United States Government Accountability Office

Report to the Chairman, Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, House of Representatives

July 2015

GREAT LAKES RESTORATION INITIATIVE

Improved Data Collection and Reporting Would Enhance Oversight

GAO-15-526

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GAO Highlights

Highlights of GAO-15-526, a report to the Chairman, Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The GLRI seeks to address issues such as water quality contamination and nonnative, or "invasive," species that threaten the health of the Great Lakes ecosystem. A Task Force of 11 federal agencies, chaired by the EPA Administrator, oversees the GLRI. Task Force agencies conduct work themselves or through agreements with nongovernmental organizations, academic institutions, or other entities.

GAO was asked to review how GLRI funds have been used. This report examines the (1) amount of federal funds made available for the GLRI and expended for projects; (2) process the Task Force used to identify GLRI work and funding; and (3) information available about GLRI project activities and results. GAO analyzed funding data for the GLRI and five agencies that received the majority of GLRI funds; GLAS data; accomplishment reports; and 19 GLRI projects selected by funding amounts and agencies to illustrate projects with typical funding amounts. This sample is not generalizable to all projects.

What GAO Recommends

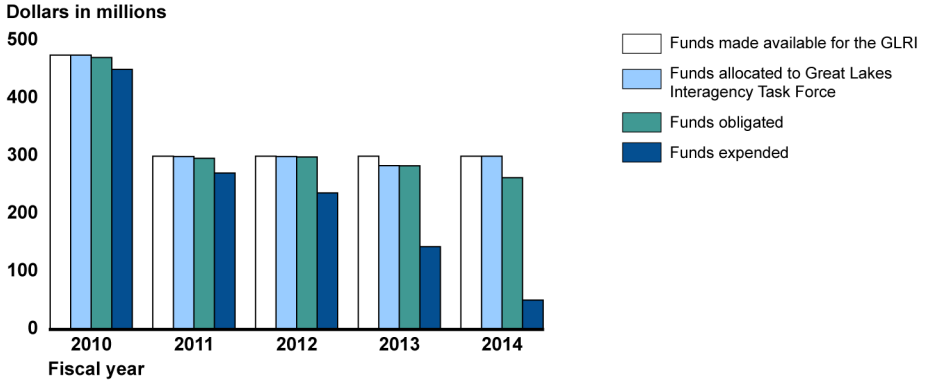
Among other things, GAO recommended in its draft report that EPA determine if it should continue using GLAS or acquire a different system and ensure that the agency develops guidance for entering data and establishes data quality control activities. EPA took action to address these recommendations as GAO completed its work. GAO reviewed the actions taken and determined that the recommendations had been addressed. As a result, GAO removed the recommendations.

View GAO-15-526. For more information, contact J. Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov.

What GAO Found

Nearly all of the $1.68 billion of federal funds made available for the Great Lakes Restoration Initiative (GLRI) for fiscal years 2010 through 2014 had been allocated as of January 2015. Of the $1.66 billion allocated, the Environmental Protection Agency (EPA) and the other Task Force agencies expended $1.15 billion for 2,123 projects (see fig.). Agencies can liquidate and adjust obligations for 7 years after funds are no longer available for obligation.

Status of GLRI Funds, Fiscal Years 2010 through 2014



Source: GAO analysis of EPA's January 2015 GLRI financial management update reports. | GAO-15-526

The Task Force's process to identify each agency's GLRI work and funding has evolved to emphasize interagency discussion. In fiscal year 2012, the Task Force created subgroups to discuss and identify work on three issues, setting aside about $180 million for these issues over 3 years. This included cleaning up severely degraded locations called Areas of Concern, such as the White Lake Area of Concern in Michigan that involved sediment cleanup; preventing invasive species; and reducing nutrient runoff. EPA officials told GAO that the Task Force created additional subgroups to identify all GLRI work and funding beginning in 2015.

The Task Force has made some information about GLRI project activities and results available to Congress and the public in three accomplishment reports. In addition, the individual Task Force agencies collect information on activities and results, although this information is not collected and reported by EPA. The conference report accompanying the Department of the Interior Appropriations Act for fiscal year 2010 directed EPA to establish a process to ensure monitoring and reporting on the progress of the GLRI. EPA created the Great Lakes Accountability System (GLAS) to monitor and report on GLRI progress, but some GLAS data are inaccurate, in part, because EPA did not provide clear guidance on entering certain information and GLAS did not have data quality controls. According to EPA officials, the agency replaced GLAS and, in May 2015, began an initial period of data entry into the new system. EPA also provided guidance on entering information into the new system and plans to establish data control activities for ensuring the reliability of the new system. Fully implementing these control activities should ensure that EPA can have confidence that the system can produce data that are accurate and complete.

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Abbreviations

2010-2014 Action Plan	Fiscal Years 2010-2014 Great Lakes Restoration Initiative Action Plan
2015-2019 Action Plan	Great Lakes Restoration Initiative Action Plan II
Corps	U.S. Army Corps of Engineers
EAGL	Environmental Accomplishments in the Great Lakes
EPA	Environmental Protection Agency
FAR	Federal Acquisition Regulation
FWS	Fish and Wildlife Service
GLAS	Great Lakes Accountability System
GLRI	Great Lakes Restoration Initiative
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
OMB	Office of Management and Budget
PCB	polychlorinated biphenyls
Task Force	Great Lakes Interagency Task Force

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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July 21, 2015

The Honorable Bob Gibbs
Chairman
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
House of Representatives

Dear Mr. Chairman:

Millions of people in the United States and Canada depend on the Great Lakes—the largest system of freshwater in the world—as a source of drinking water, recreation, and economic livelihood. Over the last several decades, the Great Lakes Basin—which includes the five Great Lakes—Superior, Michigan, Huron, Ontario, and Erie—and a large land area that extends beyond the lakes, including their watersheds, tributaries, and connecting channels, has proven vulnerable to the effects of toxic and other pollutants as a result of industrial, agricultural, and residential development. For example, decades of industrial activity in the region have left a legacy of contamination, such as from polychlorinated biphenyls (PCB), in the sediments that make up the beds of rivers and harbors in the Great Lakes Basin.

The Great Lakes Restoration Initiative (GLRI) was created in fiscal year 2010, after the President's fiscal year 2010 budget request included a new interagency initiative to accelerate Great Lakes restoration by addressing regional issues, such as water quality contamination and nonnative, "invasive" species that continue to threaten the health of the Great Lakes ecosystem. For example, more than 180 invasive aquatic species have become established in the Great Lakes, some of which have caused extensive ecological and economic damage to the Great Lakes. A 2012 Anderson Economic Group report estimated that the aggregate cost of aquatic invasive species to the Great Lakes is significantly more than $100 million annually.[1]

[1]A. L. Rosaen, E. A. Grover, C. W. Spencer, and P. L. Anderson, *The Costs of Aquatic Invasive Species to Great Lakes States* (Anderson Economic Group LLC, Mar. 5, 2012).

The GLRI is overseen by the Great Lakes Interagency Task Force (Task Force), which is chaired by the Administrator of the Environmental Protection Agency (EPA).[2] The Task Force is made up of senior officials from EPA, nine federal departments, and the Council on Environmental Quality. Specific GLRI work is implemented by EPA's Great Lakes National Program Office in conjunction with agencies within the departments (Task Force agencies). Task Force agencies include the Fish and Wildlife Service (FWS) in the Department of the Interior, the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, the Natural Resources Conservation Service (NRCS) in the Department of Agriculture, and the U.S. Army Corps of Engineers (Corps) in the Department of Defense.[3] EPA is authorized to transfer GLRI funds to any federal agency to carry out activities in support of the program. EPA enters into interagency agreements with the Task Force agencies identifying the funds to be transferred and describing the work to be done. Each Task Force agency then conducts GLRI work itself, or awards funds to recipients through financial agreements, such as grants, cooperative agreements, or contracts. Recipients can include federal entities; state, local, or tribal entities; nongovernmental organizations; academic institutions; and others such as agricultural producers. Recipients may also provide funds to the project as part of an agreement to conduct GLRI work.

[2]The Task Force was created by Executive Order 13340, Establishment of Great Lakes Interagency Task Force and Promotion of a Regional Collaboration of National Significance for the Great Lakes, 69 Fed. Reg. 29043 (May 20, 2004). The Task Force originally consisted of the Administrator of the EPA, the Secretary of State, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Housing and Urban Development, the Secretary of Transportation, the Secretary of Homeland Security, the Secretary of the Army, and the Chairman of the Council on Environmental Quality. Another department, the Department of Health and Human Services, and its Secretary, were added later.

[3]The Task Force agencies are: the Department of Agriculture's Animal and Plant Health Inspection Service, Forest Service, and Natural Resources Conservation Service; the Department of Commerce's National Oceanic and Atmospheric Administration; the Department of Defense's U.S. Army Corps of Engineers; the Department of Health and Human Services' Agency for Toxic Substances and Disease Registry; the Department of Homeland Security's Coast Guard; the Department of Housing and Urban Development; the Department of the Interior's Bureau of Indian Affairs, Fish and Wildlife Service, National Park Service, and U.S. Geological Survey; the Department of State; the Department of Transportation's Federal Highway Administration and Maritime Administration; and the Council on Environmental Quality.

When the GLRI was created in fiscal year 2010, Congress made $475 million available to the initiative through transfer authority,[4] greatly increasing the amount available for restoration efforts for the Great Lakes. When Congress made funds available for the GLRI in fiscal year 2010,[5] the conference report accompanying the appropriations act directed EPA to establish a process to ensure monitoring and reporting on the progress of the GLRI.[6] In response, EPA created the Great Lakes Accountability System (GLAS) to collect information for monitoring GLRI projects and progress. GLAS users, which can be either officials from the Task Force agencies that fund projects or the recipients of a Task Force agency's GLRI funds, were asked to update their project data in GLAS quarterly. EPA also created a GLRI website, in cooperation with the Task Force, to provide information to both the public and recipients about the program and GLRI projects.[7] The conference report also directed EPA to develop a comprehensive, multiyear restoration action plan for fiscal years 2011 through 2014 and to provide detailed, yearly program accomplishments beginning in 2011. In February 2010, the Task Force published the Fiscal Years 2010 to 2014 Great Lakes Restoration Initiative Action Plan (2010-2014 Action Plan) to guide the activities of the GLRI in several ways, including through measures of progress that have annual restoration targets for fiscal years 2010 to 2014.[8] The Task Force issued an updated Action Plan for 2015 to 2019 in September 2014 (2015-2019 Action Plan).[9] In addition, EPA and the Task Force agencies issued three

[4]Transfer authority is statutory authority provided by Congress to transfer budget authority from one appropriation or fund account to another. In fiscal years 2010, 2012, 2014, and 2015, Congress did not provide appropriations for GLRI purposes. Instead, in those fiscal years, Congress provided EPA with transfer authority, up to a maximum amount, to undertake GLRI programs and projects. However, in fiscal years 2011 and 2013, Congress did provide EPA with specific appropriations for GLRI purposes. As such, this report will, hereinafter, use "made available" when referring to the maximum amount of transfer authority and/or appropriations provided for GLRI purposes.

[5]Department of the Interior—Appropriation, Pub. L. No. 111-88, 123 Stat. 2904, 2938 (2009).

[6]H. R. Rep. No. 111-316, at 111 (2009).

[7]See http://glri.us/.

[8]Great Lakes Interagency Task Force, *Fiscal Years 2010-2014 Great Lakes Restoration Initiative Action Plan* (Washington, D.C.: Feb. 21, 2010.)

[9]Great Lakes Interagency Task Force, *Great Lakes Restoration Initiative Action Plan II* (Washington, D.C.: September 2014).

accomplishment reports to Congress and the President, providing information about the GLRI in fiscal years 2010 through 2012.[10]

In 2013, we reviewed and reported on the implementation of the GLRI and methods to assess GLRI progress, among other things. We concluded that EPA and the Task Force agencies have made strides but face significant challenges in ensuring the future success of the GLRI. Among other things, we found that information in GLAS on GLRI projects may not be complete and may prevent EPA from producing sufficiently comprehensive or useful assessments of GLRI progress.[11] For example, GLAS limited users to reporting progress using a single measure, and GLRI projects may directly address multiple measures. This prevented EPA from collecting and reporting complete progress information on each of the measures addressed by GLRI projects. As a result, we recommended that the EPA Administrator, in coordination with the Task Force, capture complete information about progress for each of the measures that are addressed by a project. In response to our recommendation, EPA modified GLAS to allow GLAS users to report information in GLAS about more than one measure of progress, beginning in January 2014.

In this context, you asked us to provide greater detail about how GLRI funds are used and the results of GLRI projects. This report examines the (1) amount of federal funds made available for the GLRI and expended for projects; (2) process the Task Force used to identify GLRI work and funding; and (3) information available about GLRI project activities and results.

To examine the amount of federal funds made available for the GLRI and expended on projects, we analyzed EPA's January 2015 financial management update reports for GLRI funds made available (i.e., through

[10]EPA in partnership with the Great Lakes Interagency Task Force, *Great Lakes Restoration Initiative Fiscal Year 2010 Report to Congress and the President* (Washington, D.C.: March 2011); *Great Lakes Restoration Initiative Fiscal Year 2011 Report to Congress and the President* (Washington, D.C.: September 2011); and *Great Lakes Restoration Initiative Fiscal Year 2012 Report to Congress and the President* (Washington, D.C.: February 2014).

[11]GAO, *Great Lakes Restoration Initiative: Further Actions Would Result in More Useful Assessments and Help Address Factors That Limit Progress*, GAO-13-797 (Washington, D.C.: Sept. 27, 2013).

appropriations and transfer authority) in fiscal years 2010 through 2014. To assess the reliability of the data in the reports, we interviewed EPA officials about the data input and review, and on the basis of this work, determined that the data in the reports were sufficiently reliable for our purposes. In addition, we analyzed Office of Management and Budget (OMB) documents to obtain information about funds that are available for Great Lakes restoration activities other than those for the GLRI. We selected five Task Force agencies (EPA, FWS, NOAA, NRCS, and the Corps) to review in greater detail because they received the majority—about 85 percent—of GLRI funds made available in fiscal years 2010 through 2014. We obtained data from GLAS as of July 2014 to identify the projects funded by the five Task Force agencies with amounts made available for the GLRI in fiscal years 2010 through 2013.[12] We assessed the reliability of the GLAS data on funding agency and funding year by asking the agencies to verify data on their projects in GLAS and believe that the data are sufficiently reliable for identifying a list and total number of projects funded by the five agencies. One data field in GLAS is on recipients but, after reviewing documents and information the five agencies provided to us and the agencies' responses to our questions about GLAS data, we do not believe that this data field is sufficiently reliable for our purposes. Therefore, to identify the recipients of GLAS funding, we obtained a list of the recipients from each of the five agencies we reviewed, for each of the projects in GLAS as of July 2014. We categorized each of those recipients by recipient type (i.e., federal entities; state, local, or tribal entities; nongovernmental organizations; academic institutions; or other) and summarized that information. In addition, for GLRI funds made available in fiscal years 2010 through 2013, we obtained data from each of the five agencies to determine the percentage of their obligations for each of the types of financial agreements they used, such as grants, cooperative agreements, and contracts.

To examine the process that Task Force agencies used to identify GLRI work and funding, we reviewed interagency agreements and agencies' policies and guidance on financial agreements. We also reviewed 19 GLRI projects to understand how the process was applied to specific cases. We selected the 19 projects from GLAS by creating a list of GLRI

[12]For these five Task Force agencies, we did not include projects funded with amounts made available in fiscal year 2014 because most of that year's GLRI funds had not been obligated as of July 2014, the date of the GLAS data we reviewed.

projects funded by each of the five agencies with funds made available for the GLRI in fiscal years 2010 through 2012.[13] We then categorized these projects by recipient type for each project; ranked the projects by agency, recipient type, and funding amount; and selected the median project. We also selected the project with the largest amount of GLRI funding, or an amount close to it, for each agency. This nonprobability sample of 19 projects is not representative of all GLRI projects; however, it provides examples of both projects with typical and large funding amounts from a range of recipients.

To examine the information that is available about GLRI project activities and results, we analyzed the three GLRI accomplishment reports, the GLRI website, and GLRI project data in GLAS. We also reviewed project documents for the selected 19 projects, such as progress reports and other information from the funding agencies and recipients, to identify information available on project activities and results. In addition, we visited the recipients or locations for 3 of the 19 projects we reviewed.[14] We selected six GLAS data fields to review that we could use to describe projects—funding year, funding agency, status, end date, recipient, and GLRI funding amount—and found that four of these data fields were not sufficiently reliable for reporting on the progress of GLRI projects. To assess the reliability of the selected GLAS data fields, we reviewed EPA's GLAS User Guide, information the five selected agencies provided to us on the accuracy of the data for their projects in GLAS, and the five agencies' responses to our questions about GLAS data. In addition, we conducted electronic testing of certain GLAS data. A more detailed description of our objectives, scope, and methodology can be found in appendix I.

We conducted this performance audit from January 2014 to July 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

[13]We did not include projects funded with amounts made available for the GLRI in fiscal year 2013 or 2014 because those projects were likely to be in the early stages of implementation, or not yet started, at the time we began our review.

