Great Lakes Restoration Initiative

Fiscal Year 2011 Report to Congress and the President

Great Lakes RESTORATION

Prepared By:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN PARTNERSHIP WITH THE GREAT LAKES INTERAGENCY TASK FORCE

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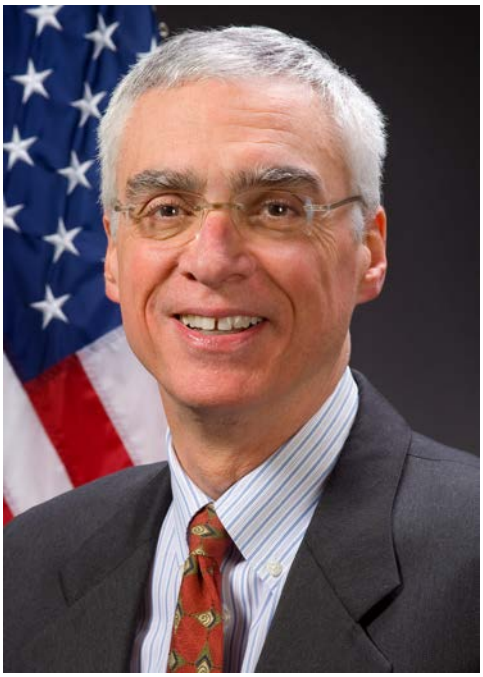
U.S. ENVIRONMENTAL PROTECTION AGENCY ACTING ADMINISTRATOR BOB PERCIASEPE



The Great Lakes are a vast environmental and economic resource for our nation. The Great Lakes region is home to more than 30 million Americans and its waters support 1.5 million jobs. As the source of 95 percent of our nation's fresh surface water, the health of the Great Lakes is essential to the health of the American people.

The Great Lakes Restoration Initiative (GLRI) was launched in 2010 to tackle the long-standing problems and emerging challenges that must be addressed to revitalize the Great Lakes ecosystem. During the first two years, we have taken unprecedented steps to protect and restore the Great Lakes -- with the help of businesses, academia, tribes, states, legislative leaders, municipalities, public interest organizations, and many individuals.

The GLRI is off to a strong start. In this report, the 11 federal departments and agencies that make up the Great Lakes Interagency Task Force share results. The Executive Summary provides an overview of the results that are discussed in greater detail throughout this Report.

Although this is a Report to Congress and the President, it is also a report to the public – which is entitled to updates on our results.

Bob Perciasepe

Acting Chair, Great Lakes Interagency Task Force

Acting Administrator, U.S. Environmental Protection Agency

SECTION I – EXECUTIVE SUMMARY

Bipartisan, multi-sector, community-based support has helped get the Great Lakes Restoration Initiative (GLRI) off to a strong start. This Report to Congress and the President covers Fiscal Year (FY) 2011 (October 1, 2010 through September 30, 2011). Because the GLRI is still relatively new, this is the first report that uses available data to show clear progress under the GLRI and it compares that progress with the GLRI Action Plan Measures of Progress.

The federal Great Lakes Interagency Task Force (IATF) of 11 departments and agencies released the GLRI Action Plan for FY 2010-2014 at a February 2010 Council of Great Lakes Governors meeting. This release followed extensive input from a diverse group of people throughout the Great Lakes basin. Examples of results under each of the Action Plan's five Focus Areas include:

Toxic Substances and Areas of Concern

- The agencies have removed fourteen Beneficial Use Impairments at eleven Areas of Concern since 2009, more than doubling the total number removed in the prior 22 years since the Areas of Concern were first identified.
- The agencies cleaned up one million cubic yards of contaminated sediment.

Invasive Species

- Led by the White House Council on Environmental Quality, a partnership of federal, state, and local agencies – supported by the GLRI – has helped keep invasive Asian carp from establishing self-sustaining populations in the Great Lakes.
- GLRI partners have launched invasive species control programs in more than 13,000 additional acres, and new technologies are being developed to control species like the sea lamprey.

Nearshore Health and Nonpoint Source Pollution

- Swimming bans and advisories are at a five-year low at Chicago's Lake Michigan beaches, due in part to the GLRI.
- Conservation practices under U.S. Department of Agriculture (USDA) Farm Bill programs are helping reduce erosion, nutrients, and pesticide loadings from 268,107 acres within the Great Lakes watershed. These activities, due in part to the GLRI, will help reduce instances of harmful algae.

Habitat and Wildlife Protection and Restoration

- Fish can move more freely over hundreds of river-miles, as a result of dams and other barriers being removed or bypassed by GLRI partners.
- GLRI partners have protected, restored, or enhanced more than 20,000 acres of wetland, coastal, upland, and island habitat.

Accountability, Education, Monitoring, Evaluation, Communication and Partnerships

- More than 50 educational institutions have incorporated Great Lakes-specific material into their curricula.
- The Great Lakes Accountability System (GLAS) allows the public to track GLRI projects. GLAS is available at http://glri.us under the "Projects" tab.

About This Report

This report presents an overview of progress under the GLRI. It includes information on funding and performance on GLRI Action Plan Measures of Progress through FY 2011 and includes highlighted projects accomplished in FY 2011. Data on direct spending are taken from EPA financial systems. Information on GLRI projects and additional GLRI activities is available at http://glri.us.

EPA, with its Administrator serving as chair of the Great Lakes Interagency Task Force of 11 federal departments and agencies, is required by the 2010 Appropriations Conference Report, 111-316, to submit this report to Congress:

> Beginning in 2011 and each year thereafter, the Agency is directed to provide detailed yearly program accomplishments and compare specific funding levels allocated for participating Federal agencies from fiscal year to fiscal year.

This report also satisfies the reporting requirements of the GLRI Action Plan:

> Annual reports to the President, beginning in 2011, will describe accomplishments to date, action planned for the coming year, and progress toward meeting ecosystem goals and targets.

To avoid duplicative and unnecessary reporting, this congressionally required report is intended to replace the Report to Congress on the Great Lakes Ecosystem called for by Section 118 of the Clean Water Act.

SECTION II – BACKGROUND

The Great Lakes watershed includes two countries, eight U.S. states, two Canadian provinces, more than 40 tribes, and more than one-tenth of the U.S. population. The region's leaders recognize that more than a century of environmental degradation took a significant toll on the Great Lakes, which serve as the lifeblood of the region. As a result, many diverse groups and people have been working together on a wide-ranging, coordinated effort to help the Great Lakes recover economically and ecologically. This coordinated effort among businesses, academia, tribes, states, legislative leaders, municipalities, public interest organizations, and many individuals has provided the groundwork for the GLRI.

In 2009, the President proposed the historic Great Lakes Restoration Initiative, including significant additional federal funding within the Fiscal Year (FY) 2010 President's Budget, to address the longstanding environmental challenges in the region. In February 2010, at a Council of Great Lakes Governors meeting, the Obama Administration released an Action Plan to guide this initiative. The GLRI Action Plan guides GLRI funding priorities for all participating agencies and establishes ambitious environmental goals, objectives, and 28 Measures of Progress.

The GLRI invests in the region's environmental and economic health, as well as its public health, through a coordinated interagency process. As outlined in the Action Plan,[1] this unprecedented program focuses on five major restoration topics:

1. Toxic Substances and Areas of Concern.
2. Invasive Species.
3. Nearshore Health and Nonpoint Source Pollution.
4. Habitat and Wildlife Protection and Restoration.
5. Accountability, Education, Monitoring, Evaluation, Communication, and Partnerships.

To coordinate work under the Action Plan, the EPA Administrator chairs the Great Lakes Interagency Task Force (IATF). IATF member departments and agencies are:

U.S. Environmental Protection Agency (EPA)
White House Council on Environmental Quality (CEQ)
U.S. Department of Agriculture (USDA)
U.S. Department of the Army (DOA)
U.S. Department of Commerce (DOC)
U.S. Department of Health and Human Services (HHS)
U.S. Department of Homeland Security (DHS)
U.S. Department of Housing and Urban Development (HUD)
U.S. Department of the Interior (DOI)
U.S. Department of State (DOS)
U.S. Department of Transportation (DOT)[2]

The IATF, through its Regional Working Group (RWG), selects the best combination of programs and projects using principles and criteria such as:

- The ability of a program or project to achieve strategic and measurable environmental results.
- The feasibility of prompt implementation, achieving tangible results quickly, and leveraging additional resources.
- The ability to take advantage of opportunities for interagency/inter-organizational coordination and collaboration.

The GLRI is being applied strategically to implement projects with states, tribes, municipalities, universities, and other organizations to help promote a healthy, functioning Great Lakes ecosystem for future generations to use and enjoy.

[1] http://glri.us/pdfs/glri_actionplan.pdf
[2] The GLRI comprises 11 federal departments or agencies, several of which may contain multiple agencies, bringing the total number of participating GLRI agencies to 16. For example, the U.S. Department of the Interior includes the Fish & Wildlife Service, Geological Survey, Bureau of Indian Affairs, and National Park Service, each of which participates in the GLRI.

SECTION III – PROGRAM ACCOMPLISHMENTS AND PLANNED ACTIVITIES

The GLRI is achieving goals, objectives, and Measures of Progress identified in the Action Plan. These strong results early in the GLRI program are promising, and the full ecological benefits of individual projects will continue into the future.

The GLRI Action Plan identifies the most significant ecosystem problems, and ways to solve them, in the five major focus areas of the GLRI:

- **Focus Area 1: Toxic Substances and Areas of Concern** – includes pollution prevention and cleanup of the most polluted areas in the Great Lakes.
- **Focus Area 2: Invasive Species** – includes instituting a "zero tolerance policy" toward new invasions, including preventing the establishment of self-sustaining populations of invasive species such as Asian carp.
- **Focus Area 3: Nearshore Health and Nonpoint Source Pollution** – includes a targeted geographic focus on high-priority watersheds and polluted runoff reductions from urban, suburban, and agricultural sources.
- **Focus Area 4: Habitat and Wildlife Protection and Restoration** – includes bringing wetlands and other habitat back to life, and the first comprehensive assessment of the entire 530,000 acres of Great Lakes coastal wetlands to target restoration and protection efforts using the best science.
- **Focus Area 5: Accountability, Education, Monitoring, Evaluation, Communication and Partnerships** – includes the implementation of goal- and results-based accountability measures, learning initiatives, outreach, and strategic partnerships.

