COASTAL MANAGEMENT NEWS

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Elizabeth Dudley, volunteer, and Kara McKeton, oyster conservationist coordinator with The Nature Conservancy, measure baby oysters, or spat, being raised by Dudley in a cage off of her dock. The oysters will help filter Great Bay's water. Credit: New Hampshire Coastal Program

Growing Hope for Oysters in New Hampshire

Great Bay, an inland estuary in New Hampshire, provides crucial habitat for many plants and animals, including oysters. Records show that as many as 1,000 acres of oysters lived in Great Bay as recently as 1970; currently only 70 acres remain. Disease disseminated the oysters in the 1990s.

Great Bay Estuary is in severe decline as a result of increased polluted runoff, especially higher nitrogen loads. The polluted runoff is largely caused by increased development occurring in the 52 communities within the 1,000-square-mile watershed that drains to the estuary.

The good news is that oysters can help clean the water by filtering out pollution. One oyster can filter as much as 20 gallons of water a day.

To help restore Great Bay and improve its water quality, the New Hampshire Coastal Program is helping to fund this year's Oyster Conservationist Program. The Oyster Conservationist Program is a partnership of the University of New Hampshire, which grows the baby oysters, or spat, at the University of New Hampshire Jackson Lab, and The Nature Conservancy, which trains volunteers and helps them grow oysters. In addition, the Coastal Conservation Association collects shells from local restaurants for the spat to grow on.

Also, the New Hampshire Coastal Program manager was able to leverage additional resources by connecting its partner organization, Piscataqua Region Estuaries Partnership, with the project. The Piscataqua Region Estuaries Partnership filled a critical funding gap, enabling the Oyster Conservationist Program to be fully supported.

The local residents participating in the Oyster Conservationist Program have

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40th ANNIVERSARY 1972-2012 COASTAL ZONE MANAGEMENT ACT Enhancing our coasts and our lives

Oysters (Continued from pg. 1)

raised 40,000 oysters for restoration since the program began six years ago. Oyster conservationists each receive a cage full of shells with the baby spat on them in mid-July and host the babies in cages suspended from their docks until they are big enough to be moved to a Great Bay restoration site in mid-September.

Volunteers monitor their cages weekly to clean fouling from the cages and to pluck out predators, like green crabs, to help keep the oysters alive. They also measure the growth of the oysters biweekly.

Since 2000, oysters have been making a slow comeback with the help of the Oyster Conservationist Program and other restoration partners, like the New Hampshire Coastal Program, and approximately 15 acres of oyster reef have been restored to Great Bay. At current rates, one to two acres of oyster reef will be restored every year through 2020.

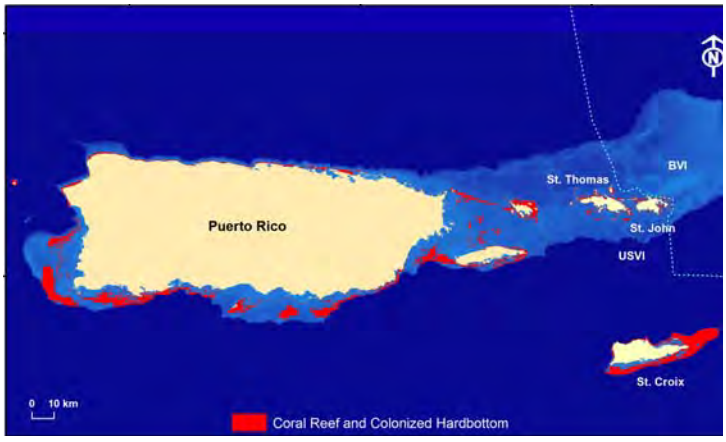
However, disease still threatens the oysters, shortening their lifespan to only four to five years. Although their lifespan is limited, the restored oysters are still able to filter pollutants from the water, which improves water quality. As a result, these oyster restoration efforts, combined with the New Hampshire Coastal Program's other activities to minimize impacts of development on the estuary and its tributaries, are making Great Bay a healthier place for all to enjoy.

To find out more about the Oyster Conservationist Program, visit www.oysters.unh.edu/oyster_conservationists.html or contact Cathy Coletti at catherine.coletti@des.nh.gov.

Puerto Rico and U.S. Virgin Islands Sign Regional Ocean Partnership

Puerto Rico and the U.S. Virgin Islands, located about 50 miles apart in the central Caribbean, are tied to one another through ocean waters, resources, and uses that cut across both jurisdictions. As ocean uses and pressures on marine resources have increased in the region, it has become more challenging for each jurisdiction to sustainably manage their ocean waters and uses by themselves. A recent proposal to interconnect Puerto Rico and the U.S. Virgin Islands' electrical power grids by a subsea cable to lower electricity costs highlights the need for a comprehensive, regional approach to ocean management for the territories.

