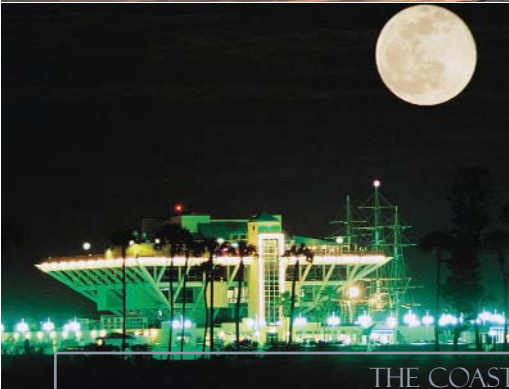


The Coastal Society

TCS Bulletin
Special Issue 2006



THE COASTAL SOCIETY'S
20TH INTERNATIONAL CONFERENCE
TRADEWINDS RESORT ISLAND GRAND
ST. PETE BEACH, FL

Conference Summary

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from your president

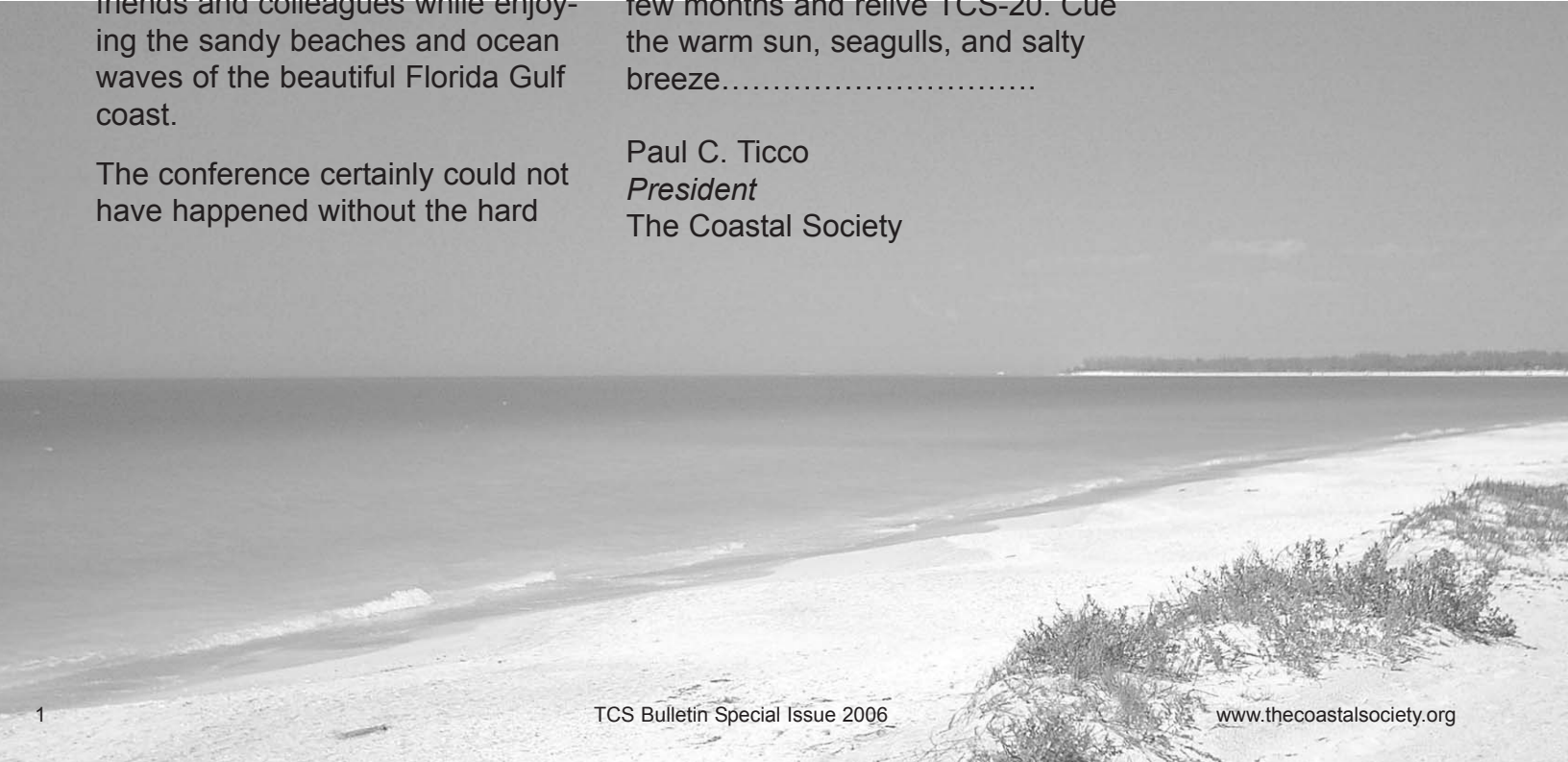
Welcome to this latest issue of The Coastal Society Bulletin which offers you a brief compendium of the events, sessions, discussions, and primary "take-home" messages from the biennial TCS-20 Conference held at the Tradewinds Resort in St. Pete Beach, FL from May 14-17, 2006. Many thanks and kudos go to our Bulletin editor Ellen Gordon and the numerous folks who summarized the sessions so that Ellen could pull together the following impressions. It was a lot of work! By all accounts, the conference was immensely successful: a great opportunity to learn more about the field of coastal and ocean management and science; a chance to present research findings and ask questions of experts; and the perfect occasion to meet up with friends and colleagues while enjoying the sandy beaches and ocean waves of the beautiful Florida Gulf coast.

The conference certainly could not have happened without the hard

work and dedication of many, many individuals, organizations and sponsors too numerous to mention here. Needless to say I heartily thank all of them and applaud their great efforts. For more information on TCS-20, including our program to aid the Gulf states in their recovery from Hurricanes Katrina and Rita (the Coastal Resource Recovery Fundraiser), please check out our website www.coastalsociety.org. As always, we're very interested in hearing your comments about our conferences and TCS so that we can better serve your needs and wants in the future. Please feel free to contact me at any time. If you attended the conference I hope that you learned much and had fun. If not, I look forward to having you join us in 2008. Now, let's step back a few months and relive TCS-20. Cue the warm sun, seagulls, and salty breeze.....

Paul C. Ticco
President
The Coastal Society

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.



TCS20 co-chairs Mike Wascom and Michael Henderson pointed out that, "This is an interesting, challenging and exciting time to be involved with coastal management issues, along with the myriad of related challenges and opportunities. Following on the heels of two landmark efforts, Pew Oceans Commission and U.S. Commission on Ocean Policy, TCS20 offered us all the chance to discuss, debate and offer solutions to many questions raised by these two groups. Clearly, without action the coasts are in trouble." In that spirit of engagement, we came together at TCS20 for three and one half days of presentations formal and casual, hallway chat, reception banter and poster discussions. A plethora of field trips gave attendees options to enjoy and appreciate the local coast, workshops provided hands-on opportunities to learn new ways of doing business and attendees took every opportunity to meet new colleagues and to renew acquaintances with associates from around the country and around the world.

