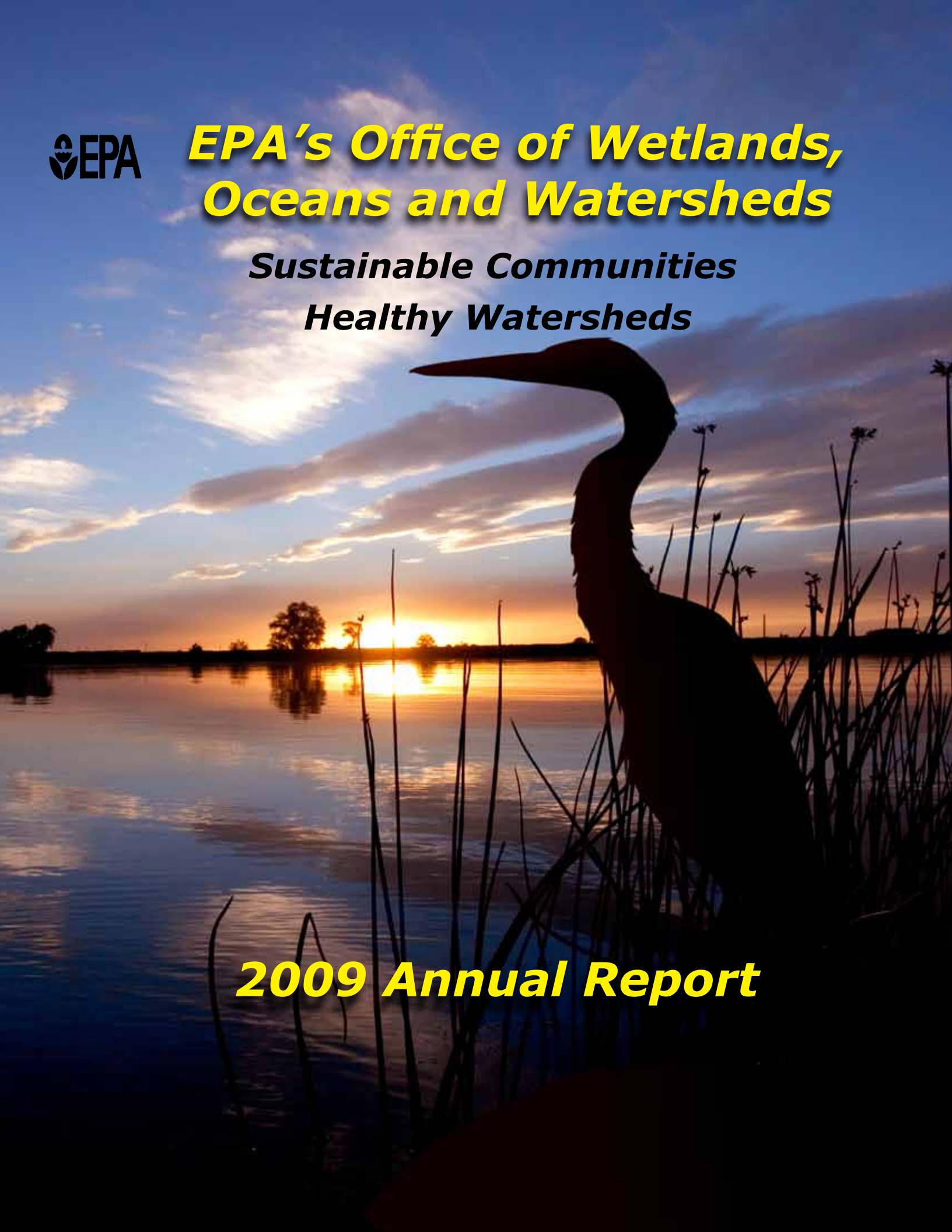

EPA's Office of Wetlands, Oceans and Watersheds

Sustainable Communities
Healthy Watersheds

2009 Annual Report

Note from the OWOW Director

I take the helm as the Director of EPA's Office of Wetlands, Oceans and Watersheds (OWOW) at an exciting and challenging time. As EPA Administrator Lisa Jackson has conveyed, America's waterbodies are imperiled as never before. At the same time, the federal government, states, territories and tribes are facing serious fiscal challenges. I fully embrace Administrator Jackson's principles of sound science, the rule of law and transparency as our guideposts in protecting and restoring America's waters, and, as Director of OWOW, I will strive to focus resources and efforts in those areas that hold the most promise for delivering significant environmental and human health results. I am committed to working with the OWOW leadership team, OWOW staff, and all of our stakeholders to ensure that we do our best to partner with others to maximize environmental and human health results and ensure that the public's dollar is spent wisely.

This Annual Report reflects some of OWOW's most significant accomplishments in 2009, which would not have been possible without the hard work of our dedicated OWOW staff and countless state, tribal and local partners. While we have much to celebrate, many challenges lie ahead.

In the coming year, we must strengthen our efforts to clean up and restore impaired waters, protect healthy watersheds, and address very complex environmental issues like nutrient over-enrichment and climate change. OWOW will continue to play a significant role in several of the Agency's major "place-based" water quality initiatives, including the implementation of the Chesapeake Bay Executive Order and Strategy and actions to address the hypoxic zone in the Gulf of Mexico. As the Office of Water continues to be the co-lead for EPA's Community Action for a Renewed Environment (CARE) program as well as through implementation of the new Urban Waters initiative, OWOW will help champion environmental justice and further environmental protection for underserved communities that have been disproportionally impacted by pollution.

OWOW will continue its critical work to assess the status and trends of the health of the nation's waters, including the National Aquatic Resource Surveys. We will also continue to play an important role in partnership with the Army Corps of Engineers, in ensuring that dredge and fill permits meet Clean Water Act requirements and that waters that are covered by the jurisdiction of the Clean Water Act receive these protections.

I look forward to leading OWOW in these important endeavors. We have very dedicated and talented staff in OWOW, and working together with our partners, I believe we can achieve the Office of Water's vision for healthy watersheds and sustainable communities.