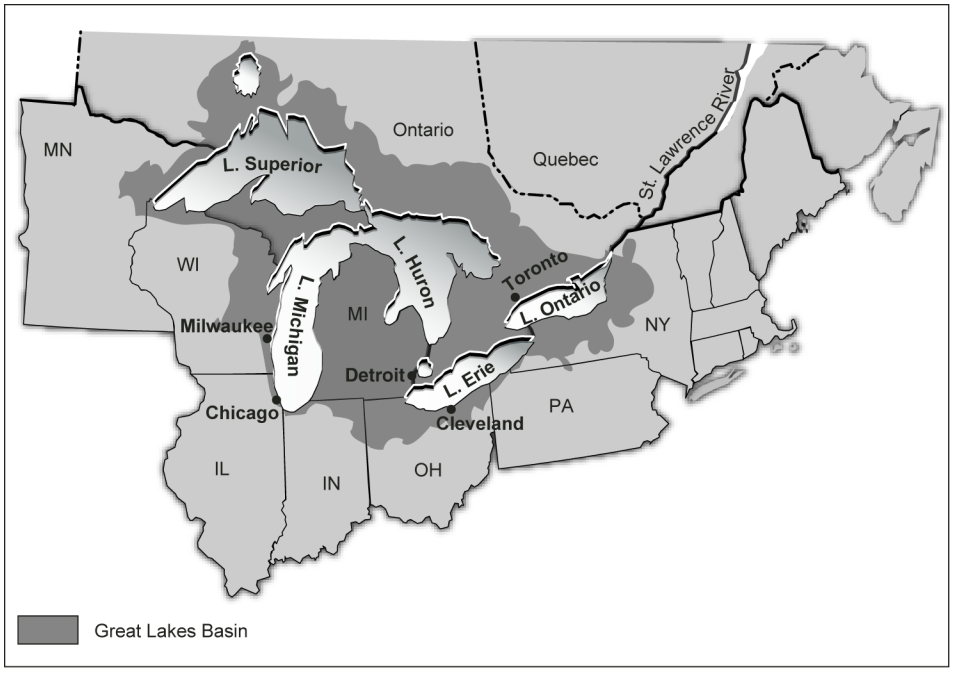
[14]We selected the three projects to observe work conducted by different recipient types that were within driving distance of the EPA Region 5 office in Chicago where the EPA officials that oversee the GLRI are located.

the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Great Lakes Basin covers approximately 300,000 square miles, encompassing Michigan and parts of Illinois, Indiana, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and the Canadian province of Ontario (see fig. 1), as well as lands that are home to more than 40 Native American tribes. It includes the five Great Lakes and a large land area that extends beyond the Great Lakes, including their watersheds, tributaries, and connecting channels. The Great Lakes contain nearly 90 percent of the surface freshwater in North America and 20 percent of the surface freshwater in the world. The Great Lakes provide drinking water; recreation opportunities, such as swimming, fishing, and boating; and economic benefits, including tourism, agriculture, and shipping, for an estimated 40 million people. In addition, nearly 7 percent of U.S. agricultural production comes from the basin, according to EPA.

Figure 1: Area Comprising the Great Lakes Basin



Sources: GAO, Map Resources (map). | GAO-15-526

History of Restoration Activities

Numerous environmental stresses threaten the health of the Great Lakes and adjacent land within the Great Lakes Basin. The Great Lakes has long been an area that attracted development, population, industry, and commerce, starting with the canals that joined the lakes to the eastern seaboard and allowed goods to be trafficked and traded between the Midwest and eastern states. Various environmental quality issues, particularly water quality pollution and contaminated sediments, have resulted from mining, timber harvest, steel production, chemical production, and other industrial activities that developed around the Great Lakes. Currently, all of the Great Lakes and the majority of the water bodies in the region are under fish consumption advisories, issued by state and provincial health agencies, due to mercury pollution primarily from coal-fired power plants. In addition, the fertile soil in the surrounding states makes them highly productive agricultural areas, and this has resulted in large amounts of nutrients such as phosphorus and nitrogen—as well as sediment, pesticides, and other chemicals—running off into the Great Lakes.[15] Moreover, large population centers on both sides of the U.S. and Canadian border use the Great Lakes to discharge wastewater from treatment plants, which also introduces nutrients into the Great Lakes. Even with progress in reducing the amount of phosphorus in the lakes through mitigation techniques used in the 1970s, harmful algal blooms are once again threatening the Great Lakes Basin. These are a result of increases in phosphorus and nitrogen entering the lakes from nonpoint sources of runoff from urban and rural areas.[16]

The United States has long recognized the threats facing the Great Lakes and has developed agreements and programs to fund and support restoration actions, including the following:

- In 1972, the United States and Canada agreed to take action by signing the Great Lakes Water Quality Agreement to restore, protect, and enhance the water quality of the Great Lakes to promote the

[15]Pollutants from nonpoint sources remain leading causes of impairment to the nation's waters. See GAO, *Clean Water Act: Changes Needed if Key EPA Program Is to Help Fulfill the Nation's Water Quality Goals*, GAO-14-80 (Washington, D.C.: Dec. 5, 2013).

[16]According to NOAA officials, while phosphorus is generally the primary nutrient that controls the amount of algae that will grow suspended in freshwater, nitrogen can also control algal growth. Increases in phosphorus or nitrogen can result in increases in algae, which can be detrimental to aquatic life by reducing the amount of sunlight and indirectly reducing the amount of available oxygen, among other things.

ecological health of the Great Lakes Basin. The countries signed another Great Lakes Water Quality Agreement in 1978, which was amended several times. For example, most recently, in 2012, the nations added provisions to the agreement to address the effects of climate change, among other things.

- In 1987, an amendment to the Great Lakes Water Quality Agreement resulted in the United States and Canada formally identifying a total of 43 severely degraded locations in the Great Lakes Basin as specific Areas of Concern, 31 of which are located entirely or partially in the United States.[17] These areas are defined as "geographic areas where a change in the chemical, physical, or biological integrity of the area is sufficient to cause restrictions on fish and wildlife or drinking water consumption, or the loss of fish and wildlife habitat, among other conditions, or impair the area's ability to support aquatic life." The 1987 amendment also required the nations to develop and implement remedial action plans for the Areas of Concern.
- In 2002, the Great Lakes Legacy Act authorized EPA to carry out sediment remediation projects in the 31 Areas of Concern located entirely or partially in the United States, among other things.[18] For fiscal years 2004 through 2009, EPA's budget authority totaled $162 million for work under this act, according to an OMB report.[19]

Of the original 26 Areas of Concern located entirely in the United States, 1—the Oswego River Area of Concern in New York—was delisted, or removed from the binational list of Areas of Concern, as of July 2006.[20] In contrast, 3 more U.S. Areas of Concern had been delisted, as of May 2015, for a total of 4 U.S. Areas of Concern delisted.[21] Of the 22 remaining Areas of Concern located entirely in the United States, the remediation and restoration actions necessary for delisting 3 additional

[17]Of the 43 Areas of Concern identified since 1987, 26 are located entirely in the United States; 5 are shared by the United States and Canada; 12 are located entirely in Canada.

[18]Pub. L. No. 107-303, 116 Stat. 2355 (2002).

[19]See OMB, *Great Lakes Restoration Crosscut Report to Congress*, 2009. In 2009, Congress consolidated and expanded funds for the Great Lakes Legacy Act programs under the GLRI. *See* H.R. Rep. No. 111-316, at 110 (2009).

[20]Of the 12 Areas of Concern located entirely in Canada, 3 have been delisted.

[21]The Deer Lake Area of Concern in Michigan was delisted in 2014, as was the White Lake Area of Concern in Michigan. The Presque Isle Bay Area of Concern in Pennsylvania was delisted in 2013.

Areas of Concern had been completed, as of October 2014, but formal delisting had not yet occurred, according to EPA.[22]

The United States also recognized the growing pressures on the fish and wildlife resources of the Great Lakes Basin and developed plans to address these. For example, federal and state agencies became aware of the growing threat of invasive species, such as the sea lamprey, which is a parasite that can each kill up to 40 pounds of fish in its lifetime and was a major cause of the collapse of lake trout, whitefish, and chub populations in the Great Lakes during the 1940s and 1950s. Again, the United States took a series of actions as follows:

- The Great Lakes Fish and Wildlife Restoration Act of 1990 directed the Fish and Wildlife Service to conduct a comprehensive study of the status of, and the assessment, management, and restoration needs of, the Great Lakes Basin's fishery resources and to develop proposals for implementing the study's recommendations.
- The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 established the Aquatic Nuisance Species Task Force and required it to develop and implement a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control, and study such species; and to disseminate related information. The act also directed the Great Lakes Commission to establish the Great Lakes Panel on Aquatic Nuisance Species and directed the panel to identify Great Lakes aquatic nuisance species priorities and coordinate, where possible, aquatic invasive species program activities in the region that are not conducted under the act, among other things.[23] Members of the panel, which meets twice a year, include U.S. and Canadian federal agencies, the eight Great Lakes states and the provinces of Ontario and Québec, local communities, and tribal authorities.
- In 2009, the President created the Asian Carp Regional Coordinating Committee to coordinate efforts, including local, state, federal, and

[22]Environmental monitoring is ongoing at the Ashtabula River Area of Concern in Ohio, the Sheboygan Harbor Area of Concern in Wisconsin, and the Waukegan Harbor Area of Concern in Illinois to assess their eligibility for delisting.

[23]The Great Lakes Commission is an interstate agency that promotes the use and conservation of water and related natural resources of the Great Lakes Basin and St. Lawrence River.

international efforts, to prevent Asian carp from spreading and becoming established. The term Asian carp refers collectively to four species of carp—including bighead and silver carp—that are native to Asia and were first introduced into the United States in 1963. Their rapid expansion and population increase can decrease populations of native aquatic species, in part by consuming vast areas of aquatic plants that are important as food and spawning and nursery habitats. Efforts to prevent Asian carp from entering the Great Lakes include the capture and removal of these fish from nearby waterways (see fig. 2). Since 2010, the committee has issued an annual Asian Carp Control Strategy Framework that outlines efforts to support activities that will directly prevent the introduction and establishment of Asian carp populations in the Great Lakes.[24] The committee released its most recent framework, for 2014, in June 2014.

[24]For additional information about the Asian Carp Regional Coordinating Committee, see http://www.asiancarp.us/index.htm.

Figure 2: Asian Carp Removed from the Illinois River near Morris, Illinois

Source: GAO. | GAO-15-526

Because Great Lakes restoration activities involved numerous federal, state, and local programs, as well as intergovernmental bodies, the President issued Executive Order 13340 in 2004 to establish the Task Force to address nationally significant environmental and natural resource issues involving the Great Lakes. The Task Force was to do this by, among other things, establishing a process for collaboration among the Great Lakes states, communities, tribes, and others in the Great Lakes region. The Task Force did so in 2005 with the development of the *Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes*.[25] The strategy noted that both historic and new stresses led to a new sense of urgency for action on the highest priorities for restoring and protecting the Great Lakes.

[25]Great Lakes Regional Collaboration, *Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes* (December 2005).

Nevertheless, the health of the Great Lakes continued to be threatened. In response, in 2009, the President requested, and Congress made available, $475 million in federal funds for GLRI purposes. The conference report accompanying the appropriations act directed EPA to develop a GLRI Action Plan that would build upon the Great Lakes Regional Collaboration Strategy and would ensure that the GLRI funds supplement and expand, not supplant, agencies' base Great Lakes programs (when compared with fiscal year 2009).[26] The Great Lakes Regional Collaboration Strategy provided a framework for the 2010-2014 Action Plan, which the Task Force agencies released in February 2010 and used to guide GLRI implementation for those years. The 2010-2014 Action Plan was organized into five focus areas that, according to the Task Force agencies, encompassed the most significant environmental problems in the Great Lakes: (1) toxic substances and Areas of Concern; (2) invasive species; (3) nearshore health and nonpoint source pollution; (4) habitat and wildlife protection and restoration; and (5) accountability, education, monitoring, evaluation, communication, and partnerships. Table 1 describes each of the five focus areas.

Table 1: Descriptions of the Five Focus Areas of the Great Lakes Restoration Initiative Action Plan for Fiscal Years 2010 through 2014

Focus area	Description
Toxic substances and Areas of Concern	Includes pollution prevention and cleanup of the most polluted areas in the Great Lakes
Invasive species	Includes efforts to institute a "zero tolerance policy" toward new invasions of nonnative species, such as Asian carp
Nearshore health and nonpoint source pollution	Includes targeted geographic focus on high-priority watersheds and reducing polluted runoff from urban, suburban, and agricultural sources
Habitat and wildlife protection and restoration	Includes revitalizing wetlands and other habitat, and a comprehensive assessment of the entire Great Lakes coastal wetlands for the purpose of strategically targeting restoration and protection efforts in a science-based manner
Accountability, education, monitoring, evaluation, communication, and partnerships	Includes the implementation of goal- and results-based accountability measures, learning initiatives, outreach, and strategic partnerships

Source: GAO analysis of the Great Lakes Restoration Initiative Action Plan for fiscal years 2010 through 2014. | GAO-15-526

For each focus area, the 2010-2014 Action Plan included long-term goals, objectives to be completed within the 5-year period covered by the plan,

[26]H.R. Rep. No. 111-316, at 110-11 (2009).

and 28 measures of progress that were designed to ensure that efforts are on track to meet the long-term goals. Each of the 28 measures in the plan had annual targets for fiscal years 2010 to 2014.[27] The Task Force issued an updated Action Plan in September 2014 to guide the GLRI for fiscal years 2015 to 2019. The updated plan retains four of the focus areas of the first Action Plan, and the fifth focus area was modified and is now called "foundations for future restoration actions."[28]

The Task Force adaptive management plan indicates that restoration will be a long-term effort and, in the meantime, environmental and public health problems persist in the Great Lakes ecosystem. For example, algal blooms persist, even with various actions taken. A 2014 study of Lake Erie by the International Joint Commission identified such blooms' economic costs to property values, regional and beach tourism, and recreational and commercial fishing.[29] Most recently, in August 2014, the city of Toledo, Ohio, issued a public notice warning area residents not to drink or otherwise consume water from Toledo's water supply, for which Lake Erie is a source, because of high levels of the toxin microcystin that may have been caused by algal blooms in the lake.[30] The warning lasted for 2 days, affecting a half million people, and came just 1 year after a similar situation in Carroll Township, Ohio, which also draws water from Lake Erie.

[27]For example, one measure for the habitat and wildlife protection and restoration focus area addresses the number of fish passage barriers that are to be removed or bypassed annually for the period of time covered by the Action Plan. The annual targets for the measure are the removal or bypassing of 100 barriers in 2010, 150 in 2011, 250 in 2012, 350 in 2013, and 450 barriers in 2014.

[28]Great Lakes Interagency Task Force, *Great Lakes Restoration Initiative Action Plan II.* The focus area "foundations for future restoration action" includes objectives to ensure the climate change resiliency of GLRI projects, educate the next generation about the Great Lakes ecosystem, and implement a science-based adaptive management approach.

[29]International Joint Commission, *A Balanced Diet for Lake Erie: Reducing Phosphorus Loadings and Harmful Algal Blooms,* Report of the Lake Erie Ecosystem Priority (2014). The International Joint Commission assists the United States and Canada in the protection of the transboundary environment in part through the implementation of the Great Lakes Water Quality Agreement, among other things.

[30]City of Toledo. "Urgent water notice!" Public Notices (Toledo, OH: City of Toledo, Aug. 2, 2014), accessed November 3, 2014, http://toledo.oh.gov/news/2014/08/urgent-water-notice/. According to EPA's website, most microcystins are liver toxins, and, while the liver is the primary target of microcystins, they also irritate the skin, eyes, and throat.

Great Lakes restoration involves many federal agencies' efforts and funds, not just GLRI funded projects. In addition to GLRI funds, federal agencies can receive budget authority to obligate and expend funds that contribute to the overall restoration of the Great Lakes. For example, NOAA awards grants to coastal states, which include Great Lakes states, under the Coastal Zone Management Act to address issues such as water quality and habitat protection, among other things.[31] Since fiscal year 2008, several appropriations acts have required OMB to submit annual interagency budget crosscut reports to relevant congressional committees that, among other things, (1) provide a detailed accounting of all funds received and obligated by all federal agencies for Great Lakes restoration activities during the current and previous fiscal years and (2) identify all expenditures by the federal government for Great Lakes restoration activities since fiscal year 2004.[32] In addition, the 2010-2014 Action Plan encourages recipients to leverage nonfederal resources.

Organization of GLRI Projects, Reports, and Data

GLRI is implemented through a number of projects, large and small, carried out by the Task Force agencies or recipients of GLRI funds. One way that the Task Force agencies conduct GLRI work is to use financial agreements with nonfederal entities, such as grants and cooperative agreements, that provide funds to conduct specific projects. Grants and cooperative agreements are to be used when the principal purpose of a transaction is to accomplish a public purpose or action authorized by federal statute.[33] Another way that the agencies conduct GLRI work is by using agency employees to carry out projects—which we refer to as

[31]Pub. L. No. 92-583, 86 Stat. 1280 (1972) (codified as amended at 16 U.S. C. §§ 1451-1466). Under the act, states are eligible to receive grants to support improvements in state programs, known as coastal zone enhancement grants, and grants to manage state programs, known as coastal zone management areas.