I hope that this special issue of the TCS Bulletin, devoted exclusively to the conference will help that dialog to continue, enhancing the transfer of information between coastal professionals that the conference itself provided. Those readers who attended TCS20 will notice that not every concurrent session is covered. There simply wasn't enough space to include everything. Nor, despite valiant efforts on the part of assisting graduate students, were we able to record notes from absolutely every session. My heartfelt thanks to all of those students, without whose nimble note-taking this newsletter would be much less comprehensive. My gratitude, as well, to everyone who contributed thoughts, comments or notes. I'm not naming names-there are just too many-but you know who you are.

Any errors that might have occurred in summation or interpretation as I prepared this newsletter are entirely mine and entirely inadvertent. Apologies in advance.

Except where other authors are specifically credited, I'm the writing voice throughout this newsletter. If it perhaps reads a bit like a travel log, please buckle your seatbelts and enjoy the ride. Note that none of the material included is intended to represent the opinions of the Coastal Society or of Board members.

I am struck by a theme that emerged over and over again, in individual presentations and group discussions, in workshops and concurrent sessions and plenaries i.e., commu-

nication is utterly essential. All affected groups need to be given a seat at the table, from residents, to industry to government to activist groups. From the top down and the bottom up and across the board, from "day 1" until the decision is done and irreversible actions are taken, all the parties need to be part of the process. Cut a corner, try to skip some stakeholders, and whatever else may happen, you can be assured that your efforts will be less efficient and effective and that most often the natural resources will suffer negative repercussions.


Photo credit: John H. McShane



“Communication is utterly essential”

If you attended TCS20, I invite you to read and relive the experience. Perhaps you'll be reminded of a discussion you meant to pursue or maybe you'll discover some useful facts about a project in a concurrent session that you couldn't manage to attend. Participants are listed for each session. Conference attendees received an email from

the TCS office with contact information for everyone who attended. Should you find you need additional contact information, please contact Judy Tucker,

Executive Director of TCS at coastalsoc@aol.com. If you weren't able to join us at TCS20, I do have to tell you that you missed a grand opportunity to learn, to enjoy some really good food (comment heard more than once in the halls, "They are doing the food right here!"), and a chance to do good (inauguration of the Coastal Resource Recovery Fundraiser) while also having fun and wearing silly hats (see photos). The food may be long gone and the parties are certainly over, but here's your opportunity to enjoy the TCS20 smorgasbord. Dig in! 

getting a head start

Even before the kickoff reception for TCS20, attendees looking to add to their skills set were attending workshops. On Sunday, May 14, "Collaborative Learning for Coastal Managers, A New Tool for the Ecosystem Based Management Toolkit" jumped right off at 8:30 am. A full day seminar, this workshop stressed the need for an integration of the social and natural sciences. Workshop leaders Steven Daniels (Director, Western Rural Development Center at Utah State) and Gregg Walker (Chair of the Dept of Speech Communication and Director of Peace Studies at Oregon State, Corvallis) got everyone warmed up by asking each participant to share their best memory and/or worst memory of a planning/ teamwork/ public participation process. There was no lack of stories in both categories. Participants laughed and sympathized. As one individual shared, "My worst experience is why I am here today."

There were shared themes to the worst memories. The process doesn't work when stakeholders somehow feel left out, feel that there are private efforts afoot to influence, or sense that decision making is not open. Stakeholders feel cheated when real motives are hidden behind measures ostensibly doing something else. Sometimes even when an effort to build consensus (and there are very different ideas



Photo credit: John H. McShane

when stakeholders could somehow open up and trust. Important characteristics of collaborative efforts viewed as successful were when everyone felt their voice had been heard, and when the process was fair. Walker and Daniels talked about some of the sources of complexity, including cultural differences, deeply held values, legal requirements, multiple viewpoints, conflicting beneficiaries, emotional components, and competitive expectations. During the day long workshop, participants enhanced their "toolkit" for collaborative learning with techniques designed to stimulate creative discussion, foster dialog despite conflict and develop group-generated implementation strategies. The long but stimulating day helped with skills needed to clarify the scope of problems and gain agreement on definition, to develop strategies to reconcile conflict, and to focus stakeholder energy on innovative strategies for improving coastal problems. It has often been said when there are multiple parties involved, "No one was happy so the decision must be good." Yet is that really the model we want to use for vital decisions?

"Coastal Training to Improve Small Dock and Pier Management," a half-day workshop from 1:30 to 5 pm, was a more narrowly focused program. Managers looking for help with coastal development came to learn how to better deal with the

increasing number of permit requests for small private docks and piers. Using a model training workbook and PowerPoint presentations created by two NOAA offices on



Photo credit: John H. McShane

of what consensus even means) is successful, lack of funding means planning ends up on a shelf, frustrating everyone involved. Conversely, the best experience came about

behalf of several National Estuarine Research Reserves, the training materials can be modified to meet specific local interests and needs. Docks can have environmental, visual, and navigational impacts, as well as effects on public access. Managers need ways to factor in cumulative impacts, gain a better understanding of the science related to impacts, improved tools and techniques and additional ways to incorporate new information into the permitting process. The workshop provided participants an opportunity to learn the latest and share experiences.

A two part TCS student workshop was held in the afternoon. Four TCS professionals talked about their careers. The broadly based speakers' panel represented state and federal government, a private not-for-profit and a private for-profit consulting firm. Attendees learned about the paths that had led the speakers to their current positions, as well as tips on networking and finding jobs. The professionals talked about the importance of good communications and people skills, of persistence and flexibility. Students took advantage of a question and answer period to ask questions that ran the gamut of how much money they could expect to make, to whether or not it's worth getting a PhD to what the professionals might have done differently, given the benefit of 20/20 hindsight.

The latter part of the session was an opportunity for information sharing among the student themselves. Representatives from each chapter present talked about what kind of activities they've tried, where their successes and flops lie. Funding-and lack thereof-was an important area for trading ideas. Beach clean-up were a popular way for getting involved with local communities. Tom Bigford, long a driving force in TCS, mentioned that the

idea for beach cleanups arose at a TCS conference in Baltimore early in 1980 or 81. Alumni are invited back to social hours and brown bags to talk about their career paths. Common problems include difficulty expanding chapters because of the high turnover rate, a result of the nature of most marine affairs-type programs. Student chapters currently include East Carolina University, Duke University, University of Washington, and the University of Rhode Island. There's rising interest in starting a chapter at the University of Hawaii.

Several field trips were offered on Sunday, including an exploration of Shell Key, a kayaking excursion to Shell Key, another trip to Egmont Key State Park and National Wildlife Refuge and a dolphin watch sailing tour. While the kayakers got off to a late start due to van problems, (which just meant extra opportunity to chat informally in the hotel lobby) the participants proclaimed it a fun trip, and particularly cited the extraordinary experience of paddling through a mangrove tunnel.