Sincerely,

Denise Keehner, Director
Office of Wetlands, Oceans and Watersheds

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

OWOW is one of five 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 our 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

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

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

Presidential Task Force Proposes New Policy and Framework for Improved Stewardship of the Oceans, our Coasts and the Great Lakes

From June to December 2009, OWOW's Ocean and Coastal Protection Division led EPA's participation in the President's Interagency Ocean Policy Task Force. EPA helped to develop the nine priority objectives proposed by the Task Force, including:

- ***Ecosystem-Based Management:*** Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes. Examples of EPA programs that embody ecosystem-based management include the 28 National Estuary Programs, the Chesapeake Bay Program, and the Gulf of Mexico Program.

- ***Coastal and Marine Spatial Planning***: Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States. EPA helped to develop various aspects of the proposed Coastal and Marine Spatial Planning Framework, such as its geographic scope, which extends from the outer edge of the U.S. Exclusive Economic Zone to the mean high water line, including inland bays and estuaries. The Framework also may include upland areas that deliver pollutants to coastal and estuarine waters.

- ***Resiliency and Adaptation to Climate Change and Ocean Acidification:*** Strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification. For example, EPA's Climate Ready Estuaries Program increases resiliency and adaptation to climate change.

- ***Regional Ecosystem Protection and Restoration:*** Establish and implement an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the Federal, State, tribal, local, and regional levels.

- ***Water Quality and Sustainable Practices on Land:*** Enhance water quality in the ocean, along our coasts, and in the Great Lakes by promoting and implementing sustainable practices on land. This objective would incorporate much of EPA's work on hypoxia, nutrients, urban waters, marine debris, and stormwater management.

For more information, visit: www.whitehouse.gov/administration/eop/ceq/initiatives/oceans. (Contact: Paul Cough, 202-566-0688

National Lakes Assessment Finds Degraded Habitat and Nutrients as Leading Causes of Problems in Nation's Lakes

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 are designed to report on the condition of the nation's waters using core indicators and standardized lab and field methods, and to help improve states and tribal capacity for monitoring and assessment.

Conducting a lakeshore habitat assessment in Idaho (photo: USEPA Region 10)

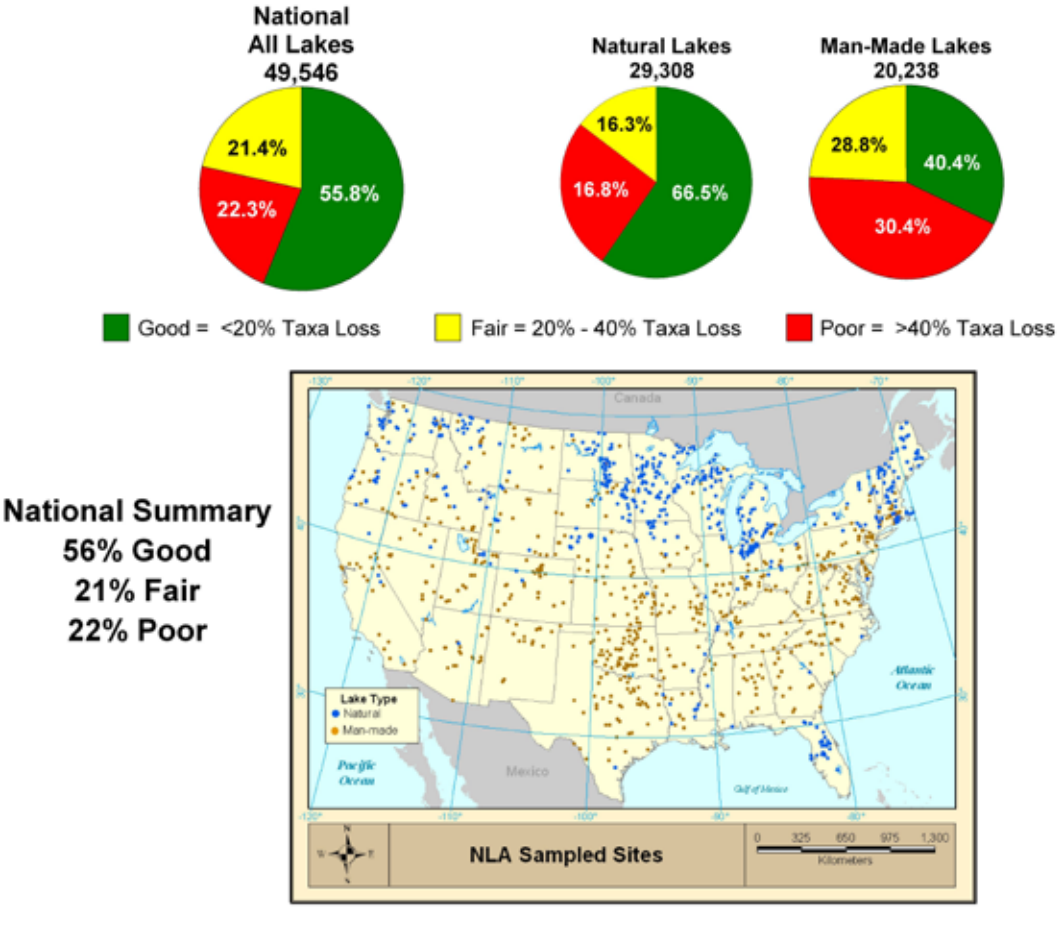
In 2009, OWOW issued the draft National Lakes Assessment report (www.epa.gov/lakesurvey) the first-ever baseline study of the condition of the nation's lakes (both natural and man-made).

Key Findings from the National Lakes Assessment:

- 56% of lakes support healthy biological communities and the remaining lakes are in fair or poor condition (See figure on page 7).
- Degraded lakeshore habitat, rated "poor" in 36 percent of lakes, is the most significant of the problems assessed. Poor biological health is three times more likely in lakes with poor lakeshore habitat relative to lakes with good habitat. Removal of trees and shrubs and construction of docks, marinas, homes and other structures along shorelines all contribute to degraded lakeshore habitat.
- Two nutrients—nitrogen and phosphorous—are at high levels in 20 percent of lakes. Poor biological health is 2.5 times more likely in lakes with high nutrient levels. Excess levels of nutrients contribute to algal blooms, weed growth, reduced water clarity, and other lake problems.