[32]The Consolidated Appropriations Act for Fiscal Year 2014 made the annual interagency budget crosscut report requirement permanent but requires OMB to identify all federal and state government expenditures in each of the 5 prior fiscal years for Great Lakes restoration activities instead of identifying all expenditures since fiscal year 2004 as previously required. "Great Lakes restoration activities" means any federal or state activity primarily or entirely within the Great Lakes watershed that seeks to improve the overall health of the Great Lakes ecosystem. Pub. L. No. 110-161, div. D, tit. VII, § 744 (2007); Pub. L. No. 111-8, div. D, tit. VII, § 742 (2009); Pub. L. No. 111-117, div. C, tit. VII, § 739 (2009); Pub. L. No. 112-74, div. C. tit. VII, § 737 (2011); Pub. L. No. 113-76, div. E, tit. VII, § 738 (2014).

[33]31 U.S.C. §§ 6304-6305.

agency-conducted work—or contracting with nonfederal entities to carry out projects. Contracts are to be used when the principal purpose is to purchase property or services for the direct benefit or use of the federal government.[34] OMB is responsible for developing governmentwide guidance for the management of grants and cooperative agreements. Until December 2013, OMB provided guidance in the form of circulars for specific grants management areas to different types of grantees. In December 2013, OMB consolidated its grants management circulars into a single uniform guidance document.[35] Requirements for contracts are found in the Federal Acquisition Regulation (FAR).[36] Among other things, OMB's circulars direct federal agencies to require progress and financial reports from academic institutions, nonprofit organizations, and state, local, and tribal entities that receive grants or are parties to cooperative agreements. For contracts, agencies can require such reports from contractors.

EPA collects and reports information on GLRI progress as a whole. EPA used the GLAS database from the beginning of the GLRI in 2010 through May 2015 to collect information from the Task Force agencies or the recipients of the agencies' GLRI funds about GLRI projects, including the recipient, GLRI funding amount, focus area, status, and end date.[37] In addition, EPA and the Task Force agencies make some GLRI project data available on the GLRI website. The most recent version of the GLAS User Guide was from March 2012 and was available on the GLRI website as of July 2015. The guide included definitions of some of these data

[34]31 U.S.C. § 6303.

[35]OMB issued the *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), to streamline its grants management guidance, promote consistency among grantees, and reduce administrative burden on nonfederal entities. In December 2014, OMB, along with grant-making agencies, issued a joint interim final rule implementing OMB's Uniform Guidance for new grant awards made on or after December 26, 2014. Because we reviewed GLRI projects awarded before that date, we used OMB's previous circulars in our review. OMB circulars in effect during the first 4 years of the GLRI are available at http://www.whitehouse.gov/omb/circulars_default/.

[36]The Federal Acquisition Regulation (FAR) is found in chapter 1 of title 48 of the Code of Federal Regulations (C.F.R.).

[37]We provided a draft of this report to EPA in May 2015. In response, EPA officials informed us that the agency had replaced GLAS with the Environmental Accomplishments in the Great Lakes (EAGL) information system. Because EPA did not alert us to this new system until June 2015, we could not include a review of EAGL in this report.

fields and instructions on how to enter project data into GLAS. GLAS was not a financial management system, and the Task Force agencies used their own financial management systems to track funding.

In our September 2013 report,[38] we conducted a survey of nonfederal recipients of GLRI funding and found that several factors outside the scope of the Action Plan can limit GLRI progress. These factors include inadequate infrastructure for wastewater or storm water treatment and the effects of climate change. We also found that EPA and the Task Force agencies had not fully established a plan to guide an adaptive management process for the GLRI that could allow them to assess the effectiveness of GLRI actions and, if needed, adjust their efforts.[39] We recommended, among other things, that the EPA Administrator, in coordination with the Task Force, address how factors outside the scope of the Action Plan that may limit progress, such as the effects of climate change, may affect GLRI efforts to restore the Great Lakes, and establish an adaptive management plan. EPA generally agreed with our conclusions and recommendations. In September 2014, EPA and the Task Force issued the 2015-2019 Action Plan, which includes ensuring climate resiliency of GLRI-funded projects as an objective in one of its focus areas. As of March 2015, EPA and the Task Force were in the process of revising a draft of an adaptive management framework for the 2015-2019 Action Plan.

[38]GAO-13-797.

[39]EPA and several Task Force agencies in 2000 adopted a unified federal policy on watershed management that defined adaptive management as a type of natural resource management in which decisions are made as part of an ongoing science-based process that involves (1) testing, monitoring, and evaluating applied strategies; (2) incorporating new knowledge into management approaches that are based on scientific findings and the needs of society; and (3) using results to modify management policy, strategies, and practices. *See* 65 Fed. Reg. 62566 (Oct. 18, 2000).

$1.68 Billion Was Made Available for the GLRI in Fiscal Years 2010 through 2014, with $1.15 Billion Expended on 2,123 Projects as of January 2015

In fiscal years 2010 through 2014, $1.68 billion of federal funds was made available for the GLRI,[40] and as of January 2015, EPA had allocated nearly all of the $1.68 billion, and the Task Force agencies had expended $1.15 billion[41] on 2,123 GLRI projects.[42] The five agencies we reviewed in greater detail had expended $993 million of the $1.43 billion allocated to them in fiscal years 2010 through 2014 on 1,696 GLRI projects, as of January 2015, and conducted those projects through a combination of work done by agency staff and a variety of GLRI funding recipients.

EPA Has Allocated Almost All of the $1.68 Billion Made Available for the GLRI in Fiscal Years 2010 through 2014, and Task Force Agencies Have Expended $1.15 Billion

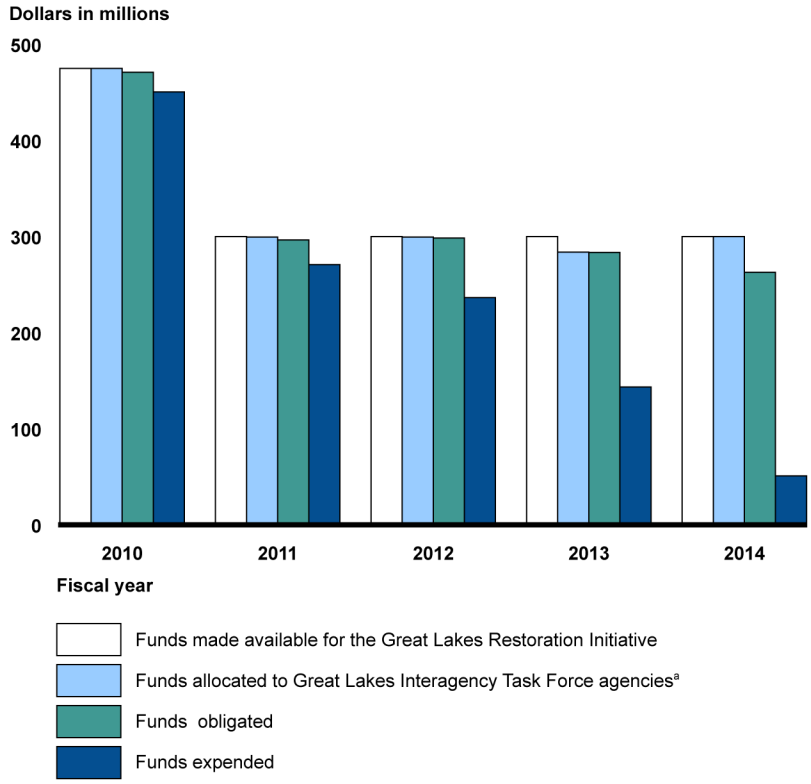
Of the $1.68 billion made available for the GLRI in fiscal years 2010 through 2014, EPA had allocated $1.66 billion as of January 2015. EPA conducts and funds GLRI work itself and allocates GLRI funds to the other Task Force agencies responsible for carrying out GLRI work. As of January 2015, the Task Force agencies had obligated $1.61 billion and expended $1.15 billion, or about 68 percent of the funds made available for the GLRI in fiscal years 2010 through 2014, on 2,123 projects. Figure 3 shows the funds made available for the GLRI in fiscal years 2010 through 2014 and the extent to which they had been allocated, obligated, and expended by all Task Force agencies as of January 2015.

[40]GLRI funds were made available through appropriations and transfer authority.

[41]For budgeting purposes, an allocation means a delegation, authorized by law, by one agency of its authority to obligate budget authority and outlay funds to another agency, and it is made when one or more agencies share the administration of a program for which appropriations are made to only one of the agencies or to the President. For funds control purposes, an allocation is a further subdivision of an apportionment. Obligations are definite commitments that create a legal liability of the government for the payment of goods and services ordered or received, or a legal duty on the part of the United States that could mature into a legal liability by virtue of actions on the part of the other party beyond the control of the United States. Expenditures are the actual spending of money, that is the outlays that liquidate obligations. See GAO, *A Glossary of Terms Used in the Federal Budget Process*, GAO-05-734SP (Washington, D.C.: September 2005).

[42]For the purpose of this report, we are counting only those projects that were identified in GLAS.

Figure 3: Great Lakes Restoration Initiative Funds Made Available, Allocated, Obligated, and Expended as of January 2015



Source: GAO analysis of the Environmental Protection Agency's January 2015 Great Lakes Restoration Initiative financial management update reports. | GAO-15-526

Notes:

The fiscal years in this figure refer to the years in which the funds were made available for the Great Lakes Restoration Initiative (GLRI).

[a]The Great Lakes Interagency Task Force is chaired by the Environmental Protection Agency (EPA) Administrator and includes senior officials from the U.S. Departments of Agriculture, Commerce, Defense, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, State, and Transportation and the Council on Environmental Quality. EPA allocates GLRI funds to the other Task Force agencies responsible for carrying out GLRI work.

The Task Force agencies have not expended all of the funds made available for the GLRI for several reasons, chief among them being that many projects take several years to complete. Also, GLRI funds are available for obligation for the fiscal year the appropriation was made, and the successive fiscal year. After these 2 fiscal years of availability, GLRI funds can be used for 7 additional years to liquidate and adjust those obligations. In addition, final payments are made from the agencies to recipients after projects are completed. Furthermore, as we found in

September 2013, weather events, among other things, caused some GLRI projects to be completed later than planned.[43]

In addition to the GLRI, federal agencies have expended other funds on Great Lakes restoration activities, such as reducing atmospheric deposition and controlling the generation, transportation, storage, and disposal of hazardous wastes.[44] While EPA has data on the amounts of GLRI funds allocated, obligated, and expended, data on other funds received, obligated, and expended by federal agencies for Great Lakes restoration activities are not easily available for comparison. Specifically, OMB's budget crosscut reports have not identified federal agencies' obligations and expenditures for Great Lakes restoration activities, as required by several appropriations laws since fiscal year 2008. Most recently, the Consolidated Appropriations Act for Fiscal Year 2014 required OMB to identify, among other things, (1) all funds received and obligated by all federal agencies for Great Lakes restoration activities during the current and previous fiscal years and (2) all federal government expenditures in each of the 5 prior fiscal years for these activities.[45] Instead, the reports presented information on each agency's budget authority for these activities.[46] According to OMB staff, the budget crosscut reports did not report these obligations and expenditures because providing that information is labor-intensive and time-consuming. These staff also said that the information would be outdated and of little value by the time it would be released.

Because GLRI funds are available for obligation for 2 fiscal years and can be used for another 7 fiscal years to adjust or liquidate those obligations, information on obligations and expenditures on other Great Lakes restoration activities could be valuable even several years later to

[43]See GAO-13-797.

[44]Atmospheric deposition is a process that transfers pollutants from the air to the earth's surface and can significantly impair water quality in the nation's rivers, lakes, bays, and estuaries, and harm human health and aquatic ecosystems. Hazardous waste is most often a by-product of manufacturing and can threaten human and ecosystem health when released into the air, water, or land.

[45]Pub. L. No. 113-76, div. E, tit. VII, § 738(b) (2014).

[46]Budget authority is authority provided by federal law to enter into financial obligations that will result in immediate or future outlays involving federal government funds. Budget authority includes (1) appropriations, (2) borrowing authority, (3) contract authority, and (4) authority to obligate and expend offsetting receipts and collections. See GAO-05-734SP.

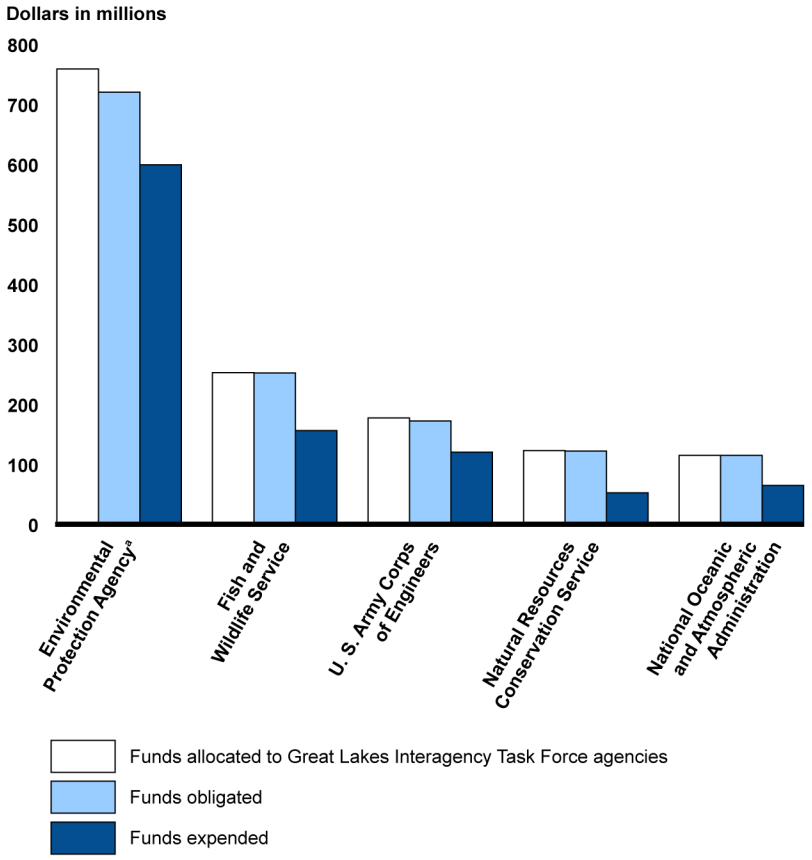
congressional decision makers. Without this information in OMB's budget crosscut reports, which is required to be included by law, it is not possible for decision makers to view GLRI funding in the context of the funding of overall Great Lakes restoration activities, because information on such activities would only be available from each agency, making less information readily available for congressional oversight.

Five Task Force Agencies Funded 1,696 GLRI Projects, with Work Conducted by Agency Staff and a Variety of GLRI Funding Recipients

Of the $1.66 billion EPA allocated to all Task Force agencies, as of January 2015, the five Task Force agencies we reviewed were allocated $1.43 billion. These agencies had obligated $1.38 billion and expended $993 million, or about 69 percent of their allocations (see fig. 4), on 1,696 GLRI projects.[47]

[47]The total of 1,696 projects represents projects funded by the five agencies with funds made available for the GLRI in fiscal years 2010 through 2014.

Figure 4: Five Agencies' Great Lakes Restoration Initiative Funds Allocated, Obligated, and Expended as of January 2015



Source: GAO analysis of the Environmental Protection Agency's January 2015 Great Lakes Restoration Initiative financial management update reports. | GAO-15-526

Notes:

The funds in this figure were made available for the Great Lakes Restoration Initiative (GLRI) in fiscal years 2010 through 2014.

[a]In addition to funding GLRI projects that the Environmental Protection Agency (EPA) conducts, EPA uses GLRI funds for, among other things, Great Lakes Legacy Act projects, the Great Lakes Fishery Commission, and the International Joint Commission. Great Lakes Legacy Act projects address certain contaminated areas in the Great Lakes Basin through actions such as sediment remediation. The Great Lakes Fishery Commission and International Joint Commission are binational efforts supported by the Department of State. The Great Lakes Fishery Commission works to sustain productivity of fish stocks of U.S. and Canadian concern in the Great Lakes, among other things, and the International Joint Commission assists the United States and Canada in the protection of the transboundary environment in part through the implementation of the Great Lakes Water Quality Agreement, among other things.

Using information from EPA's GLAS database as of July 2014 for GLRI funds made available in fiscal years 2010 through 2013,[48] we found that the five Task Force agencies we reviewed funded a total of 1,558 GLRI projects using GLRI funds as of July 2014. As shown in table 2, EPA and the Fish and Wildlife Service funded the most projects as of July 2014.

