Gulf of Mexico News

NOAA Ocean Service, Office of Ocean & Coastal Resource Management

February 2009

NOAA Gulf of Mexico News

Contaminant Changes Following Two Major Hurricanes Demonstrate Importance of Long-term Monitoring

National Centers for Coastal Ocean Science (NCCOS) researchers assessed chemical contaminant levels in oysters before and after hurricanes Katrina and Rita, and determined that metal concentrations increased, organic concentrations decreased, FDA action levels were not exceeded, and sites sampled in Lake Borgne, Mississippi Sound, and Mobile Bay had the highest metal concentrations before and after the hurricanes. The findings, published January 2009 in Environmental Monitoring and Assessment, show how long-term monitoring data from NOAA's Mussel Watch Program (http://nsandt.noaa.gov) can be used to assess coastal pollution change. For more information, contact Ed.Johnson@noaa.gov.

Report Supports Management of Dry Tortugas Marine Resources

National Centers for Coastal Ocean Science scientists provided managers of the Florida Keys National Marine Sanctuary (FKNMS) and Dry Tortugas National Park with a summary of their research to measure ecological impacts of the Tortugas North Ecological Reserve (TNER). This comparative analysis of different levels of marine protection concludes that fish population trends through time provide strong correlative evidence of a reserve effect within the TNER. Data further suggest that commercially exploited fish stocks outside the reserve have also benefitted from closure of the TNER. The report, submitted February 2, 2009, provides data and recommendations for the "Sanctuary Science Report 2009: An Ecosystem Report Card After Ten Years of Marine Zoning" which will summarize the results of the FKNMS Zone Monitoring Program through 2008. For more information, contact John.Burke@noaa.gov, or Shay.Viehman@noaa.gov.

Publication Highlights Strategies to Meet the Climate Change Challenge

Local Strategies for Addressing Climate Change, a new publication from the NOAA Coastal Services Center (CSC), has been distributed to coastal resource managers around the country. The publication is a compilation of articles recently published in the Center's national trade journal for coastal managers, Coastal Services, and it highlights the many things that local and State coastal managers are already doing to specifically or indirectly address the effects of climate change. A national guide on how to plan for and adapt to climate change is featured, as are examples of how coastal managers are addressing issues such as sea level rise and rising sea temperatures. The Center's data and tools that can best help coastal managers address climate change are also highlighted. For more information, contact Donna McCaskill.

NOAA Offices Host 2009 Gulf Coast Marine Conference

On February 27, the Office of Coast Survey (OCS) and the National Weather Service (NWS) Lake Charles Weather Forecast Office jointly hosted the 2009 Gulf Coast Marine Conference in Lafayette,

LA. The conference united Federal, State, and local governments involved in marine and coastal efforts. A major theme of the conference emphasized pre- and post-hurricane preparations and response activities. Dr. Steve Lyons of The Weather Channel was a featured speaker who presented on how coastal communities respond to potential and actual hurricane impacts. OCS and local NWS Forecast Offices work in partnership to serve the coastal and marine communities, ports, industry, waterway community, and State and local governments in this region. For more information, contact Tim Osborn.

New Data Sources for NOAA Oil Modeling Environment

NOAA's spill response trajectory model known as GNOME (General NOAA Oil Modeling Environment) is a free computer program available from the Office of Response and Restoration (OR&R). GNOME is used to investigate the effects of different pollutants and environmental conditions on trajectory results. Recently OR&R partnered with the NOAA Pacific Islands Fisheries Science Center, the NOAA Atlantic Oceanographic and Meteorological Laboratory, and the University of Hawaii's Asia-Pacific Data-Research Center to make ocean current data available on multiple Web sites to GNOME users around the world. As a result, GNOME users now have several new sources for ocean surface currents that are compatible with the product. For more information, contact GlenWatabayashi.

Other NOAA News

NOAA Offers New Online Media Library Featuring Ocean-Related Photos and Videos

February 11, 2009

Screen shot. High resolution (Credit: NOAA)

NOAA's Office of National Marine Sanctuaries has launched a new online multimedia library offering public access to thousands of high-resolution, ocean-related photos and videos taken by NOAA scientists, educators, divers and archaeologists.

"This robust online library offers thousands of images from all 14 marine protected areas managed by NOAA," said Michiko J. Martin, national education coordinator for NOAA's Office of National Marine Sanctuaries. "Some of these images depict threats and human pressures on marine life in a compelling fashion that we hope will inspire ocean literacy and conservation."

Users can access the new media library online.

The National Marine Sanctuaries Media Library is a comprehensive database containing a collection of high-quality still images and video footage featuring all 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. The database is fully searchable by keyword, category and location, and all the images are tagged with relevant information including resolution and usage rights.

The media library is part of a continuing NOAA effort to enhance public awareness, understanding, and appreciation of the marine environment. It was created to provide a resource for numerous audiences, including students, educators, publishers, conservation organizations and individuals looking for compelling marine-related images.

A sea lion from the National Marine Sanctuaries Media Library. High resolution (Credit: NOAA)

Reducing Coastal Nitrogen Pollution Requires Regional Approach

Management actions for nutrient reduction to our coastal waters require a regional approach, according to a Cornell University scientist supported by the National Centers for Coastal Ocean Science (NCCOS). Excess nutrient flux via rivers and streams and the burning of fossil fuels is causing eutrophication, harmful algal blooms, and hypoxia in U.S. coastal systems, but solutions that work to reduce excess nutrients in one area of the country do not work for other areas. In addition, ways to reduce the flux of nitrogen into coastal systems exist at reasonable cost, but they have not been effectively administered. This research was funded through NCCOS's Coastal Hypoxia Research Program, and was published in a December 2008 special issue of *Harmful Algae*. For more information, contact Libby.Jewett@noaa.gov.

Antibiotic Resistance: A Rising Concern in Marine Ecosystems

Scientists Find Threats As Well As Cures In Ocean

February 13, 2009

A team of scientists, speaking today at the annual meeting of the American Association for the Advancement of Science, called for new awareness of the potential for antibiotic-resistant illnesses from the marine environment, and pointed to the marine realm as a source for possible cures of those threats.

The group stated that newly completed studies of ocean beach users point to an increasing risk of staph infections, and that current treatments for seafood poisoning may be less effective due to higher than expected antibiotic resistance. The group also asserts that new research has identified sponge and coral-derived chemicals with the potential for breaking down antibiotic resistant compounds and that could lead to new personalized medical treatments.

"While the marine environment can indeed be hostile to humans, it may also provide new resources to help reduce our risks from illnesses such as those caused by water borne staph or seafood poisoning," stated Paul Sandifer, Ph.D., former member of the U.S. Commission on Ocean Policy, chief scientist of NOAA's Oceans and Human Health Initiative, and co-organizer of the symposium.

Carolyn Sotka, also with the NOAA Oceans and Human Health Initiative and lead organizer of the session, stated "It is critically important that we continue research on the complex interactions between the condition of our oceans and human health. Without doubt, this research will develop new understandings of ocean health risks and perhaps more importantly crucial discoveries that will lead to new solutions to looming public health problems."

Sponges and coral. High resolution (Credit: NOAA)

Coral, Sponges Point To Personalized Medicine Potential

"We've found significant new tools to fight the antibiotic resistance war," says NOAA research scientist Peter Moeller, Ph.D., in describing the identification of new compounds derived from a sea sponge and corals.

"The first hit originates with new compounds that remove the shield bacteria utilize to protect themselves from antibiotics. The second hit is the discovery of novel antibiotics derived from marine organisms such as corals, sponges and marine microbes that fight even some of the worst infectious bacterial strains. With the variety of chemicals we find in the sea and their highly specific activities, medicines in the near future can be customized to individuals' needs, rather than relying on broad spectrum antibiotics."

The research team, a collaboration between scientists at NOAA's Hollings Marine Laboratory in Charleston, S.C., the Medical University of South Carolina and researchers at North Carolina State University in Raleigh, N.C., noticed a sponge that seemed to thrive despite being located in the midst of a dying coral reef. After extraction, testing showed that one of the isolated chemicals, algeliferin, breaks down a biofilm barrier that bacteria use to protect themselves from threats including antibiotics. The same chemical can also disrupt or inhibit formation of biofilm on a variety of bacteria previously resistant to antibiotics which could lead to both palliative and curative response treatment depending on the problem being addressed.

"This could lead to a new class of helper drugs and result in a rebirth for antibiotics no longer thought effective," notes Moeller. "Its potential application to prevent biofilm build-up in stents, intravenous lines and other medical uses is incredible."

The compound is currently being tested for a variety of medical uses and has gone through a second round of sophisticated toxicity screening and thus far shows no toxic effects.

Staph: A Beach Going Concern

Research, funded by multiple agencies and conducted by the University of Miami's Rosenstiel's School of Marine and Atmospheric Sciences and the Leonard M. Miller School of Medicine, found that swimmers using public ocean beaches increase their risk for exposure to staph organisms, and they may increase their risk for potential staph infections once they enter the water.

High resolution (Credit: NOAA)

"Our study found that if you swim in subtropical marine waters, you have a significant chance, approximately 37 percent, of being exposed to staph — either yours or possibly that from someone else in the water with you," explained Dr. Lisa Plano, a pediatrician and microbiologist with the Miller School of Medicine. Plano collaborated in the first large epidemiologic survey of beach users in recreational marine waters without a sewage source of pollution.

