The Coastal Society

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Center for American Progress Initiative: Foundations of a Blue Economy

by Ellen Gordon

At a panel discussion event held June 27th in downtown DC, the Center for American Progress (CAP) kicked off a new initiative to promote four ocean and coastal industries that, in their words, "recognize and augment the clean and healthy ocean, coastal and Great Lakes ecosystems that drive our financial, biological, cultural and spiritual well-being including:

- sustainable fisheries
- renewable energy
- tourism and recreation
- coastal restoration

This new initiative is directed at underscoring the key role that healthy oceans play in creating American jobs and enhancing prosperity in coastal regions. In his opening remarks, Michael Conathan, CAP's Director of Ocean Policy, described CAP's dedication to seeking science based solutions to ocean problems. For this program, they will deliberately not consider extractive offshore oil and gas development, nor maritime shipping, both being outside their scope, though perhaps for different reasons. http://scienceprogress.org/2012/06/the-foundations-of-a-blue-economy/

Moderating the panel was Erik Roston, Sustainability Editor of "Bloomberg News." The panelists included Jane Lubchenco, Undersecretary of Commerce for Oceans and Atmosphere and NOAA Administrator; Miranda Ballentine, Director of Sustainability for Wal-Mart and Jim Moriarity, CEO for the Surfrider Foundation.

Mr. Roston opened by paraphrasing Poseidon's

continued on page 4

TCS 23 Opening Plenary Highlights

by Ellen Gordon

Attendees were warmly welcomed by TCS President Lisa Schiavinato at the June 4th opening of the TCS 23 Opening Plenary. The session kicked off with a presentation by the *Marc J. Hershman Keynote Speaker,* an honor reserved for someone who exemplifies the spirit and values demonstrated by Marc, whose professional contributions to the field of marine policy and coastal management have had an enormously positive influence on students, scholars and so many others. This year, that individual was Bill Eichbaum, Vice President for Marine and Arctic Policy at World Wildlife Fund (WWF).

Eichbaum provided a "21st Century Perspective on Protecting the Services of the Environment." He set the stage for that evaluation by transporting us through the evolution of "modern environmentalism." Early on, it was a law-based revolution, aimed at meeting public health standards, and not focused on protecting the environment. In keeping with a certain classic American mentality, the idea was that if you, "threw money and inventiveness at the problem, it would be fixed." That technique was markedly successful for many point sources, but had serious limitations for solving other types of problems.

Then came the Coastal Zone Management Act (CZMA)—a different kind of law; one aimed at land use planning and a more integrative effort, as the country began to develop an appreciation for the ethical dimensions of the environment and a responsibility for the natural world. But it hasn't been sufficient to address the huge issue of

continued on page 8

INSIDE

Message from the President.....2

From the Edititor's Desk.....3

CM Articles.....3

NewsNotes.....6

TCS 23 Photos 10

TCS 23 Closing Plenary.....12

Tools of the Trade....13

Walter B. Jones Awards.....14

Upcoming Conferences.....16

TCS Awards.....17

Board of Directors.....18

Dear TCS Members,

Happy Summer! I hope you have had, or will have the chance to enjoy the beach, the water, and everything else our coasts have to offer this season. The TCS 23 conference was held June 3-6 in Miami, Florida, and it was a great success. Thank you to the organizing committee for their hard work in making it all happen and to all our speakers who lead provocative discussions. In particular, both plenary sessions – celebrating the 40th Anniversary of the CZMA and discussing the challenges regional ports will face to accommodate the global trend towards larger ships – gave us a lot to think about. Particularly during this year, on the CZMA's 40th anniversary, I hope you will take a moment to pause and reflect on how far we have come and the challenges we still face for healthy coastal environments and vibrant coastal communities. I am reminded of the words of our Hershman Keynote Speaker Bill Eichbaum and of our Opening Plenary speakers of how important it is to think globally, assess regionally, and act locally.

Thank you to everyone who could join us in Miami. The TCS Board and I enjoyed meeting you and talking with you. If you were unable to make it, please know we missed you and hope you can make it next time. If you were unable to attend TCS 23, fortunately this issue of the *TCS Bulletin* provides a conference retrospective. I hope you enjoy the articles and photos.

We were very proud to recognize five of our members for their dedication and service to the Society and its mission, as well as three student award winners. In addition to these award winners, TCS also thanked immediate past president Jeff Benoit for his service to the Society over the past six years and presented him with a memento. Thank you again, Jeff, for all you have done for TCS. Please join me in congratulating all of our award recipients! See page 17 for photos and more information.

Enjoy this issue of the *TCS Bulletin*. Thank you to Ellen Gordon and everyone else who contributed!

Regards,

Lisa Schiavinato

Lisa Schiavinato
TCS President

Jeff Benoit receiving a service recognition award from President Lisa Schiavinato

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

Miami may be famous for its Art Deco architecture and the Beach, but it's also got quite a scene on the Miami River, as TCS 23 attendees discovered at the opening reception. On the patio of the hotel, with the Miami River in the foreground, we were treated to some very entertaining passing boats, loaded with sun-struck partyers, who waved happily as they passed on by, dancing to the beat of their stereos. Munching and sipping and chatting with other attendees, we waved back.

A recap for those who attended, and an update for those members who couldn't make it, this issue of the Bulletin includes summaries of the 2 major plenaries, a photo essay, perspectives from a couple of student attendees, a list of this year's Coastal Society awardees, as well as a thank you to our sponsors. You'll also find that this issue abounds with updates and information separate from the conference, whether that's new tools to aid coastal management, a new "blue economy" initiative, or regular features such as NewsNotes and a reminder of the latest topics in the Coastal Management journal.