Table 2: Number of Great Lakes Restoration Initiative (GLRI) Projects Funded by Five Agencies as of July 2014

Agency	Number of projects funded with each fiscal year's GLRI funds				
	2010	**2011**	**2012**	**2013**	**Total**
Environmental Protection Agency	292	104	100	73	569
Fish and Wildlife Service	144	128	125	97	494
U.S. Army Corps of Engineers	83	68	94	85	330
Natural Resources Conservation Service	6	4	8	8	26
National Oceanic and Atmospheric Administration	33	51	36	19	139
Totals	**558**	**355**	**363**	**282**	**1,558**

Source: GAO analysis of data from the Great Lakes Accountability System as of July 2014. | GAO-15-526

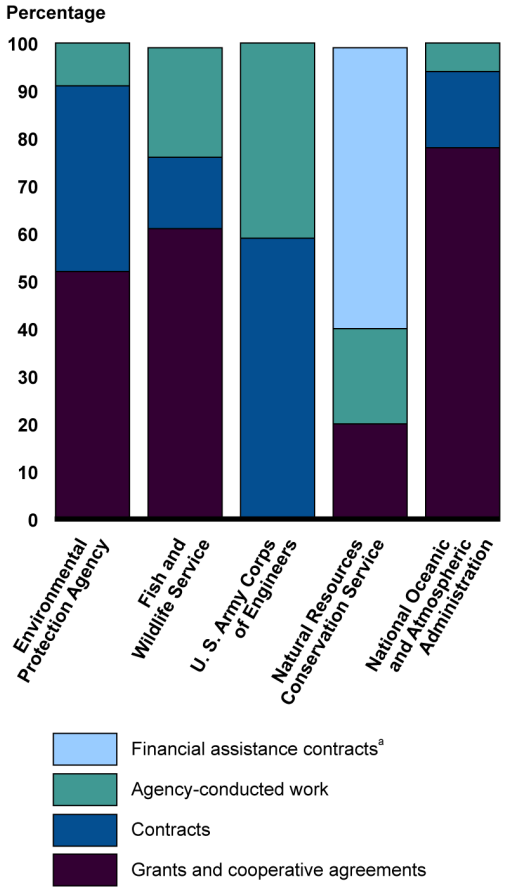
Note: This table includes only those projects that were identified in the Great Lakes Accountability System as funded with GLRI funds made available in fiscal years 2010 through 2013.

To use GLRI funds on restoration activities, the Task Force agencies conduct the work themselves or enter into financial agreements with other entities to conduct the work, primarily through grants, cooperative agreements, or contracts. The different types of financial agreements have different purposes. For example, EPA officials noted that the distinguishing factor between a grant and a cooperative agreement is the degree of federal involvement in project activities. A single GLRI project in GLAS can involve agency-conducted work, one or more of the types of financial agreements, or a combination of these. Using data we obtained from the five agencies reviewed, we found that the extent to which the agencies used each type of financial agreement in obligating their GLRI funds made available in fiscal years 2010 through 2013 varies by agency (see fig. 5). For example, the Corps primarily used contracts, and NOAA primarily used grants and cooperative agreements. NRCS used financial

[48]We did not include projects funded with GLRI funds made available in fiscal year 2014 because most of that year's GLRI funds had not been obligated as of July 2014, the date of the GLAS data we reviewed.

assistance contracts with agricultural producers to carry out conservation practices on their land.[49]

Figure 5: Five Agencies' Percent of Obligations of Great Lakes Restoration Initiative Funds Made Available in Fiscal Years 2010 through 2013, by Type of Financial Agreement



Sources: GAO analysis of obligations data from the Environmental Protection Agency, Fish and Wildlife Service, U.S. Army Corps of Engineers, Natural Resources Conservation Service, and National Oceanic and Atmospheric Administration. | GAO-15-526

Notes:

Figure data were provided by agencies from September 30, 2014 through January 16, 2015. We do not believe the differences in dates have a significant effect on the percentages shown because the amount of Great Lakes Restoration Initiative (GLRI) funds obligated by four of the five agencies did

[49]Those practices, among other things, improve water quality by reducing runoff or capturing sediment and nutrients in runoff.

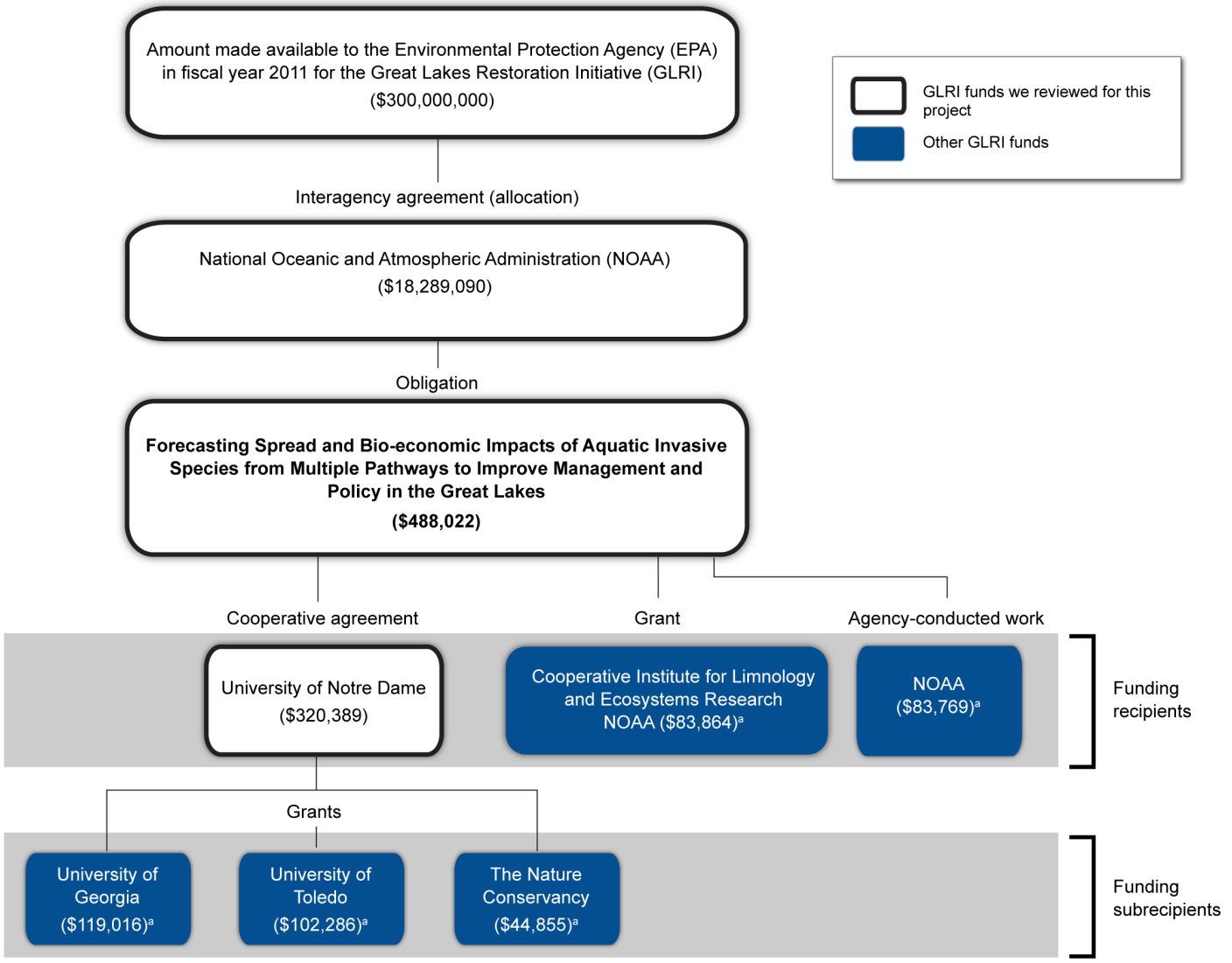
not change from October 2014 to January 2015, and the GLRI funds obligated by the Environmental Protection Agency (EPA) changed by 0.13 percent in that time, according to our review of EPA financial management updates.

Agencies' obligations are of funds made available for the Great Lakes Restoration Initiative in fiscal years 2010 through 2013 and do not include funds made available in fiscal year 2014 because they had not yet been fully obligated.

[a]Financial assistance contracts, which are used by the Natural Resources Conservation Service, are not the same as other contracts because they are not subject to the Federal Acquisition Regulation.

GLRI projects in GLAS can have multiple recipients that received GLRI funds directly from the Task Force agencies. These recipients include federal entities; state, local, or tribal entities; nongovernmental organizations; academic institutions; and others, such as agricultural producers and private landowners. In addition, a recipient may award a portion of its funds to subrecipients, such as universities, to help carry out the work, which means that a single GLRI project may also have multiple subrecipients. Figure 6 shows an example of the distribution of funds for a 2011 GLRI project with multiple funding recipients and subrecipients.

Figure 6: Example of Distribution of Funds for a Great Lakes Restoration Initiative Project



Sources: GAO analysis of EPA's January 2015 financial management update reports for GLRI amounts made available in fiscal year 2011, and information from NOAA and the University of Notre Dame. | GAO-15-526

[a]The Cooperative Institute for Limnology and Ecosystems Research and recipients of grants made by the University of Notre Dame may have further subawarded these GLRI funds, but GAO did not review that information.

Table 3 shows the number of GLRI projects funded with GLRI funds made available in fiscal years 2010 through 2013 by the five agencies by type of recipient as of July 2014. The type of GLRI recipients vary

depending on the agency and financial agreements involved. For example, NOAA has entered into agreements with all of these recipient types, with the exception of private landowners and agricultural producers, and the Corps has conducted all of its work itself or through contracts.

Table 3: Number of Great Lakes Restoration Initiative (GLRI) Projects Funded by Five Agencies by Type of Recipients as of July 2014

	Projects by recipient type				
Agency	**Federal entities[a]**	**State, local, or tribal entities**	**Nongovernmental organizations**	**Academic institutions**	**Other**
Environmental Protection Agency	17	318	100	134	0
Fish and Wildlife Service	181	138	148	47	1[b] 11[c]
U.S. Army Corps of Engineers	330	0	0	0	0
Natural Resources Conservation Service	22	17	5	2	1[b] 18[d]
National Oceanic and Atmospheric Administration	53	42	30	45	3[b]
Total	**603**	**515**	**283**	**228**	**5[b]** **11[c]** **18[d]**

Source: GAO analysis of data from the Great Lakes Accountability System (GLAS) as of July 2014, and data on GLRI recipients from the Environmental Protection Agency, Fish and Wildlife Service, U.S. Army Corps of Engineers, Natural Resources Conservation Service, and National Oceanic and Atmospheric Administration. | GAO-15-526

Notes:

This table includes only those projects that were identified in GLAS as of July 2014 as funded with GLRI funds made available in fiscal years 2010 through 2013.

Recipients in this table are entities that received GLRI funds directly from the federal agencies. We did not review information on subrecipients of GLRI funds.

Because projects in GLAS may have multiple recipients of different types, the same projects may be counted under multiple columns, which cannot be added together to equal an agency's total number of projects.

[a]For GLRI projects categorized under the federal entities recipient type, the recipient may be the funding agency itself, other federal agencies to which they have provided funds, or an entity that was awarded a contract. We have included contracts in this category because contracts are used when the principal purpose is acquisition of property or services for the direct benefit or use of the federal government.

[b]For profit entities.

[c]Private landowners.

[d]Agricultural producers.

Task Force Process for Identifying GLRI Work and Funding Has Evolved to Emphasize Interagency Discussion

The Task Force process for identifying GLRI work and funding generally includes four steps and has evolved from an agency-by-agency process to one that emphasizes interagency discussion. This evolution began in fiscal year 2012 when the Task Force created subgroups to identify and fund work to address three priority issues: (1) cleaning up and delisting Areas of Concern, (2) preventing and controlling invasive species, and (3) reducing phosphorus runoff that contributes to harmful algal blooms. For fiscal year 2015, the Task Force created additional subgroups to discuss and agree on work for other areas. EPA officials told us that funding work for the three priority issues has led to some accelerated restoration results.

Selected Task Force Agencies Identified GLRI Work and Funding Using Four General Steps

EPA officials described four steps that Task Force agencies generally followed to identify GLRI work and funding, and the five agencies we reviewed followed these steps. The steps are: (1) agency identification of GLRI work; (2) Task Force agreement on scope and funding for agencies' work; (3) solicitation of proposals for projects designed to carry out agencies' GLRI work, if the work was to be conducted by entities other than the agencies; and (4) selection of projects.

EPA officials told us that the first step generally occurred 2 years before the fiscal year in which the work was to be carried out, in order to coincide with the federal budget cycle. During that step, the officials told us that the agencies each did an internal analysis to identify GLRI work that they wanted to conduct in that fiscal year. For example, FWS officials told us that the agency's regional officials coordinated to identify new work that the agency planned to do in order to achieve its goals and then compared this work with 2010-2014 Action Plan goals to identify those projects that also met the goals.[50] The Corps' approach to this step was different; according to Corps officials, they selected projects that were already planned and ready to be conducted, and that were compatible with the 2010-2014 Action Plan. At this point, agency officials also identified the type of financial agreements they were likely to use to conduct the work or whether the agency would conduct the work itself.

[50]FWS has eight regional offices that encompass several states in different regions of the country. Regions 3 and 5 include states that are in the Great Lakes Basin. See http://www.fws.gov/where/ for a FWS regional map.

For the second step, the five agencies we reviewed held discussions with the Task Force and agreed on the work that would be done in a given fiscal year, as well as the amount of GLRI funds that would be needed to conduct that work. In general, once the agencies made a final determination of the work they would do in a fiscal year, and the GLRI funds that would be made available, each agency entered into an interagency agreement with EPA to transfer GLRI funds from EPA to the appropriate agency. The interagency agreements we reviewed included the following two parts:

- a form that identified the amount to be transferred from EPA to the agency that was responsible for the work, signed by both agencies;[51] and
- a scope-of-work organized into discrete topics called templates that typically included a description of the work, the GLRI Action Plan goals, objectives, or measures of progress that the work would achieve, and the amount of GLRI funds to be used.

EPA officials told us that the Task Force agencies were expected to spend their funds as detailed in their interagency agreement, but they could amend it with EPA approval to, for example, increase the amount of funds to be transferred to an agency or revise the scope of work.

The third step generally involved the agencies soliciting project proposals from potential recipients to conduct the work described in their templates. The public was notified of GLRI grant opportunities through an announcement, such as a request for applications, that was posted on the relevant agency's website or announced in other ways, such as by e-mail. A request for application may include a description of the relevant template, the number of potential projects, and the available funds. Requests for applications also include criteria that the agency requesting

[51]This part of the interagency agreement itemizes the funding amount in terms of budget categories such as benefits, travel, and direct and indirect costs.

GLRI Templates

Great Lakes Restoration Initiative (GLRI) templates address Action Plan focus areas, and can describe work that would be conducted through multiple projects, or through a specific, individual project. An example of a template that describes work that would be conducted through multiple projects is a Natural Resources Conservation Service (NRCS) template that addresses the nearshore health and nonpoint source pollution focus area. According to the template, NRCS would provide agricultural producers with GLRI funds and technical assistance to implement conservation practices to contribute to the 2010-2014 Action Plan goal of significantly reducing soil erosion and sediment, nutrients, and pollutants flowing into tributaries. An example of a project-specific template is a U.S. Army Corps of Engineers template to complete the design, and initiate construction, of a facility to manage dredged sediments in Green Bay Harbor, Wisconsin. The project is intended to hold 2.35 million cubic yards of sediments, and restore a chain of islands and more than 1,200 acres of coastal wetland habitat.

Sources: GAO analysis of information from the Natural Resources Conservation Service and the U.S. Army Corps of Engineers. | GAO-15-526

applications would use to rank applications and select projects.[52] Agency officials told us that applicants may be asked to provide funds to the project.

The fourth step in identifying GLRI work and funding was the selection of specific projects. Generally, officials from the selected agencies described similar processes for evaluating project proposals that were submitted in response to requests for applications. Specifically, they said that agency officials with the appropriate expertise reviewed and ranked the submitted proposals against information in the request for applications and selected the best scoring projects for funding. At the Corps and NOAA, officials said they evaluated contract bids or proposals, and awarded the contract to the vendor with a bid or proposal representing the best value to the government.

Of the 19 projects we reviewed for which funds were made available for the GLRI in fiscal years 2010 through 2012 and that addressed each of the five focus areas in the 2010-2014 Action Plan, 11 were executed through grants, 2 were executed through cooperative agreements, 3 were executed by a Task Force agency, 2 were conducted through contracts, and 1 was executed through a financial assistance contract. One project addressed the toxic substances and Areas of Concern focus area; 5 addressed the invasive species focus area; 3 addressed the nearshore health and nonpoint source pollution focus area; 5 addressed the habitat and wildlife protection and restoration focus area; and 5 addressed the accountability, education, monitoring, evaluation, communication, and partnerships focus area. In addition, the recipients conducting the 19 projects included 8 federal entities; 4 state, local, or tribal entities; 4 academic institutions; and 3 nongovernmental organizations. We found that the solicitations for 11 of the 19 projects reflected the descriptions of work in the related templates. The 8 remaining projects were not solicited because 4 were conducted by the agency, 2 were not competitively awarded, 1 project had been ongoing since before the GLRI, and the

[52]Criteria vary by request for application. For example, criteria in an EPA request for application included that applicants would be evaluated on their plan and approach for measuring and tracking their progress toward achieving the expected outcomes and outputs that apply to the relevant focus area, and on the technical and scientific merit of the proposed project, among other things. On the other hand, criteria in a FWS request for application included that applicants must specify in detail how habitat quantity or quality will be improved and must include a detailed budget indicating how the funding will be used, among other things.

recipient was identified in the interagency agreement, and 1 project was conducted by a recipient that had been selected prior to the GLRI as one of a few with the specific skills required for the project. Appendix II shows the relevant templates and solicitations for each of the 19 projects, as well as information from agency officials about why each of the projects was selected.

Process for Identifying Each Agency's GLRI Work and Share of GLRI Funding Has Evolved to Emphasize Interagency Discussion by Task Force Subgroups

The process for identifying each agency's GLRI work and share of GLRI funding has evolved over the life of the GLRI. According to EPA officials, for fiscal years 2010 and 2011, the Task Force determined the work an agency would do on an agency-by-agency basis. Beginning with fiscal year 2012, the process began emphasizing interagency discussion as the Task Force created three subgroups with federal agency members, one for each of three priority issues. The three priority issues, which aligned with three of the five focus areas in the 2010-2014 Action Plan, were (1) cleaning up and delisting Areas of Concern located entirely or partially in the United States, (2) preventing and controlling invasive species, and (3) reducing phosphorus runoff that contributes to harmful algal blooms.[53] For fiscal year 2015, EPA officials said that the Task Force agencies had begun creating additional subgroups to discuss and agree on scope and funding for agencies' GLRI work.