The GLRI supplements[3] the significant work underway by federal agencies, states, and other partners supporting Great Lakes restoration. Progress in each of the GLRI's five focus areas is necessary to ensure that the GLRI succeeds in restoring the Great Lakes. For example, cleaning up toxic pollution without restoring habitat will not fully restore the ecosystem, just as preventing invasive species without cleaning up the nearshore zone also will not fully restore the ecosystem. These five focus areas complement each other to achieve the Action Plan's restoration goals. Meeting those goals means fish that are safe to eat, water that is safe to drink, and areas that are safe for activities like swimming, surfing, and boating. It means protecting habitats so that native species thrive again. It means that no community suffers disproportionately from pollution, and that the Great Lakes are a healthy place for people and wildlife to live.

[3] Agencies are expected to maintain their base level of Great Lakes ecosystem restoration activities and identify new activities and projects to support the environmental outcomes described in the Action Plan.

Focus Area 1: Toxic Substances and Areas of Concern

Background

Though the amount of pollution going into the Great Lakes has been reduced, "legacy contamination" from the past continues to re-circulate in the lakes and remains a public health concern. Contaminant levels have declined over the years, but are still too high in some places to be considered safe for people or wildlife. Residents of urban communities in or near these areas and people throughout the Great Lakes who rely on subsistence fishing as a large component of their diet are particularly at risk from eating contaminated fish. Cleaning up these historically contaminated harbors and rivers opens urban communities to economic development, business growth, increased property values, and expanded tourism. These waterfront communities are important engines for economic growth, and cleaning them up contributes to the region's and nation's prosperity. Areas that were once a detriment to economic growth can once again become valuable waterfront economic assets.

Persistent toxic substances continue to be released into the Great Lakes from contaminated sediment, industrial and municipal point sources, the cycling of legacy contamination in the lakes, and nonpoint sources including atmospheric deposition, agricultural and urban runoff, and contaminated ground water. This includes well-known toxicants like mercury, polychlorinated biphenyls (PCBs), and banned pesticides, as well as chemicals of emerging concern such as pharmaceuticals. Progress in this focus area is critical to public health, and to the health of fish and wildlife.

The work being done in this focus area will help keep people and the Great Lakes ecosystem safe from the effects of toxic chemicals. One priority is addressing Areas of Concern (AOCs), places in the Great Lakes with the largest legacies of toxic pollution. The U.S. and Canadian governments have identified 43 such areas: 26 wholly in U.S. waters, 12 wholly in Canadian waters, and five shared by both countries. Two Canadian AOCs and one U.S. AOC have been delisted, leaving 30 existing AOCs in the U.S. or shared with Canada. Each AOC contains up to 14 possible Beneficial Use Impairments (BUIs). The best way to eliminate the legacy of toxic pollution is removing or treating contaminated sediment. The Great Lakes Legacy Act (GLLA), enacted in 2002 and reauthorized in 2008, is now part of the GLRI. The GLLA provides funding for these sediment remediation activities. GLLA projects in the AOCs, along with other pollution prevention and reduction projects, will protect human health by reducing the levels of toxins in fish, by safeguarding drinking water, and by assessing and preventing releases of chemicals of emerging concern.

Overall Progress

The GLRI is showing results in achieving the Action Plan's goals, objectives, and Measures of Progress under this focus area. In addition to the following examples of progress, Appendix A includes additional information about each of the GLRI Action Plan measures.

Long-standing AOCs are being aggressively cleaned up throughout the Great Lakes. Between 1987 – when AOCs were designated – and 2009, only one AOC was delisted and a total of 12 BUIs were removed across all AOCs. GLRI partners have removed more BUIs in the last two years than we were able to do between 1987 and 2009. Under GLRI, an additional 14 BUIs have been removed at 11 AOCs in Illinois, Indiana, Michigan, New York, and Wisconsin. In addition, all management actions necessary to delist an additional AOC in Pennsylvania have been completed. Almost 90 unique, strategic projects have contributed to this great success, including the removal of about 1 million cubic yards of contaminated sediment.

Presque Isle Bay Area of Concern (Pennsylvania)

All necessary management actions have been taken to restore Beneficial Use Impairments at the Presque Isle Bay AOC. We expect to delist the Presque Isle Bay AOC in FY13.

Additional critical work also has been done to reduce public exposure to toxic substances. States still issue fish consumption advisories, but a downward trend in the concentration of PCBs in Great Lakes fish is a clear sign that cleanups are having a positive impact. From its inception, the GLRI promoted e-waste recycling, and Great Lakes states are now successfully addressing the issue independently through implementing legislation requiring manufacturers to accept used electronic equipment. These laws have kept hundreds of millions of pounds of pollution out of landfills or the environment.

Project Highlights

Minnesota, Wisconsin, Indiana, and Ohio Areas of Concern – Contaminated Sediment Removal

In FY 2011, the Great Lakes Legacy Act (GLLA) – which was folded into the GLRI when the GLRI was established – invested more than $35 million to remove over 207,000 cubic yards of sediment contaminated with mercury, polynuclear aromatic hydrocarbons (PAHs), and PCBs at five AOCs:

- Grand Calumet River, Indiana.
- Muskegon Lake, Michigan.
- St. Marys River, Michigan.
- Milwaukee Estuary, Wisconsin.
- Maumee River, Ohio.

Contaminated sediment from the Division Street Outfall GLLA project (Muskegon Lake, Michigan) is processed and loaded for off-site transport to a disposal facility

The GLLA helped fund multi-year projects that were completed at the Maumee River AOC and a section of the Grand Calumet River AOC. It laid the foundation for completion of projects at the Muskegon Lake AOC, St. Marys River AOC, Milwaukee Estuary AOC, and a section of the Grand Calumet River AOC in the next few years.

This sediment remediation work is critical to removing BUIs and delisting AOCs. For example, a project in the St. Marys River AOC cleaned up the last known remaining deposit of contaminated sediment on the U.S. side of the river - a critical step in ultimately delisting the AOC.

More projects using GLRI funds are planned at the River Raisin AOC in Michigan and Sheboygan River AOC in Wisconsin. GLLA contaminated sediment removals directly contribute to Action Plan Measures of Progress 1.1, 1.2, 1.3, and 1.4.

River Raisin Area of Concern (Michigan) – Strategic Dredging

In FY 2011, the U.S. Army Corps of Engineers (USACE) used GLRI funding to remove 68,751 cubic yards of contaminated sediment from the federal navigation channel at Monroe, Michigan. This work was done in conjunction with USACE's routine maintenance dredging of 79,418 cubic yards of sediment from the navigation channel.

Small hydraulic dredge placing contaminated sediment into a disposal facility as part of the strategic dredging project in the River Raisin Area of Concern

Dredging began in July 2011 and was completed in September 2011. These two actions will complement the proposed removal of approximately 103,000 cubic yards of sediment from outside the navigation channel. The combined effort of these three projects will help eliminate the BUIs for degradation of benthos and restrictions on dredging activities at the River Raisin AOC. The total cost for strategic navigation dredging at River Raisin was approximately $1.1 million. This project directly contributed to Action Plan Measures of Progress 1.1, 1.2, 1.3, and 1.4.

Focus Area 2: Invasive Species

Background

Introduction and establishment of non-native species can significantly undermine Great Lakes protection and restoration. By rapidly reproducing and spreading, invasive species can degrade habitat, harm native species, and jeopardize food webs. The Great Lakes also can act as an invasion pathway, providing opportunities for species to spread to inland lakes, the 31 states in the Mississippi River watershed, and beyond.

The GLRI is supporting federal, state, tribal, and community invasive species prevention and control efforts. Prevention is the most cost-effective approach for dealing with potential invaders, so the GLRI is

working to stop new invasions by preventing introductions from canals and waterways, maritime commerce, recreational use, and organisms bought and sold in commerce (*e.g*., bait and the pet trade).

The GLRI also is supporting the expansion of invasive species control activities throughout the basin. Populations of over 180 non-native species already exist in the Great Lakes. Many of these need to be controlled to maintain conditions for long-term desired species protection and restoration. Although invasive species populations are difficult and potentially impossible to eradicate once established, federal agencies and Great Lakes states and communities are making progress by working together on control plans and on-the-ground actions.

Overall Progress

The GLRI is showing results in achieving the Action Plan's goals, objectives, and Measures of Progress under this focus area. In addition to the following examples of progress, Appendix A includes additional information about each of the GLRI Action Plan measures.

In the first years of the GLRI, no new aquatic invasive species populations have been detected in the Great Lakes. The GLRI is at the forefront of invasive species prevention, control, and rapid response. The GLRI is supporting investments in technologies that prevent the introduction of invasive species, including DOT Maritime Administration's verification of new ballast water treatment technologies, which is an important step before conducting ship-scale testing.

Responding to the immediate threat of invasive Asian carp, the GLRI has supported efforts by the White House Council on Environmental Quality (CEQ) to coordinate states, federal agencies, and others to successfully keep Asian carp from establishing self-sustaining populations in the Great Lakes. States and federal agencies improved their rapid response capabilities by performing six rapid response actions in the fight against Asian carp and updating their state Aquatic Nuisance Species Management Plans to include rapid response capabilities.

Invasive species control efforts also have been increased. GLRI partners are now managing more than 13,000 additional acres for invasive species and the Great Lakes Fisheries Commission has developed two new technologies to increase the efficiency of sea lamprey control efforts.

Public education on invasive species is important for both prevention and control. Through efforts ranging from boat-washing stations to billboards and radio ads, it is estimated that the GLRI has provided 120 million opportunities to view or hear important information about steps that can be taken to prevent the introduction and spread of invasive species in the Great Lakes basin.

Project Highlights

Des Plaines River Barrier (Illinois) – Asian Carp Prevention

Workers installing the Des Plaines River invasive species prevention barrier

In October 2010, the USACE completed construction of a barrier along the Sanitary and Ship Canal in suburban Chicago to prevent Asian carp and other aquatic invasive species from bypassing the electric barrier in the canal during flood conditions. The barrier, built on a strip of land between the canal and the Des Plaines River, consisted of concrete barriers and a specially fabricated wire mesh that allows water to flow through, but prevents the passage of fish. The barrier is approximately 13 miles long, reaching from Romeoville, Illinois, to Willow Springs, Illinois. The bypass barrier was built at a cost of $4.5 million. This project is working to ensure the success of Action Plan Measure of Progress 2.1.

Invasive Species Education

The four short films on the dangers posed by invasive species are accessible anywhere with an internet connection

The National Park Service (NPS) used GLRI funds to educate the public on the dangers posed by invasive species. Four short documentary films were developed, focusing on the potential harm of invasive species and the best practices to prevent their introduction and spread. The films, completed in August 2011, were a collaborative effort of 10 Great Lakes National Parks, and federal and state agencies. To ensure their effectiveness and reach far beyond park boundaries, the NPS introduced a "new media" strategy, leveraging Twitter, Facebook, and blogs to share the YouTube videos. In their initial two months of public availability, the films were viewed more than 5,000 times. This project directly contributed to Action Plan Measure of Progress 2.4.