"This exposure might lead to colonization or infection by water-borne bacteria which are shed from every person who enters the water. People who have open wounds or are immune-compromised are at greatest risk of infection."

The Miami research team does not advise avoiding beaches, but recommends that beach-goers take precautions to reduce risk by showering thoroughly before entering the water and after getting out. They also point out that while antibiotic resistant staph, commonly known as MRSA, has been increasingly found in diverse environments, including the marine environment, less than three percent of staph isolated from beach waters in their study was of the potentially virulent MRSA variety. More research is needed to understand how long staph (including MRSA) can live in coastal waters, and human uptake and infection rates associated with beach exposures.

Antibiotic Resistance in Seafood-borne Pathogens Increasing

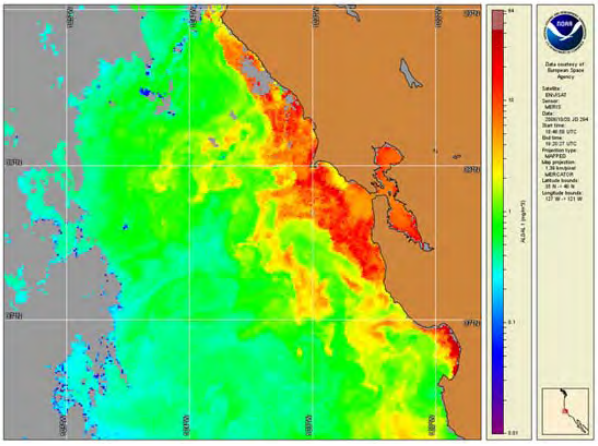
Researchers at the Bigelow Laboratory for Ocean Science in West Boothbay Harbor, Maine, report that the frequency of antibiotic resistance in vibrio bacteria was significantly higher than expected. These findings suggest that the current treatment of vibirio infections should be re-examined, since these microbes are the leading cause of seafood-borne illness and death in the United States. The severity of these infections makes antibiotic resistance in vibrios a critical public health concern.

Naturally-occurring resistance to antibiotics among *Vibrios* may undermine the effectiveness of antibiotic treatment, but as yet this has not been extensively studied. Furthermore, antibiotics and other toxicants discharged into the waste stream by humans may increase the frequency of antibiotic-resistant *Vibrio* strains in contaminated coastal environments.

“We found resistance to all major classes of antibiotics routinely used to treat *Vibrio* infections, including aminoglycosides, tetracyclines, and cephalosporins,” stated Bigelow’s Ramunas Stepanauskas, Ph.D. “In contrast, we found that *Vibrios* were highly susceptible to carbapenems and new-generation fluoroquinolones, such as Imipenem and Ciprofloxacin. This information may be used to design better strategies to treat *Vibrio* infections.”

NOAA's CoastWatch Program: Twenty Years and Counting

NOAA's CoastWatch Program has come a long way since its start in 1987. It began as an ad hoc effort to produce a single product in response to a harmful algal bloom event in North Carolina. Today, it has evolved into a cross-NOAA effort that provides a wide range of oceanographic satellite remote sensing data, products, and services to a diverse group of users.



CoastWatch recently received honorable mentions in both the "Breakthroughs" and "Foundation Datasets and Products" categories during NOAA's 200th anniversary celebration. CoastWatch 's mission is to process near real-time oceanographic satellite data and make it available to everyone. The early days of CoastWatch required users to register and use a modem to access a few products. Datasets are now more expansive and can be more easily downloaded at much faster speeds.

Data processing and visualization has also improved, allowing users to access and manipulate standardized data (i.e., the CoastWatch Hierarchical Data Format) via a graphical user interface known as the CoastWatch Data Analysis Tool. CoastWatch currently produces and disseminates a wide variety of satellite remote sensing products. These include ocean color (e.g., chlorophyll-a), ocean surface winds, sea surface temperature, and other products from a variety of domestic and international platform/sensors.

CoastWatch also facilitates and enhances product development and supports their transition from research into applications. Ocean color is one of CoastWatch's most used datasets, particularly in support of harmful algal bloom monitoring. Data from GeoEye and NASA satellites are processed into daily, mean, and anomaly ocean color products. These products are then given to NOAA's Center for Operational Oceanographic Products and Services for analysis and are used to issue harmful algal bloom bulletins for the Gulf of Mexico. CoastWatch continues to expand each and every day. It is currently obtaining and processing data from the European Space Agency and plans to use data from instruments to be flown aboard NOAA's new National Polar-orbiting Operational Environmental Satellite System in 2013. CoastWatch also is redesigning its Web site and further developing a complementary OceanWatch Web site to support NOAA's global climate monitoring applications. For additional information on CoastWatch, please visit http://coastwatch.noaa.gov/.

Wave Energy Model Research Supports Management of Estuarine Shoreline Habitats

National Centers for Coastal Ocean Science (NCCOS) staff illustrated how merging results from a Wave Energy Model into research on sedimentation and erosion rates in fringing salt marshes, and in modeling the depth distribution of benthic algae, can improve model results. Incorporating results from the desktop model improves predictions of the distribution of primary producers (marshes and microalgae) in estuarine shoreline habitats. These plants play a crucial role in stabilizing shoreline and sequestering sediment nutrients, which can slow eutrophication. These findings were presented in an invited paper at the American Society of Limnology and Oceanography (better known as ASLO) Aquatic Sciences Meeting in Nice, France on January 30, 2009. For more information, visit http://www.ccfhr.noaa.gov/stressors/extremeevents/wemo.html, or contact Carolyn.Currin@noaa.gov.

NOAA Receives $830 Million through Recovery Act

March 3, 2009

The Department of Commerce's National Oceanic and Atmospheric Administration will receive $830 million in funds as part of the American Recovery and Reinvestment Act. The agency will use the funds, equivalent to 20 percent of NOAA's 2008 budget, for projects that protect life and property and conserve and protect natural resources.

The act provides $230 million for habitat restoration, navigation projects, vessel maintenance, and other activities. An additional $430 million will be dedicated for construction and repair of NOAA facilities, ships and equipment, improvements for weather forecasting and satellite development. A total of $170 million will also be directed for climate modeling activities, including supercomputing procurement and research into climate change.

"Whether providing grants for habitat restoration or issuing contracts for construction and repair of our facilities, these funds will create jobs while advancing our vital mission to the American people," said Mary Glackin, deputy under secretary for oceans and atmosphere. "We will ensure that the Recovery Act funding is used as effectively as possible and in a manner that will allow for maximum transparency and accountability."

Department of Commerce agencies receiving one-time funds through the act are required to submit a plan to Congress with specifics on how allocations will be spent within 60 days of the legislation being enacted. Once completed, NOAA's plan will be available to the public at the Department of Commerce and NOAA Web sites. Requests and applications for funding will be accepted when instructions and rules are posted for specific projects.

The American Recovery and Reinvestment Act of 2009 was signed into law by President Obama on Feb. 17, 2009. It is an unprecedented effort to jumpstart our economy, create or save millions of jobs, and put a down payment on addressing long-neglected challenges so our country can thrive in the 21st century. The Act is an extraordinary response to promote economic recovery and growth, and includes measures to modernize our nation's infrastructure, enhance energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. NOAA understands and predicts changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources.

OCRM Launches Climate Change Web Page

The Office of Ocean and Coastal Resource Management (OCRM) has launched a Climate Change Web page on the OCRM Web site. Designed as a resource for coastal managers as well as to inform the public about the effects of climate change on coastal habitats and communities, the site includes discussions of such climate change impacts as sea level rise, ocean acidification, and changing species distribution. A section on OCRM activities explains some ways the office is helping coastal and National Estuarine Research Reserve System managers address climate change. Another section features case studies of NOAA state and local partners' climate change projects around the country. Visitors to the site also will find links to other climate information sites, including other NOAA sites, in the Resources section. For more information, contact Ellen Ternes.

Nominating MPAs to the National System of Marine Protected Areas

Eligible MPAs are invited to nominate their sites to be part of the national system of MPAs. The national system of MPAs is the group of MPA sites, networks and systems established and managed by all levels of government that collectively enhance conservation of the nation's natural and cultural marine heritage and represent its diverse ecosystems and resources. Although managed independently, national system MPAs work together at the regional and national levels to achieve common objectives for conserving the nation's important natural and cultural resources. The national system does not bring state, territorial or local sites under federal authority, nor does it restrict or change the management of any MPA.

The first round of nominated sites can be found here. These sites are available for public review until April 6, 2009. For instructions on how to submit comments, click here. The group of 225 sites includes all 13 National Marine Sanctuaries, four National Estuarine Research Reserves, the Papahānaumokuākea Marine National Monument, 10 National Parks, 99 National Wildlife Refuges, and sites managed by nine coastal state and territorial governments. Territorial and state governments nominating sites to the national system include American Samoa, California, Florida, Hawaii, Maryland, Massachusetts, New Jersey, Virginia, and Washington. Following review of public comments, the final nominations will be formally accepted as charter members of the national system in April. Following public review, the first group of MPAs will be formally accepted into the national system of MPAs. The second round of nominations will be held in late 2009.

In the Gulf States

Alabama Committee to Chart Water-access Issues

The Alabama Waterfront Access Study Committee will meet in Montgomery, Ala., from 10 a.m. until 3 p.m. March 3 in the Old Archives Chambers of the state Capitol.

Legislation introduced by Rep. Spencer Collier (R-Irvington) last year created the committee that will examine the loss of diversity of uses along Alabama's waterfronts. After studying waterfront issues, the committee will prepare a report about concerns, research and recommendations to address waterfront-use and water-access issues. The report, due next year, is expected to include information on land-use management and zoning, tax assessment trends for waterfront properties, shoreline development trends and local tax rates.