For fiscal years 2010 and 2011, the Task Force and the five agencies agreed on work that each agency would do on an agency-by-agency basis. Officials from the agencies said that they identified work from their existing plans and interacted with the Task Force to determine the work

[53]We will refer to these three priority issues as (1) Areas of Concern, (2) invasive species prevention, and (3) phosphorus reduction in this report. EPA officials told us that the Task Force created the three priority issues because of direction in congressional conference and committee reports. Specifically, the conference report accompanying EPA's fiscal year 2012 appropriation directed EPA to spend not less than the fiscal year 2011 enacted level for the toxic substances and Areas of Concern and the invasive species focus areas. H.R. Rep. No. 112-331, at 1074 (2011). In addition, the House committee report accompanying a fiscal year 2013 appropriation bill that was not enacted and the explanatory statement accompanying EPA's fiscal year 2014 appropriation directed EPA to spend not less than the fiscal year 2012 enacted level on those focus areas. H.R. Rep. No. 112-589, at 52 (2012); 160 Cong. Rec. H475, H978 (daily ed. Jan. 15, 2014). Furthermore, the House committee report accompanying the fiscal year 2013 appropriation bill that was not enacted identified the nearshore health and nonpoint source pollution focus area as critical for maintaining healthy communities within the Great Lakes region, and directed EPA and other federal partners to prioritize the work surrounding algal bloom control to improve water quality.

the agencies would do and the funds the agencies' should receive. Because the program began in fiscal year 2010, this process did not take place 2 years in advance, as it would in subsequent years. EPA officials told us that in 2010 the agencies also began agreeing on work for fiscal year 2011. After Congress made funds available for the GLRI for fiscal year 2010, and again after fiscal year 2011, the Task Force revisited the initial agreements made with each agency to finalize the funding amounts.

In agreeing on GLRI work and funding for fiscal years 2012 through 2014, the Task Force created a subgroup for each of the three priority issues and set aside a total of about $180 million to pay for work to address these issues. The Task Force created subgroups staffed by officials from relevant Task Force agencies to discuss and agree on the scope and funding for agencies' work to address the three priority issues. Specifically, officials from EPA, FWS, NOAA, the Corps, and the U.S. Geological Survey participated in the cleaning up and delisting of Areas of Concern and the invasive species prevention subgroups. Officials from EPA, NRCS, NOAA, the Corps, and the U.S. Geological Survey participated in the phosphorous reduction priority issue subgroup.

To agree on GLRI work and determine how much of the funds available for the GLRI would be set aside for each priority issue, EPA officials told us that the members of each subgroup discussed the subgroup's priority issue to determine what actions should be taken to accelerate restoration. The subgroup members then worked together to agree on a strategy that identified the work each agency would do and the funds each agency would receive to conduct that work. Specifically:

- **Areas of Concern subgroup:** Of the 25 Areas of Concern located entirely in the United States remaining in fiscal year 2012,[54] the subgroup considered how close each Area of Concern was to being delisted and what cleanup actions were needed for delisting, as identified by the Area of Concern managers, among other things.[55] On the basis of this information, the subgroup identified four Areas of

[54]As noted above, one of the original 26 Areas of Concern located entirely in the United States—the Oswego River Area of Concern—had been delisted prior to fiscal year 2012.

[55]Areas of Concern are typically managed by local groups that can include representatives of federal agencies, state, local, and tribal entities, nonprofit organizations, landowners, businesses, and other interested parties.

Concern to be targeted for accelerated cleanup in fiscal year 2012: the Ashtabula River Area of Concern in Ohio, the River Raisin Area of Concern in Michigan, the Sheboygan River Area of Concern in Wisconsin, and the White Lake Area of Concern in Michigan. At the same time, the subgroup identified additional Areas of Concern to be addressed in future years using the same approach.[56] The subgroup determined that nearly $22 million should be set aside for this priority issue in fiscal year 2012 and increased that amount to about $31 million for fiscal years 2013 and 2014.

- **Invasive species prevention subgroup:** Building on work done by the Asian Carp Regional Coordinating Committee that began around the same time as the GLRI, the subgroup originally focused most of its efforts on identifying projects to prevent Asian carp from getting into and becoming established in the Great Lakes. These projects included developing early detection and monitoring, and tools and technology to discover whether Asian carp were already present in the Great Lakes Basin. The subgroup agreed to adopt the amount of funds, $19.5 million, in fiscal year 2012, based on estimates made by the Asian Carp Regional Coordinating Committee. In fiscal year 2013, the Coordinating Committee reduced the amount it estimated was needed for invasive species work in the Great Lakes Basin to $16 million. The subgroup agreed to continue funding this priority issue at $19.5 million in fiscal years 2013 and 2014, but it divided the funds into $16 million for Asian carp work and $3.5 million for other invasive species, such as phragmites and feral hogs.[57] The subgroup used the Asian Carp Control Strategy Framework to guide the amount of GLRI funds that should be provided to each of the Task Force agencies with responsibility for conducting work to address this priority issue.

[56]The following Areas of Concern were to be targeted in fiscal years 2013 to 2014: the Deer Lake Area of Concern in Michigan, the Manistique River Area of Concern in Michigan, the St. Clair River Area of Concern in Michigan, the St. Mary's River Area of Concern in Michigan, and the Waukegan Harbor Area of Concern in Illinois.

[57]*Phragmites australis*, or common reed, is a perennial grass now common in North American wetlands. Invasive phragmites create tall, dense stands that degrade wetlands and coastal areas by crowding out native plants and animals, blocking shoreline views, and reducing access for swimming, fishing, and hunting. Feral hogs are domestic hogs that have either escaped or been released, and they can be found in 39 states including the Great Lakes region. They cause damage to crops and habitat and can cause erosion by digging for food. They also carry diseases that threaten humans and animals. In 2014, the U.S. Department of Agriculture estimated that feral hogs caused $1.5 billion in annual damage and control costs.

- **Phosphorous reduction subgroup:** Using available models and data to identify geographic areas that were contributing more nutrients to the Great Lakes than others, the subgroup determined that priority work should be focused on three watersheds where algal blooms had occurred. The three watersheds were the Lower Fox River in Wisconsin; the Maumee River watershed in Ohio, Michigan, and Indiana; and the Saginaw River in Michigan. The subgroup agreed that $11 million should be set aside for this priority issue for fiscal year 2012, and to increase that amount to $13.1 million for fiscal year 2013, and to $14.4 million for fiscal year 2014. EPA provided the majority of funds for this priority issue to NRCS because it is the federal agency that works with agricultural producers to implement conservation practices to reduce nutrients in runoff, and Task Force agency officials determined NRCS was best suited to address nutrient reduction. EPA provided the remaining funds to the U.S. Geological Survey for monitoring projects because of its experience in monitoring water supply and water quality.

To agree on GLRI work to be conducted in fiscal year 2015 and future fiscal years, EPA officials told us that the Task Force began creating additional subgroups through which Task Force agency officials would work together to identify each agency's GLRI work and share of GLRI funding in all five of the focus areas in the 2015-2019 Action Plan, not just the three priority issues. According to EPA officials, the use of subgroups to meet and agree on work and funding created a process for conducting GLRI work that all Task Force agencies agreed needed to be done, rather than each agency identifying its own GLRI work. According to EPA officials, for fiscal year 2015, the new subgroups developed strategies for dealing with issues and then identified the work proposed by agencies that helped to achieve the overall strategies. For future fiscal years, EPA officials said that the subgroups would use the 2015-2019 Action Plan.

Focus on Priority Issues Led to Some Accelerated Restoration Results in Targeted Areas

According to EPA officials, the focus on priority issues for fiscal years 2012 through 2014 has accelerated restoration results for one of three issues. Specifically, two of the Areas of Concern targeted for accelerated cleanup by the relevant subgroup were delisted in 2014. EPA announced in October 2014 that the White Lake and Deer Lake Areas of Concern had been delisted—both had been identified by the Areas of Concern subgroup for accelerated cleanup with priority issue funds—and EPA officials told us that they expect cleanup work to be completed at four other Areas of Concern in fiscal year 2015 as a result of receiving priority issues funds. Cleanup work included removing contaminated sediment

and diverting water from an underground mine. In the 25 years before the three priority issues were identified, only one Area of Concern located entirely in the United States had been delisted.

EPA officials said that identifying and funding the three priority issues for fiscal years 2012 through 2014 has also allowed for continued success in invasive species prevention and resulted in some progress in reducing phosphorus runoff that contributes to harmful algal blooms. However, restoration results in those priority issues are less clear than in the Areas of Concern priority issue, in large part because the factors contributing to those priority issues persist and are likely to continue into the future. For example, dams, canals, and other structures that were created to support navigation and power production in the Great Lakes Basin also created channels that connect the Great Lakes and Mississippi River Basins. These channels are of serious concern as a potential means for Asian carp or other invasive species to enter the Great Lakes.[58]

EPA funded work on priority issues from the amounts made available for the GLRI in fiscal years 2012 through 2014, shifting funds from other GLRI work to the priority issues. EPA officials described the funds set aside for the priority issues as a realignment of GLRI funds; that is, the funds used for the priority issues were taken from the existing funds that had been made available for the GLRI. Overall, the Task Force set aside a total of $180 million for the priority issues for this period: $52.2 million of the available GLRI amounts for all priority issues in fiscal year 2012, $63.4 million in fiscal year 2013, and $64.7 million in fiscal year 2014. EPA officials told us that money designated for one priority issue would not be spent on a different priority issue or on other GLRI projects.

EPA officials told us that the Task Force did not set aside all of the funds made available for the GLRI in fiscal years 2012 through 2014 for the priority issues for two key reasons. First, they said there is a limit to the amount of work that can be conducted for some restoration efforts. For

[58]The Water Resources Development Act of 2007 required the Corps to conduct—in consultation with appropriate federal, state, local, and nongovernmental entities—a feasibility study of the range of options and technologies available to prevent the spread of aquatic nuisance species between the Great Lakes and Mississippi River Basins through the Chicago Sanitary and Ship Canal and other aquatic pathways. Pub. L. No. 110-114, § 3061(d) (2007). The report was issued in January 2014, and it presented eight options that ranged from taking no new federal actions to separating the basins. For additional information and a copy of the report, see http://glmris.anl.gov/.

example, GLRI funds for reducing agricultural runoff can only be given to recipients in the Great Lakes Basin. These recipients are typically landowners, and there is a finite number of landowners in the Great Lakes Basin interested in conducting GLRI work who also have suitable land and ready projects. In addition, EPA officials told us that NRCS is the only Task Force agency equipped to oversee phosphorous reduction work targeted in agricultural areas, and the agency has a fixed number of personnel that it can use to oversee GLRI work. Second, according to these officials, Great Lakes restoration needs to involve topics addressed by the 2010-2014 Action Plan that are not part of the three priority issues, as well as addressing the overall health of the Great Lakes ecosystem.

Information on GLRI Projects Activities and Results Is Available from Individual Agencies, while Project Information in GLAS Was Limited by Some Inaccurate Data

The Task Force has made some information about GLRI projects, including project activities and results, available to Congress and the public in three accomplishment reports and the GLRI website. Specifically, the GLRI accomplishment reports contain information on activities and results for some projects. In addition, the individual Task Force agencies collect information on activities and results from recipients, although this information is not collected and reported by EPA. We obtained information on activities and results for the sample of 19 projects we reviewed.[59] While EPA collected project information in GLAS from 2010 through May 2015, some GLAS data were inaccurate, in part because recipients entered information inconsistently due to issues such as inconsistent interpretation of guidance, unclear guidance, or data entry errors.

Information on GLRI Project Activities and Results Is Available from Individual Task Force Agencies

As part of oversight of the GLRI, the Task Force makes some information on projects available for Congress and the public in two ways, annual accomplishment reports and the GLRI website. EPA and the Task Force published two accomplishment reports in 2013 and one in 2014 that provided overviews of progress under the GLRI for fiscal years 2010 through 2012. These reports included summary accomplishment statements for each of the five focus areas from the 2010-2014 Action Plan, as well as specific performance information for many of the 28 measures of progress in the 2010-2014 Action Plan.

[59]Our method for selecting the sample, which is nongeneralizable, is described in appendix I.

The accomplishment reports included some information about project activities and results. Specifically, our analysis found that GLRI accomplishment report for progress in fiscal year 2011 identified 10 GLRI projects, 2 for each of the five focus areas in the 2010-2014 Action Plan, and it included some information about project activities and results for each project. For example, it noted that the "Milwaukee River (Wisconsin)—restoring fish passage" project removed a dam, opening 14 miles of the river and 13.5 miles of tributaries to allow fish to move more freely, and reconnected the lower reach of the river with 8,300 acres of wetlands, improving water quality. The accomplishment report provided similar information about nine additional projects. The accomplishment reports about GLRI progress in fiscal years 2010 and 2012 also included information about project activities and results, although most were not associated with individual projects.

EPA also made some of the GLRI project information that recipients reported in GLAS available on the GLRI website, including a project's funding agency, title, funding amount and year, recipient identification, focus area, and description. Project information available on the website does not include GLRI project activities and results, although it is not designed to do so. EPA updated the GLRI project information on the website twice a year by asking the other Task Force agencies to update and verify GLAS information about their projects. To compile project information for the website, EPA provided each Task Force agency with a spreadsheet containing certain GLAS data for each of that agency's projects so that the agency could update and verify that information before it was posted on the website. The information on the website about projects is limited to basic information for the public, according to an EPA official, and does not contain certain information on projects such as activities and results.

Each of the five Task Force agencies we reviewed collected information on its projects, including project activities and results, and we reviewed the sample of 19 GLRI projects from the five Task Force agencies to identify information on project activities and results for each of the projects. We found that each of the five Task Force agencies collected this and other project information by establishing reporting requirements in grants, cooperative agreements, and contracts for recipients. Specifically, in most cases, EPA, FWS, NOAA, and NRCS required their grant recipients to submit quarterly, semiannual, or annual progress

reports, and quarterly or annual financial reports, consistent with the OMB circulars in effect at the time of the agreements.[60] In addition, the Task Force agencies that used contracts—the Corps and NOAA—required their contractors to submit progress reports. The Corps required the contractor to submit daily activity reports, and NOAA required the contractor to provide monthly progress reports. EPA officials told us that this information on project activities and results was not required to be reported in GLAS. In addition, the officials said that GLAS was not designed to collect specific information on project activities and results and was adapted from a system they used to collect information on a different restoration program. Appendix III contains a summary of the detailed information we collected on activities and results for the 19 projects.[61]

Overall, recipients reported a variety of project activities, including applying herbicide, conducting training and workshops, and collecting data. In addition, we found that recipients reported a range of results. For example, recipients from eight projects reported results that can be directly linked to restoration, such as increasing lake trout production, removing acres of invasive plant species, and protecting acres of marshland. For one of these projects, the Buffalo Audubon Society reported results needed to restore critical bird habitat, such as planting 3,204 plants and removing invasive species, among other results. For another project, the Great Lakes Fishery Commission reported results in the form of improved methods for capturing sea lamprey. According to a Great Lakes Fishery Commission official, the results from this project will help to further suppress sea lamprey production in the Great Lakes thereby reducing the damage they cause to native and desirable species.

[60]OMB Circular A-102, Grants and Cooperative Agreements With State and Local Governments (Oct. 7, 1994; further amended Aug. 29, 1997) and OMB Circular A-110, Uniform Administrative Requirements for Grants and Other Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit Organizations (Nov. 19, 1993; further amended Sept. 30, 1999).

[61]In addition, we reviewed key internal controls that the five agencies have in place to oversee projects and ensure accountability of GLRI funds, including the types of reports each agency required the funding recipients to submit and the policies governing agency site visits and the number of site visits for the 19 projects. Appendix IV contains a description of the key internal controls we reviewed and how the five agencies used them. We also analyzed indirect cost information for each of the projects to determine how much GLRI funds the recipients received to pay for administrative support costs, and what activities were included in those costs. Appendix V contains a description of indirect costs, and information about indirect costs for each of the 19 projects.

For example, a single lamprey can kill up to about 40 pounds of fish in its lifetime.

Recipients for the 11 remaining projects reported results that can be indirectly linked to restoration; that is, the results may contribute to restoration over time. These included results such as simulations and data for helping decision makers make better restoration decisions in light of climate change, and education and outreach tools to increase awareness of invasive species. In addition, a University of Wisconsin-Madison representative told us that the University's project to improve applied environmental literacy, outreach, and action in Great Lakes schools and communities, has already contributed to restoration. Some of the University's progress reports noted that the project has already resulted in more than 110 school teams that guided students in restoration, service-learning, inquiry, and citizen science monitoring during the 2013-2014 school year, among other things. The representative told us that this contributed to restoration because participating students have built rain gardens and implemented other conservation practices.[62] Similarly, the Corps used GLRI funds to complete a feasibility study in Highland Park, Illinois, and the study led to a restoration project that is expected to restore and enhance 4 acres of coastal habitat along the Lake Michigan shoreline, among other things. Figure 7 is a photograph of the Corps restoration project to restore and enhance coastal habitat that began with the feasibility study. See appendix III for examples of activities and results from each of the 19 projects we reviewed.

