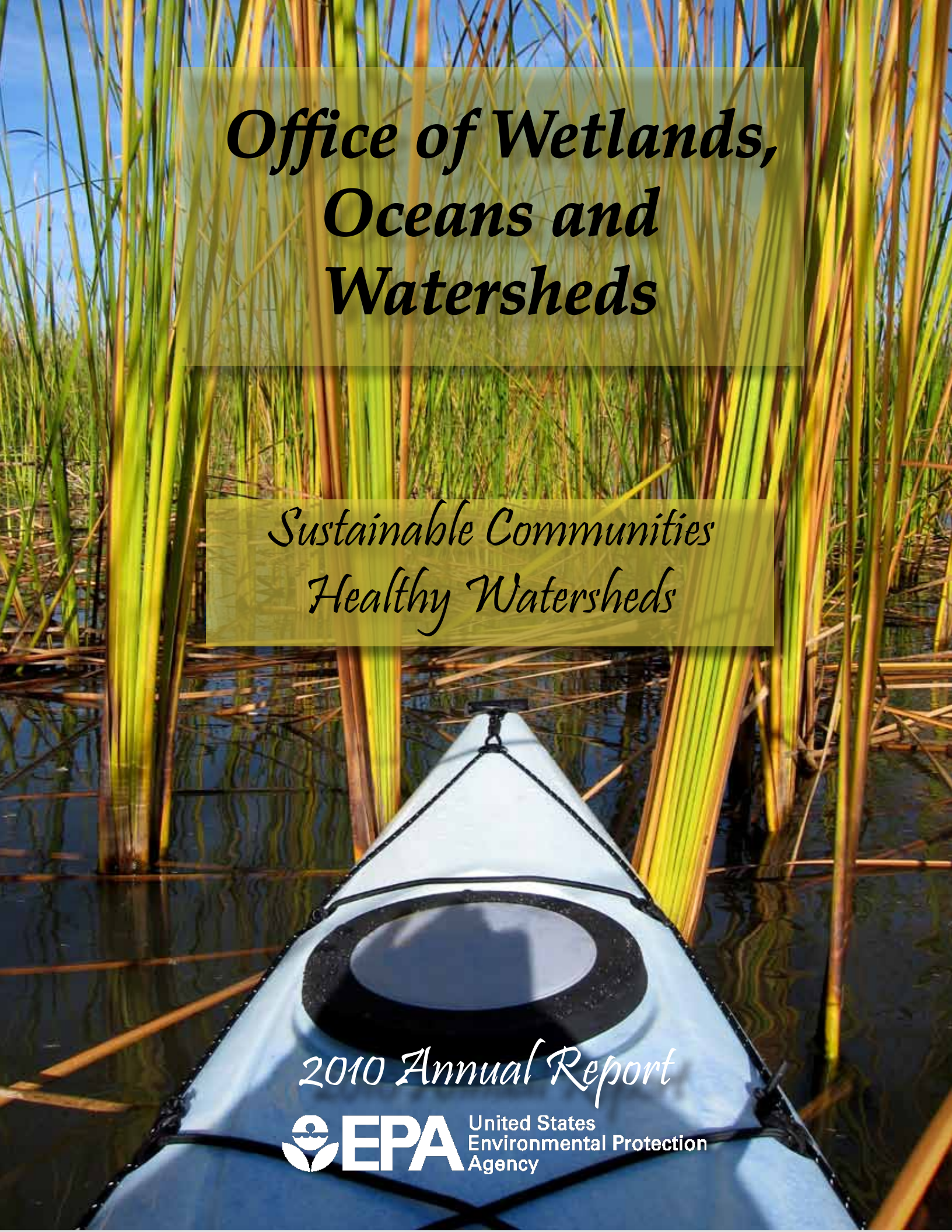


Office of Wetlands, Oceans and Watersheds

Sustainable Communities Healthy Watersheds

2010 Annual Report

EPA United States Environmental Protection Agency

Note from the OWOW Director

It gives me great pleasure to share the 2010 Annual Report for the Office of Wetlands, Oceans and Watersheds (OWOW). It's been a year with many challenges as well as opportunities to advance the protection and restoration of our nation's waters. OWOW staff and managers played a vital role in helping to advance key Water Program priorities and showed exceptional dedication, commitment, flexibility, and, resilience.

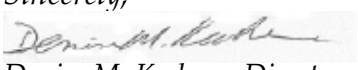
One of our most notable achievements was working with the U.S. Army Corps of Engineers in the development of new draft guidance on Identifying Waters Protected by the Clean Water Act (Waters of the U.S. Guidance). This action, when finalized, will describe what is a water of the United States for all CWA Programs and is expected to provide more regulatory clarity, predictability, consistency, and transparency around the issue of what waters are and are not protected under the Clean Water Act. Among other important achievements in 2010, OWOW also ensured better protection of water quality in Appalachia by working in partnership with the regional offices to ensure that permits issued for surface coal mining operations minimized the harmful environmental effects. In addition, OWOW played an invaluable role in supporting the federal government's response to the BP Oil Spill, by working collaboratively in the evaluation of monitoring data and in helping to design monitoring plans. Many OWOW staff worked tirelessly in the Agency's Emergency Operations Center to support our government's immediate response to that environmental catastrophe. OWOW also launched the Healthy Watersheds Initiative in 2010—and saw this Initiative gain traction in EPA's Coming Together for Clean Water Strategy document that was finalized in the Spring of 2011. OWOW also showed real leadership in helping OW to advance green infrastructure---considered by many to be among the most promising avenues for making a big leap forward in water management. OWOW's Ocean and Coastal Protection Program was very instrumental in advancing the work of the National Ocean Council. Finally, OWOW partnered closely with Office of Science and Technology (OST) in 2010 in developing the recommended Framework for states to use to reduce the impacts of nitrogen and phosphorus pollution. This Nutrient Framework is intended to help advance reductions in loadings of nitrogen and phosphorus to our nations waters, while states continue their work to develop and adopt numeric nutrient water quality standards.