Ellen Gordon
Bulletin Editor

Coastal Management
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Be Sure to Use Your Members' Link to Read the Articles in this Issue

The StormWater Management and Planning Tool: Coastal Water Quality Enhancement through the Use of an Internet-Based Geospatial Tool
By Richard G. Lathrop, Jr., Lisa Auermuller, Scott Haag and Wansoo Im

Flood Protection in Venice under Conditions of Sea-Level Rise: An Analysis of Institutional and Technical Measures
By Stefania Munaretto, Pier Vellinga and Hilde Tobi

Oil wave breaking on Orange Beach, Alabama, 90 miles away from the BP spill. Photo credit: Dave Martin

continued from page 1

mandate to Homer in The Odyssey, i.e., that he carry an oar so far inland that no one would know what it was—the inference being that those who are far from the coast may know and care the least about it. Mr. Roston then pointed to the BP Deepwater Horizon oil spill as an example where the normally sedate pace of science communication was forced into a much speedier response. Dr. Lubchenco responded that the spill was also an opportunity to help many understand just how interconnected healthy coasts and oceans were to the health of communities and their economies. That theme—finding opportunity in adversity—wove its way through many of her comments. Mr. Moriarity pointed out that in coastal communities, the blue economy pretty nearly is "the economy."

Ms. Ballentine described Wal-Mart, a company that has 200 million customers worldwide, 140 million of them in the US, with a vast supply system to provision their stores, suggesting that such reach could lead a movement. She pointed to seafood as a connection to those who live far from any coast, and claimed that Wal-Mart is well on its way to sourcing exclusively sustainable seafood, at the same time assuring that their customers can purchase this sustainable seafood at an affordable price. She emphasized repeatedly that the giant retailer's sustainability focus is on the entire life cycle of its products, i.e. not just where it is sourced, but such factors as toxicity and pollution and packaging.

Unfortunately, with the exception of this introduction, Ms. Ballentine was more of a distraction than a useful contributor to the discussion. When the microphone was opened to the audience for questions, she was promptly asked about the ethical scandals in which Wal-Mart has recently been embroiled. In response to her first questioner, she distanced her sustainability team's role from a separate Wal-Mart team's responsibilities for ethics. When a subsequent questioner pointed out the inherent contradiction of ethics not being a facet of sustainability, Ms. Ballentine scrambled to explain that the two teams did indeed communicate and interrelate. Regrettably, this added little to the dialog about the blue economy.

Much of the panel's discussion focused on just one of the four points of the initiative—fisheries. Dr. Lubchenco pointed out that the U.S. deficit in seafood runs to $9 billion dollars, second only to our crude oil deficit. The US doesn't catch or farm nearly enough seafood to supply demand, driving the Obama Administration to push forward on development of more sustainable aquaculture. With 85% of US seafood imported, she suggested that it really should be thought of as a food security issue. Of course, agreement on what constitutes "sustainable" isn't clear, and the term is often tossed around rather freely.

Mr. Moriarity emphasized that while perhaps not intuitive, it is necessary to estimate the economic value of nontraditional coastal uses. He offered a classic surfing example; Half Moon Bay, California, is highly valued for the huge waves generated in the Mavericks vicinity—waves that are near and dear to the most daring surfers' hearts. Since their popularizing, Mr. Moriarity suggested they've triggered an annual $24 million spent locally. Later, he indicated that World Surfing Day now involves 500 million people from around the world, a good indication of the worldwide phenomenon surfing has become, and the connections it can make.

Coastal development and endangered elkhorn coral, St. John, U.S.A. Photo credit: Katie Fuller (www.marinephotobank.org)

continued on page 5

continued from page 4

In response to a couple of different questions, Dr. Lubchenco returned to her earlier emphasis on the need to move away from a sectoral focus and to look toward more integration across sectors, including a planning process that can allow us to look at both the needs of the ecosystem and the needs of the users of that place. Despite the controversy engendered by the use of the term "marine spatial planning," and Dr. Lubchenco's avoidance of that term in her description, it was clear what she meant. Later she returned to the topic when she mentioned the new National Ocean Policy, with its emphasis on an integrated look across ocean sectors.

One questioner asked her about the disparity between NOAA's budget and NASA's thousand-times larger budget, suggesting that it should be reversed. Sidestepping criticism of any other agency, Dr. Lubchenco was careful to respond that every agency thinks it needs a larger budget, and regularly says so to Congress, and then pointing to NOAA's efforts to focus the conversation on benefits that come from healthy seas—at a cost to every American of only 5 cents/day.

When a representative of the Union of Concerned Scientists questioned Dr. Lubchenco about the loud attacks on "inconvenient science" and the scientists that produce it, she was emphatic that good scientific information is central to a functioning democracy, and that the increase in challenges to rational thinking that we have seen are in fact a threat to democracy. She followed that quickly by suggesting that some of the response to those threats must be innovating new and different ways to communicate, giving as an example a high school science experiment she took to Congress a couple of years ago, involving water, vinegar and a stick of chalk, to explain ocean acidification. Social media was another opportunity area, though Dr. Lubchenco did mention the caveat that in simplifying science, it was imperative that it remain accurate.

Dr. Lubchenco received the lion's share of questions, even though her schedule required that she duck out of the session early. As she prepared to leave, she took the opportunity to raise the subject of coastal restoration, pointing out that when the Administration's economic stimulus plan provided NOAA with $167 million to spend on restoration projects, the agency received $3 billion in proposals. She avowed that every $1 million spent on restoration generates seventeen or more jobs—more than twice the number provided by a similar investment in oil and gas extraction.