[62]A rain garden is a depressed area of the ground planted with vegetation, allowing runoff from impervious surfaces such as parking lots and roofs the opportunity to be collected and infiltrated into the groundwater supply or returned to the atmosphere through evaporation and transpiration.

Figure 7: U.S. Army Corps of Engineers Great Lakes Restoration Initiative Project to Restore and Enhance Coastal Habitat on Lake Michigan

Source: GAO. | GAO-15-526

Some GLAS Data Were Inaccurate

EPA collected some project information in GLAS, which the agency created to collect information to monitor and report on GLRI progress in response to the conference report accompanying the fiscal year 2010 appropriation act that made funds available for the GLRI.[63] However, our review found that some of the data collected in GLAS were inaccurate and therefore may not be sufficiently reliable to monitor and report project progress. For example, GLAS collected project information in more than 20 data fields, including the project's title, funding amount, funding year, funding agency, recipient, focus area, state, end date, status, and related

[63]H.R. Rep. No. 111-316, at 111 (2009).

Area of Concern and watershed. We selected six data fields that could contribute to our understanding of projects and assessed their reliability. Specifically, we reviewed the GLAS data fields for funding year, funding agency, recipient, status, end date, and funding amount. For each of the six fields, we reviewed field definitions and data entry procedures, and we manually checked data entries. We found that the funding year and funding agency data fields were sufficiently reliable, that is, accurate and complete, for the purposes of monitoring and reporting on the progress of GLRI projects.[64] However, we found that the other four data fields were not sufficiently reliable for that purpose. The results of our analysis are as follows:

- **Recipients**. GLAS data on project funding recipients, which EPA's GLAS User Guide defined as the organizations that actually conducted the work, were inconsistent. For the 1,558 projects funded by the five agencies we reviewed, we compared the recipients that were identified in GLAS with data obtained from the agencies on recipients that had received GLRI funds for these projects directly from the agencies. We found that GLAS users did not identify recipients in GLAS consistently.[65] Specifically, three of the agencies sometimes or always identified only the agency as the recipient in GLAS, even if the agency awarded the funds for that project to other entities that conducted the work. For example, one agency identified itself as the funding recipient for 118 projects in GLAS, but data we obtained from the agency identified other entities as the recipients for most, or 95, of those projects. Similarly, another agency identified itself as the funding recipient for 311 projects in GLAS, but data we obtained from the agency identified other entities as the recipients for almost half, or 151, of those projects. In addition, a third agency identified itself as the recipient for all 26 of the agency's GLRI projects in GLAS. While it is the case that some of the agency's recipients are

[64]Data are reliable when they are accurate and complete. Accuracy refers to the extent that recorded data reflect the actual underlying information. A subcategory of accuracy is consistency—i.e., data are clear and well-defined enough to yield similar results in similar analyses. Completeness refers to the extent that relevant records are present and that the fields in each record are populated appropriately. See GAO, *Assessing the Reliability of Computer-Processed Data*, GAO-09-680G (Washington, D.C.: February 2009).

[65]Specifically, we compared recipients for all 1,558 projects in GLAS as of July 2014 that were funded by the selected agencies with GLRI funds made available in fiscal years 2010 through 2013 with recipient information from the selected agencies for those projects.

private citizens, whose identities the agency does not want to release, the agency awarded funds to recipients other than private citizens for 18 of its projects.

- **Project status.** GLAS users did not define status the same way and therefore may have entered the status of their projects inconsistently. To report a project's status, GLAS users selected from a drop-down list of options, including started, percentage completed, and completed.[66] We asked officials at four of the five agencies we reviewed how they defined "completed" and found that the agencies did not mean the same thing when selecting completed. For example, one agency official told us that for projects involving construction, completed means that the bulk of the contractor's effort was completed and that the ecological benefits of the project were at least partially realized, even if additional project activities and final payments may have not been completed. Officials from another agency told us that completed means that all of the funds for the project were obligated and expended, or all contracts were completed, cancelled, or terminated. EPA officials told us that many recipients did not report projects as completed until the grant itself was closed out, which can take as long as a year from the completion of fieldwork. With agencies using different definitions, it is not clear what the GLAS data represented for those projects identified as completed. For example, GLAS users could have selected completed for their projects when the project work was finished, when all the funds had been expended, or when the financial agreement was closed out. As a result, GLAS data cannot be used to reliably determine how many GLRI projects have been completed.
- **Project end date.** Although not a required data field in GLAS, most projects (more than 75 percent) in GLAS had an end date listed. However, some GLAS data on the project end dates were inconsistent with project status reported in GLAS. We analyzed the end dates in GLAS for 1,890 projects as of July 2014 by checking for errors and by comparing the end dates with the projects' status.[67] Through this analysis, we found that of the 799 projects identified in

[66]The status options are: not started; started; 25 percent, 50 percent, or 75 percent completed; completed; cancelled; and hiatus-seasonal.

[67]Specifically, we analyzed end dates for 1,890 projects in GLAS as of July 2014 that were funded with amounts made available in fiscal years 2010 through 2013 and were not identified as cancelled. We excluded 25 projects because they were identified as cancelled.

GLAS as completed, 14 percent (112) had end dates that had not yet been reached. In addition, 698 projects had end dates that had already passed, but 28 percent of those (194) had not been identified in GLAS as completed. As a result, GLAS data on the end dates of projects are unreliable and cannot be used to determine the number of projects that were completed or are expected to be completed by a certain date.

- **GLRI funding amounts.** Some GLAS data on the GLRI funding amounts for projects were inaccurate. Specifically, after reviewing the GLAS data we provided on funding amounts for 1,558 projects, four of the five agencies identified inaccuracies in the GLRI funding amounts that the agencies or their recipients had reported in GLAS.[68] For example, the funding amount for one project in GLAS was $8.3 million less than the actual funding amount, which agency officials attributed to a data entry error. Similarly, officials from a second agency identified a project for which the funding amount in GLAS was about $219,000 more than the actual funding amount and told us that the reason for the error was unknown. Officials from a third agency also identified projects for which they said the agency had entered incorrect funding amounts, including 11 projects for which the GLAS data overreported the funding by $523,000. And, officials from a fourth agency identified 19 projects for which the funding amounts the agency had reported in GLAS were incorrect in part because of data entry errors, but they did not identify the dollar amount of the errors. Although we cannot extrapolate these examples of errors in GLAS on project funding to the 11 other Task Force agencies, the amount of these errors raises concerns about the accuracy of GLAS data on GLRI funds.

Some of the errors we found in GLAS data may have been the result of agencies' different interpretations of guidance or unclear guidance. Specifically, EPA's GLAS User Guide was the formal guidance document that defined GLAS data fields, such as recipients, project status, and end dates, but EPA left it up to the Task Force agencies to decide how to enter the data. For example, according to an EPA official, the GLAS data identifying recipients used the lead organizations entered by GLAS users. The GLAS User Guide defined lead organization as the organization that

[68]One agency did not identify the specific errors but, instead, provided a list of GLRI projects that were either missing from GLAS, entered multiple times in GLAS, or had different dollar amounts in GLAS compared with a source they said is more accurate.

actually conducted the project. However, in practice, the Task Force agencies varied regarding which entity they identified as the recipient, the funding agency or the organization conducting the project. In addition, the GLAS User Guide did not provide clear guidance. For example, EPA required that GLAS users report project status in GLAS, but the GLAS User Guide did not specify how users should choose a project's status from the drop-down menu and did not define available options. Under the federal standards for internal control, agencies are to clearly document internal controls, and the documentation is to appear in management directives, administrative policies, or operating manuals.[69]

Similarly, although it was not required, the guide did not specify how users should determine what the end date is when they did enter it. Without specifying this, GLAS users may have entered information in the end date field inconsistently. For example, we found that some projects had a completed status but had not reached their reported end dates, and others had end dates that had already passed but did not have a completed status. Specifying in the guide how to determine the end date would have been consistent with federal standards for internal control that call for clearly documenting internal controls. According to EPA officials, the GLAS User Guide did not specify how GLAS users should determine a project's end date because the officials thought this data field was intuitive. Because the GLAS User guide did not require GLAS users to enter end dates for all projects, however, EPA may not have complete information on GLRI projects in GLAS. According to our February 2009 guide on assessing the reliability of computer-processed data,[70] data are reliable when they are accurate and complete.

In May 2015, when EPA stopped using GLAS and began using the Environmental Accomplishments in the Great Lakes (EAGL) information system to collect GLRI project information, the agency issued initial guidance that included definitions of the data fields in the system. For example, the guidance defines recipient name as the organization actually doing the work, and project end date as the date that the project ended or is planned to end; the data field lead organization is no longer included. We reviewed the guidance and determined that the definitions

[69]See GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

[70]GAO-09-680G.

provided were clear and could be used to enter data consistently. In addition, we found that the guidance clearly identifies those data fields that are required, including project end date. However, while the guidance specifies that users should select one project status option from the drop down list in the system, it does not identify or define the available options.

Other errors that agencies identified in their GLAS data, such as in the GLRI funding amounts data, arose from data entry errors or lags in data updates, according to officials from some of the Task Force agencies we reviewed. Some of these inaccuracies could have been caught through data quality controls or other edit checks, but our analysis found that EPA did not have controls for GLAS to prevent such errors. Under the federal standards for internal control, agencies are to implement control activities, such as verifications and reconciliations, which can be computerized or manual, and document internal controls, such as documenting procedures on how such verifications are to be implemented (e.g., who is to conduct periodic reviews of the completeness and accuracy—that is, reliability—of data).[71] Of the five agencies we reviewed, EPA officials told us that they reviewed their own agency data and relied on the four other Task Force agencies to use their own processes to ensure that the data they or their recipients entered in GLAS are reliable. Of the four other agencies, three did not identify processes they used to ensure the reliability of data that they or their recipients entered in GLAS. Officials from the fourth agency told us that their agency reviewed its GLAS entries annually by comparing a spreadsheet of GLAS data provided by EPA with its own programmatic reports and reports from its financial system. Even with its review process, in January 2015, that agency identified errors in its GLAS data for nearly 20 percent of its fiscal year 2010 through fiscal year 2012 GLRI projects. Most were errors in the funding amounts entered by the agency, which agency officials attributed to data entry errors and changes that had not been updated in GLAS. Similarly, officials from one of the other agencies noted that, even when they found errors, certain data fields, including GLRI funding amounts, could not be edited by the agencies and that the agencies had to contact EPA to make corrections.

Without control activities, such as some form of verification, data errors are likely to continue, making the data collected into the system used to

[71] GAO/AIMD-00-21.3.1.

collect GLRI project information insufficiently reliable to ensure monitoring and reporting on GLRI progress as directed in the conference report. In commenting on a draft of this report, EPA stated that it plans to establish data control activities, such as verifications and documented procedures, for ensuring the reliability of the EAGL information system. In discussing these comments, EPA officials told us that the most important difference between GLAS and EAGL is that EAGL limits data entry to Task Force agency officials. The officials did not have a time frame for establishing data control activities, and told us that they wanted the Task Force agencies to become comfortable using the new system first. Until EPA and the Task Force agencies make a decision about the data system and the agency fully implements the actions needed to address the reliability of GLRI project data, EPA and the Task Force agencies cannot have confidence that EAGL can provide consistent, accurate, and complete information. Thus, we urge EPA to implement these actions as quickly as possible.

EPA officials told us that, in 2012, they began to review GLAS and to consider whether to upgrade GLAS to improve it or develop a new system. This review included identifying potential improvements and considering whether GLAS is the right tool for monitoring and reporting on the GLRI. The Task Force also convened a subgroup of Task Force agency officials to determine what the next version of GLAS should be. One concern EPA officials expressed about this decision was the cost to create a new system to collect detailed data, and they noted that they are hesitant to make that investment in the face of uncertainty over whether the GLRI will continue to be funded from year to year. EPA officials told us that the agency created EAGL in February 2015 and, after consulting with the Task Force agencies, conducted pilot tests of the system for a few months, while we were completing our work. After this testing, in May 2015, EPA officials decided to use EAGL to collect information to monitor and report on GLRI progress, and they made the system available to Task Force agencies for an initial period of data entry. Specifically, EPA officials transferred key project information from GLAS into EAGL and asked the Task Force agencies to enter new project information and update existing information. According to EPA officials, EAGL will improve the consistency and completeness of information about GLRI projects. EPA officials told us that the agency plans to use this initial period of data entry to get feedback from the Task Force agencies and to make changes to EAGL and the draft data entry guidance to address any problems and refine definitions. The EPA officials said their goal is to have EAGL ready for data entry at the beginning of fiscal year 2016.

Conclusions

The United States has committed enormous resources to help restore the health of the Great Lakes ecosystem, a region that is vital to the United States both economically and socially, with some progress. Nonetheless, Great Lakes restoration remains an ongoing, long-term effort. To gauge progress toward restoration, EPA and the Task Force agencies have established measures of progress for the GLRI and collected information in GLAS to report on progress. EPA and the Task Force agencies have proceeded carefully over the last 2 years as they have evaluated how best to collect and report GLRI data. In May 2015, while we were completing our work, EPA replaced GLAS with a new system to collect GLRI project information and issued guidance that included definitions of data fields and identified which data fields are required. This is a good first step to resolving the data inconsistencies that we identified in GLAS, which resulted, in part, because of unclear or undocumented definitions, data requirements, and guidance about entering important data. However, EPA has not yet established data control activities or other edit checks, although in commenting on a draft of this report, EPA stated that it plans to establish data control activities, such as verifications and documented procedures, for ensuring the reliability of the EAGL information system. Fully implementing the actions needed to address the reliability of GLRI project data should ensure that EPA and the Task Force agencies can have confidence that EAGL can provide complete and accurate information.

Federal agencies have expended funds for Great Lakes restoration activities other than what has been made available for the GLRI. However, OMB has not reported on all federal obligations and expenditures for these activities as required by law. Without this information, the information available for congressional oversight and decisions on future funding levels has been limited to funds made available.

Recommendation for Executive Action

To better ensure that complete information is available to Congress and the public about federal funding and spending for Great Lakes restoration over time, we recommend that the Director of OMB ensure that OMB includes all federal expenditures for Great Lakes restoration activities for each of the 5 prior fiscal years and obligations during the current and previous fiscal years in its budget crosscut reports, as required by Pub. L. No. 113-76 (2014).

Agency Comments and Our Evaluation

We provided a draft of this report to EPA, the Departments of Agriculture, Commerce, Defense, and the Interior, and OMB for review and comment. In written comments from the EPA Region 5 Administrator, which are reproduced in appendix VI, EPA generally agreed with the recommendations in our draft report and noted that the agency had already taken action consistent with the recommendations. In particular, for a recommendation in our draft report that EPA determine whether the agency should continue using GLAS or acquire a different system to collect information to monitor and report on GLRI progress, EPA stated in its written comments that GLAS is no longer in use and has been replaced by EAGL. We interviewed EPA officials about EAGL and its status, as well as plans for implementing it, and determined that the agency has made a final decision and taken appropriate actions to adopt it. As a result, we removed the recommendation from the report. We also added information about EAGL in the report.

In addition to replacing GLAS with EAGL, EPA noted that the agency has taken action to address three recommendations we made about ensuring data reliability in our draft report. First, for a recommendation that EPA should ensure that GLAS or another system requires important data to be entered, according to EPA, EAGL will require important information, including project end date, to be entered by the Task Force agencies. Second, for a recommendation that GLAS or another system documents definitions and guidance for entering data into the system, the agency in its written comments stated that it has developed an initial guidance document for data entry that it is revising based on the initial round of data entry into EAGL. We reviewed the initial guidance and determined that it clearly identifies those data fields that are required and that the definitions provided were clear and could be used to enter data consistently. As a result, we removed these recommendations from our report. Third, for a recommendation that EPA should ensure that GLAS or another system establishes data quality control activities, such as verifications and documented procedures for ensuring system reliability, EPA stated that it will establish data quality control activities such as verifications and documented procedures for ensuring the reliability of the EAGL information system. Although EPA officials did not have a timeframe for establishing data quality control activities, the agency has limited data entry to Task Force agency officials, and we believe the actions already taken constitute important steps toward enhancing GLRI oversight. As a result, we removed the recommendation from the report. We look forward to seeing the agency take this final action. However, until it is fully implemented, the agency cannot have confidence that the data produced by EAGL will address the inconsistencies that we identified in

GLAS or that they are complete and accurate. Thus, we urge EPA to finish implementing these actions as quickly as possible.

In oral comments, OMB staff disagreed with the recommendation that OMB include all federal expenditures for Great Lakes restoration activities for each of the 5 prior fiscal years and obligations during the current and previous fiscal years in its budget crosscut reports, as required by Pub. L. No. 113-76 (2014). OMB staff restated the position that including the required expenditures and obligations information in the budget crosscut reports would not yield sufficient information to justify the cost of including that information. They added that there is no evidence that this information would be used for congressional oversight. Nevertheless, the law requires OMB to identify, among other things, all funds received and obligated by all federal agencies for Great Lakes restoration activities during the current and previous fiscal years and all federal government expenditures in each of the 5 prior fiscal years for these activities, and OMB should comply with the law.