In this coming year, we will continue efforts to work with OST, the Office of Wastewater Management, the Office of Ground Water and Drinking Water, and the regions and states in advancing nutrient reductions, in cleaning up and restoring impaired waters, in advancing green infrastructure, and in protecting healthy watersheds. OWOW will also continue to play a leadership role in major Administration and Agency initiatives, including finalizing Waters of the U.S. Guidance and initiating rulemaking, supporting Region 10 in the ongoing scientific assessment of Bristol Bay, supporting the regions in the consideration and evaluation of 404 permits, and in the implementation of the National Ocean Policy, the Gulf of Mexico Hypoxia Action Plan, and the work of the Gulf of Mexico Ecosystem Restoration Taskforce. As the co-lead for EPA's Community Action for a Renewed Environment (CARE) program, OWOW will also help support Administrator Jackson's strong commitment to environmental justice.

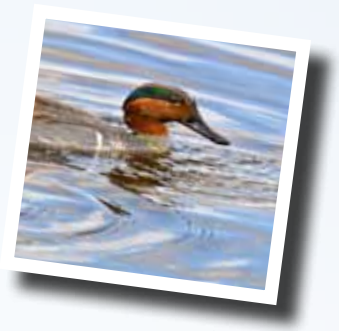
And finally, OWOW will continue its critical work to assess the status and trends of the health of the nation's waters through our National Aquatic Resource Surveys. In 2011, we begin sampling for the National Wetlands Condition Assessment, the first-ever survey of the ecological integrity of the nation's wetlands.

I look forward to leading OWOW in these important endeavors. Working together with our partners in state, tribal, and territorial governments as well as others, I believe we can make important progress in achieving our vision for healthy watersheds and sustainable communities.

Sincerely,



Denise M. Keehner, Director
Office of Wetlands, Oceans and Watersheds



In This Report...

About the Office of Wetlands, Oceans and Watersheds (OWOW)

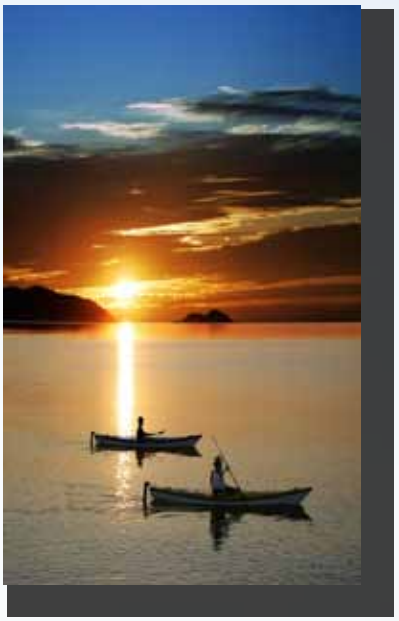
OWOW is one of four program offices within the Office of Water at EPA Headquarters in Washington, DC that works to protect and restore the nation's aquatic ecosystems. The office provides leadership, policy direction and financial support to our 10 regional offices and to the states, tribes, and territories that implement our programs. OWOW also works collaboratively with sister EPA offices, other federal agencies, as well as with local governments, the private sector, and nonprofit organizations to carry out our mission. In addition to its Clean Water Act authorities, the office has authorities under the Marine Protection, Research, and Sanctuaries Act (Ocean Dumping), Coastal Zone Management Act, National Environmental Policy Act and several other environmental statutes.

OWOW Programs and Initiatives

• Community Action for a Renewed Environment (CARE) program
• Control of Vessel Discharges • Dredged Material Management
• Five-Star Restoration Program • Impaired Waters and Total Maximum Daily Loads • Marine Debris •Mississippi River/Gulf of Mexico Watershed Task Force • National Aquatic Resource Surveys
• National Estuary Program • National Water Quality Inventory
• Nonpoint Source Program• Ocean Dumping
• Ocean Monitoring and the Ocean Survey • *OSV Bold*
• Targeted Watersheds Grants• Volunteer Monitoring
• Wetlands Permitting • Wetland Program Development Grants

For more information about OWOW,
visit www.epa.gov/owow

Fiscal Year 2010 Highlights



- ***Developing Draft Guidance to Clarify Waters Covered by the Clean Water Act***: OWOW worked with the U.S. Army Corps of Engineers to develop draft guidance for determining whether a waterway, water body, or wetland is protected by the Clean Water Act.

- ***Reducing Environmental Impacts of Surface Coal Mining in Appalachia:*** EPA issued comprehensive interim guidance to protect water quality in Appalachian streams from the harmful effects of surface coal mining and also reviewed numerous proposed Section 404 permits for surface coal surface mining operations.

- ***Assessing the Condition of the Nation's Waters***: OWOW issued the National Lakes Assessment, the first-ever comprehensive assessment of the nation's lakes, which found that habitat loss and nitrogen and phosphorus pollution are leading causes of impairment. These important findings will be critical for managers in setting priorities, targeting resources and communicating with the public on the condition of the nation's waters.

- ***Addressing Impacts from Nitrogen and Phosphorus Pollution***: OWOW worked with the Office of Science and Technology to draft a State Nitrogen and Phosphorus Reduction Framework that states can use to develop strategies that address the degradation of drinking water and environmental quality due to nitrogen and phosphorus pollution.

- ***Controlling Polluted Runoff in the Chesapeake Bay***: OWOW issued new guidance that will help control runoff in the Chesapeake Bay watershed from federal lands and on federal facilities. The guidance addresses major categories of nonpoint source pollution, including nitrogen and phosphorus pollution and sediments.

- ***Responding to the BP Oil Spill:*** During the environmental crisis, OWOW staff were instrumental in assessing the collected data against risk-based aquatic life and human health benchmarks and posting the data on the web.