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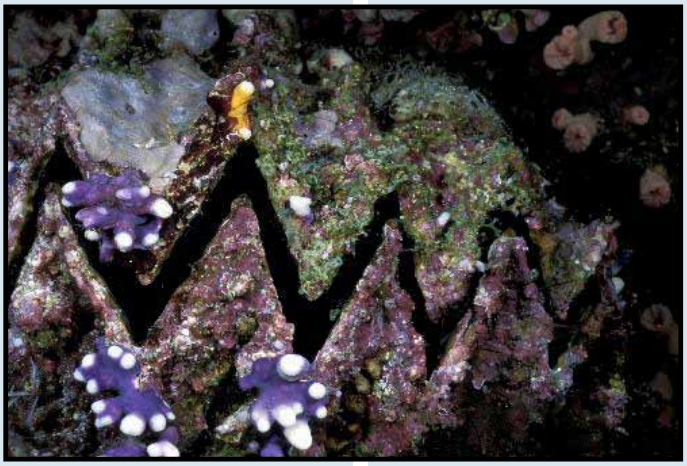
Willapa Bay Shellfish Company Shifts Some of Its Business to Hawaii Because Ocean Acidification is Likely Killer of Tiny Oyster Larvae in Shellfish Farms along Washington's Coast. Oysters were no longer reproducing naturally on the Washington Coast. Oyster larvae were even dying in nearby hatcheries, which use seawater to raise baby shellfish that get sold as starter seed to companies like Nisbet's Goose Point Oysters. But when, in 2009, David Nisbet heard oceanographers identify the likely culprit — increasingly corrosive ocean water, a byproduct of the same greenhouse gases that contribute to global warming — the oysterman did the unthinkable. Nisbet took out a loan and spent three years testing and building a new hatchery that opened recently. In Hawaii. Most of Washington's $100 million-a-year oyster industry has been whipsawed in recent years by ecological problems. But Nisbet's oyster company appears to be one of the first businesses in the Northwest — perhaps anywhere — to shift part of its business to a new region in response to ocean acidification. Now, rather than relying on oysters that have spawned in Willapa Bay or on juvenile oysters purchased from a nearby hatchery — as he has for years — Nisbet raises larvae in tanks in a million-dollar, 20,000-square-foot plant in Hilo, Hawaii. The tiny larvae are then sent by mail to Washington, where Nisbet and his team oversee the rest of the multiyear growing cycle in Willapa Bay. http://seattletimes.nwsource.com/html/localnews/2018496037_oysters22m.html



Dead oyster shell. Photo credit: Wolcott Henry (www.marinephotobank.org)

Mendocine coastline. Photo credit: Nelson Minar (www.wikimedia.org)

National Academy, USGS See Above Normal U.S. Sea Level Rises. First came the National Academy of Sciences/National Research Council report projecting higher than global-average increases for much of the California coast. The extra oomph in part results from subsidence, with much of the projected coastal damages resulting from large waves, storm surges, and high tides, all fueled by a warming climate. The projected one-meter (about 39 inches) increase over the next century south of Cape Mendocino, in far-northern California, is "slightly higher" than projected global sea level increases. The increase in sea level rise along the Washington, Oregon, and northern California coasts is expected to be about 60 centimeters. The researchers reported that an "earthquake magnitude eight or larger in this region could cause sea level to rise suddenly by an additional meter or more," and such a quake is by no means out of the question, given the geology of the continental plate in the Cascadia Subduction Zone off the Washington and Oregon coasts. A USGS study, published in *Nature Climate Change*, points to world-leading increases in sea level rise from Cape Hatteras, N.C., to just north of Boston, increases "three to four times faster than rates of sea level rise globally," reporter Leigh Phillips wrote in *Nature*. The Northeast coast "hotspot," according to researchers from USGS's Coastal and Marine Science Center in St, Petersburg, FL, will experience increased sea level rise driven in part by effects of a warmer climate and in part by resulting freshening, and accompanying lower buoyancy of surface waters as a result of increased ice melt. As the Nature article pointed out, the USGS study was published during a period of recent actions by some state legislatures — for instance, in North

continued on page 7

continued from page 6

Carolina, Virginia, and Texas — to downplay climate change and global warming as factors affecting future sea level rise projections. http://www.yaleclimatemediaforum.org/2012/06/national-academy-usgs-see-above-normal-u-s-sea-level-rises/

BP Sends a Chill Through the Scientific Community

Two years after the Deepwater Horizon dumped nearly 5 million barrels of oil into the Gulf of Mexico, some of the scientists who tried to figure out how much oil escaped are facing legal scrutiny. BP has subpoenaed the emails of Christopher Reddy and Richard Camilli, scientists at the Woods Hole Oceanographic Institution who conducted research on the oil spill flow rate back in 2010. During the spill, both BP and the Coast Guard requested Reddy and Camilli's help in determining the flow rate, which was crucial to understanding how much oil was pouring into the Gulf. The two scientists—and other researchers brought on to come up with an estimate—determined that the rate was about 57,000 barrels of oil per day. Now the federal government has brought a lawsuit against BP for the disaster, and the scientists are caught in the middle. The suit could cost BP billions in fines, and the company has requested access to the scientists' records. Reddy and Camilli have already turned over 50,000 pages of documents, data, and algorithms they used in their research, but BP wants more—it also wants all their emails, and the court has consented. In this case, a private company would have access to scientists' personal emails, which could then be taken out of context and used to undermine their work. It's damaging not just for their research on the BP spill, but for science on any number of other subjects. http://www.motherjones.com/blue-marble/2012/06/bp-sends-chill-through-scientific-community

A Result of The Oceans Day at Rio+20, June 16, 2012, United Nations Conference on Sustainable Development, Rio de Janeiro, Brazil.

The Co-Chairs of The Oceans Day at Rio+20, a high-level ocean event at the Rio+20 Conference which gathered over 375 participants from 169 organizations and 46 countries, called for strong and immediate action on oceans, coasts, and small island developing States (SIDS), including:

▫ Scaling up successful ecosystem-based management/integrated ocean and coastal management (EBM/IOCM) efforts at national and regional and in marine areas beyond national jurisdiction.

▫ Developing an integrated approach to addressing the interlinked issues of oceans, climate change, and security that includes provisions for: Stringent reductions in greenhouse gas emissions; ecosystem-based adaptation strategies through integrated coastal and ocean management; sufficient funding to support adaptation for coastal and island communities that are at the frontline of climate change; conservation of coastal ecosystems as major carbon sinks; and moving towards a low-carbon economy through, inter alia, emissions reductions from marine industries and the development of offshore renewable energy.