In July, recognizing the economic, ecological, and cultural importance of their ocean resources and the need for a regional approach to effectively manage their shared ocean environment, the governors of the two island territories signed a memorandum of understanding establishing a Caribbean Regional Ocean Partnership. The agreement between the Puerto Rico Department of Natural and Environmental Resources and the U.S. Virgin Islands Department of Planning and Natural Resources formalizes collaboration that has occurred between the two jurisdictions for many years. The coastal management programs in both jurisdictions were heavily involved in developing the regional partnership and will lead its implementation.



The Caribbean Regional Ocean Partnership will help Puerto Rico and the U.S. Virgin Islands better understand and more effectively manage common ocean resources, such as shallow water coral reefs, shown here in red. Credit: Simon Pittman, NOAA

Through the regional ocean partnership, Puerto Rico and the U.S. Virgin Islands will work together to develop a strategy to improve coordination and communication, align priorities, and leverage resources to effectively manage ocean resources and uses across jurisdictional boundaries in a comprehensive way. The partnership will strengthen governance mechanisms to improve the territories' understanding of regional ocean and coastal ecosystems and help them to address important issues such as polluted runoff, alternative energy development, climate change, fisheries, tourism, and navigation at a regional level. The partnership will also coordinate regional spatial data collection, management, and sharing so that the best ocean data is available to guide regional ocean planning decisions.

The Caribbean Regional Ocean Partnership is a significant step toward comprehensive management of the ocean and coastal resources shared by the two territories and will also serve as an important model for regional ocean governance in the greater Caribbean region. For additional information, contact Ernesto Diaz at ediaz@drna.gobierno.pr with Puerto Rico or Jean Pierre Oriol at jp.oriol@dpnr.gov.vi with the U.S. Virgin Islands.

Hawai‘i Adopts Statewide Climate Change Adaptation Policy

Hawai‘i is already experiencing climate change. Among the changes: air temperature has risen, total rainfall and stream flows have decreased, sea level and sea surface temperatures have increased, and the ocean has become more acidic. Recognizing that these trends are likely to continue regardless of efforts to curb greenhouse gas emissions, Hawai‘i has adopted a statewide climate change adaptation policy to prepare for and adapt to the expected impacts of climate change.

The impetus for the new policy came largely from the efforts of the multi-stakeholder Ocean Resources Management Plan (ORMP) Working Group established by the Hawai‘i Coastal Zone Management Program. In 2009, the ORMP Working Group, with assistance from the University of Hawai‘i’s Center for Island Climate Adaptation and Policy (ICAP), developed a framework for climate change adaptation in Hawai‘i that promotes an open, collaborative, and flexible adaptation planning process.

In August 2011, ORMP members participated in a workshop sponsored by the Hawai‘i Coastal Zone Management Program, NOAA, and the U.S. Army Corps of Engineers. The workshop used future scenarios to help participants identify a “preferred future” and the policy and actions needed to achieve it. Other participants included representatives from federal, state, and county agencies; academia; nonprofits; community organizations; businesses; and insurance companies.

These efforts laid the foundation for the statewide climate adaptation policy, which became law in July. The purpose of the new law is “to encourage collaboration and cooperation between county, state, and federal agencies, policy makers, businesses, and other community partners to plan for the impacts of climate change and avoid, minimize, or mitigate loss of life, land, and property of future generations.” It aims to do so by incorporating climate change adaptation priority guidelines into the statewide planning system, which coordinates and guides all major state and county activities and programs. Adaptation must now be considered in all budgetary, land use, and other decision-making processes, including county general plans and development plans.

Hawai‘i Coastal Zone Management Program staff pose with the governor and others at the signing ceremony for Hawai‘i’s new climate change adaptation policy. The Hawai‘i Coastal Zone Management Program played an integral role in developing the policy.

The Hawai‘i climate change adaptation policy will help the state plan for and minimize impacts from a changing climate such as higher air and sea surface temperatures, sea level rise, ocean acidification, and a decrease in total rainfall and stream flows. Credit: NOAA

The Hawai‘i Office of Planning and Coastal Zone Management Program staff facilitated and helped develop the climate change adaptation guidelines, which will help the state address the impacts of climate change on agriculture, coastal and nearshore marine areas, natural and cultural resources, energy, health, historic preservation, water resources, the built environment, and the economy. The guidelines address education, stakeholder engagement, monitoring and research, preservation and restoration of natural features, adaptation strategies, sector resilience, collaboration and partnerships, planning and management of the natural and built environments, native Hawaiian traditional knowledge and practices, and more.