OWOW's National Aquatic Resources Survey Team also successfully concluded the second of two years of sampling for the National Rivers and Streams Assessment (a report is scheduled for 2011) and moved forward with the planning for the upcoming National Coastal Assessment (sampling in 2010) and National Wetland Condition Assessment (sampling in 2011). For more information, see www.epa.gov/aquaticsurveys (Contact: Sarah Lehmann, 202-566-1379)

Biological Condition of the Nation's Lakes (from Draft National Lakes Assessment report)



Coastal Wetlands Initiative Seeks to Curb Growing Threats from Storms and Climate Change

Growing awareness of severe threats to coastal areas posed by climate change, devastation caused by recent hurricanes, and two recent reports have prompted EPA to examine the management of the nation's coastal wetlands. A report by the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Fish and Wildlife Service (USFWS) finds that, from 1998 to 2004, wetlands in coastal watersheds in the Great Lakes, Atlantic, and Gulf coasts have experienced an average net decrease of 59,000 acres per year. A second report by the Association of State Wetland Managers recommends facilitation among climate, watershed and coastal zone programs, and identification and dissemination of best management practices to protect and help wetlands adapt to impacts of climate change.

Recent studies show an average net loss of 59,000 acres of coastal wetlands per year. A new Interagency Workgroup will coordinate restoration and protection strategies.

In response to these findings, EPA's Wetlands Division and Oceans and Coastal Protection Division created a *Coastal Wetlands Initiative* with the goals of:

1) confirming wetland loss and better understanding contributing stressors;
2) identifying and disseminating tools, strategies, policies and information to protect and restore coastal wetland resources; and
3) raising awareness of the functions and values of, threats to, and opportunities to protect and restore coastal wetlands.

One significant undertaking of the Coastal Wetlands Initiative is to conduct seven regional reviews of coastal wetlands to understand the stressors as well as restoration and protection strategies to reduce or reverse loss. EPA will use the regional reviews and follow-up workshops to gather input and to stimulate dialogue among stakeholders to facilitate a more coordinated and robust effort to protect and restore coastal wetlands. Reviews have been completed in the Mid-Atlantic and South Atlantic regions. In pursuing these goals and activities, EPA is coordinating with an Interagency Coastal Wetlands Workgroup including NOAA, USFWS, US Department of Agriculture, Natural Resource Conservation Service, the Army Corps of Engineers, US Geological Survey, and the Federal Highway Administration. (Contact: Clay Miller, 202-566-1365; or Nancy Laurson, 202-566-1247)

Healthy Watersheds Initiative Focuses on Protecting Clean Waters

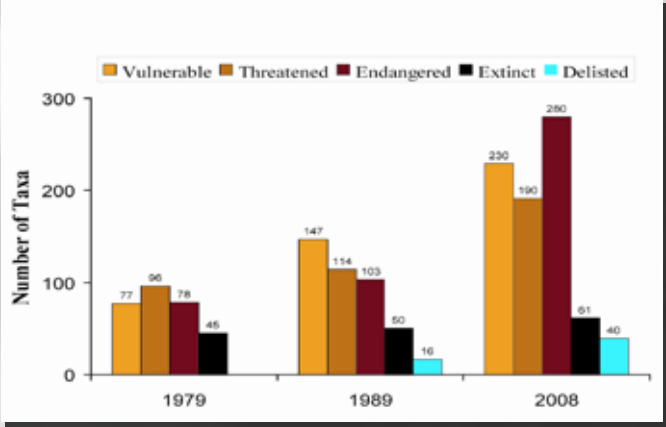
Recognizing the need to conserve and protect healthy aquatic ecosystems, as well as to restore impaired ones, EPA recently launched the Healthy Watersheds Initiative. The Healthy Watersheds Initiative focuses on using a holistic approach to protect and restore ecosystems. The cost of protecting watersheds is much less than the cost of restoring waters, so choosing to protect ecologically valuable systems will save money in the long run. Additional benefits include preserving habitat for fish and other wildlife, providing recreational opportunities, offering better protection against storms and floods, and lowering water treatment costs. In April 2009, EPA launched the Healthy Watersheds Web site, www.epa.gov/healthywatersheds, which presents a series of conservation and protection approaches and provides links to case studies and reports. The Web site also provides tools for:

- Habitat and biodiversity conservation
- Green infrastructure and landscape conservation
- River corridor protection
- Instream flow protection
- Land protection programs and local land use ordinances

In July 2009, EPA developed a 4-page fact sheet (available on the Healthy Watersheds Web site) that explains the approach and its benefits. In 2010, EPA anticipates releasing a Healthy Watersheds technical guide. EPA is also working in partnership with the states on a Healthy Watersheds Initiative National Framework and Action Plan, a companion communications plan, and a set of indicator measures for healthy watersheds. (Contact: Laura Gabanski, 202-566-1179)

Why EPA launched the Healthy Watershed Initiative

Despite significant efforts to restore aquatic ecosystems in various watersheds across the nation, the unfortunate trend is the continued decline of these valuable systems. For example, the rate at which new waters are being added to EPA's listing of impaired waterbodies continues to outpace the rate at which restored waters are being removed from this list. Pollution and water quality problems tell only part of the story; our nation's aquatic ecosystems are also imperiled by loss of habitat and stream connectivity, hydrologic alteration, invasive species, and climate change.



The number of imperiled North American freshwater and diadromous fish taxa continue to climb (Jelks, et al., 2008)]

EPA Signs Interagency MOU to Improve Oversight of Surface Coal Mining Activities in Appalachia

On June 11, 2009, EPA, the U.S. Department of the Army, and the U.S. Department of the Interior signed a Memorandum of Understanding (MOU) implementing an interagency action plan on Appalachian surface coal mining. This action plan was designed to significantly reduce the harmful environmental consequences of Appalachian surface coal mining operations.

The Action Plan includes both short-and long term actions for:

- strengthening existing policy and guidance
- gathering public input
- assessing the effectiveness of current policy, and
- developing regulatory actions.

A picture of a mountaintop removal site.

"Mountaintop coal mining cannot be predicated on the assumption of minimal oversight of its environmental impacts, and its permanent degradation of water quality. Stronger reviews and protections will safeguard the health of local waters, and thousands of acres of watersheds in Appalachia."