▫ Enhancing the capability of small island developing States (SIDS) and developing coastal countries to benefit from, and sustainably manage, their marine resources and to adapt to climate change through increased financing, technology transfer, commensurate with the needs and challenges facing developing countries and SIDS, and ocean use agreements to ensure that the benefits derived from the sustainable use of resources in the EEZs of SIDS and developing coastal countries accrue to them. http://globaloceanforum.org/

continued from page 1

climate change, and the extraordinary impacts we are having on our world. With a couple of daunting statistics, Eichbaum suggested that we are not just dominating the globe, we are using it up.

Danny Clayton, Florida CMP; Lisa Schiavinato, TCS President; Kristen Jacobs, Broward County Commission; Bill Eichbaum, World Wildlife Fund; Rich Delaney, Center for Coastal Studies; Kristen Fletcher, Coastal States Organization

Determined not to end on this note of gloom, Eichbaum pointed the attendees toward a glimmer of hope, toward signs that people are at last beginning to think more globally. He emphasized the need for "whole earth care," which would include a more robust understanding of global science processes as well as new mechanisms for public policy and for governing by applying that science--even at this time of global economic difficulties. He described the Arctic Council, a governing body comprised of the 8 countries that adjoin that region, and their efforts to embed ecosystem based management into the exploitation scheme for the dramatically changing Arctic. Eichbaum ended by reminding us that we have an ethical responsibility to those yet unborn and that Marc was devoted to students, mentoring them well, because he believed in future generations.

Eichbaum's talked dovetailed neatly with the Opening Plenary, "40 Years of the CZMA: Impacts and Innovations." The plenary panel brought together representatives from the national, state and local levels. The panel was organized by Kristen Fletcher, past TCS President and Executive Director of the Coastal States Organization, and Danny Clayton, Program Administrator, Florida Coastal Management Program. Fletcher also moderated the panel, which included Kristin Jacobs, Broward County Commission and Chair, National Ocean Council Governance Coordinating Committee; Rich Delaney, President and CEO, Center for Coastal Studies; and Danny Clayton. Fletcher began the plenary with some CZMA history, ending with the present, when Alaska has become the first state ever to leave the national program, though coalitions in the state are working hard to reestablish the program—something for which no process currently exists. She also spoke about the changes coming to two crucial-to-coastal zone management pieces of NOAA that are being merged, the Office of Ocean and Coastal Resource Management and the Coastal Services Center, into an entity that could be called an *Office of Integrated Coastal Management*.

Commencing with Rich Delaney, the audience heard a fascinating side-by-side comparison of the coastal world in 1972 v. the coastal world in 2012—a time during which the world population grew from 3.86 billion to 7.46 billion. Thirty-four governors have signed on to joining the national coastal management program, and the Act survived eight years of the Reagan Administration offering zero budgets for the national program. The states have found federal consistency to be a very useful tool, have created policy programs, recognized the importance of watersheds, and more recently, have been addressing the need for coastal resilience and ocean plans. Delaney pointed out that in the 1980s, the states and CZMA supporters actively "worked the Congress," suggesting there is a pressing need to return to that model. He was emphatic that all decision makers must have access to scientific and technical data for informed decisions. Stressing that the "CZMA is more art than science," Delaney exhorted the audience to engage with nontraditional partners--to create public-private partnerships that create a nexus for business between the environment and the economy. He cited the Center for New American Security, which has suggested that, "In the 21st century, the security of nations will increasingly depend on the security of natural resources, or *natural security*."

Danny Clayton provided some history of the Florida Coastal Management Program (CMP), emphasizing how important coordination among numerous partner agencies is to achieving successes in Florida. The state makes a lot of use of federal consistency, reviewing hundreds of projects per year. Few are not approved for consistency, because the various partners cooperate to make the projects work. Many small-scale local projects rely on the Florida CMP for funds; something they are less and less able to provide, with plunging resources. Clayton reported on the status of Florida wildlife, with some positive signs for endangered species including sea turtles and right whales, but also reported staggering increases in the populations of exotic species, particularly lionfish on coral reefs and pythons in the Everglades. An interesting debate is ongoing about buying coastal land for preservation, since it will likely be inundated by rising sea level. There's currently a moratorium on oil and gas drilling off the Florida coast and

continued on page 9

continued from page 8

Jolvan Morris receives student award from Chris Ellis.
Photo credit: Paul Ticco

little is going on with renewable energy, though Florida Atlantic University is looking at how ocean currents could be used to produce energy.

As a representative of local government, Kristin Jacobs described the challenges presented by Florida's geology: low lying, with 1800 miles of coastline, underlain by groundwater aquifers, and vulnerable to increasing saltwater intrusion as sea level rises. Jacobs showed graphic photos of a problem already occurring in south Florida; canals cut through many neighborhoods, as a drainage system for the runoff from streets during heavy rains. The canal system was designed with gates that are normally closed during dry periods, and then raised during storms to allow the excess water to flow out. But during very high tides, incoming tidal waters are high enough that lifting the gates would let saltwater in, rather than allowing the rainwater out. With gates closed, rainwater runoff then ponds on lawns and streets. While that scenario only occurs now during neap tides, rising sea level will increase the occurrence. Jacobs reiterated the imperative of looking out at least 20 years when planning a sewer system. She was emphatic that it not be allowed to become a political issue. She described the Southeast Florida Regional Climate Change Compact, which represents a joint commitment of Broward, Miami-Dade, Palm Beach and Monroe Counties to partner in mitigating the causes and adapting to the consequences of climate change. As she hastened to her next commitment, Kristin underscored that shared adversity needs share action—exiting the plenary session to pursue her quest for election to a seat in the US House of Representatives.