- ***Attaining State Water Quality Standards***: In FY 2010, 2,909 waterbodies, identified in 2002 as not attaining water quality standards, met state standards.

- ***Developing "Pollution Diets" for Impaired Waters:*** 4,951 Total Maximum Daily Loads (TMDLs) or "pollution diets" were developed by states and approved by EPA or established by EPA on a schedule consistent with national policy.

- ***Addressing Nonpoint Source Pollution:*** In FY 2010 an additional 68 waterbodies identified by states (in 2000 or subsequent years) as being primarily nonpoint source (NPS)-impaired were partially or fully restored. OWOW's Nonpoint Source "Success Stories" Web site now features 215 examples of how Clean Water Act Section 319 funds have helped restore waterbodies degraded by polluted runoff.

- ***Advancing Wetlands Protection and Restoration***: In FY2010, 130,000 wetland acres were restored and improved under 5-Star Restoration Program, National Estuary Program, Clean Water Act Section 319, and Great Waterbody Programs.

Protecting America's Waters and Wetlands: Draft Guidance to Clarify Waters Covered by the Clean Water Act

Americans depend on clean and abundant water. However, over the past decade, interpretations of Supreme Court rulings removed some critical waters from Federal protection, and caused confusion about which waters and wetlands are protected under the Clean Water Act. As a result, important waters now lack clear protection under the law, and businesses and regulators face uncertainty and delay.

In 2010, OWOW worked with the U.S. Army Corps of Engineers to develop draft guidance for determining whether a waterway, water body, or wetland is protected by the Clean Water Act. This draft guidance would replace previous guidance to reaffirm protection for critical waters. It also will provide clearer, more predictable guidelines for determining which water bodies are protected by the Clean Water Act.

The draft guidance will reaffirm protections for small streams that feed into larger streams, rivers, bays and coastal waters. It will also reaffirm protection for wetlands that filter pollution and help protect communities from flooding. Discharging pollution into protected waters (e.g., dumping sewage, contaminants, or industrial pollution) or filling protected waters and wetlands (e.g., building a housing development or a parking lot) require permits. This draft guidance will keep safe the streams and wetlands that affect the quality of the water used for drinking, swimming, fishing, farming, manufacturing, tourism and other activities essential to the American economy and quality of life. It also will provide regulatory clarity, predictability, consistency and transparency.

Aerial of wetlands in Butte County, CA, Photographer: Lynn Betts, NRCS Photo Gallery

Pine Barrens Swamp, Photographer: Anneke Davis

Approximately 117 million Americans get part of their drinking water from small headwater streams and intermittent and ephemeral streams. Many of these waters also provide critical habitat for fish, ducks and other wildlife prized by hunters, anglers, birdwatchers. The sporting and conservation community injects more than $76 billion annually into the economy.

The draft guidance was made available for public comment on May 2, 2011. http://water.epa.gov/lawsregs/guidance/wetlands/CWAwaters.cfm. (Donna Downing, 202-566-1783)

EPA Reduces Environmental Impacts of Surface Coal Mining in Appalachia

On April 1, 2010, EPA issued detailed interim final guidance to protect water quality in Appalachian streams from the harmful effects of surface coal mining. Based upon reviews of past practices and emerging science, including two major EPA scientific reports, the guidance clarified existing requirements of the Clean Water Act Section 404 and 402 permitting programs that apply to pollution from surface coal mining operations in streams and wetlands. With an important focus on the latest science regarding the impacts of elevated conductivity levels on stream life and other areas of concern, the guidance has been a valuable tool for EPA Regions in providing clear and consistent environmental review of proposed Clean Water Act permits for surface coal mining operations. In conjunction with the guidance, EPA's Office of Research and Development also released two draft scientific reports – *The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields,* and A *Field-based Aquatic Life Benchmark for Conductivity in Appalachian Streams* – highlighting the adverse environmental effects on aquatic ecosystems caused by mountaintop mining. In 2011, EPA will make necessary modifications to the guidance after consideration of public comments and the final results of the Science Advisory Board technical review of the EPA scientific reports. In 2010, EPA Regions in coordination with the Wetlands Division also reviewed numerous proposed Section 404 permits for surface coal mining operations. These reviews provided recommendations for reducing water quality impacts through improved monitoring of streams, implementation of Best Management Practices, and enhanced compensatory mitigation for stream impacts. (Chris Hunter, 202-566-1454).

Valley Fill and Sediment Pond, Perry County, Kentucky. Photographer: Brian Topping

Spruce No. 1 Mine in Logan County, West Virginia
Section 404(c) Veto – 13th in EPA History

On September 24, 2010, EPA Region 3 recommended that EPA exercise its CWA Section 404(c) "Veto Authority" for the Spruce No. 1 Mine in Logan County, West Virginia. Region 3's assessments and analyses concluded that the placement of fill material in Pigeonroost and Oldhouse Branches, two of the highest quality streams remaining in the Coal River sub-basin, would likely lead to unacceptable adverse impacts on wildlife While EPA offered various alternatives, EPA and the company could not reach agreement on options for redesigning the mine in ways that would meaningfully reduce anticipated unacceptable adverse environmental and water quality effects. After reviewing EPA Region 3's recommendations and comments provided by the public, the West Virginia Department of Environmental Protection, and Arch Coal Company, EPA Headquarters (HQ) issued a Final Determination in January 2011, prohibiting new impacts to these high quality streams at the site but allowing ongoing mining activities to continue. EPA's action protects high quality stream systems, which support diverse and productive biological communities, from being buried under tons of rock and mining spoil, and prevents pollution of downstream waters. The final decision reflects significant effort by EPA HQ and Region 3 to gather an incredible amount of scientific and technical data about mining techniques and environmental impacts to water quality and wildlife habitat.