"This committee will examine the increased demand for water access for recreational, residential, commercial and industrial uses," said committee Chairman LaDon Swann, director of the Mississippi-Alabama Sea Grant Consortium. "The committee will make recommendations, such as tax strategies, to support diversity on the state's waterfronts. We will look at methods used in other places to promote survival of water-dependent businesses – from large industry to mom-and-pop shops – and public access to waterways."

The committee includes representatives from the Alabama Department of Conservation and Natural Resources, Alabama Working Waterfront Coalition, Alabama Port Authority, commercial and recreational fishing industries, U.S. Army Corps of Engineers, Alabama Home Builders Association, Alabama Association of Realtors, marine trades and manufacturing industry, Alabama Bureau of Tourism

and Travel, Organized Seafood Association of Alabama, local governments, Agriculture, Conservation and Forestry Committee of the Senate and the Agriculture and Forestry Committee of the House of Representatives. It also includes an economist, a social scientist, House members representing Districts 95 and 105 and Senate members representing Districts 32 and 35.

Groups Work Toward Improving Land Conservation Efforts

MOBILE, Ala. — Existing and potential land trust partners recently discussed the possibility of coordinating conservation efforts in coastal Alabama. They got together at a workshop that kicked off an initiative to identify gaps in conservation efforts and open discussion among groups. A land trust is a nonprofit organization that can purchase, receive or manage land and easements for conservation. The Mississippi-Alabama Sea Grant Consortium and Auburn University Marine Extension and Research Center hosted the workshop for land conservation stakeholders. The Mobile Bay National Estuary Program is funding the conservation initiative.

Fourteen individuals representing land trusts and organizations interested in land conservation attended the workshop at the Brookley Center. Tim Mulvaney of the Mississippi-Alabama Sea Grant Legal Program talked about the legalities of operating a land trust, and Mark Pentecost of Alabama Land Trust and Judy Steckler of Land Trust for the Mississippi Coastal Plain gave overviews of the inner workings of a land trust. During a facilitated discussion, attendees explored partnership possibilities and committed to better coordinated conservation efforts in Mobile and Baldwin counties. For more information about the conservation initiative, contact Jody Thompson at jody.thompson@auburn.edu or 251-438-5690.

Seeking the Source

Study looking for origins of Fish River pollution

Sunday, February 08, 2009
RYAN DEZEMBER, Staff Reporter

In an attempt to figure out how exactly bacterial pollutants are entering Fish River, state and federal scientists have begun a two-year study in which they hope to determine the source of contaminants - be they human, domesticated animals or wildlife - at various points along the waterway.

To do so, they'll use a process called antibiotic resistance analysis, said Michael Shelton, watershed coordinator at Weeks Bay National Estuarine Research Reserve. Bacteria develop resistance to antibiotics over time. And because the antibiotics taken by humans are different from those given to domesticated animals - and wildlife generally aren't exposed to antibiotics - scientists believe they'll be able to pinpoint where the pollutants in each water sample originated, based on the resistance each sample shows to various antibodies, Shelton said.

The study will focus on E. coli, bacteria commonly found in the lower intestines of warm-blooded animals, Shelton said. "The ultimate goal is to identify the sources of the pathogen contamination," Shelton said. "Once you identify the sources with reasonable certainty, you can make better management decisions."

The study will work like this: Shelton and a team of local volunteers will collect samples after rainstorms from about six points along Fish River between Interstate 10 and its confluence with Polecat Creek north

of Marlow. Those water samples will be taken back to a lab at the Weeks Bay Reserve where scientists will grow the bacteria found in each sample.

Plates of the bacteria will then be shipped to Brian Burnes, an associate professor of biology at the University of West Alabama, who will apply various antibiotics to the samples to determine whether the pollutants have come from humans, wildlife or domestic animals, Shelton said.

Though Fish River's water quality is "reasonably good," the river has had past problems with various pathogens as well as mercury contamination, Shelton said. Originating near the Stapleton community, Fish River is met by numerous tributaries before ending in Weeks Bay west of Foley.

The Southern Environmental Law Center has named Weeks Bay as one of the 10 most endangered places in the South. Addressing pathogen contamination in the waters flowing into the bay is one of the priorities outlined in the watershed management plan, Shelton said in a news release.

To help with the study, scientists are looking for volunteers who live on or near the river.
Shelton said volunteers who can monitor rainfall are the most crucial. Volunteers will be given rain gauges, supplies and training and they'll alert Shelton when there is a storm that dumps at least a half-inch of rain preceded by at least three days of dry weather. If they're able, Shelton said the volunteers would also be trained to collect samples from the river after these rain events. If not, he said, the scientists involved in the study will retrieve a sample.

"Volunteers can make a great contribution to the success of the project," Shelton said. Those interested in participating can call Shelton at the Weeks Bay Reserve at 251-928-9792.

Waterfronts Florida Partnership Program Announces the Opening of its Application Period

~ Coastal communities can apply to become designated as a Waterfronts Florida Partnership Community and receive valuable assistance and funding ~

TALLAHASSEE - The Department of Community Affairs (DCA) today announced the Waterfronts Florida Partnership Program application cycle is open and available for coastal communities to apply for Waterfronts Florida Partnership designation. The statewide program provides technical assistance, training and small planning grants to working waterfront communities to assist in revitalization efforts. The deadline for submitting applications is Tuesday, May 19.

"Florida's waterfront communities play a vital role in local economies, and this program connects these coastal communities to their past as well as charts a positive course for them into the future," said DCA Secretary Tom Pelham. "I encourage any interested communities to apply and take advantage of the opportunity to be designated as a Waterfronts Florida Partnership Community."

Eligible applicants include local governments that are required to include a coastal element in their comprehensive plan. Non-profit organizations that can prove a strong partnership with their local government can also apply for designation. The community must recognize the waterfront as a special place and be committed to developing policies that encourage the preservation of recreational and commercial working waterfronts. Additional requirements are outlined in the application.

The program designates up to three communities every two years to receive state assistance that results in the formulation of a community-designed vision plan to guide the revitalization of traditional working

waterfront communities. Each plan is designed to ensure public access to the waterfront area, prevent losses from disasters, protect environmental and cultural resources, and enhance the waterfront economy. Last year, the cities of Carrabelle and St. Marks, and the community of Steinhatchee joined 18 other Florida communities that have been selected for the program since its inception in 1997. Under current federal guidelines, each designated community receives up to $25,000 per year for two consecutive years to establish its local Waterfronts Florida Program. Communities must provide a dollar-for-dollar match, either cash of non-federal funds or in-kind services. Communities must also provide a local program manager.

The Waterfronts Florida Partnership Program is funded with federal grants provided by the Department of Environmental protection's Florida Coastal Management Program and the National Oceanic and Atmospheric Administration. DCA's Division of Community Planning provides staff to implement the program and provide hands-on technical assistance and training. Interested applicants can receive an application and more information by contacting the Program Coordinator at (850) 921-4801.

Florida DEP Releases New Guides to Best Management Practices for Green Industries

TALLAHASSEE – As part of its ongoing Florida-Friendly Landscape Best Management Practice Educational Program, the Florida Department of Environmental Protection (DEP) and the University of Florida Institute of Food and Agricultural Sciences (UF-IFAS) announce completion of a revised Green Industries Best Management Practices (BMP) manual, Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries.

The Green Industries manual is focused on the lawn care professional, with detailed discussions of fertilizer chemistry, irrigation systems, pesticide licensing, storage, selection, handling, and landscape design and installation. The manual provides information and guidance on turfgrass and landscape management practices to conserve and protect Florida's water resources. The practices cover both the establishment of new turf and landscapes as well as the care of existing turf and landscapes, including construction activities, irrigation, nutrient management, and pest management.

Another new manual by the Department and UF-IFAS, Florida-Friendly Landscape Guidance Models for Ordinances, Covenants, and Restrictions, is available on the web. This manual provides local and regional government officials, developers, and homeowner associations with guidance that can be incorporated into local land development regulations or property owner association requirements. The manual is expected to be available in print by mid-March.

"These manuals are components of the statewide efforts to reduce nutrient pollution associated with urban landscapes and to conserve the state's water resources. The Department, in cooperation with UF-IFAS, the Southwest Florida Water Management District, the Tampa Bay and Sarasota Bay Estuary Programs, local governments, and the landscaping industry, has been working since the early 1990's on non-regulatory Best Management Practice programs for urban landscapes," said Eric Livingston, chief of the DEP Bureau of Watershed Restoration. "Partnerships and coordination are critical to increasing environmental awareness and protection in this important area and are the key to the success of this program."

These programs now comprise the Florida Friendly Landscaping Program which includes the Florida Yards and Neighborhoods Program (FYN), the FYN Builder Developer Program, the Green Industries BMP Program, the Landscape Irrigation and Florida Friendly Design Standards, the Florida Golf Course

BMP Manual, Florida Department of Agriculture and Consumer Services Urban Turf Fertilizer labeling rule, and the Urban Turf Grass Research Program.

The new Green Industry BMP manual helps assure a uniform, consistent statewide educational program for use by county extension faculty, government trainers, and other volunteer trainers, as well as raising awareness of this issue among local and state policy makers. While the emphasis for the educational program has historically been private business and local governments, the audiences for these training sessions come from a variety of backgrounds including private business, local governments, state and federal government agencies, universities/academia and citizens.