The Departments of Defense and the Interior responded that they did not have comments on the draft report. In addition to these written and oral comments, EPA, NOAA, and NRCS provided technical comments that we incorporated as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 9 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Director of OMB; the Administrator of EPA; the Secretaries of Agriculture, Commerce, Defense, and the Interior; and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or gomezj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VI.

Sincerely yours,

J. Alfredo Gómez
Director, Natural Resources and Environment

Appendix I: Objectives, Scope, and Methodology

This appendix provides information on the objectives, scope, and methodology for the report. We examined the (1) amount of federal funds made available for the Great Lakes Restoration Initiative (GLRI) and expended for projects; (2) process the Great Lakes Interagency Task Force (Task Force) used to identify GLRI work and funding; and (3) information available about GLRI project activities and results.

To examine the amount of federal funds made available and expended for GLRI projects, we analyzed the Environmental Protection Agency's (EPA) January 2015 GLRI financial management update reports for GLRI funds made available in fiscal years 2010 through 2014. We reviewed relevant EPA documents and interviewed EPA officials about the data input and review for the GLRI financial management update and, based on this work, determined that it was reliable for our purposes. In addition, to provide context for how funds for GLRI projects compared with funds made available for other federal Great Lakes restoration activities, we analyzed the Office of Management and Budget's (OMB) Great Lakes Restoration Crosscut Reports to Congress for 2008 through 2012 and 2014 and the applicable appropriations laws requiring OMB to produce these reports. We also interviewed OMB staff to obtain information about the crosscut reports.

We then selected five Task Force agencies to review in greater detail because they had received the majority (about 85 percent) of GLRI funds made available in fiscal years 2010 through 2014.[1] The five agencies we selected were: EPA, U.S. Army Corps of Engineers (Corps), Fish and Wildlife Service (FWS), Natural Resources Conservation Service (NRCS), and National Oceanic and Atmospheric Administration (NOAA). We obtained data from EPA's Great Lakes Accountability System (GLAS) as of July 2014 to identify the projects funded by the five Task Force agencies with amounts made available for the GLRI in fiscal years 2010 through 2013. We did not include fiscal year 2014 projects because most of the amount made available in that year had not been obligated as of July 2014. We assessed the reliability of the GLAS data on funding agency and funding year by asking the agencies to verify their projects in the system, and we believe that the data are sufficiently reliable for identifying a list and total number of projects funded by the five agencies.

[1]The Task Force oversees the GLRI. It is chaired by the EPA, and is made up of senior officials from EPA, nine federal departments, and the Council on Environmental Quality.

GLAS data included recipient but, as described below under objective 3, we do not find that this or certain other GLAS data fields are reliable for other purposes of reporting. Therefore, to identify the recipients of GLAS funding, we obtained a list of the recipients from each of the five agencies, for each of the projects in the GLAS data we obtained. We used information we obtained from the recipients, their websites, or the funding agencies to categorize each of the recipients by recipient type, using the definitions in table 4, and summarized that information.

Table 4: Types of Great Lakes Restoration Initiative Recipients

Recipient type	Definition
Federal entities	Entities that are part of the U.S. or Canadian federal government, such as a department, agency, branch, or office within a department or agency, or a federally-managed location (e.g., national wildlife refuge). We also categorized nonfederal recipients of contracts under federal entities because contracts are used when the principal purpose is acquisition of property or services for the direct benefit or use of the federal government.
State, local, or tribal entities	Entities that are state departments, divisions, agencies, or offices; local governments (e.g., counties, cities, towns) and their departments, agencies, or offices; created by state or local legislation or governing bodies or act of Congress; overseen by elected or appointed officials; or entities that self-identify as a tribe or as an organization run by a tribe, tribes, or tribal members.
Nongovernmental organizations	Entities that self-identify or are identified in audits as nonprofit, not-for-profit, or a charity; these are sometimes referred to as 501(c)(3) because of their tax exemption status.
Academic institutions	Colleges, universities, and programs administered through such entities, such as sea grant programs or cooperative institutes.
Other	Entities identified by the funding agencies as private landowners or agricultural producers, or for-profit entities such as consulting companies or other businesses.

Source: GAO. | GAO-15-526

In addition, we obtained data from each of the five agencies about the types of financial agreements they used—grants, cooperative agreements, and contracts—to determine the percentage of obligations per financial agreement of amounts made available for the GLRI in fiscal years 2010 through 2013. We obtained an updated version of GLAS data, from January 2015, to identify the total number of projects reported by all Task Force agencies in GLAS.

To examine the process the Task Force used to identify GLRI work and funding, we first interviewed officials from the five Task Force agencies. We used this information, in addition to our previous work on grants management, to describe the four steps that the Task Force and agencies generally use to identify GLRI work and funding. We then analyzed relevant documents to corroborate and obtain information about each of these steps. Specifically, we analyzed interagency agreements

between EPA and the other Task Force agencies, including the associated scopes of work; requests for applications; project selection summaries; and agencies' policies and guidance on managing grants, cooperative agreements, and contracts. We also reviewed EPA data on the amount of GLRI funds in fiscal years 2012 through 2014 that the agency set aside for issues identified by the Task Force as GLRI priorities to understand how the Task Force process has evolved. We then interviewed EPA officials about the process for identifying priority issue work and funding for fiscal year 2012 through fiscal year 2015. We reviewed a sample of 19 GLRI projects to understand how the process was applied to specific cases. For each project, we analyzed documents from the funding agencies and funding recipients to determine the origin of each project and why it was selected. The documents we reviewed included project solicitations, such as announcements of funding opportunities, requests for applications, or other solicitations; project proposals and applications; agency documents on why projects were selected for funding; and project financial agreements such as grant and cooperative agreement documents.

We took the following steps to select the sample of 19 GLRI projects. First, we identified all projects funded by the five Task Force agencies we reviewed. To do this, we used data from GLAS to create a list of GLRI projects funded by each of the five agencies we reviewed with amounts made available for the GLRI in fiscal years 2010 through 2012. We did not review projects funded with funds made available for the GLRI in fiscal year 2013 or 2014 because those projects were likely to be in the early stages of implementation, or not yet started, at the time we began our review. Second, we categorized these projects by recipient type, using the process described above. Third, we ranked projects by agency, recipient type, and funding amount. Finally, we selected the median project for each agency and recipient type (see table 5 for those projects selected).[2] We did this to ensure that we include projects that illustrate typical GLRI funding amounts. We selected at least one project from each

[2]For FWS-funded projects, we selected the median projects for the nongovernmental organization, academic institution, and state, local, or tribal entity recipient types from a list of 128 projects. We later learned that 200 projects had been excluded from this list. While inclusion of these 200 projects may have led to the selection of different median FWS-funded GLRI projects, the 4 projects we selected illustrate typical GLRI funding amounts. These 200 projects were not excluded from the total count of FWS projects in this report.

of the following recipient types: federal entities; state, local, or tribal entities; nongovernmental organizations; and academic institutions.[3]

Table 5: Great Lakes Restoration Initiative Projects Selected to Illustrate Typical Funding Amounts for Each Recipient Type, by Agency

Agency	Recipient type	Funding amount (fiscal year funding made available)	Project title
Environmental Protection Agency	Nongovernmental organization	$331,669 (2011)	Long-term phragmites control through the Lake Erie Cooperative Weed Management Area
	Academic institution	$312,969 (2012)	Great Lakes earth partnership
	State, local, or tribal entity	$300,000 (2012)	Millennium reserve-Calumet River corridor green infrastructure
	Federal entity	$228,000 (2010)	Enhanced St. Mary`s River sea lamprey control
Fish and Wildlife Service	Nongovernmental organization	$200,000 (2011)	Avian habitat restoration at Joseph Davis State Park (NY)
	Academic institution	$138,560 (2010)	Bog turtle surveys to reevaluate historic sites and identify new sites in Cayuga and Wayne Counties of New York State
	State, local, or tribal entity	$792,000 (2010)	Implementing Michigan`s comprehensive state management plan for nonindigenous aquatic nuisance species
	Federal entity	$150,000 (2012)	Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery
National Oceanic and Atmospheric Administration	Nongovernmental organization	$102,350 (2011)	Urban field observations in science
	Academic institution	$488,022 (2011)	Forecasting spread and bio-economic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes
	State, local, or tribal entity	$343,800 (2011)	Shoreline habitat land acquisition for delisting fish and wildlife related beneficial use impairments and the White Lake Area of Concern

[3]We did not select projects from the recipient type “other” because these entities were private landowners and agricultural producers and they were not specifically identified to maintain their privacy.

Agency	Recipient type	Funding amount (fiscal year funding made available)	Project title
	Federal entity	$123,133 (2011)	Great Lakes Bay Watershed Education and Training Program administration
Natural Resources Conservation Service	Federal entity	$2,338,081 (2012)	Great Lakes Basin Program for Soil Erosion and Sediment Control
U.S. Army Corps of Engineers	Federal entity	$145,000 (2011)	Rosewood Park, IL

Source: GAO. | GAO-15-526

Fourth, we also selected the project with the largest amount of GLRI funds for each agency (see table 6).[4] In the instances where the project with the largest funding amount was associated with a recipient that we had already selected, we moved to the project with the next largest funding amount with a recipient that had not already been selected. This sample of 19 projects is not representative of all GLRI projects; however, it captures both projects with typical and large funding amounts from a range of recipients.

[4]We did not include the three EPA-funded projects with the largest funding amount identified in GLAS called "Great Lakes Legacy Act projects." This is because EPA officials told us that the agency used criteria established by the Great Lakes Legacy Act, and not the GLRI, to determine funding amounts for these projects. In 2009, Congress consolidated and expanded funds for the Great Lakes Legacy Act programs under the GLRI. *See* H.R. Rep. No. 111-316, at 110 (2009).

Table 6: Great Lakes Restoration Initiative Projects Selected to Represent Projects with the Largest Funded Project, by Agency

Agency	Funding amount (fiscal year funding made available)	Project title
Environmental Protection Agency	$6,408,712 (2011)	Sheboygan River Area of Concern: pathway to delisting beneficial use impairments
Fish and Wildlife Service	$1,555,235 (2010)	A comprehensive regional public outreach campaign on aquatic invasive species
National Oceanic and Atmospheric Administration	$3,750,000 (2010)	Community outreach and technical assistance for assessing climate change risks and vulnerabilities within the Great Lakes region
Natural Resources Conservation Service	$16,928,000 (2010)	Farm Bill programs for reducing agricultural nonpoint source loading[a]
U.S. Army Corps of Engineers	$9,126,000 (2011)	Green Bay Harbor dredged material disposal facility, WI

Source: GAO. | GAO-15-526

[a]Loading refers to the quantity of a substance or contaminant entering receiving waters.

To examine the information available about GLRI project activities and results, we first analyzed the three accomplishment reports the Task Force issued to provide an overview of progress under the GLRI in each of fiscal years 2010 through 2012. We also reviewed information on projects available at the GLRI website, http://glri.us, and discussed its purpose and design with EPA officials. In addition, we obtained information on the 19 projects we selected for review to identify information available on project activities and results. We used agency documents to identify the purpose of the projects and project activities and results. Specifically, we analyzed project progress reports, and interviewed, or obtained written responses from, relevant agency officials and recipient representatives. We also interviewed recipient representatives about how the projects will contribute to the restoration of the health of the Great Lakes ecosystem, and we visited the recipients or locations for 3 of the 19 projects. We visited (1) the “Sheboygan River Area of Concern: pathway to delisting beneficial use impairments” project; (2) the “Great Lakes earth partnership” project; and (3) the “Rosewood Park, IL” project and interviewed the relevant funding agency officials and funding recipient representatives. We selected these three projects in order to observe work conducted by different recipient types that were within driving distance of the EPA Region 5 office in Chicago where the EPA officials that oversee the GLRI are located.

In addition, we examined project information available for projects identified in EPA’s database, GLAS, as of July 2014. We selected 6 data fields that we could use to describe projects and that we wanted to

summarize and include in our report: funding year, funding agency, status, end date, recipient, and GLRI funding amount. We selected these 6 fields out of the more than 20 data fields in GLAS because they provided basic information about how GLRI funds have been used for projects (funding agency, year, GLRI funding amount, and recipient) and information on the progress of those projects (status and end date). For example, these data fields can be used to determine first how much funding an agency provided to a recipient in a fiscal year for a project, and then the extent to which the project was completed (status)[5] and when the project would be completed (end date). We assessed the reliability of these data using three sources of information: EPA's GLAS User Guide to identify data field definitions and guidance for entering data; information we obtained from the five agencies to identify inaccuracies in the data, such as funding amounts, for their projects in GLAS; and the agencies' responses to our questions about GLAS data, including their procedures for ensuring the reliability of the data and the known or potential reasons for data errors they identified. In addition, we conducted electronic testing of the GLAS data to identify missing end dates and obvious end date errors, such as a date of 1900; compared projects' end dates to their status; and compared the recipients identified in GLAS with the recipient data we obtained from the agencies. On the basis of this work we determined that the GLAS data on status, end date, recipient, and GLRI funding amounts were not sufficiently reliable for reporting on the progress of GLRI projects. In response to EPA's written comments on a draft of this report, we interviewed EPA officials about the Environmental Accomplishments in the Great Lakes (EAGL) information system and reviewed EAGL guidance.

As part of our review of GLRI projects, we assessed how the five agencies we reviewed oversaw projects and ensured accountability for GLRI funds. First, we identified key internal controls by reviewing the Standards for Internal Control in the Federal Government (the federal standards for internal control),[6] relevant OMB circulars in effect during the

[5]The status options are: not started; started; 25 percent, 50 percent, or 75 percent completed; completed; cancelled; and hiatus-seasonal.

[6]GAO/AIMD-00-21.3.1.

first 4 years of the GLRI, [7] and the Federal Acquisition Regulation (FAR).[8] We then used the following controls to analyze the agencies' management of GLRI projects: (1) methods to assess the risks of entities applying for GLRI funds; (2) training required of officials responsible for managing financial agreements such as grants, cooperative agreements, and contracts; (3) policies governing site visits; (4) and requirements for GLRI recipients to submit financial and progress reports.[9] Specifically, we analyzed the agencies' policies and guidance for managing grants, cooperative agreements, and contracts, and project progress and financial reports. We also interviewed, or obtained written responses from, relevant officials for the 19 selected projects, such as agency officials or recipient representatives. In addition, we analyzed the financial reports or other information for the 19 selected projects to determine how much GLRI funds the recipients received to pay for indirect costs.[10]

We conducted this performance audit from January 2014 to July 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

[7]The OMB circulars we reviewed are OMB Circular A-102, Grants and Cooperative Agreements With State and Local Governments (Oct. 7, 1994; further amended Aug. 29, 1997) and OMB Circular A-110, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals and Other Non-Profit Organizations (Nov. 19, 1993; further amended Sept. 30, 1999). These circulars are available at http://www.whitehouse.gov/omb/circulars_default/. OMB issued the *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) to streamline its grants management guidance, promote consistency among grantees, and reduce administrative burden on nonfederal entities. In December 2014, OMB, along with grant-making agencies, issued a joint interim final rule implementing OMB's Uniform Guidance for new grant awards made on or after December 26, 2014.

[8]The Federal Acquisition Regulation (FAR) is found in chapter 1 of title 48 of the Code of Federal Regulations (C.F.R.).

[9]See appendix IV for our analysis of the agencies' internal controls.

[10]See appendix V for our analysis of indirect costs for the 19 GLRI projects.

Appendix II: Agencies' Selection Process for 19 Great Lakes Restoration Initiative Projects

We analyzed the interagency agreements and project solicitations (such as requests for applications or proposals) for each of the 19 Great Lakes Restoration Initiative (GLRI) projects we reviewed, and we interviewed relevant Great Lakes Interagency Task Force (Task Force) agency officials to determine the origin of each project and why it was selected. The following tables reflect this analysis for the 19 projects we reviewed that were funded by five Task Force agencies: the Environmental Protection Agency (EPA; see table 7), Fish and Wildlife Service (FWS; see table 8), National Oceanic and Atmospheric Administration (NOAA; see table 9), Natural Resources Conservation Service (NRCS; see table 10), and U.S. Army Corps of Engineers (Corps; see table 11).

EPA

EPA officials told us that reviewers consider and score the applicants' approach on the basis of how they will achieve the desired outputs and outcomes identified in the request for application. Reviewers evaluate reasonableness, necessity, and allowability of costs when they score the budget for each application. Table 7 shows information on EPA's selection of five GLRI projects.

Table 7: Five Environmental Protection Agency Great Lakes Restoration Initiative (GLRI) Projects from Interagency Agreement to Selection

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Enhanced St. Mary`s River sea lamprey control (grant)	Address live organisms in trade, promoting safe recreation and resource use, and efforts to control and eradicate species already present in the Great Lakes Basin.	Projects should prevent new introductions of invasive species into the Great Lakes Basin, or eradicate and control invasive species already present.	This project was selected because it best met the solicitation criteria, in part, because it is expected to evaluate lamprey behavior in the vicinity of traps, which may improve trapping technology.
Great Lakes earth partnership (grant)	Implement critical Lakewide Management Plan projects and ensure Great Lakes resource managers' participation in GLRI and Lakewide Management Plan processes—such as through staffing and grants and contracts for education and outreach—and coordinate or collaborate with Canada, federal agencies, states, or other nonfederal stakeholders to do so.	Projects should strategically implement critical Lakewide Management Plan programs, projects, and activities for public outreach and education projects, and for stakeholder and public participation in Lakewide Management Plan forums and networks.	This project was selected because it addressed a key strategic objective of the GLRI and the Lakewide Management Plan programs through the collaboration of many education programs leveraging existing curricula, and working with the state education departments and school districts (some with tribal and disadvantaged communities). It is also expected to meet a key need described in the request for application to provide interactions between teachers and students with the lake in a restoration and hands-on field experience.
Long-term phragmites control through the Lake Erie Cooperative Weed Management Area (grant)	Implement prevention, control, and management efforts by addressing live organisms in trade, promoting safe recreation and resource use, and implementing efforts to control and eradicate species already present in the Great Lakes Basin.	Projects should implement on-the-ground or in-the-water invasive species control. Outputs from the projects under this category should include control of the number of invasive species populations in the Great Lakes ecosystem by a quantity of species removed.	This project was selected in part because it is expected to enhance and perpetuate past management results and enhance fish and wildlife. In addition, the expected control of phragmites on approximately 900 acres of coastal wetlands will allow for continued maintenance of the area.