EPA Guidance for Chesapeake Bay Helps Control Nonpoint Source Pollution

As part of a series of actions designed to help protect and restore the Chesapeake Bay, in May, 2010, EPA published guidance for managing federal lands in the Chesapeake Bay watershed. The guidance provides information and data on appropriate, proven and cost-effective tools and practices for nonpoint source implementation on federal lands and at federal facilities. While an important step, EPA recognizes that the vast majority of land in the Chesapeake Bay watershed is nonfederal land that private landowners, states, and local governments manage. Thus, the agency has emphasized that the same set of "proven cost-effective tools and practices that reduce water pollution" are appropriate for all land managers in the Chesapeake Bay watershed. If implemented broadly, the practices outlined in the guidance will enable the Chesapeake Bay to be restored (assuming all necessary point source reduction and other restoration actions are taken).

Extensive studies of the Chesapeake Bay indicate that the great majority of nonpoint sources need to be controlled in order to restore the Bay. Accordingly, the guidance addresses many categories of nonpoint sources that contribute the majority of nutrient and sediment pollution, including the following categories of activities on federal lands: Agriculture; Urban Areas, including Turf (excluding sources regulated as point sources); Onsite/Decentralized Treatment Systems; Forestry; Riparian Areas; and Hydromodification. http://www.epa.gov/nps/chesbay502. (Katie Flahive, 202-566-1206)

Addressing Impacts from Nitrogen and Phosphorus Pollution: Nutrients Framework Document and Memorandum

OWOW worked with the Office of Science and Technology to draft a State Nitrogen and Phosphorus Reduction Framework that states can use to develop strategies that address the degradation of drinking water and environmental quality due to nitrogen and phosphorus pollution. On March 16, 2011, Office of Water Acting Assistant Administrator Nancy Stoner issued a Memorandum to all EPA Regional Administrators that included the "Recommended Elements of a State Framework for Managing Nitrogen and Phosphorus Pollution." The memo describes the extent of the problem and reaffirms the agency's commitment to partnering with states and collaborating with stakeholders to accelerate reductions in nitrogen and phosphorus loadings.

Photo by the National Resources Conservation Service

According to a recent joint Task Group of senior state and EPA water quality and drinking water officials, nitrogen and phosphorus pollution has the potential to become one of the costliest and challenging environmental problems the nation faces. The Framework initiates a conversation with states and other stakeholders on how best to achieve both near- and long-term reductions in nitrogen and phosphorus pollution. It envisions that as states proceed in efforts to develop numeric nutrient criteria and related schedules, they also reduce nitrogen and phosphorus pollution by targeting the most effective practices to the areas with highest contributions. The Framework recognizes that collaborative efforts with United States Department of Agriculture and other stakeholders will be critical for success.

Memorandum on Ocean Acidification Addresses Rising CO2 Levels

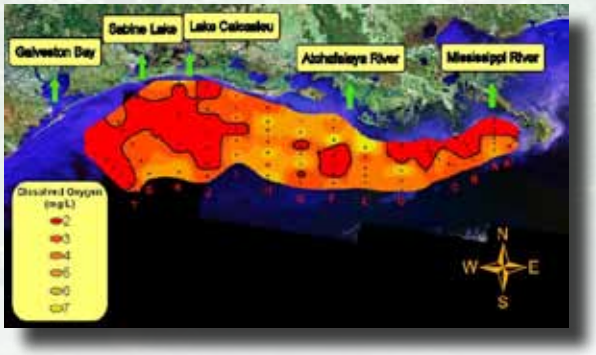
Ocean acidification (OA) refers to the decrease in the pH of the Earth's oceans caused by the uptake of carbon dioxide (CO2), a greenhouse gas (GHG), from the atmosphere. Scientific research over the last 10 years indicates that the implications of OA for ocean and coastal marine ecosystems are potentially very serious since the ocean has a large capacity to absorb CO2 from the atmosphere, and that the resulting lowered pH levels and carbonate ion (CO32-) concentrations in ocean waters can have serious cascading effects. Specifically, a reduction in CO32- could negatively affect the survival of calcifying organisms (e.g., algae, snails, clams, oysters, coral reefs) that rely on the availability of CO32- to build their calcareous shells and skeletons, causing changes up the food chain. Recently, the National Research Council stated that while the ultimate consequences of OA are still unknown, there is a risk of ecosystem changes that threaten coral reefs, fisheries, protected species, and other natural resources.

Top left to right: Foraminifera (David Field); pteropod, Limacina helicina (NOAA); oysters Bottom left to right: Wild pink salmon, Pacific coast (Barry Kovish); Rapture Reef, French Frigate Shoals of the Northwestern Hawaiian Islands (James Watt) Organisms and ecosystems that could be negatively affected by ocean acidification

In November 2010, EPA released a memorandum on OA to assist the states and Regions in preparing and reviewing integrated water quality reports related to OA impacts under the Clean Water Act. Under Section 303(d), states, territories, and authorized tribes are required to develop lists of "water-quality limited segments" every two years. The memorandum recognizes the seriousness of aquatic life impacts associated with OA and describes how states can move forward to address OA during the 2012 listing cycle using the current 303(d) Integrated Reporting (IR) framework. At the same time, this memorandum acknowledges that information is largely absent or limited to support the listing of waters for OA in many states. The memorandum concludes that states should list waters not meeting water quality standards, including marine pH water quality criteria (one parameter that reflects OA impacts) for their 2012 lists, and should also solicit available information on OA. The memorandum also encourages states to focus on OA-vulnerable waters (e.g., waters with coral reefs, marine fisheries, shellfish resources) that already are listed for other pollutants (e.g., nutrients) in order to promote ecological restoration. http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/oa_memo_nov2010.cfm. (Christine Ruf, 202-566-1220)

Hypoxia Task Force Urges States to Develop State-Specific Strategies

Over the past 50 years, the amount of nitrogen and phosphorous entering our waters has dramatically escalated, and now poses significant water quality and public health concerns. Significant sources include agricultural runoff from cropland, especially in heavily farmed areas, as well as from residential/commercial fertilizers, animal waste, sewage treatment plants, and air deposition from utilities and vehicles. The ecological, human health, and economic impacts of excess nitrogen and phosphorus have the potential to become one of the costliest, most difficult environmental problems in the 21st century.