Photo credit: John H. McShane



For those who had arrived on Saturday, the Welcome Reception capped a full day of learning and fun. For those just arriving for the conference, the Sunday evening reception under the open sky in the hotel courtyard was a great way to get their conference experience going. With two cash bars (first glass of beer or wine free) and a plethora of munchies, conference attendees greeted old friends and colleagues and began introducing themselves around. Chats ranged from the serious to silly, and while some turned in early, others continued the party at one of the many local nightspots in St Pete Beach. 🌀

opening plenary

At nine o'clock am Monday morning, Coastal Society President Paul Ticco welcomed everyone to TCS20. Paul pointed out that we are a diverse group, including scientists, analysts and managers, private citizens and students. We come from many levels of government and from the private sector. He suggested that we came because we care and we want to make a difference and that maybe we were here because we are all just a little bit angry. With our oceans and coasts in peril, Paul charged us to act individually and collectively at every level, locally, regionally and globally to develop a new vision. He challenged participants to learn from each other and to devise new solutions.

"We need more policy people brave enough to work to build consensus around solutions."

Paul mentioned some new TCS initiatives, including a fundraiser to help repair the Gulf Coast. He spoke about new TCS chapters, including the student chapter in development at the University of Hawaii. Moreover, we are looking forward to a Gulf Region Chapter and one in the DC Capital region, as well as the already extant Cascadia Chapter in the Pacific Northwest. And he enjoined everyone at the conference to have fun!!

TCS attendees received a local welcome from Ms. Suzanne Cooper, Principal Environmental Planner for the Tampa Bay Regional Planning Council. She spoke about the challenges Tampa faces, as well as the solutions they are seeking. A vital economic engine for the region, the Port of Tampa and Port Manatee are growing by leaps and bounds. Tampa struggles to balance that growth with maintaining the health of the estuary. Ms. Cooper was pleased to see fresh young faces in the audience, bringing new tools and an enthusiasm for sustainable growth.

Opening Plenary: Seeking Solutions

With a panel of distinguished guests presenting their perspectives on innovative solutions to coastal and ocean management problems, the opening plenary was a great segue way into a week full of learn-

"What's going to happen when some big community runs out of water? If it's not scarcity of drinking water, then what to do with wastewater is going to get you."

ing and sharing information, challenges and success stories. Unusual among conferences, TCS emphasizes the importance of interactive opportunities, even during plenary sessions. That is an enormous advantage to holding a moderate sized gathering. Hence, the first half hour of the plenary was comprised of presentations by distinguished speakers, followed by a coffee break before returning for a full hour of a moderated question and answer discussion between the panel and the audience.

Chris D'Elia moderated for the speakers. The panel was comprised of Steven Bocking, a professor in the Environmental and Resource Studies Program at Trent University, Peterborough, Ontario, Canada; Jim Murley, Director of the Center for Urban and Environmental Studies at Florida Atlantic University and Lisa Nisenson, principal in a land use and environmental consulting firm. Dr. Bocking spoke about the essential connection between science and effective coastal environmental management, peppering his presentation with examples from his experience with offshore drilling in the Gulf of Mexico, salmon farming on the Canadian west coast and the growth of human and industrial uses in Long Island Sound. According to Dr. Bocking, offshore drilling is essentially a rather large scale experiment. He pointed out that while large oil spills grab attention, little focus is

"Communicating among ourselves (coastal professionals) is of course very important, but maybe we need to somehow encourage our members to write into the kinds of magazines that the general public reads."



Photo credit: Ellen Gordon

given chronic releases such as drilling muds and floating garbage like hard hats and drums. So many uncertainties exist. What are the impacts on ecosystems? What contaminants are being released? What is the assimilation capacity of the Gulf of Mexico? The media attempts to reduce the complexities into straightforward, simple choices, but the complexities remain.

We also heard from Dr. Bocking about the coast of British Columbia, where there are currently 60-80 salmon farms, some of which provide economic support for isolated communities. Are they dangerous threats to the marine environment, producing harmful organic and chemical wastes, sampled fish showing trace toxins, a source of sea

"We need to take responsibility for framing issues, i.e., putting scientific findings into terms that politicians can listen to and use."

lice parasites, and the opportunities for the escape of exotic Atlantic salmon into the Pacific Ocean? Or are waste controls considerably improved, sea lice parasitism only

isolated incidents, and escapees rare and likely incapable of surviving? Is it possible that

the nutritional benefits of salmon outweigh the risks? Instead of using science to resolve these issues, the opposing sides are using it as a polarizing force.

The second speaker, Jim Murley, has a long history in Florida coastal management. As a lawyer, not a scientist, he brought a different skill set to his discussion of "practical solutions to managing growth in coastal areas." A growing population is putting greater and greater demands on the environment and on the economy and any discussion of coastal issues must accept that reality. Mr. Murley also emphasized the importance of tying global and national trends to practical solutions. Free trade agreements like CAFTA mean that places like Central America are now interconnected with Florida and have to be part of any solution. Solving problems, as we know, takes political support.

Of course in the Southeast, hurricanes are a big issue. Measured by the magnitude of insured losses, Mr.

Murley informed us that seven of the ten most expensive hurricanes in US history occurred in the fourteen months between August 2004 and October 2005. Yet despite that boggling statistic, there is no practical way to abandon development along the coast of Florida. Aware of the threats to its coasts and


"The incentives are all wrong for conserving green areas and pushing for dense redevelopment."

"Petroleum strikes at the core of where behavior changes--and that gets the attention of political types."

resources, the state has been trying to address issues by developing strategies, joining regional alliances, creating initiatives and assessing areas of great need, including the creation of the Coastal High Hazard Study Commission, whose mission it is to examine ways to limit growth on barrier islands and other coastal areas.

"Why don't we integrate transit-oriented development with coastal hazard mitigation? Why can't public transportation be an evacuation route?"

Lisa Nisenson, a private consultant, spoke enthusiastically about the need for smart growth. She told us that we shouldn't be trying to stop growth, but rather to shape it. We need comprehensive looks at development, something local government with its limited resources really can't manage. According to Ms. Nisenson, too often new environmental rules actually disperse development and contribute to sprawl, rather than encouraging redevelopment in urban and suburban areas. For example, we'll get little redevelopment of strip malls and vacant malls unless we change the rules and make these areas more attractive to development. We have to recognize that zoning codes under gird and impact all of it. Another example Ms. Nisenson mentioned are today's requirements for setbacks, onsite handling of storm water and parking minimums which preclude development like the commercial downtowns found in most older towns. Single-use zoning, common in some areas, doesn't allow for the development of affordable housing above stores. The general media has picked up on green issues, with the "ultimate in conservation design" even making it into magazines like *Vanity Fair* and *Elle*. Unfortunately, so called "low impact development, green buildings, and conservation design" often still contribute to sprawl. That the average American family makes 12 car trips/day has some pretty big implications!

