opening in September, the Ocean Hall is the largest permanent exhibit ever created in the world's most visited natural history museum. Among the many notable exhibits will be:

- A 50-foot, life-sized replica of Phoenix, an endangered North Atlantic right whale living today
- 20-foot male and 36-foot female specimens of the elusive giant squid
- The six-foot Science On a Sphere®, which displays the Earth as viewed from 22,000 miles in space and shows moving satellite images
- A 1:100 scale model of the world's largest ocean drilling ship, the Chikyu

There are only a few requirements for being an exhibit host - including being 18 years of age, committing to a 2 to 3 hour shift every week or every other weekend, and attending orientation and training sessions, which will be begin in September.

Please share this announcement with family, friends, and colleagues. Applications will be accepted on an ongoing basis, but to be part of the first class of Ocean Hall exhibit hosts, please apply by August 1. For more information about becoming an exhibit host, including the benefits you will receive, see: [www.noaaworld.noaa.gov/other/oceanhallflyer.pdf](http://www.noaaworld.noaa.gov/other/oceanhallflyer.pdf).

For an application, see:

[http://www.mnh.si.edu/education/volunteer\\_opportunities/ocean.htm](http://www.mnh.si.edu/education/volunteer_opportunities/ocean.htm).

For the latest on Ocean Hall, see:

[http://www.mnh.si.edu/exhibits/ocean\\_hall](http://www.mnh.si.edu/exhibits/ocean_hall).

Questions about being an exhibit host? Please contact Hal Banks at Smithsonian ([banksh@si.edu](mailto:banksh@si.edu); 202-633-1075).





## TCS Coastal Resource Recovery Fund: Where Did Our Money Go?

*You may remember that at TCS20, in response to strong desire to assist in some way in recovery on the Gulf Coast after Hurricanes Katrina and Rita, The Coastal Society initiated a fundraising effort, with donations from our generous members. This is a press release from one of the three groups that received TCS funds:*

Over the past 15 years, the Alabama Coastal Foundation (ACF), a non-profit environmental organization, has strived to protect its mission to "improve and protect the quality of Alabama's coastal resources by identifying and solving problems through education, cooperation and participation." The ACF has produced numerous award winning programs, habitat restoration projects, and provided fair and factual information to encourage responsible citizen action. They offer opportunities for individuals of

all ages to play a vital part in preserving our environment and our coastal way of life. Examples of these actions were represented in 2007, when the ACF hosted two local tree plantings in Daphne and Little Dauphin Island.

The Daphne Yancey Branch Village Park Preserve serves as a meaningful example of opportunities The Alabama Coastal Foundation presents. With help from an ACF Board member, who happens to be a wetlands ecologist, ACF identified suitable tree species for the areas of land desperate for restoration. A remarkable twenty-five volunteers showed up November 17th, 2007 for the planting of 200 trees. Tree species planted included; Red Maple, Tulip Poplar, Sweet Bay Magnolia, Swamp Tupelo Gum, Bald Cypress, Red Bay, Swamp Chestnut Oak, Splash Pine, Southern Magnolia, Sweet Gum, Loblolly Pine, Button Bush, Virginia Willow, Wax Myrtle, and Yaupon Holly. This expansion of tree species will be tracked by community volunteers, who will monitor the area regularly for deformities, exposed roots, or other problems.

*continued on page 11*

## CHAPTER UPDATES

### University of Washington

The TCS University of Washington has been busy since we last checked in. In April we hosted the 8th Annual Fisheries and Marine Ecosystems Conference at the Olympic Coast Institute in Port Angeles, WA. It was an immense success. We had 85 students attend from more than 20 colleges and universities. Students presented on a variety of marine studies topics including fisheries, environmental education, marine tourism, and social aspects of marine ecosystems. Everyone at the conference who presented did an amazing job and we want to thank TCS National for helping us secure funding for the conference!!

In May we held elections and we are proud to announce our new officers:

President- Jill Harris  
Vice-President- Natalie Graves  
Treasurer- Anna Varney  
Secretary- Amber Moore  
National Liaison- Erin Churchill

We wish them the best of luck for next year!!



Sara Earhart



## THANKS to our TCS21 Sponsors!

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Alabama Coastal Foundation

*continued from page 10*

With the help of Mobile Bay NEP and Marine Resources Division, ACF held its second tree planting of the year on December 1st, 2007. Over 50 volunteers were carried by boat to the picturesque site of Little Dauphin Island. Years of hurricane and storm damage had depleted the barrier island of protection, leaving it vulnerable to wind and erosion. 325 native trees were planted by volunteers from ACF, Boy Scouts of America, Mobile Bay NEP, Dauphin Island Sea Lab, local high school students and student organizations, and various other organizations. Volunteers have already begun tracking these trees to identify problems. Tree species planted include; Yaupon, Sand Oak, Splash Pine, Wax Myrtle, and Baccharis.