The Task Force's goal to reduce the size of the Gulf "dead zone" to 5,000 square kilometers is a formidable task that will require a staggering 45 percent reduction in riverine nitrogen and phosphorus.

When a body of water acquires a high concentration of nutrients, it can trigger excessive algae growth. As the algae die and decompose, they can deplete oxygen levels, causing the death of fish and other aquatic organisms. In the Gulf of Mexico, a hypoxic zone of over 15,000 -square kilometers (almost 5800-square miles) threatens aquatic life through changes in temperature and habitat losses. The Gulf is critical to the national economy and provides some of the Nation's most valuable fisheries.

In 1997, the establishment of the Mississippi River Gulf of Mexico/Watershed (Hypoxia) Task Force offered a new federal-state partnership to help coordinate activities to address Gulf Hypoxia. The Hypoxia Task Force currently is comprised of five federal agencies and 12 Mississippi Atchafalaya Basin states. It provides a forum for federal and state agencies to partner on local, state, and regional efforts and encourage a holistic approach that takes into account upstream sources and downstream impacts. Since the release of the Task Force's 2008 Gulf Hypoxia Action Plan, the Task Force has been focusing on approaches to reduce the nitrogen and phosphorus pollution that collect and ultimately discharge at the mouth of the Mississippi River, where they fuel the Northern Gulf hypoxic zone. Development and implementation of state nutrient reduction strategies is a key Task Force focus, and during 2010 the Task Force adopted a nutrient reduction strategy "road map" to help guide the Task Force states with strategy development, and also convened a nutrient reduction strategy workshop for the lower Basin states. In addition, in 2010 the Task Force agreed to a shared federal-state leadership structure, so that now EPA serves as the federal Co-chair, working closely with the state Co-chair, currently the State of Mississippi.

http://water.epa.gov/type/watersheds/named/msbasin/msbasin_index.cfm. (Hazel Groman, 202-566-1219)

EPA's Community Action for a Renewed Environment (CARE) Program Reduces Pollution in Communities

CARE is a community-based, community-driven program that works with county and local governments, tribes, non-profit organizations, and universities to help the public understand and reduce pollution. In 2011, EPA's Office of Water assumed the lead role for the CARE program, which entails coordinating across the many EPA program offices in headquarters and the regions. The Office of Air and Radiation serves as co-lead.

The CARE program helps communities build capacity to reduce pollution through local collaboration. This "collaborative planning" is essential to leveraging skills and resources, looking at problems holistically, and ensuring sustainable solutions for the community. Consistent with OWOW's watershed protection approach, the CARE program shares a focus on holistic planning, collaboration, and building sustainable solutions for the community.

Since 2005, CARE has provided technical assistance and $14 million in funding to 80 environmentally overburdened communities in 39 states and territories. These CARE grantees have helped communities reduce pollution and protect people's health. Over 90% of CARE Communities are Environmental Justice communities of concern. In addition CARE communities have leveraged one-to-one funding from community partnerships. Over 1,700 partners have been engaged in local CARE projects, including local and state agencies, businesses, citizen groups, and universities. A recent evaluation by the National Association of Public Administrators (NAPA) recognized the CARE program as a solid tested framework for engaging communities. NAPA noted that CARE partners are reducing pollution in their communities. http://www.epa.gov/care/ (Gale Bonanno, 202-564-2243)

Wheeling West Virginia CARE Program

The Wheeling Jesuit University's partnership, which consists of seven rural West Virginia (WV) communities, used the CARE Roadmap to prioritize 140 environmental concerns voiced by citizens, the most pressing of which was drinking water quality. This community project secured temporary potable water supplies to three WV communities and 500 families. Municipal water lines were extended to hundreds of families. West Virginia's state legislature also mandated a study of the underground injection of coal slurry on groundwater and community health along with enacting a temporary moratorium on underground injection of coal slurry in the area. The CARE model is now being replicated to reach other West Virginia communities with similar water quality problems.

Brushy Fork coal sludge impoundment in Raleigh County, W.Va..Photo by Vivian Stockman/ www.sludgesafety.org Flyover courtesy SouthWings.org.

Another view of Brushy Fork--which is a Massey Energy operation. Photo by Vivian Stockman. Flyover courtesy SouthWings.org.

OWOW Helps Launch New National Ocean Policy

On July 19, 2010, the President issued Executive Order 13547 (EO) that establishes the nation's first comprehensive National Policy for the Stewardship of the Ocean, Our Coasts, and the Great Lakes. The EO also establishes a National Ocean Council, which includes Administrator Jackson and 26 other federal members. The EO adopts the Final Recommendations of the Interagency Ocean Policy Task Force, and directs Federal agencies to take action on nine priority objectives most of which relate to EPA's mission and activities. OWOW's Oceans and Coastal Protection Division staffed Agency participation in the Interagency Ocean Policy Task Force by assisting in identification of priority areas needing action, ensuring the inclusion of underserved communities, and defining a broad geographic scope that includes inland sources of impacts. EPA also helped coordinate public and stakeholder listening sessions, reviewed and considered public comments on the draft recommendations, and contributed to legal and other documents to ensure a smooth launch of the new National Ocean Policy. OCPD continues to staff the Agency's participation in the National Ocean Council, co-chairs the Strategic Action Plan on Water Quality and Sustainable Practices on Land, and leads cross-agency participation in the development of the other eight Strategic Action Plans in addition to other activities. The EO, Final Recommendations, and other key documents can be found at the National Ocean Council website. http://www.whitehouse.gov/oceans (Paul Cough, 202-566-0688).

