

# COASTAL MANAGEMENT NEWS

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New freeboard standards in Dorchester County, Maryland, can help limit damage to structures when heavy rains and unusually high tides overwhelm existing defenses and cause local flooding as illustrated here. Credit: Wanda Cole

## Maryland Builds Resilience to Climate Change through *CoastSmart* Communities

Maryland is on the front line for the impacts of climate change and coastal hazards. Its communities, public infrastructure, and vital habitats are particularly vulnerable, especially with respect to accelerated sea level rise, shoreline erosion, and increased storm frequency and intensity. Through Maryland's *CoastSmart* Communities Initiative, the Chesapeake & Coastal Program (CCP) is helping local communities identify and implement strategies to protect life and property vulnerable to coastal hazards and climate change (see also April 2009 story in *Coastal Management News*).

Many structures in Maryland's floodplain are vulnerable to flooding, which is likely to be exacerbated by

rising seas. One way communities can reduce this vulnerability is to adopt a freeboard standard. Freeboard is a factor of safety achieved by elevating a building's lowest floor above predicted flood elevations by a small additional height (generally one to three feet above the National Flood Insurance Program minimum height requirements). Elevating a home or building a few feet above legally mandated heights has very little effect on its overall look, yet it can lead to substantial reductions in flood insurance and decrease the chances the structure will be damaged by flooding.

In 2008, through the *CoastSmart* Communities Initiative, CCP worked

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Sunset on Kasitsna Bay, Alaska. Alaska withdrew from the National Coastal Zone Management Program on July 1, 2011 (page 5).

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with Somerset and Dorchester Counties to develop sea level rise technical guidance documents that provided recommendations about actions local governments could take to reduce their vulnerability to the potential impacts of climate change and sea level rise. Freeboard was among these recommendations.

While most communities in Maryland already have a 1-foot freeboard, in early 2011, as a result of the *CoastSmart* projects, a number of communities in Somerset and Dorchester Counties adopted increased freeboard standards to further reduce the vulnerability of structures to flooding. In Somerset County, Princess Anne and Crisfield adopted a 2-foot freeboard. In Dorchester County, Cambridge adopted a 1.5-foot freeboard while the county and all other municipalities adopted a 2-foot freeboard. Other Maryland communities are beginning to follow suit: Cecil County also recently adopted a 2-foot freeboard.

Many of these communities have capitalized on the window of opportunity presented by the issuance of new Digital Flood Insurance Rate Maps (DFIRMS) by the Federal Emergency Management Agency. Since communities are required to update their floodplain ordinances to adopt the new maps, they are taking the time and effort to make other revisions, including increased freeboard standards. The DFIRMS for

Maryland's coastal communities are in various stages of development, but more communities are expected to revise their freeboard standards as their new maps become available.

Also as part of the *CoastSmart* Communities Initiative, CCP is working with Anne Arundel County, the City of Annapolis, and the Town of Queenstown to identify and implement strategies that work for their communities: Anne Arundel County conducted a vulnerability assessment and is using the findings to develop a sea level rise strategic plan that establishes policies and a framework of priority actions to protect resources and minimize impacts, Annapolis conducted assessments of the City Dock area of the historic district and the Eastport neighborhood for sea level rise and storm surge impacts, and Queenstown developed an Integrated Community and Watershed Design Document that addresses growth in the town's planning area and establishes criteria for development activities to minimize the impacts of sea level rise .

CCP is looking forward to announcing the 2011 recipients of *CoastSmart* assistance. For more information, visit [www.dnr.state.md.us/CoastSmart/grants.asp](http://www.dnr.state.md.us/CoastSmart/grants.asp) or contact Chris Cortina at [ccortina@dnr.state.md.us](mailto:ccortina@dnr.state.md.us).

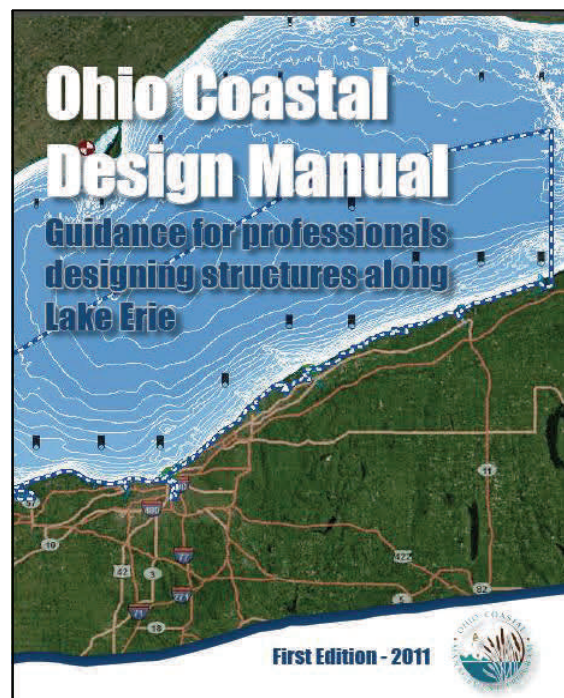
## Ohio Releases New Design Manual for Coastal Structures