With the help of ACF volunteers and members, tree planting projects have grown to encompass all the coastal regions of Alabama including; Bayou La Batre, Dauphin Island, Little Dauphin Island, Fowl River, Mobile, Dog River, Spanish Fort, Daphne, Fairhope, Foley, Gulf Shores, Orange Beach, Lillian and Wolf Bay. This seedling of a project has produced acres of enhanced estuarine wetland and coastal habitats, preserving our coastal web of life for generations to come.



Alabama Coastal Foundation



**Coastal Footprints: Minimizing Human Impacts, Maximizing Stewardship**

June 29-July 2, 2008, Redondo Beach, Los Angeles, CA  
<http://thecoastalsociety.org/conference/tcs21/index.html>

**International Coral Reef Symposium**

July 7-11, 2008, Fort Lauderdale, Florida  
<http://www.nova.edu/ncri/11icrs>

**The 8th International Wetlands Conference**

July 20-25, 2008, Cuiabá, Mato Grosso, Brazil  
<http://www.cppantanal.org.br/intecol/>

**National Marine Educators Association (NMEA) 2008: One World, One Water, United in Marine Education Conference**

July 21-24, 2008, Savannah, Georgia  
[www.nmeaweb.org/savannah2008/index.htm](http://www.nmeaweb.org/savannah2008/index.htm)

**Greater Everglades Ecosystem Restoration Conference (GEER '08): Planning, Policy and Science**

July 28- August 1, 2008, Naples, FL  
 UF/IFAS Office of Conferences and Institutes (OCI)  
 PO Box 110750 , Gainesville, FL 32611-0750  
 Phone: 1-352-392-5930  
 Email: [bmt@ufl.edu](mailto:bmt@ufl.edu)

**7th Annual StormCon, the North American Surface Water Quality Conference & Exposition**

August 3-7, 2008, Orlando, Florida  
[www.stormcon.com/sc.html](http://www.stormcon.com/sc.html)

**4th International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences**

August 25-29, 2008, Rio de Janeiro, Brazil  
<http://www.esl.co.jp/Sympo/4th/index.htm>

**Oceans '08 Conference & Exhibition  
 Oceans, Poles and Climate: Technological Challenge**

Sponsored by IEEE & MTS  
 Sep 15-18, 2008, Québec City, Québec  
<http://www.oceans08mtsieequebec.org/>

**4th National Conference on Coastal & Estuarine Habitat Restoration**

October 11-15, 2008, Providence, RI  
<http://www.estuaries.org/>id=4>

**Sixth Annual Ocean Innovation Conference and Exhibition**

Oct 20-21, 2008; St. John's, NF  
 Sponsored by CCMC (Canadian Centre for Marine Communications).  
<http://www.oceaninnovation.ca>

**Marine Law Symposium: A Viable Marine Renewable Energy Industry: Solutions to Legal, Economic and Policy Challenges**

October 23-24, Roger Williams School of Law, Bristol, RI  
<http://law.rwu.edu/sites/marineaffairs/symposia/seventhMLS.aspx>

**27th Annual International Submerged Lands Management Conference**

October 26-28, 2008, Traverse City, Michigan  
<http://www.submergedlands2008.com>

**Coastal Cities Summit 2008: Values & Vulnerabilities**

November 17-20, 2008, St Petersburg, Florida  
<http://www.stpt.usf.edu/ioiusa/conference.htm>

**Littoral 2008, A Changing Coast: Challenge the Environmental Policies**

November 25-28, 2008, Venice, Istituto Veneto di Scienze Lettere ed Arti, Palazzo Cavalli Franchetti  
[lwww.littoral2008.corila.it](http://www.littoral2008.corila.it)

**4th International Symposium on Deep Sea Corals**

December 1-5, 2008, Wellington, New Zealand  
<http://coral2008.niwa.co.nz/index.php>

**Florida Bay and Adjacent Marine Systems Science Conference**

December 8-11, 2008, Naples, Florida  
<http://conference.ifas.ufl.edu/FloridaBay2008>

**IV International Conference on Integrated Management of Coastal Areas. CARICOSTAS 2009**

May 13-to 15, 2009, Santiago, Cuba  
[www.Cemzc.uo.edu/ING/caricosta2009.html](http://www.Cemzc.uo.edu/ING/caricosta2009.html)

**International Marine Conservation Congress; Making Marine Science Matter**

May 20-24, 2009, George Mason University, Washington D.C. vicinity  
<http://www2.cedarcrest.edu/imcc/theme.html>



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To pay by credit card: We cannot accept credit card information other than through the PayPal option. Please go to the TCS online membership form if you wish to pay by credit card (<http://www.thecoastalsociety.org/membersub.html>).

Thank you for your support.

*The Coastal Society is an organization of private sector, academic, and government professionals and students dedicated to actively addressing emerging coastal issues by fostering dialogue, forging partnerships, and promoting communication and education.*