2010 International Coastal Cleanup Urban Waters Event

EPA's Marine Debris Prevention and Urban Water Teams partnered with the Ocean Conservancy (OC) on September 25, 2010, to host a pilot International Coastal Cleanup Urban Waters event at Anacostia Park in Washington, DC. EPA and OC worked closely with local partners including Anacostia Watershed Society, Ward 8 Environmental Council, Sierra Club - DC, and Howard University to make the event a great success. The event included the cleanup of the river, educational exhibits and demonstrations, entertainment, and fun. More than 200 participants from the local community, Anacostia River organizations, and the federal government participated.Volunteers collected trash in the park, along the river, and on the river via canoes. Participants collected over 150 bags of trash, a few large tires, a bicycle, a fire extinguisher, and many other interesting items. Following the cleanup, volunteers enjoyed food and music while browsing through interactive exhibits about the urban-coastal connection and keeping waterways clean and trash-free. The Anacostia Park Aquatic Center was also open for visitors. In addition, the event received a DC Mayoral Proclamation declaring September 25, 2010, Urban Waters International Coastal Cleanup Day. (Katherine Weiler, 202-566-1280)

Photographer: John McShane

Coastal Wetlands Workgroup Conducts Reviews in Key Watersheds

Coastal wetlands provide important ecosystem services that are vital to the health and well-being of our nation, but they are highly susceptible to loss due to coastal development, sea level rise, stormwater runoff, pollutant runoff from agriculture, and other factors. A report by the National Oceanic and Atmospheric Administration and the United States Fish and Wildlife Service found that between 1998 and 2004, in the Eastern United States alone, coastal wetlands disappeared at an average rate of 59,000 acres per year. EPA launched the Coastal Wetlands Initiative in 2009 to seek a more complete understanding of:

- Why are coastal wetland losses occurring?
- Which tools and strategies can combat losses?
- What specific areas of need remain in order to enhance their protection?

Mangrove, Photographer: Nancy Laurson

As part of this effort, EPA is conducting on-site reviews in specific coastal watersheds. The goals are to gather local information and obtain insights from local stakeholders on sources of coastal wetland stressors, effective management tools, and gaps and needs to more effectively address the losses that are representative of the region. In 2010, reviews were held in focal watersheds of the Neuse River, NC and Buzzards Bay, MA, bringing to five the total number of reviews conducted along the Atlantic coast. Information collected as part of these reviews is being finalized in regional review reports that will help inform actions of the Interagency Coastal Wetlands Workgoup to reduce or reverse coastal wetlands loss nationally. In 2011, EPA turned its focal watershed review efforts to the Gulf Coast. (Nancy Laurson, 202-566-1247; or Jennifer Linn 202-566-1258)

New EPA – NOAA Memorandum of Agreement Provides Support for Coastal Communities

Populations and built environments in coastal watersheds are growing rapidly, putting fragile coastal ecosystems and coastal communities at considerable risk. Coastal regions also are very vulnerable to the impacts of climate change. During 2010, OWOW's Oceans and Coastal Protection Division co-led development of an EPA-National Oceanic and Atmospheric Administration (NOAA) five-year Memorandum of Agreement (MOA) that will help coastal communities sustain their natural resources and economies as well as adapt to climate change. The new MOA responds to a recent Interagency Ocean Policy Task Force recommendation that federal agencies integrate and coordinate their partnerships with non-federal entities. Under the MOA, EPA and NOAA will use their respective scientific resources and expertise and provide technical assistance to states, tribes, and local governments working to build their own capacity to help coastal communities protect and restore their coastal ecosystems; develop strategies and use tools to effectively adapt to climate change; and maintain strong economies. The technical assistance will include scientific information, training for natural resource managers and local planners, educational materials, and information about best management practices. (Jamal Kadri,202-566-1248).

Nonpoint Source Program Showcases 215 Success Stories

The Nonpoint Source (NPS) Program's Success Stories document the restoration of water quality in previously NPS-impaired waterbodies. Over the last five years, the program has documented 215 remediated waterbodies across 46 states and territories, totaling 1,650 restored stream miles and 64,567 acres of lakes and reservoirs. To qualify as a success, the project must demonstrate achievement of water quality standards for one or more pollutants and/ or the attainment of one more or more designated uses. These Success Stories showcase many excellent examples of efforts to control a wide array of pollutants from a variety of sources.

- *Puerto Rico attained secondary contact designated uses (e.g., waters safe for boating, wading, and rowing) for 31 miles of tributaries comprising the Río Grande de Manatí sub-basin as a result of several years of efforts to control bacteria from livestock enterprises, urban runoff, communities lacking sanitary systems, landfills, and wastewater discharges. After several years of conducting outreach and ensuring that livestock enterprises developed and implemented waste management plans, fecal coliform levels dropped precipitously in the sub-basin and designated uses for secondary contact were met.*

- *California restored a total of 58 river miles of Sacramento and Feather River segments impaired by widespread use of the organophosphate pesticide, diazinon. The Central Valley Water Board's implementation of the diazinon Total Maximum Daily Load (TMDL) water quality objectives and allocated reductions was instrumental to the successful remediation of these waters, motivating the agricultural community to adopt best management practices and transition to pest management practices that limit diazinon use.*

- *Cobbossee Lake, a large 5238-acre lake in central Maine, valued for its recreational use and as a secondary source of drinking water for the state's capital, Augusta, was restored after a long history of nuisance algae blooms. Almost four decades of restoration efforts, including upstream alum treatments, widespread installation of best management practices, and the collaboration of nine municipalities, resulted in improved water quality and attainment of water quality standards.*

- *Pennsylvania restored nearly 14 miles of Babb and Pine Creeks Watershed, impaired by abandoned mine drainage. After nearly two decades of remediation by active and passive treatment systems, pH and metal concentrations are now meeting water quality standards.*

http://www.epa.gov/owow_keep/nps/Success319/ (Dov Weitman, 202-566-1207)

Interstate Management Conference Advances Coordination on Mercury Emissions

In June 2010, the first-ever Clean Water Act Section 319(g) Management Conference took place in Philadelphia, Pennsylvania. EPA convened the Management Conference in response to a petition from seven Northeast states – Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, and New York. Under Section 319(g), a state may petition EPA to convene an interstate management conference if the state is not meeting water quality standards in whole or in part as a result of nonpoint source pollution from another state. The Northeast states based their petition on the Northeast Regional Mercury Total Maximum Daily Load (TMDL), which indicated that reductions in mercury emissions from outside the Northeast region are needed to meet water quality standards. The petition named eleven upwind states as contributing to deposition in the Northeast: Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia. Air and water program experts from seven Northeast states, the eleven named states, and EPA Headquarters and Regions participated.