Lakefront property owners and their consultants need to know how to effectively plan and design coastal erosion control measures along Ohio's Lake Erie shore. That is why the Ohio Department of Natural Resources' Office of Coastal Management recently released the *Ohio Coastal Design Manual*. The print and online versions of the design manual illustrate how to apply coastal engineering and surveying designs and standards to achieve safe, sound, and successful erosion control and lake access projects along Lake Erie.

The first edition covers typical erosion control measures and access structures such as stone revetments and seawalls. The Office of Coastal Management is planning to release a second edition in 2013 that will cover additional types of coastal protection, such as breakwaters and piers; boating access structures; and beach restoration methods.

The *Ohio Coastal Design Manual's* four chapters follow technical designs and processes used by coastal engineers and surveyors, and are tailored to fit the specific wave, water, and sediment conditions along the Ohio Lake Erie coast. Example calculations, drawings,

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The Ohio Coastal Design Manual is a great resource for property owners along Ohio's Lake Erie coastline.

*Design Manual (Continued from pg. 2)*

and tables simplify complex coastal design parameters to allow standard designs to be fitted to the Lake Erie coast.

While the manual includes technical material, it is written in an accessible way so that most readers, from engineers, surveyors, and contractors to lake front property owners, can understand it. The Office of Coastal Management staff are also working with the state's Old Woman Creek National Estuarine Research Reserve's Coastal Training Program to develop workshops to teach professionals and members of the public how to use the design manual. The workshops are tentatively scheduled for this fall.

The design manual will help landowners along Ohio's coast to meet their needs for erosion control and lake access while achieving a balance with the natural resources along and within Lake Erie. The manual will lead to well planned and designed projects, which, in

turn, will help expedite the regulatory authorization processes of local, state, and federal agencies.

The Office of Coastal Management also developed the Lake Erie Shore Erosion Management Plan (LESEMP), a companion tool to the design manual. The LESEMP is an online and print tool that addresses the variable conditions along Lake Erie and describes which types of erosion control are best suited for specific locations and conditions along the lake. It identifies the types of structures or controls that would function best along a section of the shore. Together, the LESEMP and the design manual show how those structures should be designed and constructed.

The *Ohio Coastal Design Manual* is available online at [www.ohiodnr.com/tabid/23074/Default.aspx](http://www.ohiodnr.com/tabid/23074/Default.aspx), and the LESEMP is available at [www.ohiodnr.com/tabid/20501/Default.aspx](http://www.ohiodnr.com/tabid/20501/Default.aspx). For additional information, contact Jim Park at [james.park@dnr.state.oh.us](mailto:james.park@dnr.state.oh.us).

## Beach Restoration on Marianas Preserves Access

As is the case in many jurisdictions, coastal managers in the Commonwealth of the Northern Mariana Islands (CNMI) often struggle to balance public access demands and natural resource conservation. CNMI's beaches are popular destinations for locals and tourists. They also provide important habitat for coastal wildlife and native plants, including nesting sea turtles. Over the years, poor public access choices have damaged some of CNMI's beaches and offshore coral reefs. For example, one of the more pressing public access-related issues facing its beaches is degradation from visitors and tour companies driving on the beach.

The CNMI Coastal Resources Management Program is working to protect important coastal resources while still providing adequate public access to the beaches everyone loves to visit. As part of this effort, Coastal Resources Management staff recently undertook a project to restore Jeffrey's Beach, one of the impacted beaches.

Jeffrey's Beach is a remote site on the east side of Saipan Island. Tourists and residents frequently visit the beach to picnic, camp, hike, fish, and enjoy its natural scenic beauty. The beach is also home to important coastal plants and wildlife. Sea birds use the beach and surrounding cliffs for nesting, coastal invertebrates inhabit the tidal zone, and a coral reef lies directly offshore.