EPA Administrator Lisa P. Jackson

Appalachian coal mining has buried an estimated 2,000 miles of streams in states including West Virginia. Scientific studies have increasingly identified significant water quality problems below surface coal mining operations that can contaminate surface waters for hundreds of years. Data from coalfield communities also indicate that coal mining can be responsible for causing fish kills and contaminating fish and wildlife. A key feature of the MOU is enhanced coordination among agencies on the review of 79 imminent mining permits, which is expected to provide for reduced environmental impacts of mining operations, improved monitoring of streams, and enhanced compensatory mitigation for stream impacts, among other improvements. (Contact: Brian Frazer, 202-566-1652)

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

EPA's Office of Solid Waste and Emergency Response and Office of Water (OW) are co-leading EPA's multimedia Community Action for a Renewed Environment (CARE) program, which is achieving measurable environmental results at the community level. Starting in 2011, OW will coordinate the program with the Office of Air as its co-lead.

CARE is a community-based program that works with county and local governments, tribes, non-profit organizations and universities to help the public understand and reduce toxic risks from numerous sources. The CARE process helps communities build capacity to reduce toxics and 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. The CARE program and OWOW watershed protection programs share a focus on holistic planning, collaboration and building sustainable solutions for the community.

Through CARE, EPA has provided technical assistance and $12 million in funding cumulatively to 68 environmentally overburdened communities in 34 states and territories across the U.S. Over 90 percent of CARE projects are in Environmental Justice (EJ) communities of concern. In addition, CARE projects have leveraged almost an additional 50 percent from local partner organizations. Over 1,500 partners have been engaged in local CARE projects, including local and state agencies, businesses, citizen groups, and universities.

A recent evaluation by the National Academy of Public Administration (NAPA) recognized the CARE program as a solid, tested framework for engaging communities and other stakeholders. The NAPA Panel concluded that the CARE program has successfully demonstrated that the concept works well to combine EPA expertise with community capacity-building to address risks from all sources of toxics in underserved communities. NAPA noted that CARE partnerships are changing their environments and reducing pollution in their communities. For more information about CARE, www.epa.gov/care (Contact: Gale Bonanno, 202-564-2243)

CARE
LOCAL PARTNERSHIPS. HEALTHY COMMUNITIES.

Toxic Discharges Reduced in Lake Superior

The Lake Superior Watershed Partnership, a CARE grantee, worked with the State Dentistry Association in Michgian to convince more than 30 dental offices to voluntarily install mercury-amalgam separators, decreasing the amount of mercury discharged from Marquette's wastewater treatment plant to Lake Superior by 19 percent.

The Partnership also furthered environmental stewardship by joining with 9 faith communities (125 congregations) to focus on pharmaceuticals in water. An Earth Day "Clean Sweep" collected one ton of unwanted medications from about 2,000 people and ensured the medications were responsibly disposed.

Watershed Central & Wiki Offer One-Stop Shopping for Watershed Practitioners

Restoring the health of the nation's waterways requires access to a wide variety of data, assessment tools, and funding sources to manage pollution effectively. It also depends on collaboration between multiple landowners and state, local, and federal environmental management agencies. Approaching restoration with a well documented watershed plan allows stakeholders to pull all of the analyses, public goals, and clean-up actions together into one orchestrated water resource management effort. Until now, local watershed managers had to search several publications and Web sites for funding, assistance programs, and other sources of watershed management expertise in order to plan their watershed projects. To make watershed management related information easier to find and use, EPA developed and launched "Watershed Central" in 2009 at www.epa.gov/watershedcentral.

Watershed Central is a Web site that identifies, connects, and organizes relevant federal government and university Web sites, state and local program resources and key publications for state and local managers to guide them during each step in the watershed management process. The Web site includes a "wiki," which allows watershed managers to share information sources and tools by writing articles about their resources and posting them online for all to see. Other users of the "wiki" can read and comment on these articles, rate the usefulness of watershed tools, or contact experts for additional information.

The Wiki allows users to:

- *Share best practices, case studies and lessons learned;*
- *See what other watershed organizations are doing and learn from them;*
- *Identify partners in your watershed;*
- *Rate and comment on watershed management tools or report on new tools;*
- *View a map with water monitoring stations, land use types, watershed boundaries, high-resolution aerial photography, and more;*
- *Publish watershed management plans for others to learn from;*
- *Create a page about your organization, add a map, and share it amongst members of your group; and*
- *Build the community knowledge base.*

Watershed Central's Web 2.0 Wiki

EPA's Office of Water worked with the Office of Research and Development and Office of Environmental Information to develop Watershed Central and the wiki. Watershed Central's wiki is one of EPA's first wikis and represents the successful use of "Web 2.0" which is, in essence, all about two-way communication and collaboration. Future plans include modeling assistance and enhanced online mapping. (Contact: Stuart Lehman, 202-566-1205)

Climate Ready Estuaries: Enhancing Capacity for Climate Change Adaptation in the National Estuary Program

Building on the success of pilot efforts to develop climate change vulnerability assessments and adaptation plans for six NEPs in 2008, OWOW's Climate Ready Estuaries (CRE) program provided targeted start-up grants and technical assistance to seven NEP partners in 2009. Projects were diverse and built upon lessons learned from experience with the 2008 pilots.

- Albemarle-Pamlico Sound (North Carolina), Casco Bay (Maine), Barnegat Bay (New Jersey) and Charlotte Harbor (Florida) hosted listening and stakeholder involvement sessions for the public and decision makers.
- Partners in the Delaware Estuary (Delaware) and Indian River Lagoon (Florida) focused efforts on developing vulnerability assessments leading to local adaptation plans.
- In Long Island Sound (Connecticut-New York) collaborators are working on a climate change monitoring plan and municipal-level adaptation plan.
- Tampa Bay (Florida) is developing a handbook to inform "climate sensitive" habitat restoration in the Gulf of Mexico.
- In November 2009, the City of Punta Gorda (Florida) and the Charlotte Harbor National Estuary Program became the first CRE program partner – and one of the first municipalities in the nation – to adopt a plan for adapting to climate change.