The manuals are available at no-cost. However, there may be a nominal fee for participation in the Green Industries classes to cover lunch, snacks, and incidental expenses. These classes allow landscapers to easily obtain hands-on information about DEP and other agency rules, plant needs, and special local area issues, in addition to obtaining a Certificate of Completion from the University of Florida.

"There are approximately five million acres of home lawns in the state of Florida, many of which are in close proximity to water bodies or naturalized areas," said Dr. Laurie Trenholm, Associate Professor, Extension Specialist, and turfgrass researcher with UF-IFAS. "This rapid urbanization is resulting in increased public concerns regarding use of turf in the landscape and turf care, particularly fertilization and water use issues."

Since 2003, more than 6,000 people have completed formal training through this program. As a purely voluntary program, more than 2,200 people passed the six-hour course in the first four years. Since the City of Naples adopted a fertilizer ordinance requiring this training for commercial applicators in 2006, more than 3,800 additional people have taken the class and passed the examination in either English or Spanish.

Success of the program is measured by participants being given a pre- and post-test. The average increase in test scores from pre-test to post-test was 14 percent for UF-IFAS statewide classes from 2003-2006, but jumped to 19 percent in 2007. Rookery Bay has noted the difference between pre and post testing in the one year they have been in operation as 30 percent for English speakers and more than 50 percent for Spanish speakers. This increase in learning during the course is believed to reflect the larger percentage of students coming from the actual field workers instead of owners, managers, and government employees.

To learn more about the BMP educational program visit http://fyn.ifas.ufl.edu/professionals/bmp_training_schedule.htm.

To view the Green Industries Best Management Practices (BMP) manual and the Florida-Friendly Landscape Guidance Models for Ordinances, Covenants, and Restrictions manual, visit www.dep.state.fl.us/water/nonpoint/pubs.htm.

Louisiana Natural Resources Secretary Scott Angelle Starts Series of Classes for Ground Water Awareness Week

Louisiana Department of Natural Resources Secretary Scott Angelle, who serves as chairman of the state Ground Water Resources Commission, on Tuesday kicked off a series of DNR classroom visits to highlight Ground Water Awareness Week in Louisiana. Angelle visited his hometown to teach a lesson on ground water to an 8th grade science class at Breaux Bridge Junior High School, where he attended middle school.

Gov. Bobby Jindal has proclaimed this week as Ground Water Awareness Week in the state of Louisiana. The awareness week is being sponsored by the Louisiana Ground Water Resources Commission in conjunction with the National Ground Water Association. It was the first of a series of scheduled visits by DNR staff to classrooms around the state to educate students on what ground water is and why it is important, and also to draw attention to the issues involved with conserving and protecting ground water.

DNR staffers will also be holding classes in other sites in north and south Louisiana this week, culminating with a presentation Saturday at the Louisiana 4-H Youth Leadership Conference in central Louisiana. Natural Resources staff have also provided state science teachers with an educational short film on ground water, and the Department of Agriculture and Forestry is helping by offering classroom presentations to teachers on the subject of groundwater throughout the state.

The state Department of Environmental Quality is also highlighting the week at several events this week. "Louisiana has been blessed with an abundance of ground water, but we must remember that it is not an infinite supply," Angelle said. "We want the young people of our state to grow up to be good stewards of our natural resources."

Minerals Management Service Donates 200-year old Shipwreck Artifacts to State of Louisiana

Protecting and preserving the nation's historic treasures

NEW ORLEANS – The Department Interior's Minerals Management Service (MMS) donated a large collection of historic artifacts to the Louisiana Department of Culture Recreation and Tourism's Division of Archaeology today at the Louisiana State Museum, the Cabildo.

"The Minerals Management Service is committed to preserving significant cultural resources found on the Outer Continental Shelf," said MMS Gulf of Mexico Regional Director Lars Herbst. "We want to protect these items so that future generations can better understand their heritage."

The artifacts, scattered in the wreckage of a small wooden-hulled ship lying in 4,000 feet of water 40 miles off the coast of Louisiana, were discovered near the site of an Okeanos Gas Gathering Company (OGGC) pipeline, as a result of the permitting process required by MMS for laying pipelines. The collection was brought up from the seafloor in 2007 by archaeologists from Texas A&M University working under a contract funded by OGGC as part of an agreement reached with MMS to preserve this historic site.

Archaeologists researching the shipwreck concluded that the ship was most likely a twomasted schooner that sank sometime around the War of 1812. Artifacts recovered from the seafloor date the wreck from after 1808 and before 1820. The small vessel was heavily armed with a six-pounder cannon, muskets, pistols, and swords either to protect itself from the countless pirates that infested Louisiana waters during this era, or because it was one itself. Even after years of rigorous research, the actual name of the ship remains a mystery and it has been dubbed the "Mardi Gras Wreck" after OGGC's Mardi Gras Pipeline. Historical research to try to identify the ship will likely continue for years.

"The artifacts were recovered from the seafloor using a robotic Remotely Operated Vehicle (ROV) and immediately underwent cleaning and chemical treatment at Texas A&M's Conservation Research Lab at College Station," explained Dr. Jack Irion, MMS marine archaeologist. "After completing the painstaking

process to stabilize and catalog the artifacts that can take anywhere from months to years, the material can now begin to be transferred to the Louisiana Division of Archaeology," he added. The Louisiana State Museum will bring this discovery to the public in a series of exhibits.

An informative report on the shipwreck, written by Texas A&M staff, has been published as MMS Report 2008-037 on the MMS web site at http://www.gomr.mms.gov/index.html. Additional information on the Mardi Gras Wreck can be found at the project web site http://www.flpublicarchaeology.org/mardigras/ and at A&M's Center for Maritime Archaeology and Conservation website http://nautarch.tamu.edu/mardigras/.

Public Meeting to Be Held During Evaluation of Mississippi's Coastal Zone Management Program

BILOXI, Miss. – A public meeting will be held as part of the federal performance evaluation of Mississippi's Coastal Zone Management Program. The public meeting is scheduled for Monday, March 16, 2009, at 6 p.m. in Room 205 at the Bolton State Office Building, 1141 Bayview Ave., Biloxi. The purpose of the meeting is to receive public comments regarding the state's operation and implementation of Mississippi's Coastal Zone Management Program. Written comments also will be accepted, and participation at the public meeting is not required for submission.

Written comments should be sent to Carrie Hall, NOAA/NOS/OCRM, 1305 East-West Highway, N/ORM7, Silver Spring, MD 20910 or via e-mail to carrie.hall@noaa.gov, no later than April 3, 2009. For more information, please contact jan.boyd@dmr.ms.gov, or carrie.hall@noaa.gov.

The Mississippi Department of Marine Resources is dedicated to enhancing, protecting and conserving marine interests of the state by managing all marine life, public trust wetlands, adjacent uplands and waterfront areas to provide for the optimal commercial, recreational, educational and economic uses of these resources consistent with environmental concerns and social changes. Visit the DMR online at www.dmr.ms.gov.

DMR to Host Annual Gulf and South Atlantic States Shellfish Conference April 13-16

BILOXI, Miss. – The Mississippi Department of Marine Resources (DMR) will be hosting the 2009 Gulf and South Atlantic States Shellfish Conference (GSASSC) April 13-16 at the Gulf Hills Hotel and Conference Center in Ocean Springs, Miss. The GSASSC is an opportunity for industry representatives and state and federal regulators to come together to share research findings and to discuss topics of interest to the shellfish industry.

"The Gulf and South Atlantic States Shellfish Conference is an excellent forum for industry, government and academia to discuss shellfish activities affecting oysters and clam resources," said DMR Marine Fisheries Director Dale Diaz. "The DMR looks forward to hosting this important event."

A registration fee of $100 will be charged per person to attend the conference, with a discounted rate of $40 for students. Please contact Melanie Lane at 228-523-4076 for more information about the conference, or download a registration form at www.dmr.state.ms.us/Fisheries/conference.htm.

Registration forms must be mailed to the Mississippi Department of Marine Resources, c/o Melanie Lane, 1141 Bayview Ave., Biloxi, MS 39530. Checks should be made payable to DMR-GSASSC.

Hotel reservations can be made by calling Gulf Hills Hotel at 228-875-4211. Mention the Gulf and South Atlantic States Shellfish Conference for a conference room rate of $70 per night. Room reservations for the conference must be made by April 1, 2009. Reservations after that date will be made on a space and rate available basis.

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U.S. Senator Thad Cochran to Speak at Tenth Annual Smart Growth Conference

BILOXI, Miss.–U.S. Senator Thad Cochran will deliver the keynote address at the tenth annual Coastal Development Strategies (Smart Growth) Conference to be held May 12-13 at the IP Casino Resort Spa in Biloxi. Sen. Cochran will speak on the first day of the event.

The conference is hosted by the Mississippi Department of Marine Resources (DMR), Office of Coastal Management and Planning, and conference partners, the Mississippi Gulf Coast Chamber of Commerce and Gulf Coast Business Council.

Sen. Cochran was elected to the Senate in 1978, becoming the first Republican in over 100 years to win a statewide election in Mississippi. He currently serves as Ranking Member of the full Appropriations Committee and the Homeland Security Appropriations Subcommittee. He also serves as a member of Agriculture, Nutrition and Forestry Committee and the Rules Committee.