During the Q & A, it was suggested that 40 years ago, the CZMA was a bold new idea, and that the coasts and oceans need another bold new idea. Delaney offered the exciting news that the US Navy anticipates that by 2013, they will fuel all their aircraft with biofuel synthesized from seaweed, suggesting that perhaps they are the lead agency needed for climate change. Fletcher asserted that we cannot look to the federal level for bold action and instead recommended turning to regional, state, and local entities that are already taking bold actions and providing solid leadership and ideas on how to tackle their own problems.

TCS23, A Student's Point of View: Jolvan Morris

I felt very privileged to have had the opportunity to present my research at TCS 23. Not only did this conference provide an excellent opportunity to network with professionals and students involved with coastal management, but I also had the chance to learn a great deal about current coastal strategies, issues, and services that are relevant across the nation. What really spoke to me was the emphasis that TCS placed on student involvement at this conference. The Student Career Luncheon and workshops were great for meeting other students, as well as learning how to navigate the professional landscapes that we'll have to look forward to in the future. The professionals at the conference did not hold back in sharing great academic and professional advice, and seemed to take a genuine interest in the work I was doing as well.

This year's theme, Our Coasts, Our Heritage: Ecosystem Services for the Common Good, provided for a plethora of outstanding presentations that incorporated the social science aspect of coastal research. I struggled with how I could make my policy-based research fit into the conference theme. However, after attending the plenary sessions and several of the concurrent sessions, I found that there was a connection to be made to my research area and so much more that I could learn from other conference attendees. I look forward to continuing my involvement in TCS activities and am enthusiastic for TCS's future as it continues to encourage student involvement and diversity within the organization.

TCS 23 – Meeting old friends and making new ones

Enjoying the opening reception in Miami

Rich Delaney holding up an early (February 1978) issue of the TCS Bulletin

Board Members at lunch with student travel award winners: Jeff Smith, Kara Cardinal (UC Santa Barbara), Breena Apgar-Kurtz (U Washington), Patrick Lawrence, Michelle Covi (East Carolina U), Chris Ellis

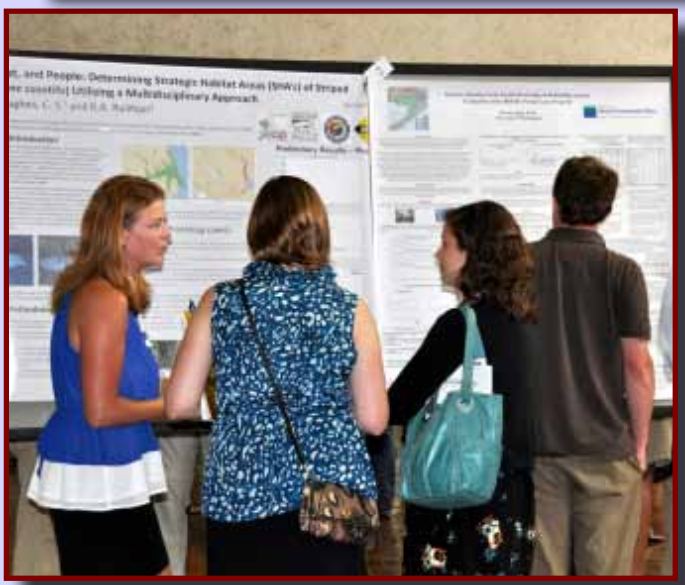
Linda Maxson asking a question of the opening Plenary panelists

Thank you to Kristen Fletcher and Paul Ticco for providing the photographs.

Past TCS President Mo Lynch, Jeff Flood, Hemalatha Bhaskaran and Board Member Bhaskaran Subramanian

Michael Flynn, winner of the Thomas Bigford Award for Best Student Poster

Enjoying the opening reception on the Miami River. Jolvan Morris, Zakiya Hoyett & Arianna Marshal, TCS student members from Florida A & M University



Coley Hughes (East Carolina University) presenting at the poster session

Enjoying the opening reception in Miami

TCS 23 Closing Plenary Highlights

by Michelle Covi

The Closing Plenary at TCS 23, "A Global Trend towards Larger Ships," focused on our coastal port regions, their management challenges, and how the anticipated global trend will affect these regions in the future. The plenary was organized by Steve MacLeod, Ecology and Environment, Inc., and Bob Swett, Florida Sea Grant. The plenary panel included experts from a variety of perspectives and disciplines:

- Hal Cardwell, U.S. Army Corps of Engineers, Institute for Water Resources (Moderator)
- Becky Hope, Miami-Dade County, Port of Miami
- Thomas Jelenic, City of Long Beach, Port of Long Beach
- Laura Reynolds, Tropical Audubon Society
- Brian Walker, NOVA Southeastern University Oceanographic Center
- Morgan Wyenn, Natural Resources Defense Council – Santa Monica Office

In his introduction, MacLeod set the tone of the plenary by describing how seaborne trade has increased over the last four decades. The trend toward larger container ships has prompted Panama to undergo an expansion of its transoceanic canal to accommodate vessels three times the current size. While some ports on the west coast of the United States are already able to accommodate larger ships, east coast ports are planning expansion projects, including dredging and widening of channels. Due to the flood of requests for federal assistance from many individual ports, Congress directed the U. S. Army Corps of Engineers to study options for modernizing the infrastructure, including cost, benefits and environmental impacts.

Hal Cardwell explained the approach that they are taking to explore the options for the future. He noted that projections of future trade are uncertain, but 95% of all trade goes through the nation's ports. Their report will review the current capacity of the ports, the aging infrastructure and the funding options for modernization. While the Corps of Engineers is mainly involved with channel widening and deepening, the entire national transportation infrastructure must be considered to improve efficiency and capacity of the ports. Local financing and community support at each port are important elements. The study, however, is national in scope and cannot address specific local issues.

