which identified legal tools the Alaska Ocean Observing System. “Trying to get things back to what they would have been like if a spill had not occurred without really having any data to back that up is very difficult.”

Managers also need significant baseline environmental data before an incident that cover multiple seasons and conditions, says Molly McCammon, director of the Alaska Ocean Observing System. “Trying to focus efforts on monitoring program.”

“Work with your partners to prepare now while you have the luxury of doing it in advance,” advises Baker. “Take a moment to look at some ‘what if’ scenarios given your current network of collaborators.”

After a Spill
Immediately after a spill, being able to work with and provide maps, data, and expertise to the Incident Command is cited as critical, as is quick initiation of, and involvement in, the Natural Resource Damage Assessment Process. Managers may even find themselves manning booms to help protect resources. “Don’t be hesitant to get involved in the resource assessment,” Ramrill says. “You have to work within the system to be effective.”

“Communication is paramount,” adds Reid Brewer, the Unalaska agent for the Alaska Sea Grant Marine Advisory Program. “When these things happen, it is important that there be local input into the Incident Command structure.”

In the long term after a spill, communicating with and supporting hard-hit communities and coastal industries is critical to recovery. “The best thing you can do is be as transparent as you can be,” Brewer says. “The best thing to do is to continue to work with people and provide an open two-way communication forum.”

While each major spill is different, it is clear that coastal managers, resources, and communities will be impacted in the event that the worst does happen. Efforts to support prevention and being prepared to respond should an event take place will go a long way to limit the long-term impacts.

For more information on Alaska’s experience, contact Joe Banta at (907) 277-7222, or banta@pusrcr.org, Molly McCammon at (907) 644-6703, or mccammon@auoo.org, Reid Brewer at (907) 581-4589, or reid.brewer@alaska.edu, Torie Baker at (907) 424-7542, or torie@fso.usaf.edu or Zygmont Plater at (617) 552-4387, or plater@bc.edu. For more information on South Slough National Estuarine Research Reserve’s experience, contact Steve Ramrill at (541) 888-2581, ext. 302, or Steve.Ramrill@state.or.us.

Merging Blue and Green Infrastructure in Maryland

Maryland coastal resource managers have expanded an existing statewide “green infrastructure” program to incorporate what they are calling “blue infrastructure,” or aquatic priorities in the nearshore coastal zone, such as submerged aquatic vegetation, oyster bars, tidal wetlands, fish spawning and nursery areas, and shoreline buffers.

This information is not only helping state managers target lands for protection and restoration, it is also being shared with local managers through the state’s Coastal Atlas.

“We are helping to ensure the protection of Maryland’s critical ocean and estuarine resources, and the coastal economies that depend on them,” says Catherine McCall, natural resource planner for the Maryland Chesapeake and Coastal Program. “The Coastal Atlas has been developed to provide direct access to available data needed for coastal and ocean planning efforts.”

The new data will be used for everything from finding the best location for renewable energy projects, to locating sand resources needed for beach replenishment, to helping local communities identify areas vulnerable to sea level rise and erosion.

“The Coastal Atlas will assist users in identifying potential conflicts so that they can then be avoided early in the planning process,” McCall says.

Adding Blue to Green
While green infrastructure can be used to refer to anything from a street-side rain garden to a statewide land conservation network, the term is commonly defined as an interconnected network of protected land and water that supports native species, maintains natural ecological processes, sustains air and water resources, and contributes to a community’s health and quality of life.

Benefits of a holistically conceived green infrastructure program include improving stormwater and wastewater management, helping to mitigate impacts from natural hazards and adapt to climate change, and providing other ecological and recreational services.

“We have a very good handle on our green infrastructure program network in Maryland and are targeting land acquisition, but what has been missing is the nearshore information and what is happening in the water,” McCall says.

Assessment
To get this information, McCall and a staff geographic information system (GIS) analyst worked to assess the state’s blue infrastructure and used marine spatial planning tools to evaluate compatible coastal uses.