After his home state of Mississippi was hit by the worst natural disaster in the history of the United States, Sen. Cochran used his role as the Chairman of the Senate Appropriations Committee to advance legislation providing over $87 billion in supplemental federal assistance to the states affected by the storm. A native of Pontotoc, Miss., Sen. Cochran earned his bachelor's and law degrees from the University of Mississippi. He and his wife, the former Rose Clayton of New Albany, Miss., have two children and three grandchildren.

The Mississippi Real Estate Commission has approved this conference as an elective Real Estate Course for 10 continuing education hours, and the Mississippi Real Estate Appraiser Licensing and Certification Board has approved this conference for four classroom hours of continuing education. Receipts will be provided to all other professions—such as, engineers, teachers and architects—to submit for credit to their respective organizations. The multidisciplinary event draws elected officials, city and county staff, contractors, developers, bankers, planners, realtors, engineers, landowners, industry students, federal and state agencies, county boards of supervisors, lawyers, private and corporate entities, environmentalists, resource managers and others committed to rebuilding the Mississippi Gulf Coast.

The deadline for pre-registration is April 24, 2009 and is $125 per person ($80 for students). After

April 24, the registration fee will be $155 (until May 11) and on-site registration is $175. Conference fees include two breakfasts, refreshment breaks, two lunches, field trip and conference materials.

For more information or to register for this year's conference, contact Susan Perkins at (228) 523-4124, or visit the DMR online at www.dmr.ms.gov. The Mississippi Department of Marine Resources is dedicated to enhancing, protecting and conserving marine interests of the State by managing all marine life, public trust wetlands, adjacent uplands and waterfront areas to provide for the optimal commercial, recreational, educational and economic uses of these resources consistent with environmental concerns and social changes. Visit the DMR online at www.dmr.ms.gov.

MMS Approves $61.8 Million plan for Mississippi Coastal Restoration

Funding to help restore and protect states shoreline environments

WASHINGTON, D.C. – The Interior Department's Minerals Management Service announced today the approval of Mississippi's Coastal Impact Assistance Program (CIAP) Plan, calling it a major step forward in providing $61.8 million to the state of Mississippi in the coming year, representing the first two years of funding under CIAP. Additional funding for grants will also be available for the following two years.

The money will help fund 129 projects over a four year period in the state of Mississippi. "The Interior Department is committed to protecting our nation's natural environments," Secretary of the Interior Ken Salazar said. "I applaud the state of Mississippi for submitting such a strong and balanced plan for the Coastal Impact Assistance Program so we can put these funds to work."

Mississippi became the fourth state to receive approval from Interior's Minerals Management Service for its Coastal Impact Assistance Program plan when MMS Acting Director Walter Cruickshank joined Mississippi Department of Marine Resources Executive Director Dr. William Walker today in a signing ceremony at Davis Bayou – Gulf Islands National Seashore in Ocean Springs, MS. The approval of Mississippi's plan allows the state to submit grant proposals for Coastal Impact Assistance Program projects involving conservation, restoration, enhancement and protection of natural coastal resources. Mississippi's Grant Program Announcement will be posted at www.grants.gov today. The announcement provides instructions and guidance on the submittal process for CIAP grant applications. Funding is made available to the State and counties when the grants are awarded.

Be Aware of Rip Current Dangers for Safe Spring Break

As thousands of college students arrive at Texas beaches for spring break this month, the Texas Sea Grant College Program wants to remind them of the dangers of rip currents, which can pull even the strongest swimmer out to sea. A rip current is a horizontal current that moves perpendicular to the shore. It does not pull people under the water, it pulls people away from shore. Drowning deaths occur when people pulled offshore are unable to keep themselves afloat and cannot swim to safety. Rip currents cause at least 100 deaths each year at United States coastal and Great Lakes beaches. They frequently form around man-made structures like jetties, groins and piers, which are often places with easiest beach access. Rip currents also are more likely to form when there are heavy surf conditions, and many beach forecasts now include rip current information.

Texas Sea Grant, in partnership with the National Sea Grant College Program, the National Weather Service (NWS) and the United States Lifesaving Association (USLA), is participating in a national public awareness campaign, called "Break the Grip of the Rip," to educate beachgoers about the dangers of these

fast-moving currents. The campaign recommends that beachgoers learn how to swim and never swim alone; be cautious at all times, especially when swimming at unguarded beaches; and whenever possible, swim at lifeguard-protected beaches and obey all instructions from lifeguards.

If you are caught in a rip current, Texas Sea Grant and USLA recommend the following strategy: Remain calm to conserve energy and think clearly.

- Don't fight the current by trying to swim straight to shore.
- Escape the current by swimming in a direction following the shoreline. When free of the current, swim at an angle — away from the current — toward shore.
- If you are unable to escape by swimming, float or tread water. When the current weakens, swim at an angle away from the current toward shore.
- If you feel you will be unable to reach the shore, draw attention to yourself — face the shore and call or wave for help.
- Other factors that can increase the danger include consuming excessive alcoholic beverages before entering the water.

Some clues that may indicate the presence of a rip current include a channel of churning, choppy water; an area with a noticeable difference in water color; a line of foam, seaweed or debris moving steadily seaward; and a break in the incoming wave pattern. However, these signs are not always visible.

Many people have died trying to rescue rip current victims. If you see someone in trouble, get help from a lifeguard. If there is no lifeguard, yell instructions on how to escape, throw the victim something that floats and have someone call 9-1-1.

More information about rip currents is available from the National Oceanic and Atmospheric Administration (NOAA) at www.ripcurrents.noaa.gov. Posters and other printed materials in English and Spanish are also available by contacting Texas Sea Grant at sgpublications@tamu.edu.

Galveston Island State Park Reopening Bay Side March 21

GALVESTON, Texas — Galveston Island State Park, shut down for the last six months due to extensive damage from Hurricane Ike, will welcome day users to the bay side of the coastal park on Saturday, March 21. The beach side of the park, which sustained significant damage, remains closed to the public for facilities demolition and debris removal.

Hundreds of volunteers have pitched in to clean up storm damage and remove considerable debris on the bay side of the 2,000-acre park, and to convert the Nature Center into a Welcome Center. The bay side of the park will be open from sunrise to sunset on Saturdays and Sundays through November. The Welcome Center, which will be operated by the Friends of Galveston Island State Park, will be open weekends from 9 a.m. to 5 p.m. No entry fees are being charged.

"The friends group and volunteers have been of great assistance in helping the Texas Parks and Wildlife Department accomplish its goal of allowing public access to Galveston Island State Park while we obtain funding, finalize our master plan and complete necessary environmental clearances to build a new park," said Justin Rhodes, regional director of state parks in southeast Texas.

For the time being, there is no overnight camping at the park, but visitors can enjoy bird watching, hiking, fishing, crabbing, paddling and other outdoor activities. No license is required to fish inside the state park.

The fish-cleaning station on the bay side was severely damaged, but a kayak club is in the process of rebuilding it in time for the March 21 opening.

The Texas Department of Transportation, operating under a directive from Governor Rick Perry to assist governmental entities impacted by the massive hurricane, has been leading efforts to demolish structures and remove debris on the gulf side of the park. TxDOT's assistance is estimated to have saved the Texas Parks and Wildlife Department money it didn't have budgeted, while TPWD waits for assistance from the Federal Emergency Management Agency.

TPWD is looking into possibly moving beachside facilities further back from the shoreline and re-establishing a larger dune field and dune line. Preliminary estimates place the cost of rebuilding the park in excess of $60 million.

"Not only has TxDOT saved Texas taxpayers about $2.5 million, but they enabled us to meet critical FEMA deadlines for debris removal," said Tony Bettis, TPWD's regional project manager. "It also will enable us to meet a deadline to have all beach debris removed by month's end when sea turtles are expected to return to lay eggs."

Galveston Island State Park occupies a sliver of land at the midway point of the barrier island about six miles southwest of the western tip of the popular sea wall. The bay side provides public access to about 600 acres of grasslands with coastal scrub and scattered oak mottes, as well as hundreds of additional acres of saltwater sloughs, wildlife-rich wetlands and tidal bayous.

Other News

Gulf of Mexico Alliance Seeks Public Comments on Action Plan

The Gulf of Mexico Alliance is a governor initiated partnership between the states of Alabama, Florida, Louisiana, Mississippi, and Texas, with the goal of significantly increasing regional collaboration to enhance the ecological and economic health of the Gulf of Mexico. The five U.S. Gulf States have identified six priority issues that are regionally significant and can be effectively addressed through increased collaboration at local, state, and federal levels.

1. Water Quality for Healthy Beaches and Shellfish Beds;
2. Habitat Conservation and Restoration;
3. Ecosystem Integration and Assessment;
4. Nutrients and Nutrient Impacts;
5 Coastal Community Resilience; and
6. Environmental Education.

The Alliance has been operating on a three year plan which will be complete in March 2009. A draft Governors' Action Plan II to cover the next five years is now available for public comment through March 20, 2009. After reviewing the attached document, please complete the online questionnaire at http://www.surveymonkey.com/s.aspx?sm=JxpweEqgvvqLdm_2f35MGcQg_3d_3d. It contains eight questions and should take between 10 and 20 minutes to complete after you have reviewed the plan.

Thank you for your participation in this innovative way to manage our natural resources. Please visit http://www.gulfofmexicoalliance.org for more information about the Gulf of Mexico Alliance.

U.S. Fish and Wildlife Service Designates Critical Habitat for the Louisiana Black Bear

The U.S. Fish and Wildlife Service today published a final rule to designate approximately 1,195,821 acres of land in 15 Louisiana Parishes as critical habitat under the Endangered Species Act (ESA) for the threatened Louisiana black bear.