Becky Hope and Thomas Jelenic described some of the challenges their ports will face in order to meet future demands. For example, the Port of Miami is currently undergoing an expansion criticized by environmental advocates. Panelist Brian Walker from NOVA Southeastern University Oceanographic Center has been studying the impact that the port has on protected coral reef areas. The proposed expansion would remove only three acres of previously non-impacted corals. However, his study shows that cumulatively, the port has destroyed as much as 312 hectares of coral. Laura Reynolds of Tropical Audubon noted that when considering the economic benefits of expansion in Miami, the port also should consider the impacts to fisheries and tourism, which also have economic benefits. She pointed out that placing a large port at the end of a peninsula may not be wise, and perhaps a regional approach should be taken to modernization.

Morgan Wyenn, attorney with the Natural Resources Defense Council, focused on air quality issues associated with the Port of Long Beach and Port of Los Angeles. Wyenn stated that emissions include not only diesel exhaust from ships, but also those from the associated cranes, trucks, and rail that service the port. Wyenn reported that cancer risk and asthma increase significantly among those who live or work near the ports. Jelenic noted, however, that every port is different, and that his port takes air emission issues very seriously. In the case of the Port of Long Beach, Jelenic stated they conducted an inventory of their air pollution impacts and have reduced their particulates 72% in the last five years. Addressing environmental issues is important in obtaining community support for ports, which all panelists agreed was critical in determining how a port should expand or change to meet future demands.

Miami skyline. Photo credit: Marc Averette (www.wikimedia.org)

Some Interesting New "Tools of the Trade"

Getting Smarter Is Just a Webinar Away

Looking for ways to expand your knowledge on a variety of coastal issues? The Digital Coast Webinar series, hosted by the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, is a great way to connect with experts and colleagues without leaving your office chair. Each month for one hour, the Center sheds light on a coastal management topic using demonstrations, case studies, and opportunities to engage with coastal professionals and field specialists. Topics are wide-ranging and include participatory mapping, planning for climate change impacts, and using coastal socioeconomic data. Visit the Center's webinar page to sign up for upcoming offerings and to view the previously recorded presentations.

Another option is the professional development training series, a program highly rated by participants year after year. The classes provide attendees with worthwhile information that can be readily applied to the workplace. Classes are available in many formats, from online courses to instructor-led training brought to your facility. Topics include geospatial skills, coastal management issues, process skills, and how-to training for specific data sets or tools. Learn more about the courses at the Center's training website.

The NOAA Coastal Services Center is a federal organization that provides those working in coastal resource management with the tools, training, and information needed to get the job done. Access the organization's products and services through the Digital Coast (www.csc.noaa.gov/digitalcoast/about).

Marine Conservation Agreements Toolkit

The Nature Conservancy and partners developed an online toolkit, **Marine Conservation Agreements – A Practitioner's Toolkit**, to help eco-friendly businesses and individuals, non-governmental organizations, user and community groups, and government entities understand if and how they can acquire or otherwise directly manage/control areas within the coastal and marine environment for conservation purposes. The methods and tools can also be applied to coastal wetlands and freshwater areas. The toolkit answers basic questions about Marine Conservation Agreements (MCAs), provides a four-phase field guide, illustrates several case studies from the U.S. and other parts of the world, documents feasibility assessments or management frameworks for 19 countries and 24 U.S. states, and supplies resources such as sample contracts, publications, and workshop presentations. For more information, see www.mcatoolkit.org or contact mcatoolkit@tnc.org.

Advice to Students from an Expert

Pursuing a career in marine science can be both exciting and rewarding. With so much of the world's population living near the coast, the demand for well- trained individuals in this field will continue to grow. Opportunities exist to research, monitor and report on marine issues, as well as to explore new mechanisms for conserving marine resources. I.M. Systems Group, a Federal Government Contract Agency works extensively on projects related to climate change and marine conservation and protection.

Over the years, IMSG has interviewed thousands of candidates for numerous NOAA projects. Our Recruitment Manager, Ida Buffone, has also presented many career development seminars at universities and conferences. We can tell you unequivocally that undertaking internships and volunteer work while you are in school are invaluable for two reasons. You'll have a much better sense if your chosen field is really what you want to do, and you'll be gaining important experience for your resume.

We recommend that you take courses that provide a general scope of marine sciences. Generalists usually have more opportunities to choose from early in their careers, and can become specialized as they progress in their area of expertise. When you do get your first job, remember that advancing your career means always doing a little more than what your job description requires!

NOAA's Walter B. Jones Awards for Coastal and Ocean Management Excellence

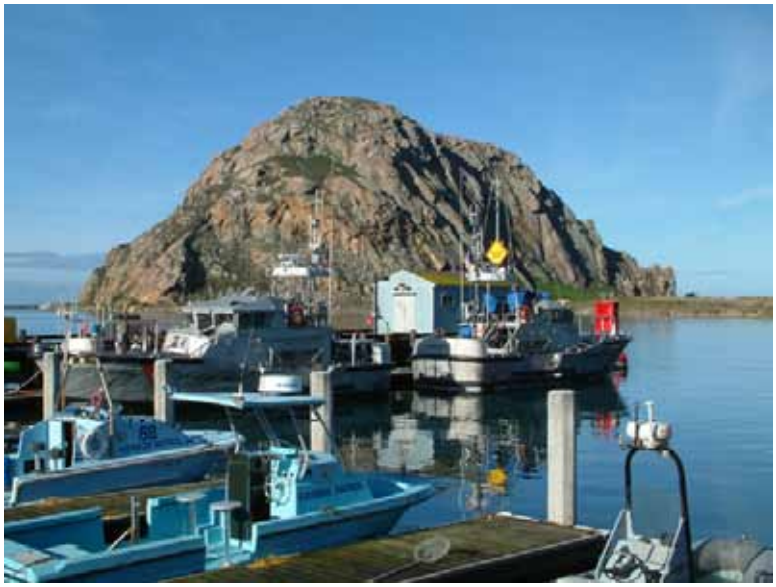
Given every two years, the Jones Awards recognize individuals and organizations for their dedication and outstanding contributions in helping the nation maintain healthy coastal and ocean resources, and balance the conservation of these resources with human needs. Winners are selected in three important award categories: Coastal Steward of the Year, Excellence in Local Government, and Excellence in Coastal and Marine Graduate Study.