Over the last ten years, overuse by 4X4 vehicles have hardened most of the sandy areas and largely destroyed

the beach's native vegetation and habitat value for fauna that live among the sand. To reach the beach, the vehicles also drove through a stream causing bank erosion, stream widening, and sedimentation. The beach had become so compacted that the stream only reached the ocean during heavy rain events. Changes in the hydrology of the ecosystem, constant erosion by tires,



*Before restoration, the Jeffrey's Beach access road allowed vehicles to drive on the beach and through a stream bed, impacting vegetation and the stream's hydrology. Credit: CNMI Coastal Resources Management Program*

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*Beach Access (Continued from pg. 3)*

and increased sediment loading likely also affected the coral reef.

To restore the beach, Coastal Resources Management staff first obtained aerial photographs of the Jeffrey's Beach area ten years ago that showed the ecosystem in a more natural state. The photos provided staff with an important reference point as they planned how to proceed.

Coastal Resources Management staff partnered with the CNMI Department of Public Works to construct a semi-natural road block from limestone rocks to prevent tour operators and private vehicles from illegally driving through the streambed and onto the beach. They also cleared an existing, but overgrown, walking trail that connected the designated parking area directly to the shoreline so that visitors would still be able to easily access and enjoy the beach. Staff completed the restoration project by planting native coastal trees and shrubs along the former roadway to encourage beach "softening" and speed recovery. Staff are taking regular photographs to document the restoration and recovery of the beach and stream which is already making noticeable improvements after only a few months.

Coastal Resources Management staff contacted stakeholders before they started the restoration effort to ensure that all resource users understood the change in access points and why the change was needed. The Coastal Resources Management Program has received positive feedback from outdoor groups, tour agents, and other environmental agencies due to their proactive outreach and the project's success. The Coastal



*Restoration activities at Jeffrey's Beach included blockading the access road to prevent vehicles from driving on the beach. After only three months, native vegetation has already started to reclaim and stabilize the roadway. Credit: CNMI Coastal Resources Management Program*

Resources Management Program hopes to undertake similar restoration projects later this year.

For more information, contact Rachel Zuercher at [rachel.zuercher@crm.gov.mp](mailto:rachel.zuercher@crm.gov.mp).

## OCRM Incorporates Ocean Plan into Rhode Island's Coastal Program

On May 11, 2011, NOAA's Office of Ocean and Coastal Resource Management (OCRM) approved the incorporation of the Rhode Island Ocean Special Area Management Plan (Ocean SAMP) into Rhode Island's federally approved coastal management program. The incorporation marks the end of a three-year effort led by the Rhode Island Coastal Resources Management Council (CRMC) and the University of Rhode Island's Coastal Resources Center and Rhode Island Sea Grant Program to undertake a comprehensive research and planning process for nearly 1,500 square miles of offshore waters around Block Island (see also October 2008 story in *Coastal Management News*).

The Ocean SAMP promotes a balanced and comprehensive, ecosystem-based management approach to the development and protection of Rhode Island's ocean uses and resources. It identifies suitable areas for offshore wind farm development based on

spatial analyses of wind speeds, ocean bottom material, and other uses of the area. The Ocean SAMP also protects current uses in state waters such as marine navigation and commercial fishing as well as sensitive habitats and important cultural resource areas.

The SAMP development included substantial stakeholder and public outreach and the plan reflects input from many other state, federal, tribal, and local agencies; other interested parties; and the public. The Ocean SAMP also provides for continued stakeholder input by establishing a Fisherman's Advisory Board (FAB) and a Habitat Advisory Board (HAB) to advise CRMC on the siting and construction of other uses in marine waters. The FAB will include representatives from various Rhode Island fisheries and the HAB will include representatives from marine research institutions

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RI Ocean Plan (Continued from pg. 4)

and environmental and other nongovernmental organizations.

Incorporating the Ocean SAMP into the state's coastal management program allows the CRMC to apply the enforceable policies contained in the SAMP to federal actions in state and federal waters through the federal consistency provision of the Coastal Zone Management Act. Federal consistency ensures that federal actions in these areas are consistent with the state's coastal policies.

The data and maps in the Ocean SAMP also contain substantial environmental, ecological, geologic, and human use information for state and federal waters. State and federal agencies as well as applicants can use this data to inform environmental reviews, engineering decisions, and other planning and regulatory decisions. The data can also contribute to the development of a regional coastal and marine spatial plan, as called for in the new National Ocean Policy that President Obama signed last July.