Areas designated as critical habitat for the Louisiana black bear include bottomland and upland hardwood forests and adjacent vegetated areas having a diversity of plant species and age-classes of sufficient area, quality and configuration to meet the home range needs of reproductive female Louisiana black bears throughout the year or that provide areas for Louisiana black bear dispersal between populations. Those areas are contained within three critical habitat units located in the Tensas River and Upper and Lower Atchafalaya River Basins of the Lower Mississippi River Alluvial Valley in Louisiana. Parishes included within the critical habitat designation are Avoyelles, East Carroll, Catahoula, Concordia, Franklin, Iberia, Iberville, Madison, Pointe Coupee, Richland, St. Martin, St. Mary, Tensas, West Carroll, and West Feliciana.

With the help of its partners, such as the Natural Resources Conservation Service and other Federal agencies, state agencies in Louisiana and Mississippi, the Black Bear Conservation Committee, the Louisiana Forestry Association, and private citizens, the Service estimates that about 600,000 acres of land have been restored or protected in the bear's range since it was listed in January 1992. This includes lands that have been purchased by state and federal agencies; public and private lands protected from development; and privately-owned lands where bear habitat has been restored. Bear numbers also appear to be increasing. In 1997, the statewide Louisiana black bear population was estimated to range from 200 to 400 bears. Studies to obtain reliable current population estimates are underway but it is generally believed that the current population numbers range from 400 to 700 bears.

Critical habitat is a term defined in the ESA identifying geographic areas containing features essential to the conservation of a threatened or endangered species, and which may require special management considerations or protection. Designation of critical habitat does not affect land ownership or establish a refuge or preserve, and only applies to situations where federal funding or a federal permit is involved. Normal forest management activities as currently conducted will not be affected by the Louisiana black bear critical habitat designation. The habitat needs of the Louisiana black bear are compatible with normal forest management activities. Normal forest management activities were exempted from the "take" provisions under the ESA when the species was listed in 1992, and included a provision protecting den and candidate den trees. That rule has not been changed.

This final rule was prepared pursuant to a court order resulting from a lawsuit filed against the Service by Harold Schoeffler and Louisiana Crawfish Producers-West.

The Service requested written comments from the public on the proposed designation of critical habitat during two comment periods. The first comment period, associated with the publication of the proposed rule opened on May 6, 2008, and closed on July 7, 2008. The Service also requested comments on the associated draft economic analysis during a second comment period which opened November 12, 2008, and closed on December 12, 2008. During both comment periods the Service invited federal, state, and local agencies, scientific organizations; and other interested parties to comment on the proposed rule and the draft economic analysis. All of the comments received are addressed in the final rule.

The Service also evaluated comments on whether privately-owned lands enrolled under the USDA Wetland Reserve Program's (WRP) permanent easements provide sufficient protection and management

to satisfy the criteria necessary for exclusion from critical habitat. In the final rule, the Service concluded that 50,298 acres of WRP permanent easements should be excluded from the designation of critical habitat.

A copy of this final rule is available at http://www.fws.gov/policy/library/E9-4536.html or http://www.fws.gov/Lafayette/la_black_bear_PCH.html and scroll to the bottom of the page.

The U.S. Fish and Wildlife Service is the principal federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. Visit the Service's websites at http://www.fws.gov/ or http://www.fws.gov/southeast

Long-term Records Show that for Nitrogen, Losses are as Important as Loads

Many studies have shown conclusively that eutrophication in coastal systems is due in large part to increases in nutrient loading, particularly of nitrogen. Nowhere is this framework more established than in the Chesapeake Bay. But there is another side to the nitrogen equation which is critical as well: nitrogen loss from the system, in the form of denitrification, the anaerobic process of converting nitrate to nitrogen gas which is then returned to the atmosphere. A recent paleoecological study of the Chesapeake makes the point that modern eutrophication is probably the result of both increases in loading and decreases in denitrification, and stresses that both processes need to be addressed by restoration efforts in order to combat eutrophication and its effects.

Using indicators from sediment cores such as the types of pollen and diatoms present in various time horizons, as well as other historical records, the study reconstructed the history of Chesapeake Bay watershed ecology and eutrophication for the past 14,000 years. In addition to the expected increases in nitrogen input to the bay (due to increases in agriculture and increases in human population and concomitant sewage loadings), the study found that denitrification capacity has decreased in the watershed over time. As agriculture intensified in the bay's watershed in the early twentieth century, many marshes were drained, decreasing the land available for denitrification. The capacity for denitrification declined further as increases in impervious surfaces led to drier soils and lower groundwater levels.

The study's author observes that techniques utilized to decrease nitrogen loading to the bay have met with mixed success, and suggests that complementary approaches focused on increasing denitrification should be employed. These approaches might include enhancing existing denitrifying areas in the watershed and adding new ones by planting forest stands and adding retention ditches around agricultural fields.
Source: S Brush, G.. 2009. Historical land use, nitrogen, and coastal eutrophication: a paleoecological perspective. Estuaries and Coasts 32 (DOI 10.1007/s12237-008-9106-z).

For Coastal Ecosystems, Maybe You Can't Go Home Again

Many management initiatives rely on the seemingly logical concept that if elevated nutrient loading to a coastal ecosystem results in eutrophication, reduced loads should cause the ecosystem to revert to its pre-eutrophied conditions. While this pattern has been observed in some places, case studies in many estuaries demonstrate that things are often not that simple. In many cases, nutrient trajectories were not directly reversible, and decreases in nutrient loads have not led to expected ecosystem improvements. In a review of data collected from four such case studies (Marsdiep, The Netherlands; Helgoland, Germany; Odense Fjord, Denmark; and Gulf of Riga, Latvia/Estonia), the paper's authors argue that the failure to return to pre-eutrophied conditions result from broad changes to other aspects of the estuaries' ecology that have occurred in the intervening decades which render an identical reverse response impossible. These changes include habitat loss, changes to biotic communities resulting from overfishing, global warming, and landscape alterations.

The authors contend that it is up to scientists to better communicate the complex nature of ecosystem interactions to policy-makers so false hopes will not be raised that nutrient reductions will automatically result in a return to some historical baseline. At the same time, nutrient reductions need to continue to be encouraged as part of more comprehensive ecosystem management programs. The authors state, "Emphasis in returning ecosystems to a particular past state, an unlikely outcome in a world of shifting baselines, should be replaced by targets ensuring the maintenance of key ecosystem functions and, thereby, the constant supply of valuable ecosystem services to society." At the same time, research priorities must ensure that we learn more about ecosystem interactions so realistic trajectories can be predicted.

Source: Duarte, C. M., D. J. Conley, J. Carstensen, and M. Sánchez-Camacho. 2009. Return to *Neverland*: Shifting baselines affect eutrophication restoration targets. Estuaries and Coasts 32 (DOI 10.1007/s12237-008-9111-2).

Invasive Plants Maybe Not Such Bad News for Northern Gulf of Mexico Invertebrates

While the serious and growing phenomenon of invasive aquatic species has concerned managers and scientists for decades, some studies have shown that not all invasives lead to the downfall of an ecosystem. In some cases, the exotic species has even been shown to benefit the native ecology in some way. One case in point is a recently-published study which examined the impact of aquatic invasive plants on production of macroinvertebrates in the Mobile-Tensaw Delta (northern Gulf of Mexico) in order to draw conclusions about the impacts of invasives on the base of the estuarine food web there. Entire plants of the three species studies – the exotic plant *Myriophyllum spicatum* and the natives *Heteranthera dubia* and *Vallisneria americana* – were collected from April – December at four sites. Surface area, biomass, and structural complexity measurements were carried out on each plant, and all associated macrofauna species were identified, counted, and weighed.

Macroinvertebrate production was actually observed to be three times greater on the non-native *M. spicatum* than on either of the native SAV species. Production on *M. spicatum* was very high, almost three times greater than any other report in the literature for any SAV species, mostly due to the abundance of one amphipod species. The differences might have been attributable to plant surface area, which explained 98% of the variance in macrofaunal biomass: *M. spicatum* and *V. americana* had the highest surface areas, and *M. spicatum* was also the most complex. Further laboratory experimentation

revealed that the differences were probably not attributable to invertebrate grazing on the plants. Instead, the authors believe it is probable that the high production within the more complex plant species was the result of reduced predator foraging efficiency. Further work is required in order to determine whether the apparent enhanced production might translate up the Delta food web.

Source: Chaplin, G. I., and J. F. Valentine. 2009. Macroinvertebrate production in the submerged aquatic vegetation of the Mobile-Tensaw Delta: Effects of an exotic species at the base of an estuarine food web. Estuaries and Coasts 32 (DOI 10.1007/s12237-008-9117-9).

Grant Opportunities

NOAA Seeking "Shovel-Ready" Habitat Restoration Proposals

The National Oceanic and Atmospheric Administration announced today that it is seeking proposals for coastal habitat restoration projects under the American Recovery and Reinvestment Act of 2009 in an unprecedented effort to jumpstart the economy. The effort is designed to create resilient and healthy American communities by generating and saving jobs, employing several thousand people, and restoring valuable coastal and marine habitat.

NOAA is formally seeking proposals for a variety of habitat restoration projects - including wetlands restoration, dam removals, shellfish restoration, and coral reef restoration. To ensure relevance, readiness and accountability to the American public, the 30-day solicitation requires that projects be "shovel-ready." Proposals are due by April 6, 2009. For more information about this federal funding opportunity, please visit: http://www.habitat.noaa.gov/recovery.