Focus Area 3: Nearshore Health and Nonpoint Source Pollution

Background

Most residents and visitors experience the Great Lakes along the shorelines through fishing, swimming, boating, or other forms of recreation. The nearshore also supplies drinking water for municipalities and habitat for many species. Nearshore water quality has, however, become degraded. Increased nutrients, sedimentation, and alteration of nearshore habitat have contributed to excessive growth of

Cladophora algae, increased incidence of harmful algal blooms, and outbreaks of avian botulism that have significantly altered the ecosystem. *Cladophora* and harmful algal blooms also have caused beach closings. Progress in this focus area is critical – not just because the shoreline is primarily where people enjoy the Great Lakes, but also because degraded water quality in the nearshore can undermine larger lake restoration efforts. Revitalizing the nearshore will have significant economic benefits, including increased property values and expanded tourism.

The projects under way in this focus area will make progress toward reducing sediment and nutrients going into the Great Lakes, and will reduce human health risks and ecosystem degradation posed by bacteria, viruses, pathogens, and other nuisance biological growths. Progress in this GLRI focus area helps to protect drinking water and to improve the recreational opportunities in the Great Lakes. To foster effective restoration or protection of nearshore waters, projects also focus on improving the ability of decision-makers to identify and implement appropriate actions.

Overall Progress

Though much remains to be done, the GLRI is beginning to make progress toward achieving the Action Plan's goals, objectives, and Measures of Progress under this focus area. In addition to the following examples of progress, Appendix A includes additional information pertaining to each of the GLRI Action Plan measures.

GLRI actions are reducing polluted runoff from land and improving the nearshore environment in the Great Lakes. While more time will be needed to further understand the ecological impacts of these actions, we are seeing positive early results. GLRI continues to accelerate efforts to apply USDA conservation practices in the Great Lakes. In FY 2011, farmers in the Great Lakes watershed implemented USDA conservation practices to reduce erosion, nutrients, or pesticide loadings on approximately 268,107 acres under Farm Bill Programs.

Chicago's Lake Michigan Beaches

Swimming bans and advisories are at a five-year low at Chicago's Beaches. The GLRI has contributed to this effort by providing the Chicago Park District (CPD) with over $1 million to implement beach contamination reduction projects identified by CPD at 21 beaches. Projects included enhanced management of ring-billed gulls, litter, beach detritus, algae, and other sources of contamination.

The GLRI is also working to improve the health and safety of Great Lakes beaches by reducing or eliminating the sources of beach contamination. Local beach managers are completing standardized assessments of beach contamination sources, and are implementing projects necessary to address the identified sources. To better protect public health, the agencies are also improving the testing and modeling methods used in making beach closure decisions. These efforts have helped reduce or eliminate many sources of Great Lakes beach contamination – and now swimming advisories are at a five-year low at Chicago's beaches.

The GLRI continues to help people better understand how nutrients affect the biological health of the shorelines. Resource managers are being equipped with the tools they need to effectively manage beach health and drinking water quality using forecasting and timely communications. Effectively measuring the ecological impacts of actions to improve the nearshore environment is a complex task, but the GLRI is showing early results: phosphorus data collection has been improved in targeted watersheds and EPA is developing a standardized measurement of the extent and duration of Great Lakes harmful algal blooms.

Project Highlights

Conservation Practices in Pennsylvania Reduce Sedimentation and Contaminants

Randy Graham, a fourth generation grape farmer, and more recently, a winery owner and winemaker, is reducing contaminants and sediment reaching the waters of Lake Erie in northeast Pennsylvania. His farm encompasses 125 acres along the shore of Lake Erie. Through GLRI funding to the USDA's Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program, Graham has applied integrated pest management, nutrient management, and no-till cover crops on his fields. These conservation practices are helping him use fewer chemicals, and they allow him to better manage the amounts and placement of nutrients to prevent runoff from his farm. Implementation of these conservation practices contributed toward Action Plan Measure of Progress 3.6.

NRCS conservation practices such as integrated pest management, cover crops, and nutrient management are helping improve water quality in the Great Lakes Basin

Lake Erie Harmful Algal Bloom Forecasting Tool

The U.S. Department of Commerce's National Oceanic and Atmospheric Administration's (NOAA) Center of Excellence for Great Lakes and Human Health used GLRI funds to monitor conditions in Lake Erie and distribute the information in a weekly decision support tool, the Experimental Lake Erie Harmful Algal

***Microcystis* bloom in western and central Lake Erie during summer 2011, which was predicted by NOAA, allowing local resource managers to improve their decision-making in advance**

Bloom Forecast Bulletin. The bulletin provides timely information about beach health and drinking water quality to local resource managers in Ohio and Michigan, allowing them to improve their decision-making and resource utilization. Timely information predicting harmful algal blooms allows local resource managers to make necessary adjustments in water treatment procedures and properly inform the public about health risks. This project will help meet Action Plan Measure of Progress 3.4.

Focus Area 4: Habitat and Wildlife Protection and Restoration

Background

The health of Great Lakes habitats and wildlife depends on the protection and restoration of ecosystems, including coastlines, wetlands, rivers, connecting channels, and whole watersheds. For example, wetlands help cleanse water that sustains wildlife, and coastline dunes can house rare species of plants and animals. Great Lakes habitat losses have led to a degraded food web, compromised biodiversity, and poorly functioning ecosystems. Progress in this focus area is critical to the restoration of the Great Lakes, as proper ecosystem functions provide benefits for humans and wildlife.

Work in this focus area will make significant progress toward restoring the health of Great Lakes habitat. It includes projects that will open miles of rivers for fish passage, lead to the recovery of important plant and wildlife species, and remove habitat-related BUIs in Great Lakes AOCs.

Lake Erie Watersnake

The U.S. Fish and Wildlife Service removed the Lake Erie Watersnake, found only in the western Lake Erie waters of Ohio and Canada, from the list of federally endangered and threatened species in August 2011. The GLRI accelerated this achievement by funding critical Lake Erie Watersnake monitoring efforts.

Overall Progress

The GLRI is showing results in achieving the Action Plan's goals, objectives, and Measures of Progress under this focus area, albeit on a delayed schedule in some cases. In addition to the following examples of progress, Appendix A includes additional information pertaining to each of the GLRI Action Plan measures.

Efforts to safeguard habitat and wildlife in the Great Lakes are well under way. Barriers have been removed or bypassed in hundreds of river-miles to make it easier for fish to move freely. More than 20,000 acres of wetland, coastal, upland, and island habitat have been protected, restored, or enhanced.

These and other successful efforts have made strides in protecting wildlife in the Great Lakes. In 2011, the U.S. Fish and Wildlife Service (USFWS) removed the Lake Erie Watersnake from the Federal List of Endangered and Threatened Wildlife – an achievement that was accelerated by providing GLRI funding for critical Lake Erie Watersnake monitoring efforts. There has also been much progress in implementing recovery actions for other listed species. The USFWS also has made progress to increase the viable populations of non-listed native species.

In an innovative effort to comprehensively and consistently assess Great Lakes coastal wetlands, nearly 20 percent of coastal wetlands have been evaluated. This information will greatly improve the success of restoration efforts by establishing a consistent baseline against which to measure successful restoration, and will aid in setting priorities for additional work.

Project Highlights

Milwaukee River (Wisconsin) - Restoring Fish Passage

On August 28, 2011, the Village of Campbellsport, Wisconsin, removed the Campbellsport Millpond Dam from the Milwaukee River. The funding was provided through GLRI by NOAA's Restoration Center. This project opens 14 miles of main stem river and 13.5 miles of tributaries to allow fish to move more freely. It also hydrologically reconnects the lower reach of the Milwaukee River with 8,300 acres of wetlands located upstream of the dam, enhances recreational uses, improves water quality, and alleviates financial and safety concerns. Pre-removal ecological monitoring was conducted in spring 2011, and the project will be completed after post-removal monitoring is conducted in spring 2012. This approximately $740,000 project contributes to Action Plan Measures of Progress 4.1 and 4.2.

Images of the Campbellsport dam site pre-removal (left) and post-removal (right)

Implementing Great Lakes Coastal Wetlands Monitoring

Invertebrate sampling in a Duluth, Minnesota, coastal wetland

Approximately 20 percent of all remaining Great Lakes coastal wetlands larger than four hectares in area were monitored in FY 2011. Measurements were gathered on fish, amphibians, birds, invertebrates, plants, and water chemistry. These measurements included critical information such as the presence of plant and animal invasive species and the concentration of nutrients such as phosphorus. This information, gathered using rigorous scientific methods, will provide a foundation for the prioritization and selection of coastal wetlands for restoration and protection. FY 2011 was the first field season for this five-year, $10 million project led by Central Michigan University. At the end of this monitoring project in FY 2015, Action Plan Measure of Progress 4.8 will be completed.

Focus Area 5: Accountability, Education, Monitoring, Evaluation, Communication, and Partnerships

Background

Effective accountability tools, monitoring, and assessment are vital for the GLRI to succeed in helping restore the Great Lakes. Measuring indicators of overall ecosystem function provides information decision-makers need to evaluate restoration progress and ecosystem health. Improved knowledge, scientific coordination, and consistency in data collection will support informed decisions and assessments to make future restoration even more effective. The GLRI also supports educating the next generation and enhancing partnerships for restoration.

Overall Progress

The GLRI is beginning to show considerable progress in achieving the Action Plan's goals, objectives, and Measures of Progress under this focus area. In addition to the following examples of progress, Appendix A includes additional information pertaining to each of the GLRI Action Plan measures.

In response to the President's call for improved transparency and fiscal stewardship, the federal GLRI partners established accountability mechanisms, management practices, and third-party oversight to effectively manage the GLRI. Please refer to Section V for more information on efforts to ensure accountability under the GLRI.

The agencies continue to enhance existing programs that assess the physical, biological, and chemical integrity of the Great Lakes. These programs, in coordination with complementary state and Canadian programs, help to evaluate the effectiveness of restoration efforts and the overall health of the Great Lakes ecosystem using the best available science. Through the development of these close partnerships,

the GLRI has been able to leverage resources and establish a large community of GLRI partners (see Appendix B) to ensure that efforts under the GLRI are efficient and effective. A large, diverse group of partners are working together to make the GLRI a successful model of ecosystem restoration, including:

- Sixteen federal agencies
- All eight Great Lakes states
- At least 20 tribal organizations
- Over 50 local governments
- Approximately 35 institutions of higher learning, and
- Over 60 community organizations

The comprehensive efforts implemented and the promising results reported in the other four focus areas validate the success of this focus area in ensuring that GLRI efforts include effective monitoring, assessment, and coordination.