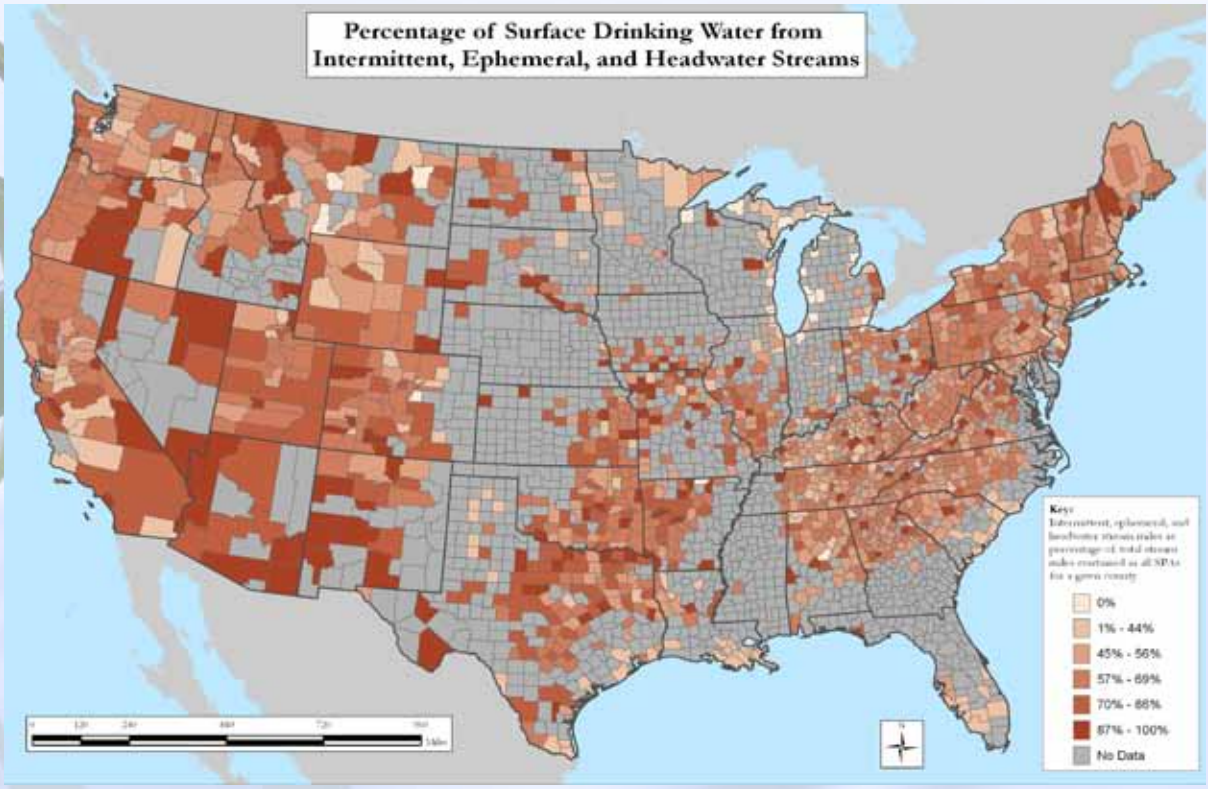
In 2009, the City of Punta Gorda (Florida) and the Charlotte Harbor National Estuary Program became the first CRE program partner – and one of the first municipalities in the nation – to adopt a plan for adapting to climate change.

Partner accomplishments are summarized in a new CRE report.

In June 2009, the CRE program convened a two-day workshop, bringing partners together to discuss lessons learned and ongoing challenges, and to chart a course for the program. The CRE program captured discussions from this workshop and summarized partner accomplishments from 2008 and 2009 in a progress report available for download on the CRE website (www.epa.gov/cre). The CRE program also continued to strengthen its online toolkit of adaptation resources (www.epa.gov/cre/toolkit.html) in 2009, adding an "Adaptation Planning for the National Estuary Program" guide and the "Synthesis of Adaptation Options for Coastal Areas" document. The Synthesis document has been highlighted by other federal agencies such as the National Oceanic and Atmospheric Administration and USAID, and downloaded thousands of times. The CRE program continues to be widely recognized as a leader and innovator in the fast-moving field of coastal climate change adaptation. (Contact: John Whitler, 202-564-1929)

New Analysis Highlights Importance of Intermittent, Ephemeral and Headwater Streams to Public Drinking Water Sources

A recent analysis conducted jointly by the Wetlands Division and the Office of Groundwater and Drinking Water highlights the importance of intermittent, ephemeral, and headwater streams as sources of drinking water for about 117 million people, over one-third of the U.S. population. The analysis combined state and EPA drinking water data with stream data from U.S. Geologic Survey's National Hydrography Dataset to identify those public drinking water systems that rely at least in part on intermittent, ephemeral, or headwater streams. These types of streams are more difficult to protect after the U.S. Supreme Court decision *Rapanos v. United States*. The results were provided to Congress to inform their deliberations.on whether to address *Rapanos* legislatively. In addition, a number of news outlets have relied on the study to highlight local public health implications of *Rapanos*. The data are available at a national, state, and county level at www.epa.gov/owow/wetlands/science/surface_drinking_ water/index.html (Contact: Rachel Fertik, 202-566-1452)



Wetlands Division staff worked closely with the Office of Enforcement and Compliance Assurance to provide technical assistance to Congress on the full suite of implications resulting from the Rapanos decision. This included summarizing the environmental, programmatic, and enforcement effects of the decision, the results of which were presented to over 70 key Senate staff.

Video Contest Recognized by White House as Milestone in Open Government

President Obama's 2008 political campaign revolutionized the use of the Internet and Information Technology, utilizing information sharing, social networking, and online collaboration tools to engage citizens. Former OWOW director Craig Hooks recognized the value of these new technologies to reach out to younger generations and came up with the idea of hosting an on-line video contest. By marketing on Facebook and using other Web 2.0 tools, the contest drew an unexpectedly high number of entries. More than 250 videos were uploaded to EPA 's *YouTube* Channel – far exceeding expectations. In addition, the channel generated more than 28,000 collective *YouTube* views between the start and the end of June 2009 when winners were chosen, with thousands more hits to date. Contest submissions covered wetlands and watershed protection, marine debris prevention and other topics. Videos used creative and humorous ways to convey important environmental messages. Some of the best submissions are now being used as Public Service Announcements. In addition to the wide appeal this innovative project had with the public, 7 different EPA program offices and 2 Regions have expressed interest in implementing a similar video contest and approached OWOW for its guidelines/ lessons learned document. To view (and download) the winners and honorable mentions, visit: www.epa.gov/owow/videocontest.html (Contact: Patty Scott, 202-566-1292).