NOAA Administrator Dr. Jane Lubchenco and Rhode Island Governor Lincoln Chafee recognize NOAA's approval to incorporate the Rhode Island Ocean Special Area Management Plan into the state's coastal management program. Credit: NOAA

Rhode Island's Ocean SAMP has been used as a national model for coastal and marine spatial planning. Rhode Island held a workshop for states and federal agencies in May to discuss the tools and process the state used to develop the SAMP.

On July 22, NOAA Administrator Dr. Jane Lubchenco and Governor Lincoln Chafee held a signing ceremony at the University of Rhode Island Bay Campus in Narragansett, Rhode Island, to acknowledge the state's adoption of the Ocean SAMP and NOAA's approval to incorporate it into the

state's coastal management program. Senators Jack Reed and Sheldon Whitehouse as well as other key stakeholders also provided remarks.

For additional information on Rhode Island's Ocean SAMP, visit [www.crmc.ri.gov/samp\\_ocean.html](http://www.crmc.ri.gov/samp_ocean.html) or contact Laura Dwyer at [ldwyer@crm.ri.gov](mailto:ldwyer@crm.ri.gov).

## Alaska Withdraws from the National CZM Program

The Alaska Coastal Management Program (ACMP), approved by NOAA in 1979, withdrew from the National Coastal Zone Management (CZM) Program on July 1, 2011. The Alaska legislature, despite last minute efforts, was unable to repeal a sunset clause within the ACMP's authorizing legislation.

As a result, Alaska will lose annual federal Coastal Zone Management Act (CZMA) funds of about \$2.5 million as well as the ability to influence federal agency activities and federal license or permit activities that affect Alaska coastal uses or resources through the CZMA federal consistency provision. In Alaska, federal agencies and applicants for federal authorizations no longer have to conduct their activities in a manner that is consistent with state coastal policies.

Additionally, Alaska no longer qualifies for CZMA-related grants under the Coastal and Estuarine Land Conservation Program (CELCP). However, the withdrawal of the ACMP does not affect funding for the Kachemak Bay National Estuarine Research in Homer,

Alaska. The reserve is still eligible to receive reserve-related CELCP funding.

A lesser known impact to Alaska as a result of the state's withdrawal from the National CZM Program lies within the Deepwater Port Act, which requires a state to have, or be making progress toward, a federally approved CZMA management program in order to get a permit for a deepwater port in federal waters. Thus, Alaska is not currently eligible for such a permit.

The CZMA is a voluntary program that places state decision making at the center of ocean and coastal management. Alaska may submit a new coastal management program to NOAA at any time, although the state must meet all CZMA, National Environmental Policy Act, and other federal legal requirements for approval. NOAA is prepared to work with Alaska in its efforts to rejoin the National CZM Program, should it choose to do so.

For additional information, contact Bill O'Beirne at [bill.obeirne@noaa.gov](mailto:bill.obeirne@noaa.gov).

## New York Implements Consistency Review Data Management System

The New York State Coastal Management Program developed and implemented a system to automate the federal consistency review process. Federal consistency is an important component of the Coastal Zone Management Act. Federal actions that have the potential to impact a state's coastal resources or uses must be consistent with the enforceable policies of a state's coastal management program.

New York Coastal Management Program staff used LiveLink-ECM, a software suite developed by Open Text, to map the administrative and decision making processes associated with the review of an applicant's federal consistency certification. In concert with Hummingbird, a digital document management system, LiveLink directs the federal consistency review process,

tracks and documents individual steps within the process, provides staff e-mail notification of upcoming tasks, and facilitates collaboration between multiple staff members. Staff are also able to access the system remotely.

Given the strict timeframes required for consistency review, the system's tracking, documenting, and time keeping capabilities, as well as the ability for one reviewer to efficiently evaluate and manage multiple reviews has helped the New York Coastal Management Program coordinate and expedite its consistency review process in a coordinated manner. For additional information, contact the consistency review unit at [cr@dos.state.ny.us](mailto:cr@dos.state.ny.us).

## Updated MPA Mapping Tool Available from MPA Center

The National Marine Protected Areas Center, with support from the National Ocean Service Special Projects Office, has updated its interactive online mapping tool that allows users to view boundaries and access data for more than 1,600 marine protected areas (MPAs) in the United States (see also April 2010 story in *Coastal Management News*). The MPA mapping tool includes simple functions to visualize MPA boundaries, review MPA classification information (e.g., level of protection, managing agency, fishing restrictions), and explore all MPAs in a given location.