In addition to being able to achieve and demonstrate progress, educating the next generation on GLRI efforts and the importance of the Great Lakes is vital for long-term successful restoration. More than 50 educational institutions have already incorporated Great Lakes-specific material into their curricula, and many other educational efforts are under way to ensure the next generation continues caring for the Great Lakes.

Project Highlights

Great Lakes Research Vessel – Interactive Educators' Workshop

The EPA's Great Lakes National Program Office, partnering with the Center for Oceanic Science Education Excellence Great Lakes, funded a weeklong educators' workshop aboard EPA's *R/V Lake Guardian,* July 20-27, 2011. Minnesota Sea Grant coordinated the effort and chose 15 educators with various backgrounds from throughout the Great Lakes Basin to participate. The educators helped scientists collect and process samples as part of the Coordinated Science Monitoring Initiative, which took place on Lake Superior in 2011. They also learned about ways to incorporate the Great Lakes into classroom instruction to improve understanding of this ecosystem and its critical issues. Since returning to the classroom, teachers have reported how they've integrated what they learned, such as creating a Great Lakes scavenger hunt, a lab on

Red Lake Indian Reservation students studying the Great Lakes food web

the Great Lakes food web, and a plankton lecture for an *Ocean Bowl* team. Evaluating how teachers have incorporated the Great Lakes into their curriculum will continue. In addition to supporting Action Plan Measure of Progress 5.3, this effort is critical to the Focus Area 5 goals of increasing outreach and education for the Great Lakes and providing ongoing K-12 education. This effort also will teach students to understand the benefits and ecosystem functions of the Great Lakes, ensuring that their future environmental choices will help further restoration of the ecosystem.

Sleeping Bear Dunes National Lakeshore, Michigan – Improving Public Health and Beach Water Quality

At Sleeping Bear Dunes National Lakeshore, National Park Service staff monitored beaches for the harmful bacterium, *E. coli,* in support of the Lake Michigan Lakewide Management Plan. In 2011, water samples were collected weekly at 13 popular swimming beaches, for a total of 675 samples. During the summer season, five elevated bacterial advisories were issued. Monitoring information has been posted to the Michigan Beach Guard System, which is available at: http://www.deq.state.mi.us/beach/.

Chris Otto, Water Quality Technician at Sleeping Bear Dunes National Lakeshore, collecting a water sample at a Lake Michigan beach for analysis of E. coli.

Additionally, staff members conducted weekly sanitary surveys for every monitored beach, providing more detailed information on potential sources of contamination and helping identify contamination trends in the Sleeping Bear Dunes National Lakeshore that can determine necessary management actions. This type of quality information supports proper decision-making by local resource managers, and supports Action Plan Measures of Progress 3.2 and 3.4.

Planned Activities

As FY 2010 and FY 2011 GLRI actions continue to produce results, the federal partners are already planning and implementing activities for FY 2012 and subsequent years. In FY 2012, the GLRI will continue to make investments in the five focus areas of the Action Plan, with an emphasis on completing on-the-ground action and achieving the Action Plan Measures of Progress. After considering stakeholder input on the progress of GLRI and suggested improvements, the federal IATF partnership of agencies announced three priorities in October 2011:

- Accelerate cleanup of Areas of Concern.

  In FY12:

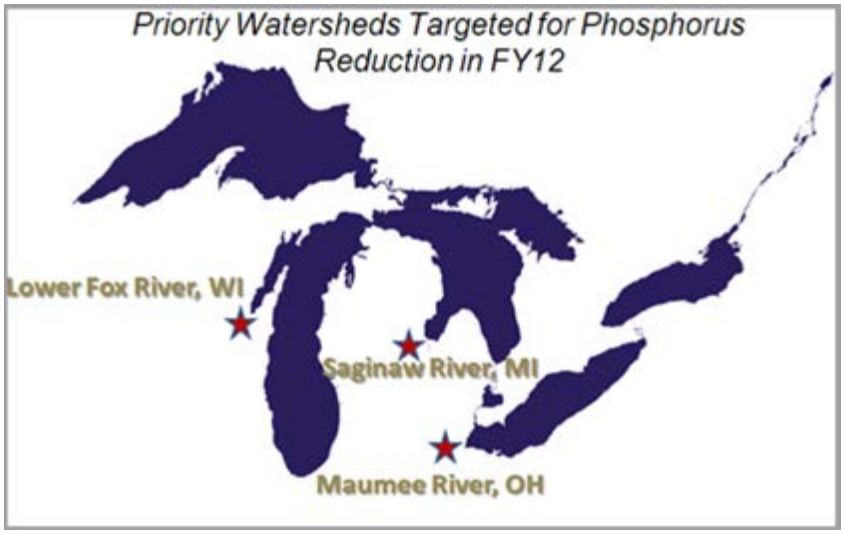
  - Ashtabula River (Ohio)
  - River Raisin (Michigan)
  - Sheboygan River (Wisconsin)
  - White Lake (Michigan)

In FY13-14:

- Deer Lake (Michigan)
- Manistique River (Michigan)
- St. Clair River (Michigan)
- St. Marys River (Michigan)
- Waukegan Harbor (Illinois)

- Maintain work in preventing invasive species, such as Asian carp, from establishing self-sustaining populations in the Great Lakes.

- Reduce phosphorus that contributes to harmful algae, which threatens coastal communities' economic well-being and public health in three key watersheds:
  - Lower Fox River (Wisconsin)
  - Saginaw River (Michigan)
  - Maumee River (Ohio)



The federal agencies continue making improvements to the accountability mechanisms in place for GLRI. See Section V for more information on accountability. The agencies also will work to ensure that they are relying upon sound science in consultation with EPA's independent Science Advisory Board.

SECTION IV – FINANCIAL REPORTING

EPA, together with its federal partners, is managing approximately $775 million of FY 2010 and FY 2011 GLRI funds. The agencies are using multiple funding mechanisms, including interagency agreements, funds transfers, competitive grants, and capacity-building grants to states and tribes to support effective project implementation.

Great Lakes restoration projects can have implementation schedules that allow for project completion over the course of several years. Much of the FY 2010 and FY 2011 funding was directed toward on-the-ground restoration projects that have major expenditures during as many as three succeeding construction seasons. We will continue to see accelerated expenditures and results in these successive construction seasons[4]. The partnership of federal agencies is working toward solutions that expedite work, obligations, and expenditures while assuring the sound management of funds. EPA, for example, is taking steps to increase the Agency's emphasis on the importance of prompt and appropriate drawdowns of funding, including enhanced monitoring of award recipients, more contacts with award recipients by federal project officers, and holding recipients to work plan commitments. Other federal agencies have been asked to implement similar efforts for their own GLRI funding.

By the end of FY 2011, all FY 2010 GLRI funds were awarded for use and approximately 98 percent of FY 2011 GLRI funds were awarded for use. Table 1 and Chart 1 provide information on FY 2010 and FY 2011 GLRI funding by focus area. Table 2, Table 3, and Chart 2 provide more detailed information on FY 2010 and FY 2011 GLRI funding by agency.

Table 1 – GLRI FY 2010 and FY 2011 Focus Area Allocations

Focus Area	FY 2010 Allocation	FY 2011 Allocation
Toxic Substances and Areas of Concern	$146,946,000	$100,400,000
Invasive Species	$60,265,000	$57,500,000
Nearshore Health and Nonpoint Source Pollution	$97,331,000	$49,250,000
Habitat and Wildlife Protection and Restoration	$105,262,000	$63,000,000
Accountability, Education, Monitoring, Evaluation, Communication, and Partnerships	$65,196,000	$29,250,000
TOTAL	$475,000,000	$299,400,000

[4] EPA provides Congress and the Administration with quarterly financial updates on obligation and expenditure rates under the GLRI.