OWOW Forms New Capacity Building Team

As part of EPA's national strategy for improving water quality on a watershed basis, in 2009 OWOW established a cross-divisional Capacity Building Team to accelerate local watershed protection efforts. The role of the Capacity Building Team is to facilitate the work of local governments and watershed groups by providing them with the tools they need to succeed. The new team is charged with targeting the communication of training and tools to local watershed groups and government agencies, leveraging 3rd party providers to enhance support to local watershed organizations, gaining better external feedback on the effectiveness of OWOW's capacity building tools, and identifying new tools to further enhance capacity building. The team's early accomplishments include delivering the Watershed Academy live training course *Key EPA Internet Tools for Watershed Management*, with updated content at www.epa.gov/watershed/wacademy/epatools, and completing an inventory of approximately 100 distinct tools and activities for which OWOW has a lead role. The team will build from this base. (Contacts: Don Waye, 202-566- 1170; Alison Keener, 202-566-3222)

Marine Debris Prevention Gathers Momentum after Summit

Marine debris is a pervasive environmental problem that stretches beyond the set responsibilities of any individual EPA office or federal agency. EPA's Marine Debris Prevention Workgroup, led by OWOW, is using a comprehensive approach to address the types, sources, movement, and impacts of marine debris. Workgroup members include the Office of Wastewater Management; the Office of Solid Waste; the Office of Prevention, Pesticides, and Toxic Substances; and EPA Regional offices. In 2009, the workgroup hosted a successful two-day Marine Debris Prevention Summit to enhance information exchange and to strengthen the links between program efforts and marine debris prevention. Summit participants included staff from EPA Headquarters and Regions 1, 2, 3, 4, 8, 9, and 10, as well as expert guest speakers. The Summit identified a number of key recommendations for 2010.

In addition in 2009, the Interagency Marine Debris Coordinating Committee, co-chaired by EPA and NOAA, submitted a progress report to Congress that provided an update on all Federal agencies' activities undertaken between June 2008 and December 2009 to address marine debris, as mandated by the Marine Debris Research, Prevention, and Reduction Act. This is the first progress report since the *Interagency Report on Marine Debris Sources, Impacts, Strategies and Recommendations* submitted to Congress in August 2008. More information is available at www.epa.gov/owow/oceans/debris/index.html. (Contacts: Katherine Weiler, 202-566-1280; Ashley Greene, 202-566-1738)

EPA Tackles Vessel Discharges

Regulations, best management practices, guidance, recommendations, and research are all key components of OWOW's Vessel Discharges Program. Under Section 312 of the CWA, EPA is directed to develop standards and management practices for certain discharges. In 2009, EPA began assessing the need to revise and update vessel sewage standards and also began the development of proposed regulations to establish best management practices for discharges incidental to the normal operation of recreational vessels under the Clean Boating Act (CBA). The CBA will impact approximately 17 million recreational vessels and cover discharges such as bilge water, graywater, bottom fouling (invasive species), and cleaning and maintenance discharges. In addition in 2009, OWOW completed the Cruise Ship Plume Dilution Report that studied the near-field dilution of treated sewage and graywater discharges from docked cruise ships in Skagway Harbor, Alaska. (Contacts: Kathryn Benz, 202-564-1223; Brian Rappoli, 202-566-1548)

Vessel-to-Reef Project Provides Habitat for Fish and Other Aquatic Life

On May 27, 2009, the ex-USS Gen. Hoyt S. Vandenberg, a 522 ft. former USAF Long Range Instrument Platform Tracking ship previously maintained by the Maritime Administration, was sunk in 140 feet of water approximately six miles south-southeast of Key West in the Florida Keys National Marine Sanctuary. EPA conducted a number of vessel walkthroughs to assess the vessel clean-up and preparation prior to its sinking to create an artificial reef. The vessel was scuttled within one minute and 44 seconds. This new artificial reef, the largest in the Florida Keys National Marine Sanctuary and the second largest in the world, will provide habitat for reef fish and many other aquatic species. (Contact: Laura Johnson, 202-566-1273)

This deck view of the ex-USS Gen. Hoyt S. Vandenberg shows the modifications made to secure items on the deck that may otherwise break free from the vessel during sinking. Such modifications, which help avoid the generation of marine debris, follow the 2006 guidance document jointly issued by EPA and the Maritime Administration, "National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs." Two radar dishes which are 30-40 feet in diameter can be seen in the center and upper left hand corner of the photo. These dishes were removed, then welded back to trimmed down bases, and further secured to the deck with cables. In the water surrounding the vessel is a floating boom, used to contain any debris or liquid that may escape the vessel during the final cleanup and preparation.

The new submerged artifical reef will provide habitat for reef fish and other aquatic species

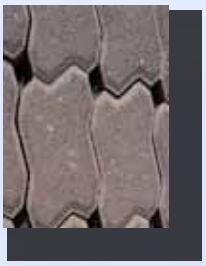
EPA Guidance Helps Federal Facilities Better Manage Stormwater

In December 2009, EPA issued guidance to help federal agencies minimize the impact of federal development projects on nearby water bodies. The guidance, issued as part of the Energy Independence and Security Act of 2007 (EISA) and an Executive Order signed by President Obama, calls upon all federal agencies to lead by example to address a wide range of environmental issues, including stormwater runoff. Under EISA Section 438, federal agencies must minimize stormwater runoff from federal development projects to protect water resources. Federal developments that exceed 5,000 square feet must maintain or restore pre-development hydrology. To assist federal agencies, the guidance provides a step-by-step framework that will help retain rainfall on-site through infiltration, evaporation/transpiration, and re-use.