While state leaders acknowledge that action on climate change adaptation has just begun, the new policy, which is available at www.capitol.hawaii.gov/session2012/bills/GM1403_.PDF, is a good indicator of their commitment to reducing projected impacts. Contact Leo Asuncion at leo.asuncion@dbedt.hawaii.gov with questions about the new adaptation policy and read the ICAP briefing sheet at http:/icap.seagrant.soest.hawaii.edu/icap-publications to learn more about climate change law and policy in Hawai‘i.

Florida Debuts Panhandle Shipwreck Trail

Florida tourism is a $60 billion industry, and heritage tourism has become an important source of revenue for the state. To further its efforts to promote heritage, recreational, and ecological tourism along the Florida coastline, the Florida Coastal Management Program supported the development of the Florida Panhandle Shipwreck Trail. The new trail, which was created by the Underwater Archaeology Team of the Florida Department of State's Bureau of Archaeological Research in partnership with Panhandle waterfront communities and businesses, consists of a series of 12 shipwrecks located offshore of Pensacola, Destin, Panama City, and Port St. Joe, Florida.

The 12 shipwrecks were chosen by a consensus of local dive operators based on popular demand, historical context, and ecological diversity. They are in varying depths of water, offering opportunities for divers of all skill levels, and feature countless varieties of marine life. Many of the shipwrecks along the trail were sunk to become artificial reefs and have become popular fishing and diving destinations.

Among the wrecks are the veteran aircraft carrier USS *Oriskany* off Pensacola, which is the largest artificial reef in the world and has become one of the most sought-after diving destinations, and the steamer *Vamar* off Port St. Joe, which was made famous as a support ship for Admiral Richard Byrd's 1928 Antarctic expedition before sinking under mysterious circumstances in 1942. Other wrecks include a U.S. Navy dive tender, oilfield supply vessels, coal barges, tugboats, a freighter, and a World War II minesweeper.

The trail is supported by an interactive website that features introductory underwater video tours of each shipwreck, the locations of local dive shops, and the current marine weather forecast. To guide visitors along the trail, an official passport is available from participating dive shops and dive charter operators. It contains information about each of the shipwrecks, a dive log to record each stop, and a place to validate the visit with an official sticker. Additional products include trail logos that are available to partners for promotion of the trail and a Facebook page that provides a venue for trail participants to interact with one another.

Located in the region affected by the 2010 oil spill, the new trail, which is just the latest of the state's efforts to showcase Florida's vast collection of shipwrecks, is serving two critical purposes. It is contributing to community recovery and promoting responsible visitation to and management of valuable historical and ecological resources. To learn more about the Florida Panhandle Shipwreck Trail, visit www.floridapanhandledivetrail.com or contact Roger Smith at Roger.Smith@dos.myflorida.com.

A diver explores Vamar, *one of 12 shipwrecks that makeup the Florida Panhandle Shipwreck Trail. Credit: Florida Bureau of Archaeological Research*

NOAA, EPA Release Report on Hazard-Resilient Smart Growth

On September 24, NOAA and EPA released *Achieving Hazard-Resilient Coastal & Waterfront Smart Growth: Coastal and Waterfront Smart Growth and Hazard Mitigation Roundtable Report*. The report presents ideas from an August 2011 roundtable that brought together smart growth, hazard mitigation, climate change adaptation, and coastal management experts. Participants shared ideas on how coastal and waterfront communities could improve quality of life, use land and other resources efficiently, and create environmentally and economically sustainable neighborhoods while minimizing risks from natural hazards related to coastal and waterfront flooding (*see also* October 2011 story in *Coastal Management News*). The roundtable was organized by NOAA's Office of Ocean and Coastal Resource Management, Coastal Services Center, and National Sea Grant College Program in partnership with EPA's Office of Sustainable Communities and the state Sea Grant College Programs of Rhode Island, Texas, and Hawai'i.

The report provides ideas for further research, tools, services, and approaches that federal agencies, state partners, academics, and other practitioners could consider to improve integration of the smart growth and hazard mitigation fields in coastal and waterfront communities. To download a copy visit http://coastalsmartgrowth.noaa.gov. For additional information, contact Sarah van der Schalie at sarah.vanderschalie@noaa.gov.

OCRM Approves Expanded Louisiana Coastal Zone Boundary

NOAA's Office of Ocean and Coastal Resource Management recently approved a new inland boundary for the Louisiana Coastal Management Program. The Louisiana state legislature revised the state's coastal zone boundary based on results of a two-year, comprehensive, science-based study that recommended expanding the boundary to better meet the state's management needs (*see also* January 2011 story in *Coastal Management News*).