The winners of the 2012 Walter B. Jones Awards for Excellence in Coastal and Ocean Management include:

Coastal Steward of the Year: *Peter M. Douglas*, longtime head of the California Coastal Commission received the award posthumously in honor of his many contributions to coastal management in California. He served the state for 40 years, including 26 as executive director of the state's Coastal Commission. He was a key force in the establishment of both the California Coastal Zone Act and Coastal Commission, as well as in drafting the original regulations implementing the federal act. Douglas passed away on April 1, and was made aware of the honor shortly before he died.

Excellence in Local Government: Awarded to local governments that have inspired positive change in the field of coastal management by developing or implementing principles embodied by the Coastal Zone Management Act.

Port of Anacortes, WA, for its innovative approach to restoring the area's waterfront resources. Its waterfront, having been devastated by historical industry uses, is now cleaner, safer, and more accessible to the community and provides much needed habitat for terrestrial and aquatic species.



Morro Bay, California. Photo credit: Marc Kurth

City of Morro Bay, CA, for vision and commitment to the protection of its historic fishing industry and vibrant harbor, while facilitating innovation at the local level, The city developed a strategic plan aimed at economic, social, and environmental sustainability in the Morro Bay fisheries and has successfully built a community fishing association capacity.

City of Naples, FL for implementing its plan to become the "Green Jewel of Southwest Florida" through the conception, design, and conduct of numerous key projects to improve the environmental health of the area while completing a variety of restoration projects using volunteers and innovative methods.

Town of Plymouth, NC, located in a region that has been described as the state's environmental crown jewel, Plymouth's accomplishments include addressing infrastructure needs by encouraging new partnerships and fostering local knowledge to address issues facing the town, including changing climate and the need for clean energy and creation of new jobs.

Excellence in Coastal and Marine Graduate Study: Recognizes graduate students whose academic study promises to contribute to the development of new or improved approaches to coastal or ocean management.

Michelle Brodeur, University of North Carolina—Chapel Hill: Michelle Brodeur's research focuses on more effective ecosystem-based management of oyster reef communities. Using the Rachel Carson National Estuarine Research Reserve as a backdrop, Brodeur's work focuses on how climate change will interact with other ecosystem-level stressors to affect the resiliency of oyster reefs.

Michelle Covi, East Carolina University (and TCS member): Michelle Covi's graduate work investigates communication, policy, and planning relating to the effects of severe weather, sea level rise, and other climate and climate change related events on coastal North Carolina. The research is addressing the significant need for citizen education, collaborative planning, and effective policy.

Jennifer Cudney-Burch, East Carolina University: Jennifer Cudney-Burch's research has taken a novel approach to the issue of spiny dogfish management along the U.S.

continued on page 15

continued from page 14

East Coast and Canada. Cudney-Burch has used a combination of traditional mark and recapture techniques, acoustic tagging, and direct work with fishermen to understand both spiny dogfish behavior and the commercial fishing community's approach to avoiding the species when they are not in season. She is contributing to wise management and knowledge of this key source of winter income for many in the mid-Atlantic region.

Timothy Ellis, North Carolina State University: Tim Ellis's research focuses on spotted seatrout, an economically important fishery subject to winter kills, which have the potential to influence their vulnerability to anthropogenic activities. In particular, he has been able to estimate population level demographic rates of spotted seatrout, a necessary piece of information to effectively manage and protect this resource from overfishing. Data gathered through his research were considered by the North Carolina Division of Marine Fisheries in making decisions about bag and size limits in early 2011.

Rachel Kelley Gittman, University of North Carolina—Chapel Hill: Rachel Gittman's research is conducting integrated physical-biological assessments of successes and failures of bulkheads and marsh sills in protecting shorelines from erosion and sustaining coastal habitats. Measuring changes in shoreline will contribute to improving management of critical estuarine habitat by determining how alternative types of shoreline stabilization techniques influence the provision of ecosystem services.

Melissa Keywood, University of Virginia: Melissa Keywood's research supports coastal community adaptation initiatives to climate change and sea level rise. Through a series of successful listening sessions held in Virginia Beach, her subsequent project is helping coastal communities in Virginia Beach, and Virginia's Gloucester County and Eastern Shore prepare for and adapt to climate change and sea level rise.

Katie Laakkonen, Florida Gulf Coast University: Katie Laakkonen is merging her City of Naples environmental specialist responsibilities with graduate research focusing on key restoration activities occurring in Naples Bay. Under her direction, the design and implementation of water quality sampling, seagrass bed monitoring, and mangrove and oyster restoration activities are generating science-based data so that Naples can improve its management and restoration planning efforts.

Matthew McCarthy, University of North Carolina—Wilmington: Matthew McCarthy's research project investigates the use of new satellite imagery products in mapping coastal habitats in the North Carolina National Estuarine Research Reserve. This research aims to identify which types of imagery and which techniques can provide the highest level of mapping accuracy. Once the final maps are completed, an analysis will be conducted to identify how habitats have changed through time.

Katherine Sherman, Oregon State University: Kate Sherman's research supports Oregon's Territorial Sea Plan amendment process for renewable energy. The project includes conducting and summarizing basic research; survey design, preparation and conduct; database design; GIS data development; and outreach and education. Kate's research inventory can be used as a model for inventorying research occurring in those areas that are being considered by other states as they develop marine spatial planning strategies.

TCS 23, A Student's Point of View: Zakiya Hoyett

The Coastal Society's (TCS) 23rd International Conference was my first TCS conference as both a participant and society member. I was pleasantly surprised by the geniality of other attendees and TCS members. Compared to other environmental conferences I have previously attended, this conference was smaller and the constituents were more diverse which allowed for better networking opportunities.