Tony MacDonald of the Urban Coasts Institute at Monmouth University moderated questions, answers and discussion between the audience and panelists. In the spirit of reaching for solutions, it was far ranging, from talking about the end of the age of oil; "it's here and its going to affect absolutely everything," to the question of whether anyone in political power has ever said that we have reached natural carrying capacity; that we have enough development and we just can't fit anymore. 

concurrent sessions

1. Coastal Hazards and Mitigation

Coastal Management Solutions for Safer and Smarter Gulf Communities, moderated by Josh Lott

What is a hazard-resilient community? It's one where people are safe, where they are informed about risks, where natural lines of defense are protected and where leadership is in place that is right for the time. Coastal communities have recently put much more effort into coastal hazards information and management. The National Oceanic and Atmospheric Administration (NOAA) is doing basic research into coastal processes to better understand hazards and improve identification of risk and vulnerability and to evaluate the effectiveness of tools, technologies and policies. NOAA can also try to affect efforts in other federal agencies, including the Federal Emergency Management Agency and the Army Corps of Engineers. Sea Grant can provide education and outreach, as well.

By harnessing and leveraging NOAA as well as other federal and community resources, efforts to reduce the impacts of coastal storms can be more effective. From debris flow to data on water quality, improved forecasting can reduce risk. For more information on NOAA's efforts, see: www.csc.noaa.gov/csp

The session then focused on Louisiana and the long term effects of Hurricane Katrina. So much is still in flux. Many homeowners no longer live in the region. They are left wondering whether there will be enough insurance coverage to rebuild, whether they will be the only one left on their block, and what will become of their neighborhood.

There must be some demarcation between that which we can protect, and that which we cannot protect. It is hypocritical to knowingly put citizens in harms way without considering the necessity for regional planning. These are hard decisions, and if the parishes don't make them, then the state needs to get involved.



Photo credit: John H. McShane

Sea Grant extension agents worked hard to help the community, holding dozens of meetings. They developed maps of the wrack lines from the debris, then agents actually walked the line to ground truth. They've aided in vessel recovery, as well. But the debris field is so extensive, it's hard to even pull a trawl without getting the nets into trouble. Then there are such basic issues as the need for ice to process seafood-when there's frequently no fresh water and no electricity, so obviously, no ice. Diesel to run the fishing vessels is not easily obtained, either. The rice fields are devastated as well; inundated by saltwater during the hurricanes, they then had more than 4 months without rain, so nothing rinsed the salts out. Crawfish were also gravely impacted, since they need freshwater to survive. There's a lack of employees, a lack of customers and a lack of inventory. *Participants included Keeling Kuipers and Jim Wilkins.*

Social Science and Communities, moderated by Steven McLeod

This session explored topics of the Coastal Hazards and Mitigation track that are sometimes marginalized, but are nonetheless substantial. Daily dangers to beach-goers include rip-tides, which have caused more deaths in Florida than tropical storms, tornadoes and lightening combined. The state has a beach flag system designed to warn visitors of risky conditions.

Recent hurricanes have focused attention on the role of domestic animals in a hurricane. During three major storms that were studied, approximately 6-7% of people that refused to evacuate did so primarily because they did not want to abandon their pets. This emphasized the importance of advanced planning for pet evacuation and efforts to make consideration of pets a requirement of state disaster plans.

There was even a report on efforts to compile and interpret storm-related graffiti. A lively discussion ensued on the underlying messages of public expressions that ranged from comedy to desperation. *Participants included Danny Clayton, Kenneth Wilson, Christa Reiser and Derek Alderman.*

Alternative Approaches for Shoreline Erosion Panel, moderated by Kris Wall

By 2060, erosion will claim 25% of homes located within 500' of the shoreline. How many locations have strategies in place for managing coastal erosion? How are those strategies developed? Where and when do you use strategic retreat? How can you make use of information identifying ecologically and geomorphologically significant areas? What about granting loan assistance for relocation? Can you integrate growth management into regional hazard plans? What tools exist to help decision makers select the most suitable erosion control choices? How do homeowners get information that can help them to help themselves? *Participants included Allison Catellan, Hugh Shipman, Peter Slovinsky and Zoe Johnson.*

2. Governing Ocean Use Conflicts

Ocean and Coastal Governance: Theory and Practice, moderated by Mark Imperial

Governance challenges are as formidable as scientific ones, but the skills to address these challenges are not typically taught in schools. Are we providing the next generation of coastal ocean managers with the capabilities they need to be effective? Leadership is a complicated phenomenon, one not given enough attention by coastal managers.

There are numerous strategies for improving coastal and ocean governance, providing both challenges and opportunities. Collaborative organizations come in a variety of forms, and fulfill different functions: convener, catalyst, conduit, funder, dispute resolver, facilitator, tech assistance provider and capacity partner. We need to leverage our resources to build capacity. Leadership is critical to problem solving and accountability is absolutely fundamental.

Every state defines wetlands somewhat differently. How then, do you measure them? The U.S. Army Corps of Engineers says they are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. The U.S. Fish and Wildlife Service's definition is very similar. These are eco-centric definitions. But after Katrina, the media defined wetlands as hurricane buffers, an anthropocentric definition, and one that provides access to additional funding sources. So how do disaster policy and coastal planning define wetlands? Will a newly revised definition be adopted by the scientific community or will they resist? Definition changes obviously have important consequences.

Recently, the Rhode Island coastal management program completed a self-review, mandated by the state Assembly to address negative impacts of overfishing, industrial and urban water pollution, conversion of shoreline to commercial and military uses and private housing. Public workshops were held, as were other interviews with key stakeholders. The goals were improved health and functionality of marine ecosystems and encouraging appropriate marine-related economic development, use and enjoyment. How can you adapt core regulatory components to new roles? It requires greatly increased interaction between levels of government and stakeholders. It doesn't work on a statewide scale, but better fits the Special Area Management Plans (SAMPs) framework. The Coastal Resource Management Council in Rhode Island added a full time staff person devoted just to SAMP implementation. *Participants included Mark Imperial, Claire Connolly, and Don Robadue.*

Offshore Wind Power on the Horizon: A New Energy Frontier for Oceans, People and Wildlife, moderated by Jeremy Firestone

Offshore of the U.S., approximately 1000 GW capacity of wind power is possible, roughly the same as onshore U.S. capacity. Offshore wind power isn't yet comparable to fossil fuel cost, but onshore wind power is competitive. Wind turbines have a 20-30 year life cycle. Impacts can include vessel collisions, noise and vibration, changes in abundances, habitat change, and bird collisions.

Photo credit: John H. McShane



During construction, the noise and vibration of the pile driving may be higher than acceptable for marine mammals. The public may also be in opposition because of concerns about aesthetics and property values. *Participants included Sandy Butterfield, Louis Coakley, Christina Jarvis and Jeremy Firestone.*

Liquefied Natural Gas (LNG) Panel, moderated by Justin Farrell

LNG can cause impacts to air quality and biological resources, can be a source of spills, cause impingement/entrainment, and can be a source of lighting and noise problems. The liquid is nonflammable, but the vapors are flammable. The National Oceanic and Atmospheric Administration's (NOAA) concerns about impacts on baleen whales include strike risk, entanglements and interference from construction sound. There could be economic impacts to high value fisheries. What about the cumulative impacts from multiple projects? There is a need for monitoring and mitigation. We need to take steps that ensure that environmental considerations play a role in LNG decision making. *Participants include Shari Noteware, Mark Hodor and Mary Elliot Rolle.*

3. Effective Integration of Science

Coastal Resource Management Challenges in the 21st Century: The Role and Applications of Human Dimensions, moderated by David Loomis

Where do human dimensions fit into management? They need to be incorporated into projects at the outset, not as an afterthought. There is a disconnect between the reasons society believes resource management is important and why the managers themselves believe it is important. Many managers think that including human dimensions just means public access, public education and public meetings, but there is more. Resource management is driven by social values that make natural resource decisions. If you don't include the human dimensions early, a project will often face increased cost, time spent and frustration.