Chart 1 – GLRI FY 2010 and FY 2011 Focus Area Allocations

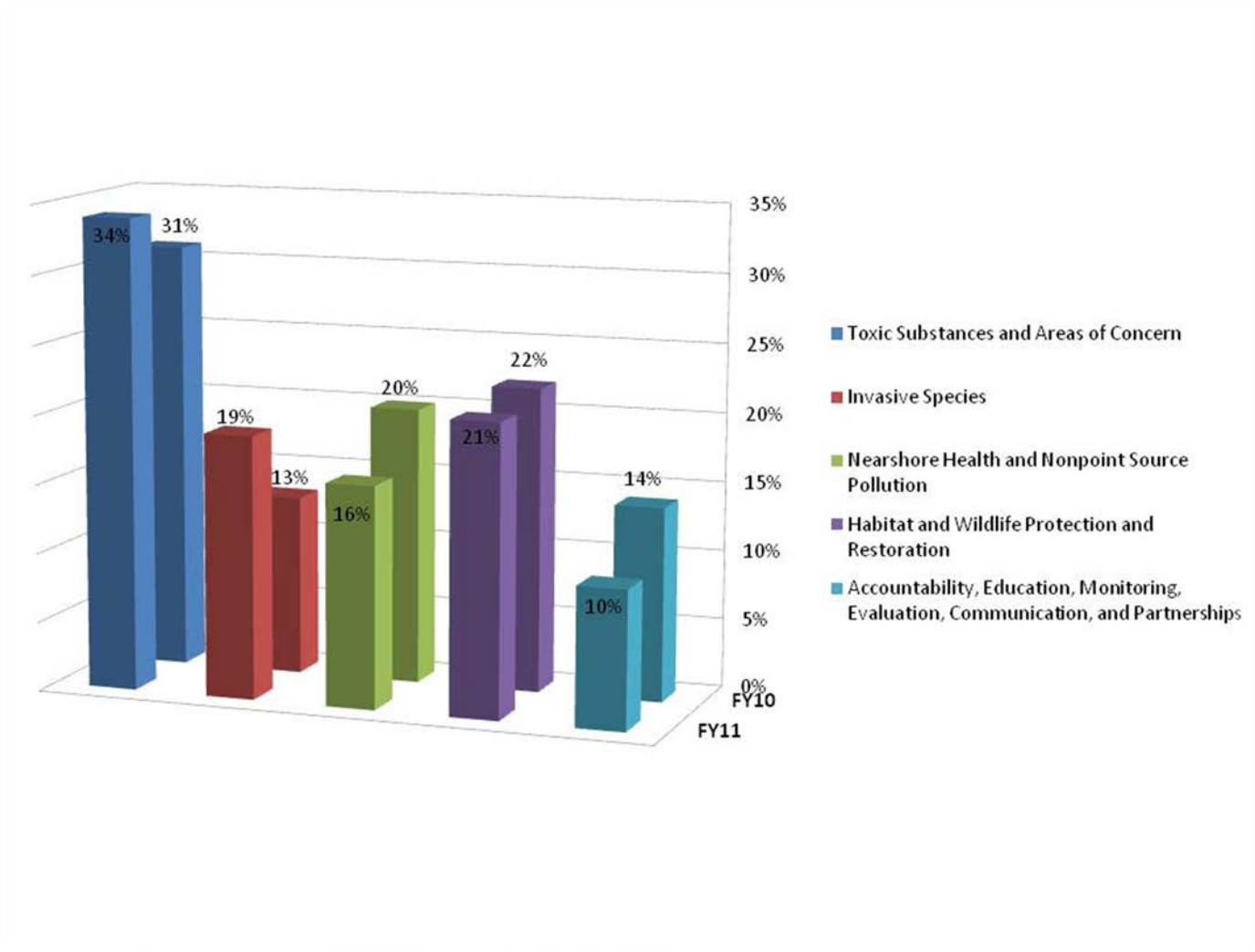


Table 2 – GLRI FY 2010 Agency Funding as of 10/01/2011

Agency	FY 2010 President's Budget	FY 2010 Actual Allocation[5]	FY 2010 Total Obligations
DHS - USCG	$6,850,000	$6,350,000	$6,350,000
DOC - NOAA	$32,170,000	$30,536,774	$30,536,774
DOD - USACE	$45,896,000	$49,586,678	$49,586,678
DOI - BIA	$3,000,000	$3,416,000	$3,416,000
DOI - NPS	$10,450,000	$10,505,000	$10,505,000
DOI - USFWS	$57,501,000	$69,348,690	$69,348,690
DOI - USGS	$14,980,000	$23,717,195	$23,717,195
DOT - FHWA	$2,500,000	$2,500,000	$2,500,000
DOT - MARAD	$3,000,000	$4,000,000	$4,000,000
HHS - ATSDR	$5,500,000	$5,500,000	$5,500,000
USDA - APHIS	$3,000,000	$1,884,768	$1,884,768
USDA - NRCS	$33,642,000	$34,092,000	$34,092,000
USDA - USFS	$15,058,000	$15,458,000	$15,458,000
Subtotal	$233,547,000	$256,895,105	$256,895,105
EPA, DOS-GLFC, DOS-IJC, and Misc. IAs[6]	$241,453,000	$218,104,895[7]	$218,103,128
FY 2010 GLRI Total	$475,000,000	$475,000,000	$474,998,233

[5] Federal agencies work collaboratively to ensure that GLRI funding is used for the highest priority Great Lakes projects. The FY 2010 and FY 2011 Actual Allocations reflect adjustments made to address emerging priorities (e.g., keep Asian carp from becoming established in the Great Lakes) and to maximize environmental outcomes.

[6] Includes all internal EPA operational costs, grants (including DOS-GLFC and DOS-IJC), and IAs of less than $1 million to federal and binational agencies not separately identified in the President's budget.

[7] Components are: (i) grants totaling $164,740,459 (including grants to the Great Lakes Fisheries Commission and the International Joint Commission, organizations identified in the FY 2010 President's Budget); (ii) support costs (payroll, travel, general expenses, and working capital) totaling $13,154,350; (iii) contracts and miscellaneous interagency agreements (each less than $1 million) totaling $40,208,880; and (iv) $1,206 of de-obligated funds.

Table 3 – GLRI FY 2011 Agency Funding as of 10/01/2011

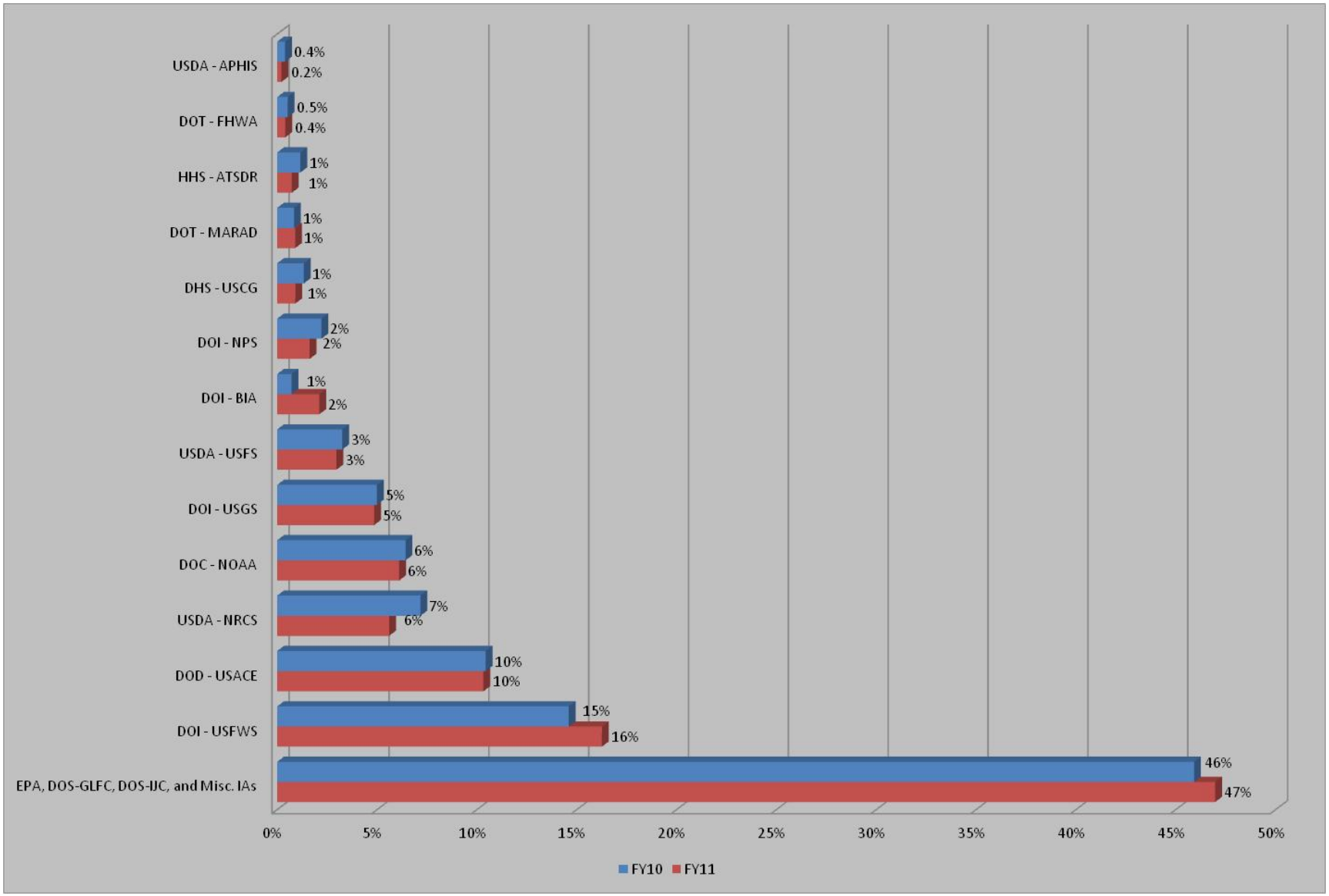
Agency	FY 2011 President's Budget	FY 2011 Actual Allocation[8]	FY 2011 Total Obligations
DHS-USCG	$2,216,867	$2,724,700	$2,724,700
DOC-NOAA	$15,426,627	$18,289,090	$18,289,090
DOD-USACE	$23,615,181	$30,924,680	$30,924,680
DOI-BIA	$2,771,084	$6,316,032	$6,316,032
DOI-NPS	$4,659,855	$4,861,269	$4,861,269
DOI-USFWS	$32,488,747	$48,690,188	$48,690,188
DOI-USGS	$10,282,386	$14,531,602	$14,531,602
DOT-FHWA	$1,385,542	$1,218,000	$1,218,000
DOT-MARAD	$2,632,530	$2,694,600	$2,694,600
HHS-ATSDR	$3,048,193	$2,195,661	$2,195,661
USDA-APHIS	$1,662,651	$636,724	$636,724
USDA-NRCS	$18,312,434	$16,787,976	$16,787,976
USDA-USFS	$8,160,843	$8,889,772	$8,889,772
Subtotal:	$126,662,940	$158,760,294	$158,760,294
EPA, DOS-GLFC, DOS-IJC, and Misc. IAs[9]	$173,337,060	$140,639,706[10]	$133,580,765
FY 2011 GLRI Total	$300,000,000	$299,400,000	$292,341,059

[8] Federal agencies work collaboratively to ensure that GLRI funding is used for the highest priority Great Lakes projects. The FY 2010 and FY 2011 Actual Allocations reflect adjustments made to address emerging priorities (e.g., keep Asian carp from becoming established in the Great Lakes) and to maximize environmental outcomes.

[9] Includes all internal EPA operational costs, grants (including DOS-GLFC and DOS-IJC), and IAs of less than $1 million to federal and binational agencies not separately identified in the President's budget.

[10] Components are: (i) grants totaling $56,078,550 (including funding for the Great Lakes Fisheries Commission and the International Joint Commission, organizations identified in the FY 2011 President's Budget); (ii) support costs (payroll, travel, general expenses, and working capital) totaling $13,695,000; and (iii) contracts and miscellaneous interagency agreements (each less than $1 million) totaling $70,866,156.

Chart 2 – GLRI FY 2010 and FY 2011 Agency Funding



SECTION V – ACCOUNTABILITY

In response to the President's call for improved transparency and fiscal stewardship, the federal GLRI partners established accountability mechanisms, management practices, and third-party oversight to effectively manage the GLRI. Guided by the Action Plan, GLRI partners are implementing the Great Lakes Accountability System (GLAS). In late 2011, the EPA's Science Advisory Board (SAB) also provided an independent scientific review of the Action Plan to ensure the GLRI is being guided by the best available science.

Great Lakes Accountability System

The 2010 Appropriations Conference Report requires EPA to develop a process that "*ensures monitoring and reporting on the progress of the Great Lakes Restoration Initiative*." As part of fulfilling that requirement, EPA has worked with the IATF to develop and operate the Great Lakes Accountability System (GLAS). The initial purpose of GLAS was for the public to know who received GLRI funding, what projects were being funded, and where those projects were located. It functions as a clearinghouse for information on GLRI-funded projects. Primary recipients (*i.e*., organizations that receive GLRI awards directly from federal agencies) and subrecipients (*i.e*., organizations that have been delegated to report on GLRI projects by their primary recipients) report into GLAS. The agencies will continue to improve the transparency and functionality of GLAS in providing information on the GLRI.