Louisiana expanded its coastal zone boundary to include all wetlands under coastal influence in the state. Credit: NOAA

The state was concerned that the original boundary established in 1978 did not include all wetlands under coastal influence, that water quality in the coastal zone can be significantly affected by activities occurring outside the coastal zone, and that the coastline has changed significantly since the original boundary was established. Better data collection and analysis capabilities to determine coastal influence are available today than in 1978, and Louisiana used these tools to determine the new boundary. These capabilities contribute to a better understanding of the vulnerability of the Louisiana coastal zone to sea level rise, land subsidence, storm surge, and other flood hazard issues.

The boundary change enhances state management of coastal resources in areas with a high level of coastal influence, reduces impacts of coastal hazards and wetland alteration through permit review of development proposals, and simplifies review of federal activities within the newly added areas of the coastal zone through the state's federal consistency authority under the Coastal Zone Management Act.

Louisiana's new coastal zone boundary incorporates a net increase of 1,887 additional square miles, about a 12.6 percent increase. The entire boundary now includes a 10-million-acre area that encompasses 32 percent of the state and approximately 40 percent of the nation's wetlands.

For additional information on Louisiana's boundary expansion, contact Keith Lovell at keith.lovell@la.gov.

States Receive Competitive Funds to Enhance Coastal Programs

Twelve state coastal management programs received over $1.48 million in competitive funding from NOAA's Office of Ocean and Coastal Resource Management through the Fiscal Year 2012 Projects of Special Merit Competition. This funding, awarded under Section 309 of the Coastal Zone Management Act, enables state coastal management programs to develop innovative projects that further five-year strategies to enhance their programs. Projects were required to address one or more national priority areas: Wetlands, Coastal Hazards, Cumulative and Secondary Impacts, and Ocean and Great Lakes Resources (including planning for offshore energy uses).

The following projects were selected for funding:

- California Coastal Commission: Improved Valuation of Impacts to Recreation, Public Access, and Beach Ecology from Shoreline Armoring and Beach Nourishment Projects *($180,644)*
- Delaware: Improving the Benchmark of Coastal Hazards Policy Implementation *($126,072)*
- Florida: Implementing "Adaption Action Area" Policies in Florida *($200,000)*
- Maine: Integrating Science Into Policy: Adaptation Strategies for Marsh Migration *($199,389)*
- Northeast Region (Connecticut, Maine, Massachusetts, New Hampshire, and Rhode Island): Marine Habitat Classification in the Northeastern United States *($161,565)*
- Oregon: Updated Estuary and Shoreland Habitat Information *($160,000)*
- South Carolina: Evaluating Tidal Inlet Dynamics and Erosion in South Carolina *($93,443)*
- Texas: Galveston Bay Wetland Mitigation Assessment and Local Government Capacity Building *($180,642)*
- Virginia: Whale Migration Corridors for MSP (marine spatial planning) *($180,644)*

For additional information, contact Elizabeth Mountz at elizabeth.mountz@noaa.gov.

CELCP Updates

NOAA's Coastal and Estuarine Land Conservation Program

Recent Closings

The County of Santa Barbara acquired a 171-acre parcel fronting Paradise Beach in the Guadalupe-Nipomo Dunes Complex on California's Central Coast. This property includes approximately one mile of coastline, including almost 125 acres of intact coastal dune scrub habitat, and provides habitat for nearly a dozen state or federally protected species. This property was the last remaining unprotected property identified for conservation in the Point Sal Reserve Area Management Plan.

The Wisconsin Department of Natural Resources acquired 230 acres of coastal riparian land along Lost Creek Number Two and Lost Creek Number Three in Bayfield County. This natural area protects the upstream habitat for Lost Creek Bog State Natural Area, an exemplary Lake Superior shore fen. This project was supported through EPA's supplemental Great Lakes Restoration Initiative CELCP funding.

OCRM Supports Great Lakes Habitat Restoration Priorities

NOAA's Office of Ocean and Coastal Resource Management (OCRM) awarded more than $794,000 to four land acquisition projects that support habitat restoration priorities within Great Lakes areas of concern (AOCs), which are severely degraded geographic areas within the Great Lakes Basin. AOC restoration has been identified as a high priority for the Great Lakes region. These projects will support the permanent protection of more than 290 acres of Great Lakes coastal habitat in Michigan, Ohio, and New York.