Photographer: Eric Vance

Mercury in the air eventually settles into water or onto land where it can be washed into water. Once deposited, certain microorganisms can change it into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish.

The conference included presentations on the Northeast states' Regional Mercury TMDL and 319(g) petition, EPA's mercury deposition modeling, and EPA's schedule of upcoming air regulations to address mercury emissions. Conferees shared successes and lessons learned and identified key areas for further action at the state and national levels in the areas of: technology, global deposition, communications, and product stewardship (i.e., a product-centered approach to environmental protection, which calls on those in the product lifecycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts of products). The conference highlighted the fact that significant action is already underway to reduce mercury emissions. It was agreed that reducing mercury is a national and international issue, not just an upwind downwind states issue. There was great interest among the states in continuing to meet in order to advance mercury reduction efforts at both the state and national levels. States also expressed a strong desire for federal leadership and a comprehensive approach to addressing mercury emissions at the national level. The petition, meeting summary, and other related information are available at: http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/mercury/319g.cfm. (Ruth Chemerys, 202-566-1216)

Data Collection Continues on Four Major National Aquatic Resource Surveys

Working with partners in the states, tribes, and other federal agencies, OWOW is leading a series of statistically-representative surveys of the nation's waters. These National Aquatic Resource Surveys (NARS) report on the condition of the nation's waters using core indicators and standardized lab and field methods. The NARS help improve the states' capacity for water quality monitoring and assessment. The survey team and its state, tribal, and federal partners made significant progress in all four assessments in 2010.

Participants in the National Wetlands Condition Assessment set up a vegetation sampling plot. Photographer: Joan Hurley

The Fifth National Coastal Condition Assessment (NCCA) During the summer of 2010, field crews completed sampling from more than 1,300 sites in the nation's estuarine waters and the Great Lakes. Scientists monitored a wide range of water column constituents such as dissolved oxygen, temperature, pH, and nutrients; sediment indicators such as sediment toxicity and benthic macrofauna; and fish tissue. State and contract labs will be analyzing and validating the NCCA data in early 2011, with a final report expected by December 2012. http://water.epa.gov/type/oceb/ (Contact Greg Colianni, 202-566-1249)

National Rivers and Streams Assessment (NRSA) In 2010, scientists conducted lab analysis of National Rivers and Streams Assessment (NRSA) samples collected in the summers of 2008 and 2009. The NRSA includes an evaluation of changes in the condition of small streams compared to the finding of the 2004 Wadeable Streams Assessment, as well as an assessment of the current condition of streams and large rivers (including the Great Rivers such as the Mississippi and Missouri Rivers), and the key stressors in those waters.

The National Wetlands Condition Assessment (NWCA) This first-ever survey of the ecological integrity of the nation's wetlands will help inform the public about the health of the nation's wetlands and identify the most common causes of wetland degradation. In 2010, the NWCA planning team finalized plans for sampling, set to begin in 2011. The team selected locations, finalized methods, and produced technical support documents. These accomplishments were the culmination of more than four years of rigorous scientific research, pilot surveys, and stakeholder outreach to ensure the technical products supporting the NWCA are of the highest quality. As with the other National Aquatic Resource Surveys, results will be provided in a report, to be issued in 2013. When paired with national information produced by Fish and Wildlife Service describing the quantity or extent of wetland resources, wetland managers will have a stronger basis for developing effective protection strategies . http://water.epa.gov/type/wetlands/assessment/survey/index.cfm. (Contact Michael Scozzafava, 202-566-1376)

The second ***National Lakes Assessment*** was in its research and planning phase, with sampling scheduled to begin in 2012. www.epa.gov/aquaticsurveys (Sarah Lehmann, 202-566-1379)

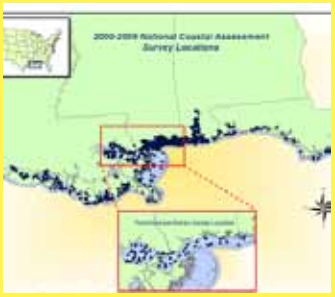
OSV BOLD Conducts 29 Scientific Surveys

Photographer: Charles LoBue

The OSV BOLD supported EPA regional and headquarter priorities along the East Coast, and in the Gulf of Mexico, and the Caribbean during 2010. A wide variety of environmental monitoring was conducted over 238 sea days. Some 29 scientific surveys were performed and 3 educational events were held for the public and community leaders at several major ports, including ports in urban waters. The primary mission of the OSV BOLD is to conduct surveys of the nation's Ocean Dredged Material Disposal Sites (ODMDS). Seven disposal sites were evaluated along the East Coast and in the Caribbean in 2010. The data collected indicate that the disposal sites are being used properly; they are performing as designed; and no impacts to human health or aquatic life were demonstrated. In addition to the ODMDS evaluation surveys, the OSV BOLD also performs coastal eutrophication and toxicity assessments, monitors ocean outfalls, assesses critical coral reef habitats and the impacts of invasive coral species, monitors hypoxia conditions within the Gulf of Mexico, and gathers marine debris data. http://water.epa.gov/type/oceb/assessmonitor/osvbold_index.cfm (Kennard Potts, 202-566-1267)

Photographer: Chris McArthur

Responding to the Gulf of Mexico BP Oil Spill



In response to the massive BP Oil Spill that began in the Gulf of Mexico in April 2010, EPA regional and contractor crews collected pre- and post-spill samples along the Gulf coast and beyond for chemicals related to oil and dispersants; supported and advised federal partners in efforts to clean reclaimed oil and waste from shorelines; and monitored the effects of dispersants in subsurface waters.