Consultation with EPA Science Advisory Board

Science is at the foundation of the GLRI. To ensure the GLRI has the best information on the most pressing ecological threats, EPA charged its Science Advisory Board with establishing an independent panel to review the GLRI Action Plan. The SAB formed a panel of 15 independent scientific experts to review the Action Plan. The SAB panel began its scientific review at a public meeting July 12-13, 2011. The panel issued a draft report on its initial findings August 29, 2011. A public teleconference was held September 16, 2011, to discuss substantive comments to the draft report. It is expected that the SAB panel will take comments into consideration and issue a revised draft report in the fall of 2011 and a final report early in 2012.

While suggesting ways to strengthen the scientific underpinnings of the GLRI, the panel concluded:

> The SAB supports the premise that enough is known about the issues confronting the Great Lakes, as well as the underlying causes and potential remedies, to initiate action, and agrees that the Action Plan identifies most of the important actions that should be undertaken.

The panel's draft report offers valuable recommendations, which the IATF will consider as the agencies continue to implement the GLRI Action Plan.

APPENDIX A – GLRI ACTION PLAN MEASURES OF PROGRESS

The GLRI is off to a strong start in achieving the goals, objectives, and Measures of Progress in the Action Plan. Efforts to prevent invasive species from entering the lakes, rebuild habitat, clean up toxics and toxic hotspots, reduce polluted runoff, and track progress are now well under way. These strong results early in the GLRI program are promising, and the full ecological benefits of individual projects will continue into the future.

Of the 28 Action Plan Measures of Progress, 15 also are measures under the Government Performance and Results Act (GPRA), which has a process to adjust performance targets collaboratively with the Office of Management and Budget. Any adjustments resulting from this process are indicated in EPA's annual Performance Plan, Performance Reports, and Congressional Justification; they are indicated below as updates to the targets in the Action Plan. The remaining 13 Action Plan measures have not been adjusted and are measured against the original targets in the Action Plan. Explanations give further detail on the feasibility of meeting these original targets in light of any additional information now available or funding delays affecting the field season.

Measures of Progress and performance targets attempting to characterize the outcomes and outputs were developed using best professional judgment. As data continue to become available, it may be necessary to revise Measures of Progress and performance targets in order to accurately portray the performance of the GLRI. Overall, 15 Measures of Progress were met or exceeded – more than half – for FY 2011. Data are unavailable at this time to report against four Measures of Progress. Two of the measures for which data are unavailable are in the process of being revised. Of the nine Measures of Progress that were not met, five are measured against original Action Plan targets for which adjustments may be appropriate (4.1, 4.2, 4.4, 4.8, 4.9), and four are GPRA measures for which appropriate adjustments have already been made for FY 2012 reporting (3.2, 4.5, 4.7, 5.1).

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
1.1 Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented (cumulative). [1] *Also a measure under GPRA	Baseline: 1 FY10: 1 FY11: 1 FY12: 3	2	Oswego River/Harbor AOC (baseline) & Presque Isle Bay AOC (FY11) The state of Pennsylvania completed an analysis of all required management actions necessary for delisting. This analysis concluded that all the necessary actions have been completed to date. The AOC will now conduct analyses and monitoring to provide the data necessary to remove the remaining BUI and delist the AOC according to the procedures in the Great Lakes Water Quality Agreement. We expect the BUI will be removed and the AOC will be delisted in FY 2013.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
1.2 Area of Concern Beneficial Use Impairments removed (cumulative). [1] *Also a measure under GPRA	Baseline: 12[2] FY10: 20 FY11: 26 FY12: 33[3]	26	FY11: 'Restrictions on Drinking Water' BUI at Rochester Embayment AOC (11/3) and Detroit River AOC (7/9); 'Beach Closing' BUI at Kalamazoo River AOC (3/3), Lower Menominee AOC (3/3), and Waukegan Harbor AOC (9/28); 'Restrictions on Dredging' BUI at St. Clair River AOC (3/3), Muskegon Lake AOC (9/26), and White Lake AOC (9/30); 'Added Costs to Agriculture or Industry' BUI at Rochester Embayment AOC (7/9) and Grand Calumet River AOC (9/30); 'Eutrophication' BUI at Deer Lake AOC (9/26); and 'Bird or Animal Deformities' BUI at Deer Lake AOC (9/26). FY10: Tainting of Fish and Wildlife' BUI at St. Clair River AOC (11/17/09) and 'Beach Closing' BUI at Manistique River AOC (5/5/10). The original baseline has been corrected to indicate 12 BUIs. This brings the cumulative total to 26 BUIs removed.
1.3 Beneficial Use Impairment delisting project starts at Areas of Concern (cumulative).	Baseline: 0 FY10: 60 FY11: 80 FY12: 110	88	Eighty-eight project starts are being implemented throughout Great Lakes basin in every state with an Area of Concern remaining (IL, IN, OH, MI, MN, NY, and WI).
1.4 Cubic yards (in millions) of contaminated sediment remediated in the Great Lakes (cumulative). [1] *Also a measure under GPRA	Baseline: 5.5 FY10: 6.3 FY11: 8.0[3] FY12: 9.1[3]	8.4	From 1997 through calendar year 2010, U.S. EPA and its partners have remediated approximately 8.4 million cubic yards of contaminated sediment from the Great Lakes basin. In calendar year 2010 (for FY11 reporting), approximately 1 million cubic yards were remediated through various federal and state authorities: <u>Great Lakes Legacy Act</u> - West Branch Grand Calumet River Phase 1; Grand Calumet River AOC, IN; 75,607 cy - Ottawa River; Maumee River AOC, OH; 248,471 cy - St. Marys River Former MGP; St. Marys River AOC, MI; 6,500 cy <u>Superfund/Natural Resource Damage Assessment</u> - Fox River; Lower Green Bay and Fox River AOC, WI; 720,759 cy <u>WDNR/U.S. EPA Toxic Substance Control Act</u> Hayton Area Remediation Project; non-AOC in WI; 19,639 cy