The Great Lakes AOC land acquisition program is based on OCRM's highly successful Coastal and Estuarine Land Conservation Program. OCRM developed the funding competition in partnership with the NOAA Restoration Center and the Great Lakes state coastal management programs. Federal funding is provided by the EPA through the Great Lakes Restoration Initiative. The AOC land acquisition competition complements the NOAA Restoration Center's Great Lakes AOC habitat restoration grant solicitation by creating a three-step restoration process: acquisition, engineering and design, and implementation. For additional information, contact Elizabeth Mountz at elizabeth.mountz@noaa.gov.

A 66-acre former celery field bordering Muskegon River, Michigan, will be acquired with Great Lakes AOC grant funding. Credit: NOAA

OCRM Releases Climate Change Guide for Land Conservation

As part of NOAA's multi-phased effort to more systematically consider climate change impacts in programmatic activities including restoration, land acquisition, and facilities development, NOAA's Office of Ocean and Coastal Resource Management (OCRM) released a new guide to help individuals engaged in coastal land conservation incorporate climate change considerations into their projects and planning processes. *Voluntary Step-by-Step Guide for Considering Potential Climate Change Effects on Coastal and Estuarine Land Conservation Projects* focuses on the implementation of OCRM's Coastal and Estuarine Land Conservation Program, but the methodology described has broad application for conservation planning and land acquisition in a changing climate.

To download the guide, visit http://coastalmanagement.noaa.gov/resources/docs/guidecelpapp.pdf. For additional information, contact Kim Penn at kim.penn@noaa.gov.

– Spotlight on NOAA Resources –

NOAA Creates New Habitat Blueprint

Healthy habitat is at the heart of NOAA's work. It is the foundation for strong, functioning ecosystems necessary for sustaining fisheries and other marine species, weathering storms, adapting to climate change, and reducing the impacts of land-based pollution on ecosystem productivity and human health. Habitat loss and degradation in coastal and marine environments presents a growing challenge that impacts communities and their ecosystems and economies.

NOAA recently launched the Habitat Blueprint as a forward-looking framework to help the agency think and act strategically across programs and with partner organizations to address the growing challenge of coastal and marine habitat loss and degradation. The Habitat Blueprint consists of a three-pronged approach:

1) **Establish NOAA habitat focus areas** to prioritize long-term habitat science and conservation efforts.

2) **Implement a systematic and strategic approach to habitat science** to inform effective decision making.

3) **Strengthen policy and legislation** at the national level to enhance NOAA's ability to achieve meaningful habitat conservation.

The NOAA Habitat Blueprint will help the agency think and act strategically to address coastal and marine habitat loss. Credit: NOAA

The blueprint provides a framework for NOAA to expand partnerships, prioritize activities, and focus resources to better understand, protect, and restore habitat for the benefit of living marine resources and coastal communities. It also encourages NOAA to use innovative place-based habitat solutions to address coastal and marine resource challenges and integrate and improve the delivery of habitat science across disciplines to facilitate conservation actions. In addition, it encourages NOAA to make management decisions in an ecosystem context that considers competing priorities and anticipate and address changes to coastal and ocean habitats due to environmental change, including development, climate, and other pressures.

Habitat Focus Areas: As part of its strategic approach to habitat, NOAA will identify one or more focus areas in each NOAA region where all parts of NOAA can collaborate to achieve the agency's habitat conservation mission. The southwest portion of NOAA's West Coast Region (California) has been selected to be the first region to identify a Habitat Focus Area.

For each region, NOAA line offices and their programs will develop a list of candidate areas for consideration. These can be drawn from existing programmatic planning and prioritization efforts, such as those for the National Coastal Zone Management Program or Coastal and Estuarine Land Conservation Program, and/or priorities identified through ongoing regional initiatives. NOAA will consider several criteria when selecting focus areas, including if the agency expects to make significant progress in conserving habitat within the area and if it is likely to demonstrate progress within three to five years. The number of NOAA line offices that are already working in the area and the potential to attract other partners will also be considered.

As part of this process, NOAA's Office of Ocean and Coastal Resource Management will reach out to state coastal management programs for input on candidate focus areas for the National Coastal Zone Management Program within each region. This effort will start this fall with the southwest pilot region and will continue throughout fiscal year 2013.

For additional information on the Habitat Blueprint, visit www.habitat.noaa.gov/blueprint or contact Elaine Vaudreuil at elaine.vaudreuil@noaa.gov.

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The *Coastal Management Program Newsletter* was developed in response to state requests for assistance in improved communication/lesson sharing among the state and territory coastal management programs. Please let us know about interesting things going on in your coastal zone you would like to share with others. If you have any projects that you would like to highlight, please send a brief description to allison.castellan@noaa.gov. The submission deadline for the next newsletter is December 21, 2012.