Please look for more information in the coming weeks as NOAA rolls out its implementation plan. If you have any questions, please contact us at RC.Newsletter@noaa.gov or 301-713-0174

2009 Multistate Conservation Grant Program

Now Available at: http://www.fishwildlife.org/multistate_grants.html

The Multistate Conservation Grant Program (MSCGP) is soliciting Letters of Intent (Due by midnight EDT Friday, May 2, 2008) for the 2009 cycle of this competitive grant program. For more application information and materials please visit the MSCGP website.

The MSCGP is intended to address regional or national level priorities of state fish and wildlife agencies. It was established in 2000 by the Wildlife and Sport Fish Restoration Programs Improvement Act, which amended the Pittman-Robertson Wildlife Restoration Act and the Dingell-Johnson Sport Fish Restoration Act. Up to $6,000,000 is available each calendar year for one to three year projects (CFDA Number 15-628).

Organizations eligible to apply include: a state or group of states, a non-governmental organization, or the U.S. Fish and Wildlife Service (USFWS) for the purpose of conducting the National Survey of Fishing, Hunting and Wildlife-Associated Recreation.

Projects must benefit at least 26 states, or the majority of states in a USFWS region or a regional association of state fish and wildlife agencies. Projects must also benefit sport fish, wild birds and/or wild mammals.

The MSCGP will fund projects in 2009 that address the below nine National Conservation Needs (NCNs):

1. Incorporating the effects of climate change into North American fish and wildlife habitat planning at regional and statewide scales. (Submitted by the Southeastern Association of Fish & Wildlife Agencies and the Bird Conservation Committee)
2. Outdoor heritage - participation, recruitment, retention and access to public lands in hunting, fishing, and conservation related recreational activities (Submitted by the Angler/Boating Participation, Hunting and Shooting Sports and Wildlife Resources Policy Committees)
3. A National Fish and Wildlife Health Initiative (Submitted by the Fish & Wildlife Health Committee)
4. Formation and Operations of Fish Habitat Partnerships to Facilitate National Fish Habitat Action Plan Implementation. (Submitted by the Fisheries/Water Resources Policy Committee)
5. Integration of fish and wildlife needs as the conservation provisions of the Farm Bill are implemented. (Submitted by the Agricultural Conservation Committee)
6. Actions in support of implementing the Association's North American Conservation Education Strategy (Submitted by Education/Outreach/Diversity Committee)
7. Implementation of the AFWA Mourning Dove and Lead Toxicosis Working Group Recommendations and research (human dimensions or scientific) that relates to lead toxicosis and its impact on mourning doves (Submitted by the Midwest Association of Fish & Wildlife Agencies)
8. Multistate Conservation Grant Program Coordination (Submitted by the National Grants Committee)
9. Research for and Coordination of the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (National Survey) (Submitted by the Executive Committee)

Based upon submitted Letters of Intent, the most competitive applicants will be invited to submit full proposals in early June. After an evaluation conducted by Association Committees, projects will be selected in September at the Association's Annual Meeting and recommended to USFWS for funding by October 1, 2008. Funds for selected projects will be available starting January 1, 2009.

The Association of Fish and Wildlife Agencies (Association) and the USFWS cooperatively administer the Multistate Conservation Grant Program. The Association solicits Letters of Intent and invites full proposals from eligible applicants and recommends to the USFWS a "priority list" of projects to be funded. The USFWS selects projects from the "priority list" and awards and manages grants. If you require further information, please contact Christina Zarrella, MSCGP Coordinator at: czarrella@fishwildlife.org.

Request for Applications: Smart Growth Implementation Assistance

Free technical assistance available!

Smart Growth Implementation Assistance 2009 Request for Applications The Development, Community, and Environment Division in EPA's Office of Policy, Economics, and Innovation is seeking applications for technical assistance from communities that want to incorporate smart growth in their future development to meet environmental and other community goals. Eligible entities are tribal, local, regional, and state governments, and nonprofit organizations that have a demonstrated partnership with a governmental entity. Applications are due at 5:00 pm EST, **April 23, 2009**.

EPA has identified some key areas in which communities are likely to benefit from technical assistance:

- Climate change (both mitigation of and adaptation to)
- Green job development
- Corridor redevelopment
- Green building development
- Suburban retrofitting
- Disaster resiliency

Proposals are not limited to requests for technical assistance in only these thematic areas; other topics for assistance are welcome and encouraged, provided they demonstrate cutting-edge challenges and the possibility of replicable solutions.

EPA is soliciting applications for assistance with either policy analysis or public participatory processes. The type of work may incorporate policy analysis and review, planning and visioning processes, scorecard/ranking criteria development and assessment, and/or other elements pertinent to the role of the applicant.

Selected communities or states will receive assistance in the form of a multi-day visit from a team of experts organized by EPA and other national partners to work with local leaders. EPA plans to assist three to five communities over a period of twelve months. The Agency anticipates announcing the selected communities in fall of 2009. For more information and application materials, visit http://epa.gov/smartgrowth/2009_sgia_rfa.htm.

NOAA Community-based Restoration Program funding opportunities

The NOAA Community-based Restoration Program currently has several funding opportunities available, which can be applied for by accessing the links attached below. NOAA partners with several nation-wide and regional partners to help facilitate the program. Each partnership has different funding ranges and closing dates for application. This funding is separate from the economic stimulus funding opportunity also open through NOAA. For information in regards to technical and administrative assistance in developing projects, and for general questions, please call (225) 578-7923.

NACo's Coastal Counties Restoration Initiative (closes April 6)
http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners/naco.html

TNC/NOAA Community-based Restoration Grants (closes April 24)
http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners/tnc.html

FishAmerica Foundation Grants (open soon, closes late May)
http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners/fishamerica.html

NFWF Shell Marine Habitat Program (Pre proposals due April)
http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&CONTENTID=12035&TEMPLATE=/CM/ContentDisplay.cfm

Southeast Aquatic Resources Partnership (Pre-proposals due end of May)
http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners/SARP.html

Training and Conferences

Louisiana Coastal Hazard Mitigation Guidebook Workshop

Sponsored by the Department of Natural Resources' Coastal Management Division and LSU Sea Grant Law and Policy Program
Time: 9:30 a.m. to 1:00 p.m. for all three dates.

Tuesday, March 24, 2009
Morgan City Municipal Auditorium
728 Myrtle Street
Morgan City, LA

Wednesday, March 25, 2009
Houma Terrebonne Parish Library
151 Library Drive
Houma, LA

Thursday, March 26, 2009
Vermilion Parish Library
405 East St. Victor
Abbeville, LA

Parish officials, coastal resources managers, planners, builders and interested citizens are invited to participate. Learn how to deal with natural hazards in Louisiana's coastal zone. Seating capacity is limited. Register early for the workshop by emailing your name to Linda.pace@la.gov.

Gulf of Mexico Alliance 2nd Annual Monitoring Forum

New Orleans, Louisiana
April 8, 2009
[April 7, Water Quality Team Workshop]

Background on the Gulf of Mexico Alliance
The Gulf of Mexico Alliance is a regional partnership initiated in 2004 by the governors of the Gulf states (Florida, Alabama, Mississippi, Louisiana, and Texas) to collaborate across state lines on ways to improve the Gulf of Mexico's environment and economy. Within the Gulf of Mexico Alliance, six unique Action Plans are under development for the six priority issue areas identified by the governors: Water Quality, Nutrients, Habitat Restoration and Conservation, Environmental Education, Ecosystem Integration and Assessment, and Coastal Resiliency. The Monitoring Forum is an integral part of the Water Quality Team's Action Plan.

Background on the Monitoring Forum
The Monitoring Forum is designed to bring people together to discuss issues and topics of interest relating to water quality monitoring in general and to allow for discussion leading towards the coordination of monitoring programs across the Gulf.

April 7th – Water Quality Team Workshop – Public Invited!
The four Water Quality Team Workgroups (Pathogens, Harmful Algal Blooms, Mercury, and Monitoring) will finalize their Action Plans. If you are interested in seeing what the workgroups are planning and/or in becoming involved, please come and observe!

April 8th – Monitoring Forum –Come one come all!
Morning: The day will begin with two key presentations. Presentation 1: one way to carry out a large-scale, standardized monitoring program; Presentation 2: processes towards creating a regional water quality report card. The group will then break out into groups to identify the components they would like included in a Gulf of Mexico report card and the type of water quality monitoring required to address those components. If time permits, discussions will conclude with how best to approach monitoring coordination on a Gulf-wide scale.

Afternoon: A presentation will be given on NASA's COAST (Coastal On-Line Assessment & Synthesis Tool) application. The Water Quality Team has been working with NASA and NOAA to create a catalog to store information about Gulf monitoring programs and to display that information in a GIS environment. Representatives from NASA will present the current application. The team will be developing a future phase for the catalog that will include new capabilities. An open discussion session will be held to assist the project team with designing Phase II.

For further information or questions, please contact Linda Sedlacek at (850)245-3021 or email Linda.Sedlacek@dep.state.fl.us.

2009 National Hurricane Conference

April 6-April 10 |Austin Convention Center|Austin, TX
The nation's forum for education and professional training in hurricane preparedness!