“We are helping to ensure the protection of Maryland’s critical ocean and estuarine resources, and the coastal economies that depend on them.”

Catherine McCall, Maryland Chesapeake and Coastal Program

To do the analysis, they divided the shoreline into unique 1-kilometer segments that were easily reviewable. Working with resource managers from across the state, they looked at everything from oyster, clam, and mussel habitats, submerged aquatic vegetation beds, access structures, and fish spawning and nursery areas. They came up with a five-tier rating system that coded resources from low to high ecological integrity.

The completed Blue Infrastructure Near-shore Assessment identifies the priority coastal habitat, critical aquatic resources, and associated human uses in the tidal waters and nearshore area of Maryland’s Chesapeake and coastal bays, tidal waters, and ocean.

“Linking the blue infrastructure with the green infrastructure has created a framework to identify coastal habitats and areas where conservation and restoration activities can be targeted to maintain and improve coastal resources,” McCall says.

Continued on Page 9
Ohio Groups Unite to Advance Lake Erie Education and Outreach

A conversation between colleagues in Ohio sparked the creation of a multi-organizational partnership focused on empowering citizens to take action to improve water quality in Lake Erie and the surrounding watershed. By working together, the partnering agencies are presenting a unified message that Lake Erie and the Great Lakes are important to the environment and economy of the region and nation.

“We saw an opportunity to leverage the expertise in each agency.”

Melinda Huntley, Ohio Sea Grant College Program

“There were natural synergies between our agencies,” says Chris Riddle, grants manager for the Ohio Lake Erie Commission. “By working together, we feel like we are all focused on the same page and headed in the same direction.”

The Lake Erie Partnership for Education and Outreach is made up of Ohio’s Coastal Management Program, Old Woman Creek National Estuarine Research Reserve (NERR), Ohio Sea Grant, and the Ohio Lake Erie Commission. The idea for the partnership came from a conversation between Brenda Culler, public information officer for the Ohio Office of Coastal Management, and Melinda Huntley, tourism extension program director for the Ohio Sea Grant College Program.

“We saw an opportunity,” says Huntley, “to leverage the expertise in each agency.” While the group already worked together, members didn’t have a good grasp of the scope, mission, and projects being undertaken by each organization. To address this, they first focused on “learning exactly what each of us was doing, how we fit together, and where there were natural opportunities or gaps that we were missing out on,” Riddle says.

The group then developed a unified strategic plan for education and outreach based on environmental indicators measured every four years by the Ohio Lake Erie Commission.

To help with messaging, the agencies developed an environmental literacy framework for Lake Erie, which they modeled on NOAA’s ocean literacy principles. Since May 2009, the group has sought feedback from multiple stakeholders on the “Lake Erie Literacy Principles and Concepts,” and these principles are expected to be finalized this fall. The Centers for Ocean Sciences Education Excellence—Great Lakes is creating Great Lakes literacy principles that are modeled after those created for Lake Erie.

In the coming year, the partners will be working with Ohio public television to develop video vignettes that illustrate the eight Lake Erie literacy principles by breaking down complicated science and concepts into practical real-world applications.

“We have proven repeatedly that what we accomplish together is greater than the sum of its parts,” says Heather Elmer, the coordinator of Old Woman Creek NERR’s Coastal Training Program. “Our partnership will benefit Ohioans living along the coast, the resources, and everyone in the Lake Erie Watershed.”

For additional information on the Lake Erie Partnership, go to http://ohiodnr.com/tabid/21178/Default.aspx. For additional information, contact Brenda Culler at brenda.culler@dnr.state.oh.us, Melinda Huntley at (419) 609-0399, or huntsley@coastalbio.com, Heather Elmer at (419) 433-4601, or heather.elmer@dnr.state.oh.us, or Chris Riddle at (419) 245-2514, or chrisriddle@ameritech.net.

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