Rhode Island's Narragansett Bay is an example of a portion of a complex watershed with conflicting goals. The higher the integrative complexity, the harder that decisions are to make:

- Integration refers to ecosystem health and society's uses
- Ecosystem goods and services are estimated @ \$2.1 billion just for the Bay, which is only 40% of the watershed

Participants included David Loomis, Kristen McLendon, Chris Hawkins and Laura Anderson.

Pollution, Contaminants and Water Quality I, moderated by Gib Chase

Mercury contamination in the Gulf of Mexico poses both human health and ecological risks. Atmospheric mercury levels are increasing. Since elemental mercury can convert to methyl mercury and methyl mercury bioaccumulates, we need to ascertain where the mercury is coming from. Do we know if Gulf of Mexico fish are safe to eat? Seafood consumption advisories are one tool for protecting human health.

A coordinated effort is underway by federal agencies to characterize the magnitude and extent of coastal contamination and ecological effects of Hurricanes Katrina and Rita. The National Oceanic and Atmospheric Administration's (NOAA) Mussel Watch, an ongoing bivalve sampling program provides a useful baseline for contaminant levels. To learn more about this program, see: <http://ccma.nos.noaa.gov>.

Questions have been raised about the importance of groundwater discharge to nutrient contributions in the Gulf of Mexico. With the growing hypoxic conditions found in the Gulf of Mexico each summer, this potential source of nutrients and contaminants could hamper long term progress and complicate strategic plans aimed at reducing the hypoxic conditions.

Participants included Ruth Kely, Gunar Lauenstein, and Clayton McCoy.

Integrating Social Science into Coastal Management Panel, moderated by Betsi Beem

Often science and human dimensions are part of a project, yet rarely are they integrated together. There are various levels of integration from non- to fully integrated qualitative and quantitative models. The National Marine Sanctuary program incorporates social science using original data, usage data and pre-existing socioeconomic data. However, data needs are increasing. Different disciplines approach integration from different angles, but they need to start on the same page.

NOAA is looking to integrate social science into ecosystem based management (EBM), for the protection, restoration and management of coastal and ocean resources. While there are at least three models that can be suggested for integration (assimilation, melting pot, mosaic), what is most essential to success is capturing the interest and commitment of affected parties.

Local knowledge (defined as knowledge about a local place rooted in the social knowledge of that locale) can be an important component to coastal ocean and management. However, care must be taken in how the information is collected and used, so as not to exploit local knowledge for outside benefit, without providing local benefit. *Participants included Peter Wiley, Tom Fish and Brian Oles.*

Integrated Ocean Observing Systems: Focus on the SE, moderated by Geno Olmi and Chris Simoniello

How can we improve coastal ocean observation systems (COOS) and integrate biology into the physical sensors? We need better communication among the disciplines and better distribution, management and dissemination of data. The addition of biological sensors is needed, to address issues such as Right Whale distribution, dispersal and transport of larval species, invertebrate and fish dispersal patterns and basin-scale connectivity among populations, e.g., among lobster and conch in the Caribbean and Florida Keys. COOS use by the National Estuarine Research Reserve System, and along the Southeast and Gulf Coasts was discussed, including efforts to identify the cause(s) of the hypoxia event off the South Carolina coast, at Long Bay. *Participants included Bill Arnold, Rick Gleeson, Emily McDonald and Rebecca Stafford.*

Tools for Environmental Characterization and Management I, moderated by Geno Olmi

Remote sensing absorbs, reflects, and transects radiation energy and creates a picture.

Coastal management uses for remote sensing include:

- Regional pictures used for assessment
- Habitat characterization
- Water quality (chlorophyll)
- Land cover and use change
- Invasive species mapping

Software tools that support coastal marine EBM can encourage multi-objective and multi-stakeholder decision making, and can make the process more transparent. *Participants included Katherine Mills, Christine Hladik, Eric Hrnicek and Sarah Carr.*

4. Changing Behaviors

Collaborative Processes for Coastal Conservation, moderated by Simon Geerlofs

Discussion focused on the actual needs of local people, whether in regard to natural disasters or man-made impacts. The University of Rhode Island's Coastal Resources Center was asked to consult on recovery from the tsunami in coastal areas. The goal was to encourage implementation of sustainable, diversified livelihoods, potentially including fisheries, aquaculture and small scale tourism. The area studied had no tourism industry prior to the tsunami; employment included fishing, farming, laborers and small scale businesses. It was important to find out what the residents wanted to do, e.g., would they want to return to fishing, since it was a wave that had wiped out their homes and lives? What would be their willingness to participate in alternative livelihoods? Uncovering this information required cultural sensitivity and was aided by participant observation, i.e., actually living with local people. People were indeed willing to go back to fishing or to participate in alternatives, as long as it would help them support their families. While residents were interested in participating in projects that would allow them to learn new skills, significant donations of fishing gear and boats tended to push them back toward fishing. Before the tsunami, however, fishing catch had been decreasing, possibly due to overfishing. With newly donated equipment, the capacity for catch was greatly increased, which could exacerbate declines in fish catches.

In Rincon, Puerto Rico, community involvement with assistance from the Surfrider Foundation has been key to trying to stopping mega-developments with significant coastal impacts. Rincon's assets include beautiful beaches, good fisheries, significant coral reefs and great Caribbean surfing. The local community was outraged at the proposed construction of giant condominium development, but needed to move from reactive to pro-active mode. Surfrider assisted in developing a coalition of local groups, beginning with community meetings to ensure transfer of important information. They got big turnouts at these meetings, as prior to these efforts there had been little communication from the government. Beginning with beach cleanups as a recruiting tool, the message spread. Educating the community about the connection between land use and ecosystem health was key. Marine debris and sedimentation are threats to inshore coral reefs. A petition drive proved to be a good outreach tool when half of the local population of 14,000 signed on. The petition was presented to the Puerto Rico Planning Board. Enhancing transparency and public participation were key. By educating the community and providing resources, Surfrider increased the capacity of local citizens to get involved. They were successful in getting a small marine reserve designated and are now involved in developing a management plan. So education, outreach, creating vertical infor-

mation linkages that stretch from the bottom up as well as the top down, encouraging horizontal connections and providing technical support are all vital elements to an effort like this one. *Participants included Dawn Kotowitz, Chad Nelson, Michelle Portman and Corrina Chase.*

Social Science, Human Dimensions and Economics I, moderated by Laurie Jodice

On the north coast of Columbia, a project was designed to address coastal growth in an eco-friendly manner, using both local knowledge and the expertise of academia and institutions. It was a difficult but positive process, despite a small budget. It had multiple dimensions, including coastal and terrestrial mapping, demographic surveys, and public education. The process is still incomplete however; they designed plans, but these have not yet been implemented.