During the crisis, OWOW staff played an instrumental role in assessing the collected data against risk-based aquatic life and human health benchmarks and posting the data on the web. To document the impacts of the oil spill and determine if contaminants are accumulating over time, these data are now being compared to long-term, consistent, baseline water-quality data, primarily National Coastal Condition Assessment data from 2000 to 2006 (http://www.epa.gov/emap/nca/index.html). Though these data may not include all contaminants of concern, they will support evaluation of changes following the spill and subsequent restoration activities. EPA continues to coordinate with federal agencies such as the National Oceanic and Atmospheric Administration, U.S. Geological Survey, and Food and Drug Administration to provide sampling locations, advocate indicators to sample, and share data and protocols. http://www.epa.gov/bpspill/ (Treda Grayson, 202-566-0916)

Climate Ready Estuaries Program Helps Reduce Vulnerabilities to Climate Change

During 2010, the The Climate Ready Estuaries (CRE) Program and its National Estuary Program (NEP) partners became increasingly involved in climate change adaptation efforts across the country and were at the cutting edge of this field. The White House Council on Environmental Quality (CEQ) recognized CRE for its work in helping resource managers reduce their vulnerability to climate change effects, and CEQ's Climate Adaptation Task Force cited CRE as a good example of a Federal program helping to facilitate adaptation at the local level.

EPA provided targeted support to NEPs through grants and technical assistance, access to key resources, and tools through the CRE website and Coastal toolkit and EPA also facilitated collaboration and communication among NEP Partners and other federal, state, regional, and local organizations. NEP partner accomplishments include: the development of climate change indicators by two NEPs, one NEP's sponsorship of a vulnerability assessment and development of adaptation options for several key resources in the NEP study area; and the development by one NEP of a report providing scientific projections about climate change for the NEP's study area followed by the NEP's development of an outreach plan for educating local decision makers and stakeholders about the contents of that report. http://www.epa.gov/climatereadyestuaries/. (Michael Craghan, 202-566-1946)

Ex-USS Kittiwake Sunk at Last: First International Vessel-to-Reef Project

EPA, the United States Maritime Administration, the Cayman Islands Tourism Association, and the Cayman Islands Department of the Environment worked closely to successfully complete the First International Vessel-to-Reef Project. The Ex-USS Kittiwake was prepared and cleaned to maintain a clean and safe marine environment, as well as to provide potential habitat for aquatic organisms. On November 12, 2010, EPA issued a clearance letter to the Cayman Islands government, indicating that both the requirements of TSCA and the cleanup goals of the BMP Guidance had been met. On December 17, 2010, the vessel towing from Norfolk, Virginia to the Cayman Islands commenced, and the Kittiwake arrived at Grand Cayman on December 25. The vessel was sunk off the lee side of Grand Cayman on January 5, 2011. The vessel is currently sitting upright at a depth of 65 feet, with the uppermost structure of the vessel just 15 feet below the surface. (Laura Johnson, 202-566-1273)

Environmental Justice Geographic Information System (GIS) Tools

In 2010, the Watershed Branch spearheaded development of a series of GIS applications which allow users to identify and map low-income and minority communities in relation to various National Water Program interests. For example, census tracts in the Philadelphia/Trenton area that ranked among the top 5 percent in Pennsylvania and New Jersey in terms of the percentage of residents living below the poverty level and those that are minorities can be displayed along with the locations of waters listed as impaired under the Clean Water Act Section 303(d) program. Armed with such information, EPA and its state partners can target and prioritize TMDL and related restoration efforts that would benefit Environmental Justice (EJ) communities, helping to fulfill the Administrator's pledge to "address our long-neglected urban waters." Examples of other custom EPA GIS application utilizations include:

1) The Office of Ground Water and Drinking Water helping to facilitate their analysis of drinking water facilities in relation to EJ communities;
2) The National Urban Waters Team helping to explore the consequences of alternative definitions of "urban" in support efforts that aid recovery of urban waters; and
3) The Office of Wastewater Management's EJ outreach and impacts assessment as part of the upcoming Confined Animal Feedlot rulemaking.

Updates are anticipated in 2011 as the 2010 National Census data become available as well as additional analyses that target other water programs. (Dwight Atkinson, 202-566-1226)

Lake Outreach Materials Developed for National Lakes Assessment

The National Lakes Assessment (NLA), the first-ever comprehensive, statistically-based survey of the quality of U.S. lakes, found that shoreline habitat loss and nutrient pollution are two major causes of lake impairment. In fact, poor biological health was found to be three times more likely in lakes with poor lakeshore habitat. In 2010, OWOW reached out to state fishing agencies, realtors, lake managers, lake associations, and watershed groups to stress the importance of protecting and restoring natural shorelines. The following new products are available on the EPA Clean Lakes page at www.epa.gov/owow/lakes::

- *Learning About Lakefront Property- A short guide to help prospective waterfront property owners and existing lakefront property owners learn about about benefits and responsibilities of lakefront property ownership*
- *Healthy Lakes & Higher Property Values- Fact sheet to help real estate professionals learn about ways to protect our nation's lakes and lake shores and property values*
- *Lake Shoreland Protection Resources Clearinghouse for Information on Lakeshore Protection and Restoration – a comprehensive listing of fact sheets, websites, and other resources developed by states, academics, federal agencies and nonprofits on lakeshore protection and restoration topics.*
- *Archived EPA Watershed Academy Webcasts on the National Lakes Assessment: Reporting on the Condition of the Nation's Lakes and Healthy Shorelines Through Better Shoreline Stewardship*
- *Natural Lakeshore Tips Downloadable Widget*

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