New Stormwater Video helps Communities Educate People about Low Impact Development

In 2009, OWOW released a 9-minute video, "Reduce Runoff: Slow It Down, Spread It Out, Soak It In," which highlights green techniques such as rain gardens, green roofs, and rain barrels that help manage stormwater runoff in a more sustainable manner. The film showcases green techniques that are being used in urban areas to minimize the impacts of stormwater runoff. It includes techniques on display at the U.S. Botanic Garden's "One Planet – Ours!" 2008 Exhibit. It also highlights green practices at EPA's Headquarters in Washington, D.C., including six 1,000-gallon cisterns in the basement at EPA's West Building. This cistern collects roof runoff, and the water irrigates planting beds and the grass, helping to conserve water and reduce runoff to the Chesapeake Bay. The video is available online at: www.epa.gov/nps/lid. (Contacts: Anne Weinberg, 202-566-1217; Patty Scott, 202-566-1292)

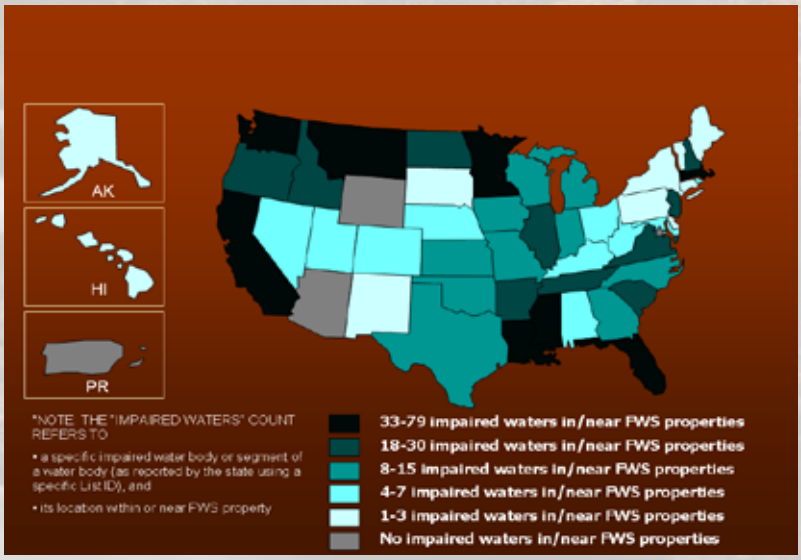
Federal agencies can comply using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development," such as reducing impervious surfaces, using vegetative practices, porous pavements and green roofs. Although the guidance was developed for federal facilities, these stormwater management practices are generally appropriate for a broad range of developments. OWOW worked closely with other federal agencies to develop the state-of-the-art guidance, which provides background information, key definitions, case studies and recommendations on meeting the new EISA requirements. This guidance will help federal facilities reduce stormwater runoff, a leading source of water pollution. Runoff can cause increased flooding and stream channel erosion, and larger pollutant loads to surface waters, among other impacts. Copies of the guidance and related materials are posted at: http://www.epa.gov/owow/nps/lid/section438/. (Contact: Robert Goo, 202-566-1201)



Permable pavement is one technique that helps infiltrate stormwater so that it does not runoff and pollute downstream waters.

EPA and Fish and Wildlife Service Develop Interactive Toolbox to Protect Water Resources on Prized Public Lands

During 2009, EPA and the US Fish and Wildlife Service (FWS) jointly completed a national assessment of the impaired waters occurring within or near public lands managed by the FWS, and co-developed interactive tools to help this information become easily and routinely used at all levels of both agencies. This project was carried out to help the FWS better protect, restore and manage the waters of prized public lands including National Wildlife Refuges, National Fish Hatcheries, and Waterfowl Production Areas across the nation. Using Geographic Information Systems (GIS) and the EPA's impaired waters data, OWOW compared impaired waters data with FWS property maps to determine specific properties and waters at risk as well as impairment causes. The project team compiled these findings into mapped, tabular, and text products. The assessment revealed that, although the waters in or near FWS properties were in better condition than US waters in general, some impaired areas do exist (see Figure). A total of 804 impaired waters totaling 10,755 km in length and 2,510 sq km in area occur in or near 303 FWS properties. The most common impairment causes include nutrients, oxygen depletion, pathogens, and mercury.

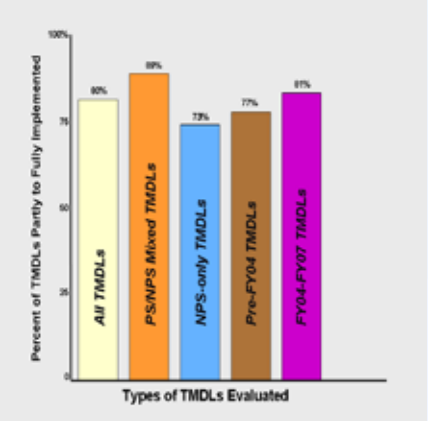


Total Impaired Waters In/Near FWS Properties by State/Territory

Rather than create a final report text alone, OWOW developed a number of interactive tools to enable FWS, from the individual refuge manager up to the regional or national strategic planner, access to the most relevant data. A full, national GIS database of the assessment maps and data tables was provided to the FWS, along with a "read-only" version browsable by users without GIS skills. Additionally, a master spreadsheet was developed to enable matching individual properties, impaired waters, and their characteristics at local, regional, or national scales as needed. To promote watershed approaches, the assessment also reaggregated the project data by watersheds with FWS property and identified the waters with existing Total Maximum Daily Loads (TMDLs). All of the interactive data and the final report will be housed on FWS and EPA Web sites to support access and use throughout both agencies. OWOW continues to work with additional federal partners on this important safeguard for public lands. (Contact: Douglas Norton, 202-566-1221)

TMDL Results Analysis Project Shows Major Progress in Restoring Polluted Waterbodies

Under the Clean Water Act (CWA), developing impaired waters lists and Total Maximum Daily Loads (TMDLs) are key parts of restoring impaired waters. A TMDL is a calculation of how much pollution a waterbody can receive and still meet water quality standards – and an important step toward reducing that pollution. Until the TMDL Program Results Analysis Project, however, there was limited evidence of the effectiveness of the CWA's impaired waters listing and TMDL program. This multi-year project's goal was to analyze impaired waters program progress and its driving factors, providing insights for TMDL program improvement. Because TMDLs occur midway along a sequence of program steps toward restoration, this project studied all stages before, during, and after the TMDL in order to consider the broader context in which the TMDL program operates.



A regional-scale study showed that most TMDLs have been at least partially implemented through permits or nonpoint source control actions in their watersheds

During 2009, OWOW created a public Web site to house over 30 study reports, fact sheets, technical papers and other products developed under the Results Analysis Project. This site was designed around the "impaired waters pipeline" concept, with five CWA program stages that impaired waters pass through en route to full restoration. The project carried out multiple studies on all five stages. Web site highlights from each stage include:

- **Listing.** The listing process has led to the identification and tracking of over 43,000 impaired waters nationally; improvements in state list submission and Integrated Reporting were documented in results analysis fact sheets online.
- **Planning.** TMDL development passed the 40,000 stage during 2009, and additional national GIS mapping of impaired waters with TMDLs and impaired watershed boundaries were produced to aid states in restoration planning.
- **Implementing.** A statistical study of all TMDLs in EPA Region 5 determined that 80% of TMDLs had at least some activity occurring to implement pollution controls (see bar chart above). Other studies as well found that a majority of TMDLs have increased actions to improve water quality.
- **Improving.** A two-state study identified driving factors linked with water quality improvements from TMDL implementation; another study identified methods for states to document incremental improvements for performance tracking.
- **Recovery**. Using lessons learned about the driving factors underlying TMDL successes, Recovery Potential Screening methods were developed and published to help guide states toward better restoration investments that restore more waters earlier, more consistently, and more cost-effectively; a Recovery Potential tools site is being developed.