A regional collaboration for stormwater education in South Carolina was discussed. The core idea was the need to transcend city and county boundaries. Elected and appointed officials (and their staff), the general public, design professionals, and students from kindergarten through college were targeted. The goal was to implement effective, outcomes-based stormwater education and outreach programs to meet federal requirements and satisfy local environmental and economic needs. After all, "we all live downstream."

Tourism and recreation-related development are among the most important factors shaping development patterns in the coastal zones of the U.S. Coastal marine protected areas are often trying to balance competing goals, providing both resource protection and public services. Managers often feel overwhelmed with this effort to balance. With new types of recreation (e.g., kite surfing, spelunking, geocaching, hydro-bronc riding and zorbing), user conflicts, very sensitive areas and lack of "ownership" of the environment all contribute to the conflict. Workshops are being developed to train coastal managers in how to work through these issues. To determine impacts and root causes, you need reasonable indicators and standards. *Participants included Karen Fuss and Lina Maria Saavedra Diaz.*

Photo credit: Ellen Gordon



5 • Land Use Challenges

An Overview of a National Initiative: No Adverse Impact (NAI): Practical Solutions for Flood Damages, moderated by Rod Emmer

The concept behind No Adverse Impact is first, do no harm. Current policy deals with how to build but not how to minimize future damages. To achieve the latter, community outreach is the first step. We need NAI to be incorporated into local codes, to be part of regulatory reviews, permits and environmental reviews. Traditional land use planning needs to incorporate it when considering the consequences of development. Restoration of natural areas needs to be encouraged. *Participants included Mark Matulik, Pam Pogue, Maria Honeycutt, Eugene Henry.*

Shaping Land Use in Florida's Coastal Waterfront Communities: Successes and Lessons Learned in the Waterfronts Florida Partnership Program, moderated by Jennifer Carver

This program was a response to the economic and physical decline of traditional working waterfront areas. Four areas of concern were identified: environmental and cultural resource protection, integration of the viable traditional waterfront economy, hazard mitigation and public access to the waterfront. Identified keys to success included community commitment and leadership, partnership structures that facilitate meaningful changes, provision of technical assistance and formulating a comprehensive, community-designed vision plan to guide implementation. Speakers gave examples of Florida towns that have worked with the waterfronts program, including St. Andrews, Cortez and Bradenton Beach. While there were some strategies in common, the communities varied greatly. The goal in Cortez was to preserve the town as an economically viable fishing village, and with that, fishing skill and the maritime heritage of Florida. The main goal in Bradenton Beach was to maintain waterfront accessibility, to ensure the survival of this unique community. *Participants included Jennifer Carver, Nancy Wengel, Roger Allen and Dottie Poindexter.*



Conservation Leasing and Ownership of Submerged Lands, moderated by Tony MacDonald

Four questions were posed by the moderator to encourage thoughtful discussion:

1. Why would non-governmental organizations (NGOs) have to pay to protect resources that should already be managed sustainably and in the public trust by government?
2. Are NGOs financial and technically able to take on more private, site-based stewardship?
3. Are there inherent rights to establish aquaculture, marinas, mooring leases, etc. on public-owned marine lands with which conservation leasing may conflict?
4. Will claims for conservation rights conflict with or weaken the public trust doctrine?

Speakers pointed out that we are not managing resources, we are managing human impacts on the resources. Submerged lands are leased relatively cheaply. If everybody else is leasing, why should there be objection to NGOs leasing? It is time to be active stewards in marine land conservation, and public-private partnerships are the key. The Nature Conservancy, established in 1951, with a presence in all 50 states and in 26 countries is on the fore of efforts by NGOs to lease submerged lands. More information about their efforts can be found at <http://nature.org/initiatives/marine>. *Participants included Jay Udelhoven, Kristen Fletcher, Mike Beck and David White.*

Watersheds and Shorelines, moderated by Paul Ticco

Beliefs about the role science should play varies among local managers, developers and the general public. Science is mainly used in regard to wetlands, best management practices for stormwater, setbacks and buffers. Yet science needs to help inform where development should occur. Growth is outpacing the relevant science needed to make informed decision, and political will often overrides science.

We need the public involved (by addressing issues in a way that speaks directly to them, e.g., providing safe drinking water for kids in 2050) and we need local governments involved, since that is often where land use decisions are made. We need to train decision makers to adapt and to find ways to incorporate the cumulative impacts when making permit-by-permit decisions. Ideas included approaches such as "snowball" technique for interviewing, applying the concept of marginal principal, system theory, conflict resolution and collaborative theory, as well as tradable permits and charge ratios for mitigation. *Participants included Michael Finewood, Christine Feurt and Ruth Kelty.*

Hurricane Katrina, moderated by Mike Wascom

118 square miles of wetlands were lost during Hurricane Katrina. The 2005 Atlantic hurricane season saw a record num-

ber of storms and amount of damage. The flooded area of New Orleans was as big as Washington, D.C. It will take twenty years to achieve Category 5 protection for New Orleans.

Ongoing stakeholder involvement is essential to any recovery in New Orleans and in Louisiana as a whole. FEMA insisted upon, but gave little advanced notice about multiple meetings held with all the parishes to try and obtain community input. Efforts were made to contact those sheltering out of state, as well. Questions asked included: If you were in charge of rebuilding and could work on only 3 priorities, what would they be? Better levee and hurricane protection, encouraging development of new housing and restoring coastal areas habitat came back as the top choices. Participants were also polled on their feeling about whether communities should commit to allowing everyone who wants, to return to their original house. 51% said yes and 49% said no. When asked whether the government should spend limited dollars to build public buildings in high risk areas, only 24% said yes. It is important to note that some areas are completely low-lying and would have no reduced-risk locations for essential public services such as hospitals. Across the board there was agreement that wetland restoration and maintaining fishing/seafood traditions were essential. www.louisiana-authority.org and www.louisianaspeaks-parish-plans.org are two sites for learning more about the planning process and recovery status.

New Orleans will continue to subside, and sea level will continue to rise. There have been calls for building moratoriums. The mayor of New Orleans established that owners would be allowed to come back and rebuild, but that if there wasn't enough core rebuilding in their neighborhood, their efforts would be at their own risk. New regulations mandated no rebuilding a home if it was determined to be more than 50% destroyed. Interestingly, many homes were rated just 48% or 49% destroyed.

Outside experts were called in to examine why dikes failed. Dutch representatives established that causes included gaps in the dikes (due to e.g., changes in ownership, or openings to allow railroads through), and locations where construction material changed, e.g., from concrete to dirt. Rensselaer Polytechnic Institute also reviewed the failures, and found that the underlying peat layer causes serious torquing problems. *Participants included Don Davis, Mike Wascom, and Heidi Recksiek.*

Coastal Development, moderated by Amy Blizzard
Smart growth is an important concept for protecting coastal wetlands. There is tremendous pressure to sell off land for development. Between 1982 and 1997, land in coastal areas was developed at roughly twice the rate of population growth. Planned use development is a tool that allows for a comprehen-

sive approach, predictability, flexible values, reduced cost and increased diversity.