Beginning with the Opening Plenary, Mr. Richard Delaney did a phenomenal job of addressing the impacts of state and local efforts in coastal management with an enlightening "then-and- now" comparison of certain environmental policy-related issues, while urging us to, "think globally; act locally!" Since I was presenting a poster, the Poster Reception was my absolute favorite event of the conference. I had the opportunity to present my research and entertain questions, comments, and recommendations from an environmentally conversant mixture of students, professors, and government and private sector professionals. Finally, I appreciate the effort put forth by the planning committee to include segments specifically for students. The speakers at the Student Luncheon and panel members for the Student Forum entitled "Student Conversations in Careers" offered insightful advice on career planning and pursuit, as well as proper interviewing etiquette and respectable professional conduct.

The 2012 StormCon, World's Largest Conference on Stormwater Pollution Prevention
August 20-22, 2012, Denver, Co
www.stormcon/index.htm/

10th International Seafood Summit
September 6-8, 2012, Hong Kong
http://www.seafoodsummit.org/registration/

Global Green Ship
September 20-21, Washington, DC
http://www.marinelog.com/index.php?option=com_content&view=article&id=2146:global-greenship-2012&catid=53:conferences

Islands 2012, 2nd International Conference on Island Sustainability
September 17-19,2012, Island of Brac, Croatia
http://www.wessex.ac.uk/12-conferences/islands-2012.html

Wrecked, out of use, fishing vessels in Scotland
Photo credit: Ulrich Karlowski 2008/Marine Photobank

Coast to Coast 2012, Living on the Edge
September 17-21, 2012, Brisbane, Queensland
http://www.coast2coast.org.au/

The SUSTAIN International Conference: Delivering Sustainable Coasts
September 18-19, 2012, Southport, UK
http://www.sustain-eu.net/news/SUSTAIN-Conference-announcement.pdf

Littoral 2012: Coasts Of Tomorrow
September 27-29, 2012, Kursaal, Oostende, Belgium
http://www.sdimag.com/littoral-2012-coasts-of-tomorrow.html

4th International Conference on Estuaries and Coasts
Oct. 8-11, 2012, Hanoi, Vietnam
http://www.irtces.org/isi/WebNews_View-en2.asp?WebNewsID=656

Rising to the Challenge, National Conference of the American Shore and Beach Preservation Association
October 9-12, 2012, San Diego, California
National Coastal Conference

6th National Conference on Coastal and Estuarine Habitat Restoration: Restoring Ecosystems, Strengthening Communities
October 20-24, 2012, Tampa, Fl
www.estuaries.org/conference

CERF 2012: The Changing Coastal and Estuarine Environment: A Comparative Approach
November 11-14, 2012, Mar del Plata, Argentina
http://www.erf.org/CERF2012

World Ocean Council: Sustainable Ocean Summit
December 3-5, 2012, Washington, DC
www.oceancouncil.org

Gulf of Mexico Oil Spill & Ecosystem Science Conference
January 21-23, 2013, New Orleans, LA
http://www.gulfresearchinitiative.org/news-and-events/gulf-of-mexico-oil-spill-ecosystem-science-conference/

European Climate Change Adaptation Conference (ECCA)
March 18-20, 2013, Hamburg, Germany
http://eccaconf.eu/

TCS 23 AWARDS

Outstanding Service: Mike Orbach
For outstanding accomplishments in coastal management related to the purposes of Th Coastal Society.

Distinguished Service: Ellen Gordon
For unwavering commitment and dedication to The Coastal Society and its mission.

Knecht Rising Young Professional: Julia Wyman
As a rising professional in the field of coastal and ocean management who best emulates the vigor, dedication, vision and generosity of Robert W. Knecht.

President's Award: Rick DeVoe
For exceptional service to The Coastal Society and commitment to coastal leadership development and to professional development of coastal management professionals at all career levels.

President's Award: Paul Ticco
For exceptional service to The Coastal Society for your unwavering dedication to TCS Chapters and the professional development of student members.

Partner Certificate of Appreciation: I. M. Systems Group
In recognition of the valuable partnership established with The Coastal Society that assists our student members as they transition to positions in coastal management.

Thomas Bigford Best Student Presentation: Jolvan Morris, Florida A&M University

Thomas Bigford Best Student Poster – Michael Flynn, Richard Stockton College of NJ

Sea Grant Association Best Student Presentation – Clara Rubin, University of Rhode Island

TCS President Lisa Schiavinato with: top right, I.M. Systems Group's Jill Meyer; top left, Mike Orbach; middle right, Julia Wyman; bottom right Paul Ticco; bottom left, Ellen Gordon & Rick DeVoe

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THE COASTAL SOCIETY MEMBERSHIP FORM

Name:_____
Last First Middle Initial

Organization: _____

Street: _____

City/State/Zip:_____

Country:_____

Home Address (if preferred mailing address): _____

_____

Daytime Phone: _____ E-Mail: _____

Present Occupation:
_____

Primary Interest:
_____

TCS Chapter Affiliation (if any): _____

Sponsored/Referred by: _____

Type Membership (Check one):

• Regular, $60 US	(professionals or interested citizens)
• New Professional, $40 US Date of graduation:	(out of school fewer than two years) Name of academic institution:
• Retired, $40 US Date of retirement:	(over age 65 and retired from full time work) Former employer:
• Student, $20 US Academic advisor – Name:	(enrolled in a graduate, undergraduate or secondary level academic program) email:
• Library, $50 US	(library)
• Institutional, $250 US	(institution or organization; list two individuals' names and email addresses on form)
• Corporate, $500 US	(company, business, or organization; list four individuals' names and email addresses on form)

Signature: _____ Today's Date: _____ Thank you!

Make check payable to The Coastal Society, and mail it with your application to: PO Box 3590, Williamsburg, VA 23185. To pay by credit card, please use the online application at: www.thecoastalsociety.org/membership2.html.