Visit TMDL Program Results Analysis Web site at: www.epa.gov/owow/tmdl/results/. (Contact: Douglas Norton, 202-566-1221)

DARTER System Improves Tracking of Wetlands Permits

In October 2009, OWOW announced the release of an upgraded *Data on Aquatic Resources Tracking for Effective Regulation* (DARTER) system. DARTER is EPA's system to manage its workflow in the Clean Water Act (CWA) Section 404 permit program. Section 404 requires a permit from the U.S. Army Corps of Engineers, or states with EPA-approved wetlands programs, for the discharge of dredged or fill material into waters of the United States. EPA plays a number of roles in the Section 404 permit program including developing and interpreting policy, guidance and environmental criteria used in evaluating permit applications, determining the scope of geographic jurisdiction and reviewing and commenting on proposed Section 404 permits. DARTER allows EPA staff to:

- Track agency involvement in pre-application coordination, review of public notices for proposed permits, and proposed jurisdictional determinations;
- Prepare and share EPA-generated jurisdictional determinations; and
- Access shared data from the U.S. Army Corps of Engineers' national regulatory program data management system (ORM2).

Improved data access and management will enable EPA to more effectively review CWA 404 permits and to document environmental improvements resulting from those reviews. (Contacts: Brian Topping, 202-566-5680; Rose Kwok, 202-566-0657)

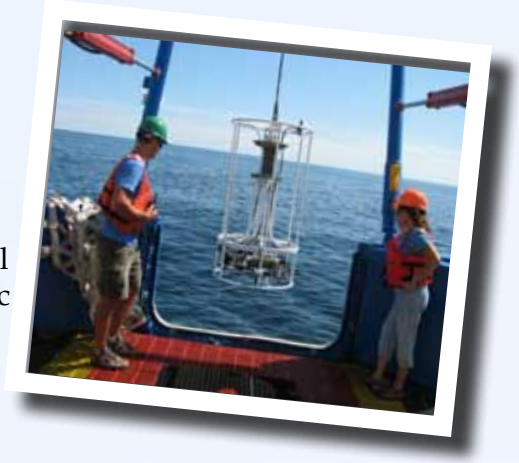
New Wetlands Program Framework Provides Roadmap for Successful State and Tribal Wetlands Protection Programs

A primary objective of EPA's Wetlands program is to build state and tribal capacity for wetlands protection. In 2009 OWOW finalized, with extensive state and tribal input, a Core Elements Framework that provides a comprehensive menu of program building activities for all wetland programs, from emerging to well-developed. The core elements are basic program functions that form the foundation of wetlands management and protection in a state or tribe:

1. monitoring and assessment;
2. regulatory activities including 401 certification;
3. voluntary restoration and protection; and
4. water quality standards for wetlands

State and Tribes now have a clear roadmap to reach their wetland program goals from where ever their program currently is. www.epa.gov/owow/wetlands/initiative/estp.html (Contact: Rebecca Dils, 202-566-1378)

Ocean Survey Vessel (OSV) BOLD Conducts Valuable Scientific Surveys



The OSV BOLD supported regional and headquarter priorities along the East Coast, Gulf of Mexico, and Caribbean, during 2009. A wide variety of environmental monitoring was conducted over 238 sea days. Some 35 scientific surveys were performed and12 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). Nine disposal sites were evaluated along the East and Gulf coasts in 2009. 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. The Tampa, FL disposal site, in particular, has become a rich habitat for fisheries and numerous benthic communities, including coral. The success of the Tampa site validated the engineering and management efforts that established the site. Future monitoring will ensure that ongoing disposal work will not adversely impact this diverse habitat. (Contact: Kennard Potts, 202-566-1267)

Web-based WQX Puts Water Quality Data at the Fingertips of Scientists, Policy Makers and the Public

OWOW continues to improve the ease with which organizations large and small can store their water quality monitoring in a national warehouse. Once data are stored in the National STORET Data Warehouse, they are accessible to scientists, government policy makers, and the public.

In 2009, OWOW completed a three-year transition to the Water Quality Exchange (WQX) framework (the successor to the STORET data system). OWOW also developed a new flexible tool for small data system owners called WQX Web, which allows any organization with a connection to the Web to share its data nationally with others. Many smaller groups across the country manage their water quality monitoring data using software tools such as Microsoft Excel or Access. WQX Web is designed to accept output from these types of applications for submittal to the National STORET Data Warehouse.

OWOW also collaborated with the U.S. Geological Survey (USGS) on a Web services project to facilitate data analysis. The collaboration resulted in a common inter-agency data exchange that allows users to seamlessly pull water quality data from the two largest repositories of water quality information -- EPA's National STORET Data Warehouse and the USGS' National Water Information System (NWIS) -- using the same data template. For more information, see www.epa.gov/STORET (Contact: Charles Kovatch, 202-566-0399)

Final National Wetlands Mapping Standard Will Transform National Wetlands Inventory

Accurate geo-locational information about wetland resources is a prerequisite to managing the resource well. In 2009 OWOW came closer to realizing this national goal through completion of the National Wetland Mapping Standard. Issuance of the standard culminates three years of work by a Federal Geographic Data Committee workgroup of multiple Federal agencies, States, NGOs and contractors. A consistent national standard will allow multiple wetland management agencies to share data and understand where the wetlands are, track changes, and work towards a mutual goal of better resource protection and management. The availability of compatible mapped wetland data will also transform how the Fish and Wildlife Service collects and uploads data to the National Wetland Inventory. The ability to compile data from numerous sources means that the Inventory can be more comprehensive and current. (Contact: Margarete Heber, 202-566-1189)

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