Addressing increased imperviousness of sites as they are developed, low impact development (LID) is a technique that has been tried in Massachusetts, among other places. LID includes better design of roadways and driveways, improving drainage and the use of permeable and porous pavements. Green roof systems can reduce runoff as well, by capturing 50-80% of runoff, plus reducing energy costs to the building. *Participants included Lewis Lawrence, Kol Peterson, Katie Semon and Andrea Cooper.*

Photo credit: Ellen Gordon



Solutions for Public Access and Beaches, moderated by Denis Ducsik

Coastal populations are increasing and with that comes increased demand for public access. There are 4 components to public access:

- 1) lateral/linear access-along beach
- 2) perpendicular access-down to beach
- 3) site conditions-quality experience
- 4) visual access-don't block view

Emerging threats to public beach access include intensified real estate development, an increasing gap between the rich and the poor and incremental environmental degradation. We need new efforts to address the problem. Traditionally, beach access has been an issue addressed at the local level, and often fought out in the courts, hence decided on a case by case basis. No national organizations are addressing the issue except Surfrider, for whom it is a top priority. Perhaps we need to consider legislation at the national level, e.g., a change to the Coastal Zone Management Act. At the least, we must broaden the debate beyond local, and consider that other values may be more important than property rights. We also need a system of valuation for nonmarket goods and services, e.g. how do we value recreational use and demand? *Participants include Lauriston King, Robert Freudenberg, Paul Hindsley and Dianna Jones.*

closing plenary

Written by Lisa C. Schiavinato, J.D..

Lisa is a Legal Coordinator for the Louisiana Sea Grant Legal Program in Baton Rouge, Louisiana, where she conducts research and outreach on legal issues affecting ocean and coastal resources. She was the Co-Chair for the TCS 20 Closing Plenary.

The theme of the TCS 20 closing plenary was "Energy and the Coasts." After the passage of the Energy Policy Act of 2005, many coastal resource professionals had questions about what influence the law might have on coastal management and development. Hence, our choice for closing TCS20. Organized as a moderated panel discussion, with audience participation, participants included:

- Moderator, Tom Skinner - Durand and Anastas Environmental Strategies and past Director, Massachusetts Office of Coastal Zone Management
- Chuck Bedell - Attorney, Murphy Oil Corporation
- Sarah Cooksey - Administrator, Delaware Coastal Programs
- Dr. Walter Cruickshank - Deputy Director, Minerals Management Service
- Dr. Tom Kitsos - NOAA Ret. and Executive Director, U.S. Commission on Ocean Policy
- Dr. Ellen Prager - President, Earth2Ocean, Inc.


Mr. Skinner opened by asking each panelist's opinion of the current state of the nation's energy policy as it related to the coasts, the influence the law might have, potential conflicts and suggested solutions. After hearing the panelists' responses, the audience had ample opportunity to ask questions. A frank discussion ensued, with each panelist bringing a particular perspective, as well as a wealth of experience to the table. While several issues had been identified, the focal point of audience attention was renewable and non-renewable energy development. As the plenary ended, it was clear that the Energy Policy Act brings new challenges for coastal managers, challenges that need to be more fully identified before solutions can be crafted. 

Photo credit: John H. McShane

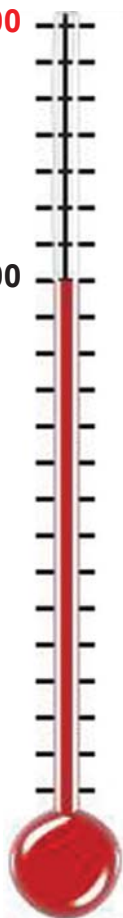


Coastal Resource Recovery Fundraising at TCS 20 a Smashing Success!!

By Kimberly Lellis

\$3,000

\$2,100



The Coastal Society launched a new fundraising initiative at its 20th International Conference in St. Pete Beach in May 2006 called the Coastal Resource Recovery Fundraiser (CRRF). The purpose of the CRRF is to raise funds to contribute to existing coastal resource protection, restoration, and education projects underway in areas devastated by hurricanes Katrina and Rita.

While at TCS 20, marine resource liaisons wore striped aprons and shark, pirate, and crab-themed hats to attract attention to this effort. Although walking into a room of colleagues, peers, and friends dressed in costume, wearing a headpiece that was utterly too big for our heads was at first a terrifying thought, we eventually gave heed to the hat hair gods and donned the costumes for a good cause. TCS members and conference participants responded in kind, giving approximately \$2,100 during the four days in St. Pete Beach.

Funds raised will be donated to a maximum of three organizations that support or sponsor coastal resource protection, restoration and education projects in

coastal communities in Louisiana, Mississippi, and Alabama. All CRRF contributions will be donated directly to entities recommended by a CRRF Selection Committee, and approved by the Board.

As residents in the Gulf of Mexico region continue to watch out for budding hurricanes, with the hope that the storms' energy dissipates prior to reaching land, The Coastal Society continues to collect funds for this important initiative. Our goal is to reach a total fund of at least \$3,000. We are almost there--just \$900 left!! Donations will be accepted via PayPal on TCS' website (www.the-coastalsociety.org), as well as through postal mail (checks can be addressed and sent to The Coastal Society, P.O. Box 25408, Alexandria, Virginia 22313-5408). In appreciation of any contributions over \$20, TCS will mail you a gold-plated starfish pin (very popular at TCS 20!).

We would like to extend a heartfelt thanks to all who contributed time, energy, and money to this fundraising initiative!

Award Winning Moments

It is a tradition at each TCS conference to bestow awards to individuals who merit special recognition for their efforts to advance The Coastal Society and the field of coastal and ocean management in general. At TCS-20, President Paul Ticco presented the following awards to five very deserving recipients. We all applaud their very fine work and dedication.

The Distinguished Service Award...

...to **Judy Tucker**: in grateful recognition for her years of exceptional work and dedication to The Coastal Society, its members and its mission.

The President's Award...

...to **Gib Chase**, in appreciation for his extraordinary energy and vision to continually advance the efforts and health of The Coastal Society.

The President's Award...

...to **John Duff**, in gratitude and admiration for his years of exemplary leadership and tireless service to The Coastal Society.

The Robert W. Knecht Award for Outstanding Professional Promise (a new honor)...

...to **Kate Killerlain-Morrison**. To a rising professional in the field of coastal and ocean management who, in their early career, best emulates the vigor, dedication, vision and generosity of Robert W. Knecht.

The TCS Outstanding Public Service Award...

...to **Dr. Thomas R. Kitsos**, in recognition for his outstanding accomplishments in the field of ocean and coastal management, and his continued dedication to the mission of The Coastal Society.



environmental careers

Written by Jeff Flood

Jeff Flood is a student at St. Mary's College of Maryland, located where the Potomac River enters the Chesapeake Bay. He plans to major in public policy with a minor in environmental studies. Meanwhile, he is available for summer 2007 internships!