Updates to the viewer include the addition of Google background maps, the ability to search by place name (not just MPA), new metadata, and the identification of national system sites. Data for the mapping tool are from the newly updated MPA Inventory, a comprehensive database of existing U.S. MPAs.

The tool is available online at [www.mpa.gov/dataanalysis/mpainventory/mpaviewer/](http://www.mpa.gov/dataanalysis/mpainventory/mpaviewer/). For more information, contact Mimi Diorio at [mimi.diorio@noaa.gov](mailto:mimi.diorio@noaa.gov).

### CELCP Updates NOAA's Coastal and Estuarine Land Conservation Program

#### FY 2012 CELCP Competition

The fiscal year (FY) 2012 CELCP competition closed May 11, 2011. NOAA received 36 proposals from 20 states requesting nearly \$60 million in funding. Merit reviewers, including representatives from the coastal management and estuarine reserve community, NOAA coastal and habitat-related programs, other federal land conservation programs, and nongovernmental organizations have begun evaluating the applications. NOAA expects to finalize a ranked list of "ready and eligible" projects by September 2011.



*The Houghton Falls Nature Preserve (above) is an example of a recent CELCP acquisition. It includes rare Wisconsin boreal forests and encompasses approximately 77 acres along the Lake Superior shore. Credit: Travis Olsen, Wisconsin Coastal Management Program*

## – Spotlight on NOAA Resources –

### NOAA Coastal Storms Program Helps Protect Coastal Communities

As coastal populations continue to increase at the same time that climate change is presenting new challenges, more lives and property will be impacted by coastal storms. In 2002, NOAA launched a cross-agency initiative to better address the increasing vulnerabilities of our coasts. The goals of the NOAA Coastal Storms Program are to prevent loss of life and property, lessen economic impacts on coastal communities and businesses, and sustain the natural environment.

To accomplish these goals, the program brings together organizations from all sectors to provide assistance in a targeted region for three to five years. Recognizing that hazards vary by region, this assistance is tailored to meet local needs and includes funding, tools, training, data, and other hazard-related products and services. To date, the Coastal Storms Program has benefited communities in northeast Florida, the Gulf of Mexico, Southern California, and the Pacific Northwest. In fiscal year (FY) 2011, the program is active in the Gulf of Mexico and the Pacific Islands. In FY 2012, it will begin to transition support to a new region, the Great Lakes.

With the help of strong partnerships, the Coastal Storms Program has worked to make communities more resilient to storms and to address the impacts of development choices in vulnerable coastal areas. Projects have included new and improved observations, storm modeling, and forecasting; storm and sea level rise risk and vulnerability assessments; ecological assessments of stormwater impacts; training and technical assistance; and capacity building grant programs.

Local engagement and outreach is integral to the success of the Coastal Storms Program's regional efforts. In each active region, a local outreach coordinator is hired to help ease, and often coordinate, the implementation and delivery of the targeted products and services. Strong partnerships and a cooperative agreement with state Sea Grant Program offices have allowed the coordinator to be hosted locally.



*Since 2002, thanks to the NOAA Coastal Storms Program, this data buoy has been gathering information on ocean winds and wave heights to aid mariners and enable forecasters to provide advanced warnings of weather hazards.*

In recent years, the Coastal Storms Program has begun conducting regional capacity building grant competitions. These small grants are typically available to local governments, nonprofits, homeowner associations, business organizations, and community-university partnerships.

The first such competition was run in the Gulf of Mexico in 2009, where \$650,000 was awarded to address hazard resilience and recovery efforts in the aftermath of Hurricane Katrina. Among the funded projects were a hurricane preparedness expo, a three-part television series on storm resiliency, an examination of the impact of accelerated sea level rise on tidal marshes and storm surge, and a study on effective hurricane communication. In FY 2011, \$500,000 has been allocated to fund capacity building projects in the Gulf and, in FY 2012, \$1 million will be available to fund projects in the

Pacific Islands. These grant competitions are administered through the Mississippi-Alabama and Hawaii Sea Grant College Programs, respectively.

For more information on the Coastal Storms Program, visit <http://coastalstorms.noaa.gov/> or contact Audra Luscher-Aissaoui at [audra.luscher@noaa.gov](mailto:audra.luscher@noaa.gov).



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The quarterly *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](mailto:allison.castellan@noaa.gov). The submission deadline for the next newsletter is September 15, 2011.