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
1.5 Pollution (in million pounds) collected through prevention and waste minimization projects in the Great Lakes basin (cumulative). [1]	Baseline: 0 FY10: 10 FY11: 15 FY12: 25	182.5	All states in the Great Lakes basin (with the exception of Ohio) have now passed e-waste recycling laws that require manufacturers to accept used electronic equipment. The passage of these laws (after the development of the Action Plan) has resulted in achievements for this measure far exceeding targets. Additionally, the Action Plan Objectives related to this measure have been met. Because the original Action Plan targets have been exceeded, it may be appropriate to discontinue reporting on this measure of progress, adjust the original Action Plan targets, or adjust reporting methodology.
1.6 Cumulative percentage decline for the long term trend in average concentrations of PCBs in Great Lakes fish. [1] *Also a measure under GPRA	Baseline: 0% FY10: 34% FY11: 37% FY12: 40%	44%	Baseline of 0% (2000). Average concentrations at lake sites: 2000 2009 Cumulative % decline Lake Superior .78 ppm .26ppm 48% Lake Michigan 1.6 ppm .88ppm 57% Lake Huron .78 ppm .81ppm 27% Lake Erie 1.2 ppm .41ppm 53% Lake Ontario 1.2 ppm. .91ppm 24% Percent decline based on exponential trend. Annual percent declines are not appropriate because each Great Lake is unique with distinct growth rates, food webs, and chemical integrity.
2.1 Rate of nonnative species newly detected in the Great Lakes ecosystem (species/year). [1] *Also a measure under GPRA	Baseline: 1.0[2] FY10: 1.3 FY11: 1.0[3] FY12: 0.8[3]	0.83	No new aquatic species were detected in 2011. Ten species have been detected over the 12 year period (2000 – 2011) resulting in the invasion rate of 0.83 species/year. Note that NOAA scientists have since reclassified the detection dates of 3 species based on a reassessment and categorization of available data. This alters the pre-GLRI baseline rate of invasion from 1.3 species per year (13 species from 2000-2009) to 1.0 species per year (10 species from 2000-2009).
2.2 Acres managed for populations of invasive species controlled to a target level (cumulative). *Also a measure under GPRA	Baseline: 0 FY10: 1,000 FY11: 1,500 FY12: 15,500[3]	13,045	This result is higher than anticipated. The unprecedented level of funding for invasive species work capitalized on a backlog of projects and appears to have achieved economies of scale due to significantly larger projects. Approximately 4,800 acres of this effort contribute to efforts to protect, restore, and enhance costal habitat and also are included in the results for that measure.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
2.3 Number of multi-agency plans established, mock exercises to practice rapid responses carried out under those plans, and/or actual rapid response actions (cumulative). *Also a measure under GPRA	Baseline: 0 FY10: 4 FY11: 4[3] FY12: 12[3]	8	EPA collaborated with and funded FWS and States to meet this measure. Plans were developed or updated for four States and four rapid response actions were conducted.
2.4 Number of recreation and resource users (in millions) contacted on best practices that prevent the introduction and spread of invasive species (cumulative).	Baseline: 0 FY10: 1 FY11: 1.75 FY12: 4.75	129.5	This overarching measure was developed to track overall progress toward the innovative work of improving invasive species education/outreach, which is still in the early stages of development for addressing most invasive species vectors. Many of these efforts are funded through competitive grant offerings and include a combination of the best-designed projects that maximize both the breadth of public reached (typically non-interactive outreach such as billboards, radio, TV, etc.) and also directly target the more active resource users. Results for this measure have greatly exceeded targets because of a number of successful projects that have employed non-interactive techniques such as billboards, radio, and TV, which have reached wide numbers of potential recreation and resource users. Because the original Action Plan targets have been exceeded, it may be appropriate to discontinue reporting on this measure of progress, adjust the original Action Plan targets, or adjust reporting methodology.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
3.1 Five year average annual loadings of soluble reactive phosphorus from tributaries draining targeted watersheds (percent reduction). [1] *Also a measure under GPRA	Baseline: N/A FY10: 0% FY11: 0%[3] FY12: 0.5%[3]	Data Unavailable	Data do not yet exist to determine whether targets are being met, but are being developed now. Under the GLRI, improved phosphorus data are now being collected in all five targeted watersheds (Fox, Saginaw, Maumee, St. Louis, and Genesee) to better estimate annual average loadings of soluble reactive phosphorus (SRP). However, the current measure tracks changes in the five-year average annual loadings of SRP, and sufficient historical data do not currently exist to allow for calculation of 5-year averages through the 2010 water year for the Saginaw, Genesee, and St. Louis Rivers. Some historical data reflecting five years or more of sampling do exist for the Fox and Maumee Rivers, allowing for loads to be estimated. While data are available, the assessment of these 5-year average annual loadings illustrate the inherent problems with tracking changes to SRP loadings from tributaries, given the yearly variability of rainfall and other climatic factors; therefore, results of this measure may not indicate a trend from year to year. For example, when comparing the 2003-2007 baseline from the Maumee River to the 5-year rolling averages from 2005-2009 and 2006-2010, SRP loadings changed from a 3.8% increase to a 3.4% reduction. Similarly, when comparing the 2003-2007 baseline from the Fox River to the 5-year rolling averages from 2004-2008 and 2005-2009, SRP loadings changed from a 3.6% increase to a 15.8% reduction. Because of the reasons identified above, it may be appropriate to track future phosphorus changes using other methods. A revised measure is currently being developed.
3.2 Percentage of beaches meeting bacteria standards 95% or more of beach days. [1] *Also a measure under GPRA	Baseline: 86% FY10: 86% FY11: 87%	62%	Results do not indicate a worsening of beach conditions, but are due to a change in state reporting methodology. The measure has been changed for FY12 reporting to better capture the health of monitored beaches, and is consistent with the national coastal and Great Lakes beach measure. The changed measure, beginning in FY12, will read "Percent of days of the beach season that the Great Lakes beaches monitored by state beach safety programs are open and safe for swimming." If the data used in FY11 reporting had been calculated using this replacement methodology, the result would have been 92%.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
3.3 Extent (sq. miles) of Great Lakes Harmful Algal Blooms (percent reduction). [1]	Baseline: N/A FY10: 0% FY11: 4% FY12: 7%	Data Not Available	An EPA funded project is working to generate a baseline and 2008-2012 inventory of the extent and duration of harmful algal blooms (HABs) using satellite imagery and other data including field information, tested algorithms, and agency collaborations. This project also will document and share standard operating procedures so that a consistently applied methodology can be used to continue HABs extent and duration mapping after the project is completed. We expect preliminary data for this project to be available beginning in FY12, with results reported in FY13.
3.4 Annual number of days U.S. Great Lakes beaches are closed or posted due to nuisance algae. [1]	Baseline: 200 FY10: 200 (0% imp.) FY11: 192 (4% imp.) FY12: 186 (7% imp.)	Data Not Available	At the time this metric was developed, there was no mechanism in place for reporting beach closures or advisories issued due to the presence of nuisance algae. Efforts to develop a formal mechanism resulted in a voluntary reporting field in the national monitoring database which has not resulted in sufficient data.
3.5 Annual volume of sediment deposition in defined harbor areas (Toledo Harbor) in targeted watersheds (millions of cubic yards). [1]	Baseline: 1 FY10: 1 (0% imp.) FY11: 0.99 (1% imp.) FY12: 0.99 (1% imp.)	Data Not Available	There are inherent problems with tracking annual changes to this level of precision, given the yearly variability of sediment loads due to rainfall and other climatic factors. We did not fully recognize the difficulty in addressing these factors at the time this measure was developed. Because of these reasons, it may be appropriate to track future changes in sediment deposition using other metrics. A revised measure for tracking changes in sediment deposition is currently being explored.
3.6 Acres (in thousands) in Great Lakes watershed with USDA conservation practices implemented to reduce erosion, nutrients and/or pesticide loading under Farm Bill Programs. [1] *Also a measure under GPRA	Baseline: 165 FY10: 168.3 (2% imp.) FY11: 168.3 (2% imp.)[3] FY12: 178.2 (8% imp.)[3]	268.1 (62% Imp.)	In FY11, 268,107 acres in the Great Lakes watershed were put into USDA conservation practices to reduce erosion, nutrients and/or pesticide loadings under Farm Bill Programs. This represents a 62% increase over the baseline of 165,000 acres (based on FY 2008 data). The significant increase in FY11 is a combined result of greater funding (base USDA programs and GLRI) and increased participation in NRCS programs. It is important to note that the acres tracked in this measure are not cumulative, rather, this measure tracks new conservation practices implemented in a given fiscal year. Therefore, the percent increase will vary considerably from year to year due to funding, total acres available for conservation, and the difficulty of implementing conservation practices.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
4.1 Miles of rivers reopened for fish passage.	Baseline: 0 FY10: 1,000 FY11: 1,500 FY12: 2,500	315	Projects are underway which are working toward this measure. These projects often include a design phase prior to implementation, which has resulted in a delay in achieving targets. For example, a dam removal project will not claim river miles reopened or removal of a fish passage barrier until deconstruction of the dam is fully complete, which will often not occur in the first phase of the project. Additionally, reporting for this measure relies heavily upon receiving and validating information from funding recipients (grantees, states, federal agencies, sub-grantees). We expect to continue to be delayed in achieving the targets in the Action Plan. Because of this, it may be appropriate to adjust the original Action Plan targets.
4.2 Number of fish passage barriers removed or bypassed.	Baseline: 0 FY10: 100 FY11: 150 FY12: 250	31	Projects are underway that are working toward this measure. These projects often include a design phase prior to implementation, which has resulted in a delay in achieving targets. For example, a dam removal project will not claim river miles reopened or removal of a fish passage barrier until deconstruction of the dam is fully complete, which will often not occur in the first phase of the project. Additionally, reporting for this measure relies heavily upon receiving and validating information from funding recipients (grantees, states, federal agencies, sub-grantees). We expect to continue to be delayed in achieving the targets in the Action Plan. Because of this, it may be appropriate to adjust the original Action Plan targets.
4.3 Number of species delisted due to recovery. [1] *Also a measure under GPRA	Baseline: 0 FY10: 0 FY11: 0[3] FY12: 1	1	Lake Erie Watersnake

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
4.4 Percent of recovery actions implemented for priority listed species. [1]	Baseline: 0 FY10: 16% (68/414) FY11: 33% (138/414) FY12: 51% (211/414)	15.7% (65/414)	The delay in receiving FY10 funds has put us approximately one year behind schedule in achieving our targets and we expect to remain approximately one year behind in achieving the targets in the Action Plan. For this reason, it may be appropriate to adjust the original Action Plan targets. The projected number of landowner agreements for Pitcher's Thistle, which were factored into the established target, was not achieved. Each landowner agreement executed for a listed species counts as an implemented, ongoing, or completed recovery action toward this metric. Landowner agreements are opportunistic and may not be available in a given year for a particular species due to timing, location, etc.
4.5 Percent of populations of native aquatic non-threatened and endangered species self-sustaining in the wild. [1] *Also a measure under GPRA	Baseline: 27% (39/147) FY10: 33% (48/147) FY11: 33% (48/147)[3] FY12: 33% (48/147)[3]	31% (46/147)	Actions have been taken which we believe will increase the percentage of populations self-sustaining in the wild; however this environmental indicator will require additional time for the impacts to affect species populations. Lake Huron whitefish and lake trout populations (two species targeted to meet this measure) are making significant progress in measurable population metrics, but the impacts of our efforts will not be fully known for several years, since lake trout are a long-lived, slow growing, late maturing species that does not grow to a size that can be effectively sampled until age 5+.
4.6 Number of acres of wetlands and wetland-associated uplands protected, restored and enhanced. *Also a measure under GPRA	Baseline: 0 FY10: 5,000 FY11: 5,000[3] FY12: 11,000[3]	9,624	EPA collaborated with and funded the Bureau of Indian Affairs, FWS, NPS, U.S. Forest Service, NOAA, and USACE to meet this measure. Acreage was protected, restored, or enhanced across the Great Lakes basin. Some of the most significant completions in support of removing beneficial use impairments were done through the Michigan Department of Natural Resources at River Raisin in Monroe, Michigan. Twenty tribes received funding from BIA for restoring wild rice and other cultural wetland resources across the basin.
4.7 Number of acres of coastal, upland, and island habitats protected, restored and enhanced. *Also a measure under GPRA	Baseline: 0 FY10: 15,000 FY11: 15,000[3] FY12: 15,000[3]	12,103	Funding delays and permit processing have slowed project implementation. These project areas are expected to be protected, restored, or enhanced in CY 2012. Reporting for this measure relies heavily upon receiving and validating information from funding recipients (grantees, states, federal agencies, sub-grantees).

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
4.8 Percent of U.S. coastal Great Lakes wetlands assessed.	Baseline: 0% FY10: 20% FY11: 40% FY12: 60%	19.6%	A previous collaborative effort between the U.S. and Canada under the Great Lakes Wetlands Consortium yielded a basin-wide digital coastal wetland inventory of all the Great Lakes coastal wetlands classified using the Great Lakes Wetlands Consortium classification scheme. These 2768 digital sites were reviewed for wetland assessment site selection, and certain sites were rejected based on feasible size and characteristic criteria, resulting in 643 U.S. sites currently scheduled for assessment. These sites will statistically represent all Great Lakes coastal wetlands. In FY11, approximately 126/643 (19.6%) were assessed. The logistics of the first field season for this comprehensive effort resulted in slightly fewer wetlands being assessed in FY11 than the FY10 target. The delay in receiving FY10 funds has put us a year behind schedule in achieving our targets; as a result, we expect to achieve 100% assessed in FY15 rather than FY14. Because of this, it may be appropriate to adjust the original Action Plan targets.
4.9 Number of habitat-related Beneficial Use Impairments removed from the 27 U.S. Areas Of Concern so impaired. [1]	Baseline: 3[2] FY10: 9 FY11: 12 FY12: 18	3	Significant actions and improvements are underway in removing habitat-related BUIs from AOCs across the basin. There are 49 habitat-related BUIs remaining at 27 AOCs. Already, projects are underway at 23 AOCs, and all necessary habitat actions are in progress at 4 AOCs (Ashtabula River, White Lake, River Raisin, Sheboygan River). The assessments required to verify these improved conditions generally take years to complete before BUIs can be removed. We did not fully recognize this delay at the time the targets were established. Additionally sediment remediation may need to occur on site before habitat restoration work begins, which can create a habitat restoration lag time at certain AOCs. We expect to continue progress in removing BUIs and delisting AOCs. FY11 targets for total BUI removals have been met and FY11 targets for AOCs with all management actions taken have been surpassed. The baseline for this measure should be 3 habitat-related BUIs removed at two AOCs. We expect the reasons identified above to affect our ability to meet out-year targets for this measure (habitat-related BUIs). Because of this, it may be appropriate to adjust the original Action Plan targets.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
5.1 Improvement in the overall aquatic ecosystem health of the Great Lakes using the Great Lakes 40-point scale. [1] *Also a measure under GPRA	Baseline: 20 FY10: 23 FY11: 23.4 FY12: 21.9[3]	21.9	The reported Great Lakes Index score of 21.9 does not indicate worsening of environmental conditions in the Great Lakes over the long term. Rather, the change is a result of an adjustment to one of the eight index components - beach closures. In 2010, 62% of Great Lakes beaches were reported as open more than 95% of the swimming season. This represents a large decrease from the previous year (82%), and caused the beach closure component of the index to drop from a "2" to a "1." While this gives the appearance that beach - and therefore general Great Lakes - conditions are deteriorating, approximately the same number of beaches did not meet the 95% threshold in 2010 as in 2009. This is attributable to a more rigorous standard of reporting. Prior to 2010, states had been considering non-monitored beaches as open and safe for swimming for 100% of the beach season because the lack of monitoring resulted in no closings. The inclusion of non-monitored beaches in the category of "beaches meeting the criteria of being open more than 95% of the swimming season" raised the number of beaches considered safe for swimming, and in turn raised the percentage. In 2010, non-monitored beaches were no longer reported by states, which resulted in a smaller number of beaches monitored and counted in this component of the index. Starting in FY12, the beach closure component of the index will be revised to assess the percentage of days of the beach season that the Great Lakes beaches monitored by state beach safety programs are open and safe for swimming. This component will then be consistent with the national beach program measure and the revised Great Lakes beach program measure under the GLRI Action Plan.
5.2 Number of priority LaMP projects that are completed.	Baseline: 0 FY10: 10 FY11: 12 FY12: 15	16	Lakewide Management Plans continue to serve a critical role in protecting and restoring the Great Lakes ecosystem. Sixteen priority LaMP projects were completed in FY11. Some of these projects included hazardous waste collection in Lake Superior, completion of a Lake Erie Nutrients Management Strategy, completion of a Lake Ontario Binational Biodiversity Strategy Implementation Plan, and Green Marina projects in Lake Michigan.