TCS20 Survey Results and Analysis

This survey was intended to gather information and input from as many individuals from as many different fields as possible. 19% of conference participants completed the survey and their time and thoughts are greatly appreciated. Response from students attending was minimal, but due to the format of the survey, they may not have thought they could contribute much. To invite as many groups as possible to share their experiences, thus yielding a broader and more diverse feedback spectrum, specific improvements would include creating either more distinctive categories, or a more open-ended format for response.

Beginning with a question asking the participant to share their current career field, the survey sought to obtain information on the genres and sources of knowledge important to the individual's job. Participants were also asked about useful undergrad and grad courses, as well as what hindsight might tell them about courses they should have taken. The final question dealt with solving the knowledge gap by opening up the space for requests for supplementary topics of environmental issues that could be incorporated into The Coastal Society's newsletter and future conference concurrent sessions.

In addition to shedding light on possible and unique environmental career paths, the survey demonstrated numerous interactions within the overall environmental field. Diversity can be a benefit, at the same time that it may sometimes increase the complexity of decisionmaking. While the survey showed that job experience is considered the most important source of knowledge, confusion and policy disputes can be avoided by a well rounded education. This track appears to be suggested by many of those surveyed, as those in the two largest fields, science and policy, expressed regret at not taking more courses in the opposite field during college as well as a strong desire to compensate by continuing to learn throughout their careers. Here, The Coastal Society can play a critical role supplying supplementary information at their conferences, and facilitating discussion between potential partners. (More detail, as well as the survey summary can be found as an addendum to this newsletter, on the TCS website www.thecoastalsociety.org).

Photo credit: Ellen Gordon

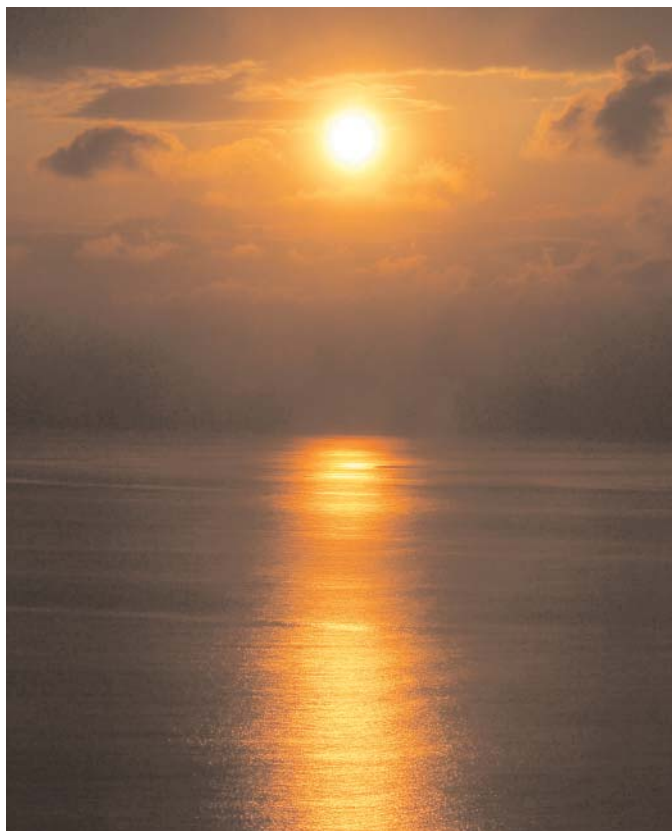


Photo credit: John H. McShane

conference history

Written by Tom Bigford

Tom, a man with many hats, has been a TCS member since 1976, was TCS Secretary from 1980-82, Bulletin Editor from 1979-1994, Executive Director from 1991-94 and Board member from 2004-06.

Photo credit: Robert Goodwin

TCS 1-20: Our Ventures Through the Past 30 Years

While enjoying TCS20 in St. Pete Beach, I found myself comparing that excellent conference to our long record of stellar events. We have an impressive history, with the longest series of coastal conferences on Earth and a written record of our deliberations that serves the field well as a college text, scientific reference, and nostalgic marker. Our collective efforts provide fodder for many observations, and I appreciate this opportunity to offer a few thoughts.

Our twenty conferences offer a trip down memory lane. TCS was incorporated in 1975, three years after passage of the federal Coastal Zone Management Act and in the midst of an unprecedented decade of environmental awakening and natural resource legislation. Our first few conferences probed current conditions and prospects for the future, both generally and for some of the more important resource extraction sectors (i.e. energy, fishing, etc.). Conference programs in the 1970s and early 1980s reflected the youth of our field. Coastal plans, implementation, and early integration in the 1970s enabled us to debate with conviction our successes and experiences as TCS entered its second decade.

The Society's early years also reflected our commitment to building partnerships where relationships didn't exist. TCS worked with geologists, political scientists, a new field called ecology, and traditional fields such as engineering and geography. Shared interests led TCS into productive discussions with other organizations dedicated to coastal issues. In 1978, the Coastal Zone Foundation, led by Orville Magoon and affiliated with the American Society of Civil Engineers and the Beach Preservation Association, initiated its own annual conference on coastal issues. Similar missions led TCS and CZ Foundation leaders to share our messages and constituents during several years of overlapping efforts, separate but with sufficient integration to hint at a stronger future. Eventually, with support from throughout our field and our important sponsors, it was decided in 1982 that TCS would convene in the even calendar years and the Coastal Zone conferences would be held in the odd years. This tradition has served our fields well, with a continuous series of conferences offering a wholesome diet of timely information.

Since the 1990s, TCS conferences have developed a unique character and appeal. Unlike some of the larger conferences in our fields of interest, TCS remained on the small side. Rarely has attendance surpassed 400, by design. TCS and its confer-



ences have always had a family feel, with a tight Board of Directors and engaged members. We've developed a special relationship with students. Each new generation renews our commitment to the central issues of our coasts.

Perhaps most noteworthy in the history of TCS is how our efforts changed citizen views to the coastline. For me, the single greatest accomplishment came about when Barbara Fegan challenged us in 1982 at TCS8 to increase citizen participation. Her timely leadership two years after the 1980 acclamation of "The Year of the Coast," barely six years after the first Earth Day, and during some difficult economic times, caught our attention. What began as "Coast Day" with slide shows and clam chowder grew to "Coastweek" and the first National Estuarine Research Reserve Day, and soon to a three-week "Coastweeks." A local concept has evolved into an international event, attracting millions annually to beach cleanups, educational events, and social activities. TCS was an original sponsor, and remains a primary guardian of the concept of coastal activism. Thanks, Barbara!

So, as we look toward our next decade and plan the next few conferences, it is gratifying to reflect back on our long history of conferences from San Diego to Boston to San Antonio, glance at thousands of pages of conference proceedings and TCS Bulletins (and a few CDs) adorning my book shelves, recall past officers and other dedicated members, relish our productive partnership with Coastal Zone, consider how coastal enthusiasts owe their commitment to Barbara Fegan, contemplate ventures for the future (such as a joint meeting with our Canadian colleagues for the first time since TCS convened in Burlington, Ontario for TCS4 in 1978), and reinvigorate myself for another 30 years of personal and professional benefits courtesy of Our Coastal Society.