The primary goal of the National Hurricane Conference is to improve hurricane preparedness, response, recovery and mitigation in order to save lives and property in the United States and the tropical islands of the Caribbean and Pacific. In addition, the conference serves as a national forum for federal, state and local officials to exchange ideas and recommend new policies to improve Emergency Management.

To accomplish these goals, the annual conference emphasizes:

* Lessons Learned from Hurricane Strikes.
* State of the art programs worthy of emulation.
* New ideas being tested or considered.
* Information about new or ongoing assistance programs.
* The ABC's of hurricane preparedness, response, recovery and mitigation -- in recognition of the fact that there is a continual turnover of emergency management leadership and staff.

How to Register
Please note that advanced registration requires payment. Online Registrations, Faxed or Mailed Forms received without payment will not be processed.

Online Register Online Now
Online registration will remain open until the final day of the conference. Payment by credit card only.

Fax	850-906-9228 Faxed forms will be accepted through April 1, 2009.. (See "Printed Registration Form" below.) Payment by credit card only .
Mail	2009 National Hurricane Conference 2952 Wellington Circle Tallahassee, FL 32309 (See "Printed Registration Form" below.) Payment by credit card or check only (see "Payment" below).

Printed Registration Form
You may download and print this PDF registration form

Conference Registration	
Registration	$350.00
Speakers	$300.00
Onsite	$400.00

Ecosystems Integration and Assessment Priority Issue Team Meeting

The purpose of this meeting is to:

- Review status of workgroup actions
- Discuss the Master Mapping Plan
- Provide metadata training
- Review REDM, PHINS and COAST
- Discuss database infrastructure
- Hold symposiums/workshops on management scenarios and data needs
- Review next steps

Location: Harte Research Institute, Texas A&M University - Corpus Christi
Dates: April 15-17, 2009
Contact Information: Seneca Holland
Research Associate & Team Coordinator
Harte Research Institute, Texas A&M University-Corpus Christi
seneca.holland@tamucc.edu

Coastal Development Strategies Conference

On May 12-13, The Coastal Development Strategies Conference will take place in Biloxi, Mississippi. This year's conference, "10 Years of Resilient and Sustainable Smart Growth," is sponsored by the Mississippi Department of Marine Resources, Coast Chamber of Harrison County, Mississippi, and the Gulf Coast Business Council. The conference will include sessions on green design, coastal resilience, and information on Mississippi legislation. Deadline for pre-registration is April 24. For more information: Susan Perkins, (228) 523-4124, susan.perkins@dmr.ms.gov.

Workshop: Data Integration and Management on the Gulf of Mexico

© Texas A&M University-Corpus Christi (5 Feb. 2009)

This workshop serves as a forum for researchers and practitioners from academia, industry, and government to discuss and exchange ideas of research and development in the areas of data integration and data management on the Gulf of Mexico. The workshop focuses on the emerging challenges for data integration and sharing in the biological,ecological and environmental sciences, and is especially interested in the techniques to integrate, archive and share public accessible Web data from a variety of sources and different domains. Topics of interest include, but are not limited to:

1.Architectures and data management techniques
2.Data sharing and ontologies
3.Data integration techniques on heterogeneous sources
4.Modeling of biological, ecological and environmental data
5.Biological, ecological and environmental metadata management
6.Annotation in scientific data integration
7.Scientific workflows and analysis pipelines
8.Data quality and data cleaning
9.Data mining applications on the integrated data
10.Machine learning on integrated data
11.Grid techniques for seamless access and manipulation of data
12. Data repository and archival techniques

Location: Corpus Christi, Texas, USA
Dates: May 15-16, 2009
Contact Information: Dr. Longzhuang Li
Email: Longzhuang.Li@tamucc.edu
Home Page URL: http://cs.tamucc.edu/dim/

Caring for the Coast

Texas Coastal Conference 2009: Caring for the Coast is scheduled for June 4-5, 2009. The conference will be held at the Galveston Island Convention Center.

Abstracts Submission
The Texas General Land Office (GLO) is seeking abstracts for presentations and panel discussions for its Texas Coastal Conference 2009: Caring for the Coast, June 4-5 in Galveston, Texas. The conference was rescheduled from its original date in September 2008 because of Hurricane Ike. Due to the impacts of Hurricane Ike on the coast of Texas, the conference tracks have been modified to include a half-day devoted to panel discussions on hurricane impact studies and post-storm restoration. The conference will include presentations on: Hurricane Related Studies and Post-storm Restoration; Climate Change/Sea Level Rise/Subsidence; Coastal Habitat Restoration; Coastal Hazard Mitigation; and Coastal Erosion Planning and Response. Abstracts are due **April 15**. For more information or to submit an abstract: dennis.rocha@glo.state.tx.us, (512) 475-1412.

Conference at a Glance | Call for Abstracts

Refund/Transfer Form | Hotel Accommodations
Reservations must be made by May 4, 2009

Online Registration will be available starting March 30th.

Many thanks to all of our Caring for the Coast 2008 conference sponsors as well as all of the sponsors who have already transferred their sponsorship to the 2009 conference. If you were a sponsor of the 2008 conference and would like to transfer your sponsorship, please submit a Refund/Transfer Form.
Please email Jenny Bragg or call her at 512-475-0734 with questions regarding sponsorship.

Galveston Bay Day 2009

Bay Day is a one-day celebration presented by the Galveston Bay Foundation and numerous community partners. It is a signature education event providing exposure to Galveston Bay for many area residents. Bay Day highlights hands-on, interactive exhibits, activities and demonstrations that emphasize the multiple uses of the Galveston Bay system. Bay Day 2009 is scheduled for **May 16, 2009** at the Kemah Boardwalk. To request a sponsor/exhibitor package or for information about the event, please send an e-mail to kfinley@galvbay.org.

Click here to see pictures of Bay Day 2008!

The 2008 festival featured live entertainment by:
Bill Oliver, Captain Crab and the Beach Patrol, and Kelly McGuire.

Special thanks to Bay Day 2008 Flagship, Charter, and Admirals Club Sponsors:

John P. McGovern Foundation

Coastal Zone 2009

Revolutionary Times: Catching the Wave of Change
July 19 to 23, 2009 — Boston, Massachusetts

Our coastal and ocean landscape is changing, whether it's the climate, shoreline, habitat, or even the people setting and implementing policy. Join us for Coastal Zone 09 from July 19 to 23, 2009 at the Boston Park Plaza Hotel and Terrace in Boston, Massachusetts, as we explore the many facets of change and share tools and information to help in managing our changing coastal and ocean resources.

Registration
Registration for Coastal Zone 09 is now open. All conference participants, including speakers, moderators, and panel organizers, must register and pay registration fees. If you register by June 1, your cost is only $425. After June 1, the cost increases to $475. Full registration entitles you to all conference materials, refreshment breaks, three lunches, and two evening receptions. One-day registration is also available. Space is limited, so register early. There will be no on-site registration.

At the same time you are paying your conference registration fee, you can also register and pay for a field trip or workshop, or purchase additional tickets for adult guests for the receptions.

To pay by check or purchase order, download the registration form (PDF, 41KB), complete all the fields, and mail the check and registration to the address listed on the bottom of the form.
You may also pay by credit card.

Don't forget to book your hotel room. If you contact the Boston Park Plaza Hotel at (617) 426-2000 or (800) 225-2008 by June 2, 2009, and refer to the room block for the Coastal Zone 09 conference, you'll receive the prevailing government per diem rate of $203 plus tax.

Estuaries and Coasts in a Changing World

CERF 2009 Conference in Portland, Oregon · 1-5 November 2009

Sponsored by EPA, OWOW, Coastal Management Branch, NOAA Fisheries, Office of Habitat Conservation, Western Association for Marine Laboratories, and the Lower Columbia River Estuary Partnership.

Important Dates
Abstract submission and fee deadline: 15 May 2009
Early Registration Ends: 1 October 2009
Meeting Commences: 1 November 2009

Conference registration is now open. Participants my now pay their abstract fee and register using one form.

Call for Abstracts - Deadline: 15 May 2009
The CERF 2009 Program Committee invites you to submit an abstract for an oral or poster presentation for CERF 2009. The Federation is committed to bringing scientists and students from around the world together to exchange information and ideas about the science and management of coastal ecosystems. We view our Federation conferences as providing outstanding opportunities for professionals at all stages in their career for continuing education and development.

CERF 2009 invites abstracts for either oral or poster presentations:
Oral presentations: Each oral presentation will be assigned a total of 15 minutes including a 12-minute talk and a 3-minute discussion period. Due to the number of sessions and presentations, this time cannot be extended.

Poster presentations: Posters are an essential part of the scientific program. While most poster sessions will be closely linked to oral sessions, a limited number may be directly integrated into an oral session or organized as a stand-alone session at the discretion of the session chair.

Our goal is to provide high quality poster sessions that are equal to oral sessions in their ability to provide exposure, participation and feedback. We will try to accommodate various alternative poster mediums such as video, computer or Internet link; however, the additional costs of providing such services will be the responsibility of the presenters.

We strongly encourage every person who is submitting an abstract to seriously consider presenting his or her work in poster format. Since we expect over 1,000 abstracts to be received, many thematic and other factors will have to be simultaneously optimized to create the best possible conference program. The Steering Committee reserves the right to assign abstracts to either poster or oral sessions. Your understanding and cooperation are greatly appreciated. For More Information: Conference Management Office, 254-776-3550 or cerf2009@sgmeet.com.

Did you find this edition useful? Please send suggestions, comments, and new items for publication to Laurie.Rounds@noaa.gov.