Action Plan Measure of Progress	Performance Targets	FY11 Result	Explanation / Additional Information
5.3 Number of educational institutions incorporating new or existing Great Lakes protection and stewardship criteria into their broader environment education curricula.	Baseline: 0 FY10: 0 FY11: 2 FY12: 6	52	Progress has greatly exceeded targets for this measure. This success is attributed to a project funded to the University of Wisconsin - Extension. This project, the Great Lakes Earth Partnership, has achieved considerable success in its first of three years. We expect to continue to greatly exceed targets in future years as this project continues and other recently funded efforts from EPA and NOAA achieve progress. We now project to achieve between 100-150 institutions by 2015. Because the original Action Plan targets have been exceeded, it may be appropriate to discontinue reporting on this measure of progress, adjust the original Action Plan targets, or adjust reporting methodology.

[1] Results from this Action Plan measure are achieved through GLRI funding as well as other non-GLRI federal and/or state funding.

[2] Original baseline from the Action Plan has been updated.

[3] This target has been adjusted from the Action Plan. This Measure of Progress in the Action Plan also is a measure under GPRA.

APPENDIX B – ORGANIZATIONS RECEIVING GLRI FUNDING

The following is a full list of partner organizations and stakeholders receiving funding to protect and restore the Great Lakes (http://glri.us). In addition, many more entities identified projects to fulfill the Action Plan, but these projects could not be supported with available funding.

GLRI Funding Recipients

1854 Authority (Inter-Tribal Agency)

Alger Conservation District

Alliance for the Great Lakes

Alliance of Rouge Communities

Bad River Band of Lake Superior Chippewa Indians

Bad River Watershed Association

Bay Mills Indian Community

Bay-Lake Regional Planning Commission

Bird Studies Canada

Blue Heron Ministries

Brown County, Wisconsin

Brown County (Wisconsin) Land & Water Conservation Department

Buffalo Audubon Society

Buffalo Niagara Riverkeeper

Buffalo State College

Calhoun Soil Conservation District

Center for Transformation of Waste Technology

Central Michigan University

Chicago Park District

City of Chicago

City of Frankenmuth

City of Hancock

City of Ishpeming

City of Kenosha

City of Lorain

City of Marysville

City of Monroe

City of Port Huron

City of Toledo

City of Whitehall

Clarkson University

Clean and Healthy New York

Cleveland-Cuyahoga Port Authority

Cleveland Metroparks

Cleveland Museum of Natural History

Clinton River Watershed Council

Community Action Duluth

Conservation Resource Alliance

Conservation Technology Information Center

Cornell University

White House Council on Environmental Quality

Cuyahoga County (Ohio) Board of Health

Cuyahoga County (Ohio) Engineer`s Office

Cuyahoga County (Ohio) Soil and Water Conservation District

Delta Institute

Dept. of Agriculture – Cooperative State Research, Education, and Extension Service

Dept. of Agriculture-Animal and Plant Health Inspection Service

Dept. of Agriculture-Natural Resources Conservation Service

Dept. of Agriculture-U.S. Forest Service

Dept. of Commerce-National Oceanic and Atmospheric Admin.

Dept. of Defense-U.S. Army Corps of Engineers

Dept. of HHS-Agency for Toxic Substances and Disease Registry

Dept. of HHS-Fed. Occupational Health

Dept. of Homeland Security-U.S. Coast Guard, Connecticut

Dept. of Interior-Bureau of Indian Affairs, Minnesota

Dept. of Interior-National Park Service, Midwest Regional Office

Dept. of Interior-U.S. Fish and Wildlife Service, Minnesota

Dept. of Interior-U.S. Geological Survey, Michigan

Dept. of Transportation-Federal Highway Administration

Dept. of Transportation-Maritime Administration

Door County (Wisconsin) Soil & Water Conservation Department

Downriver Community Conference

Ducks Unlimited Inc.

Eastern U.P. Regional Planning & Development Commission

Environment Canada

Environmental Solutions & Innovations, Inc

Erie County (New York)

Erie County (Pennsylvania) Conservation District

Erie-Western Pennsylvania Port Authority

Finger Lakes Association

Fond Du Lac Band of Chippewa

Forest County Potawatomi

Friends of the Detroit River

Friends of the Forest Preserves

Grand Portage Band of Chippewa

Grand Traverse Band of Ottawa and Chippewa Indians

Grand Traverse Conservation District

Grand Traverse Regional Land Conservancy

Grand Valley State University

Great Lakes Commission

Great Lakes Fishery Commission

Great Lakes Indian Fish and Wildlife Commission

Great Lakes Observing System Regional Association

Great Lakes United

Great Lakes WATER Institute, University of Wisconsin-Milwaukee

Groundwork Milwaukee Inc.

Health Research Inc.

Houghton Keweenaw Conservation District

Huron-Clinton Metropolitan Authority

Huron Band of the Potawatomi

Huron County (Ohio) Soil & Water Conservation District

Huron Pines

Illinois Department of Natural Resources

Illinois Department of Public Health

Illinois-Indiana Sea Grant

Indiana Department of Environmental Management

Indiana Department of Natural Resources

Indiana State University

Indiana University

International Joint Commission

Izaak Walton League of America

Jefferson County (New York) Soil & Water Conservation District

Kalamazoo Nature Center Inc.

Keweenaw Bay Indian Community

Lake County (Illinois) Stormwater Mgmt Commission

Lake County Forest Preserve District

Lake County Health Department

Lake Superior Center

Les Cheneaux Watershed Council

Little Traverse Bay Bands of Odawa Indians

Lorain County (Ohio)

Loyola University of Chicago

Macatowa Area Coordinating Council

Macomb County (Michigan)

Macomb County (Michigan) Health Department

Macomb County (Michigan) Office of Public Works

Manitowoc County (Wisconsin) Soil & Water Conservation

Metropolitan Mayors Caucus

Michigan Department of Agriculture

Michigan Department of Community Health

Michigan Department of Natural Resources & Environment

Michigan Department of Environmental Quality

Michigan State University

Michigan Technological University

Mille Lacs Band of Ojibwe

Milwaukee Metropolitan Sewerage District

Minnesota Department of Health

Minnesota Department of Natural Resources

Minnesota Pollution Control Agency

Montclair State University

Muskegon County (Michigan) Soil Conservation District

Muskegon River Watershed Assembly

National Parks of Lake Superior Foundation

National Pollution Prevention Roundtable

National Wildlife Federation

New York State Dept. of Environmental Conservation

New York State Education Department

Niagara County (New York) Soil & Water Cons. District

Northeast Michigan Council of Governments

Northeast Ohio Regional Sewer District

Northeast Recycling Council Inc.

Northeastern Ohio Universities College of Medicine

Northland College

Northwest Regional Planning Commission

NSF International

NY State Office of Parks; Recreation & Historic Preserv.

Oconto County (Wisconsin) Land Conservation Division

Ohio Department of Health

Ohio Department of Natural Resources

Ohio Environmental Council

Ohio Environmental Protection Agency

Ohio Lake Erie Commission

Oneida Nation

Ottawa County (Michigan)

Outagamie County (Wisconsin)

Ozaukee County (Wisconsin)

Park District of Highland Park

Partners For Clean Streams Inc.

Paul Smith's College of Arts & Sciences

Pennsylvania Dept of Environmental Protection

Pennsylvania Fish and Boat Commission

Pigeon River Intercounty Drain Drainage Board

Purdue University

Red Cliff Band of Lake Superior Chippewa

Regional Science Consortium

River Alliance of Wisconsin Inc.

Rochester Institute of Technology

Saginaw Chippewa Indian Tribe

Saint Regis Mohawk Tribe

Sault Ste. Marie Tribe of Chippewa Indians

Save the Dunes Conservation Fund

Shedd Aquarium Society

Science Museum of Minnesota

Southeast Michigan Council of Governments

Southwest Michigan Land Conservancy

SRC Inc.

St. Croix Chippewa

SUNY Research Foundation

SUNY-College of Environmental Science and Forestry

The Nature Conservancy - Indiana

The Nature Conservancy-Michigan

The Nature Conservancy-New York

The Nature Conservancy-Ohio

The Nature Conservancy-Wisconsin

The Ohio State University College of Public Health

The Pennsylvania State University

The Ridges Sanctuary

The Stewardship Network

Tip of the Mitt Watershed Council

Town of West Seneca Environmental Commission

U.S. Environmental Protection Agency

University of Illinois at Chicago

University of Illinois at Urbana-Champaign

University of Iowa

University of Michigan

University of Minnesota

University of Notre Dame

University of Rhode Island

University of Rochester School of Medicine & Dentistry

University of Toledo

University of Wisconsin Extension

University of Wisconsin-Green Bay

University of Wisconsin-Madison

University of Wisconsin-Milwaukee

University of Wisconsin-Oshkosh

University of Wisconsin-Superior

Upper Peninsula Resource Conservation and Development Council

Urban Ecology Center

Village of Campbellsport

Village of Egg Harbor

Village of Lake Bluff

Village of Lake Linden

Village of Mount Pleasant

Village of Shorewood

Watershed Center Grand Traverse Bay

Waukegan Harbor AOC Citizens Advisory Group

Wayne County Department of Public Services – Water Quality Management Division

Wayne State University

West Michigan Shoreline Regional Development Commission

Western Pennsylvania Conservancy

Western Reserve Land Conservancy

Wildlife Forever

Wisconsin Department of Health & Family Services

Wisconsin Department of Natural Resources