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Millennium reserve-Calumet River corridor green infrastructure (grant)	Implement critical Lakewide Management Plan projects and ensure Great Lakes resource managers' participation in GLRI and Lakewide Management Plan processes—such as through staffing and grants and contracts for education and outreach—and coordinate or collaborate with Canada, federal agencies, states, or other nonfederal stakeholders to do so.	Projects should implement critical Lakewide Management Plan projects and lead to at least two of five outputs, such as an increase in the number or diversity of stakeholders participating in the development and implementation of plan priorities, and implementation of projects that improve water quality and the Great Lakes ecosystem.	The project was selected because it was technically and strategically sound; the results will serve as demonstration projects to build for the future; it involved an outstanding set of partners, each of which had specific roles or tasks.
Sheboygan River Area of Concern: pathway to delisting beneficial use impairments (grant)	Not applicable, this project was selected through a noncompetitive grant process for Area of Concern projects.	Not applicable, this project was selected through a noncompetitive grant process for Area of Concern projects.	Not applicable, this project was selected through a noncompetitive grant process for Area of Concern projects.

Source: GAO analysis of Environmental Protection Agency information. | GAO-15-526

FWS

FWS officials told us that they assess project proposals against the request for application, which is tied to specific GLRI priorities and objectives. Table 8 shows information on FWS's selection of five GLRI projects.

Table 8: Five Fish and Wildlife Service Great Lakes Restoration Initiative (GLRI) Projects from Interagency Agreement to Selection

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
A comprehensive regional public outreach campaign on aquatic invasive species (grant)	Offer competitive grants for outreach and education, and to support research that would lead to new, effective, and ecologically compatible technologies and techniques to control populations of priority aquatic invasive species.	Projects should provide a strategic approach that coordinates landscape level actions, uses a multiorganizational approach to implementation, works with relevant governmental agencies, demonstrates measurable progress, includes public stewardship opportunities, and helps establish efforts that will continue beyond the project period. Expected results include prevention of new introductions of invasive species by addressing invasion pathways such as by promoting practices by recreational and resource users that reduce the risk of spreading invasive species.	This project was selected because the applicant was uniquely positioned to properly perform the work based on experience, ability, and authority, and the project costs were reasonable and commensurate with the proposed activities, scope, scale, and intensity.

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Avian habitat restoration at Joseph Davis State Park (NY) (grant)	Protect and restore habitats for native lake sturgeon, brook trout, migratory birds, and threatened and endangered species populations within the Great Lakes Basin through actions such as removing fish passage barriers and protecting and restoring wetland and upland areas.	Projects should conserve habitats for migratory birds and other wildlife through acquisition, restoration, or enhancement, have a target completion date within 1 year of the date of award, and be supported by grant and partner funds.	This project was selected because of the cost per acre and the overall cost from other proposals that lined up with the needs identified in the solicitation.
Bog turtle surveys to reevaluate historic sites and identify new sites in Cayuga and Wayne counties of New York State (grant)	Manage species and habitat by restoring wetlands, improving the hydrology of Great Lakes tributaries, reforesting habitats, reducing impacts of invasive species, and creating or improving corridors between habitats, through connecting and leveraging input from current federal and state programs, grassroots organizations, and local people.	Projects should protect and restore habitats that benefit federally listed, proposed, or candidate species, or other at-risk species through voluntary efforts.	This project was selected because it would benefit listed species within the Great Lakes Basin and advance the recovery needs of those species.
Implementing Michigan`s comprehensive state management plan for nonindigenous aquatic nuisance species (grant)	Support state and interstate aquatic nuisance species management plans, enhance state planning for, and implementation of, rapid response actions or exercises.	There was no solicitation because this project was not competitively awarded.	The project was selected because the applicant proposed to use the best available science and proposed costs that were reasonable. Also, the state's aquatic nuisance species management plan demonstrated the applicant's experience, ability, and authority to perform the proposed work, and progress could be measured and documented.
Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery (agency conducted work)	Enhance populations of lake sturgeon and lake trout within the Great Lakes Basin.	There was no solicitation. The agency conducted the project.	This project is expected to add significantly to the restoration of lake trout. Lake trout were once the primary fish-eating predator in the Great Lakes deep water ecosystem, which made them critical to a balanced and sustainable ecosystem. Restoring lake trout brings back the primary predator and sustains natural biodiversity in the Great Lakes ecosystem.

Source: GAO analysis of Fish and Wildlife Service information. | GAO-15-526

NOAA

For grants and cooperative agreements, NOAA assesses proposed projects through the agency's standard merit review process. The agency's technical and scientific merit criteria assess whether the proposed approach is technically sound or innovative, among other things. NOAA conducts a review by panel, and NOAA officials said that the agency may also conduct a secondary review through an interagency panel. Officials from the Grants Management Division told us that they work with the program offices to ensure that proposed costs are allowable, reasonable, and necessary.

For contracts, NOAA uses a team of evaluators that are to assign proposals one of five ratings that consider the combined technical merits and risk of the proposal, according to the agency's acquisition guidance. The team also evaluates the proposal's cost or price to the government to determine if it is fair and reasonable but does not assign a rating. Table 9 shows information on NOAA's selection of five GLRI projects.

Table 9: Five National Oceanic and Atmospheric Administration (NOAA) Great Lakes Restoration Initiative (GLRI) Projects from Interagency Agreement to Selection

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Community outreach and technical assistance for assessing climate change risks and vulnerabilities within the Great Lakes region (grants, contracts, and agency conducted work; we reviewed a contract)	Collect baseline climate data, increase understanding of climate change impacts, customize adaptation strategies within the Great Lakes community, and create an inventory of existing elevation data in the Great Lakes and the filling of critical data gaps for bathymetric lidar—which are used to determine water depth by measuring the time delay between the transmission of a pulse and its return signal—in Lake Superior, among other things.	There was no solicitation because the recipient had been previously selected as one of four prime contractors under NOAA's Coastal Geospatial Services Contract, which is a Federal Acquisition Regulation Part 36, Architectural and Engineering Contract vehicle to provide geospatial services.	This project was identified prior to the GLRI. NOAA selected it for GLRI funding because it was identified in the agency's 2008 Climate Needs Assessment, which synthesized the climate-related needs of coastal and natural resource managers for internal use by NOAA's Coastal Services Center. NOAA also validated the need for the project in its 2010 Great Lakes-specific climate needs assessment.

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Forecasting spread and bio-economic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes (grant and cooperative agreement, we reviewed the cooperative agreement)	Develop mathematical models that can be used to predict the current and future impacts of aquatic invasive species in the Great Lakes. These models can then be used to develop and evaluate management strategies that can be used to prevent the introduction of new species, control the negative effects of those already present, eliminate their presence, if possible, and, if not possible, reduce the damage already caused.	Projects should develop scientific capabilities and tools (models or forecasts) that address the interactions between invasive species and regional ecosystem-based management, to investigate recent and future changes in water quality, habitats, and populations of living resources in the context of invasive species in the Great Lakes.	This project was selected because the goals and objectives that were used to select this project for agency funding in 2009 aligned with those identified for invasive species in the 2010 to 2014 Great Lakes Restoration Initiative Action Plan (2010-2014 Action Plan). Funding was not fully available when it began in 2009. The goals of this project included forecasting the probability of establishment of nonindigenous species, the potential habitat of nonindigenous species within the Great Lakes, and species specific ecological impacts.
Great Lakes Bay Watershed Education and Training Program administration (agency conducted work)	Establish a formal Bay Watershed and Education Training Program in the Great Lakes to offer competitive grants to support existing environmental education programs, foster the growth of new programs, and encourage development of partnerships among environmental education programs within selected watershed systems.	There was no solicitation because this project was intended to be managed by the agency.	The Environmental Protection Agency (EPA) funded the establishment of this Great Lakes portion of NOAA's national Bay Watershed Education and Training Program on the basis of significant interest from both NOAA and the environmental education community. EPA provided GLRI funds to NOAA to administer this program and to fund awards.
Shoreline habitat land acquisition for delisting fish and wildlife related beneficial use impairments and the White Lake Area of Concern (grant)	Competitive awards will be made to state and local governments to purchase lands or conservation easements within Areas of Concern for the purpose of habitat restoration needed to address beneficial use impairments.	The principal objective of these grants is to provide financial and technical assistance to land acquisition projects (fee simple interest or conservation easements) and projects within the U.S. Great Lakes Areas of Concern and their associated watersheds. Projects must address habitat-related beneficial use impairments (degradation of fish and wildlife habitat, loss of fish and wildlife habitat, and degradation of benthos).	This project was selected because it ranked highly in the evaluation of proposals against the solicitation criteria, such as the measurable gain toward achieving delisting of fish and wildlife habitat-related beneficial use impairments, and applicants' authority, expertise, and previous success in acquiring land for long-term conservation.

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Urban field observations in science (grant)	Establish a formal Bay Watershed and Education Training Program in the Great Lakes to offer competitive grants to support existing environmental education programs, foster the growth of new programs, and encourage development of partnerships among environmental education programs within selected watershed systems.	Projects should support organizations that provide students meaningful watershed educational experiences and teachers professional development opportunities in the area of environmental education, while helping to support regional education and environmental priorities in the Great Lakes.	This project was selected because it ranked highly in the evaluation of proposals against the solicitation criteria, such as whether the project makes a direct connection to the larger Great Lakes environment, and whether the applicant had past collaborations with schools or school systems. It also it met the standards in the 2010-2014 Action Plan and specifically addressed the plan's goal related to outreach and education.

Source: GAO analysis of NOAA information. | GAO-15-526

NRCS

For cooperative agreements, NRCS officials said that the agency does not issue requests for applications for GLRI funding.[1] They explained that the cooperative agreements the agency funds are typically joint efforts between NRCS and the recipient, and the technical aspects of the agreement are worked out between NRCS and the applicant prior to awarding funds. Engineers in the agency's state offices review the technical and financial aspects of applications for funding, according to NRCS officials.

For financial assistance contracts, NRCS assesses projects through its conservation planning process. Upon eligibility, a conservation planner works with individuals to identify their resource concerns and develop a conservation plan. Applications from producers for GLRI funding are then scored and ranked using what agency officials said is the same process that NRCS uses for all programs. GLRI has specific ranking questions, which the officials said are used by each state in the GLRI. According to NRCS officials, only GLRI–approved core conservation practices and supporting practices can be funded by GLRI. Table 10 shows information on NRCS's selection of two GLRI projects.

[1]NRCS officials told us that the agency does not issue requests for applications for cooperative agreements because competition is not required for cooperative agreements entered into under 7 U.S.C. § 6962a.

Table 10: Two Natural Resources Conservation Service (NRCS) Great Lakes Restoration Initiative (GLRI) Projects from Interagency Agreement to Selection

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Farm Bill programs for reducing agricultural nonpoint source loading[a] (financial assistance contracts)	Provide financial assistance to agricultural producers to implement conservation practices to reduce sediment, nutrients, and pesticides in surface runoff waters from agricultural land and nonindustrial private forest land.	The financial assistance contract we reviewed responded to NRCS's announcement of GLRI funding available to Michigan landowners, tribes, and agricultural producers for technical and financial assistance to implement conservation activities on their land. Assistance in the Saginaw Bay and Maumee watersheds was targeted to address nonpoint source pollutants, such as nutrients and sediment.	NRCS's GLRI work is focused on addressing the nearshore health and nonpoint source pollution focus area of the 2010 to 2014 Great Lakes Restoration Initiative Action Plan (2010-2014 Action Plan) by providing assistance to agricultural producers for implementing conservation practices. Applications from agricultural producers for GLRI funding are scored and ranked using the same process NRCS uses for all its programs, along with GLRI-specific questions. The selection process ranks each producer's application based on the practices to be implemented and their environmental benefits to address natural resource concerns. The goal is to fund those applications that provide the most environmental benefits.
Great Lakes Basin Program for Soil Erosion and Sediment Control (cooperative agreement)	Develop a cooperative agreement with the Great Lakes Commission for the commission to provide grants to local governments and nongovernmental organizations to control erosion and sedimentation and limit the input of nutrients and toxic contaminants to the Great Lakes.	There was no solicitation because this project had been ongoing prior to GLRI, and the recipient of funding for this project was identified in the interagency agreement.	This project was selected in part because it is expected to contribute to the 2010-2014 Action Plan goal of reducing soil erosion and the objective of decreasing phosphorus levels in targeted tributaries.

Source: GAO analysis of NRCS information. | GAO-15-526

[a]Loading refers to the quantity of a substance or contaminant entering receiving waters.

Corps

The technical features of the projects were planned and designed by the Corps. The contract for construction was awarded using plans and specifications developed by the Corps. The Rosewood Park project is under a program to develop projects meeting the objectives of existing strategic plans within the GLRI Action Plan.

Table 11: Two U.S. Army Corps of Engineers Great Lakes Restoration Initiative (GLRI) Projects from Interagency Agreement to Selection

Project title (agreement type)	Interagency agreement template information	Project solicitation information	Why agency selected project
Green Bay Harbor dredged material disposal facility, WI (contract)	Complete design and initiate construction of a dredged material disposal facility for Green Bay Harbor.	The project was identified in the interagency agreement, and the solicitation information was specific to the construction of the project.	This project was selected based on the successful completion of a feasibility study conducted prior to the GLRI, and the project's ecological outputs, the financial and real estate acquisition capability of the nonfederal sponsor, and the ability to award a construction contract by the end of fiscal year 2012.
Rosewood Park, IL (agency conducted work)	Plan, design, and construct projects that restore, protect, or enhance the coastal and nearshore aquatic ecosystems.	There was no solicitation. The agency conducted the project.	This project performed a feasibility study that led to a construction project that was funded with fiscal year 2013 GLRI funds. The construction project is expected to restore and enhance 4 acres of coastal habitat along the Lake Michigan shoreline that will benefit fish within a 25-mile radius. The construction project will also remove man-made structures to restore a more natural shoreline and allow sunlight to reach a small tributary to Lake Michigan.

Source: GAO analysis of U.S. Army Corps of Engineers information. | GAO-15-526

Appendix III: Activities and Results of 19 Great Lakes Restoration Initiative Projects

We examined 19 projects paid for with Great Lakes Restoration Initiative (GLRI) funds and carried out by government agencies, nongovernmental organizations, and academic institutions to identify the activities GLRI funds were spent on and the results that were achieved. To do this, we analyzed project agreements and proposals to identify the purpose of the project, progress reports to determine the activities conducted and results achieved, and financial reports and interviews to determine the amount expended for each project. We also interviewed representatives of the recipient organizations to obtain their views on how the projects will contribute to the restoration of the Great Lakes ecosystem. Table 12 reflects these topics, along with whether the project is completed or ongoing. We also included the amount of funding expended on the project, as well as the funding year to identify the specific fiscal year in which the project's funding was made available because some projects received GLRI funding in multiple years.

Table 12: Activities and Results of 19 Great Lakes Restoration Initiative (GLRI) Projects According to Recipients

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
A comprehensive regional public outreach campaign on aquatic invasive species (2010, completed)	$1,554,508	To produce new or improved outreach projects aimed at preventing the spread of aquatic invasive species.	Participated in conferences, meetings, and other events. Created displays, banners, and other educational materials to use at events. Held training about watercraft inspection and decontamination. Produced fact sheets about aquatic invasive species.	Delivered talks at 17 conferences, meetings, and other events, reaching 680 people. Produced new water access sign, designed and produced 300 metal signs bearing partner logos, Stop Aquatic Hitchhikers! brand, and educational messages to be posted at Ohio's public boat launches.	No new aquatic invasive species were established in the Great Lakes ecosystem via recreational and commercial pathways and spread of existing aquatic invasive species was slowed within their current ranges. These claims build from documented evidence by state natural resource agencies, as well as evidence compiled by the Great Lakes Aquatic Nuisance Species Information System.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Avian habitat restoration at Joseph Davis State Park (NY) (2011, completed)	$157,391	To advance the goals of the Fish and Wildlife Service's efforts by implementing a project to benefit avian species and bird habitat through facilitating invasive species removal, native species plantings, and seeding on a 75-acre portion of the park.	Concluded regulatory review with state and federal agencies. Mechanically removed invasive shrub species from 18.8 acres of park. Restored and expanded wetland habitat. Cleared three different areas of land. Seeded native species on about 5 acres.	A total of 3,204 upland and wetland shrubs, plugs, bare root plants, and live stakes were planted in the grant area as part of the habitat restoration and enhancement goal. Chemical invasive species spot treatments occurred across nearly the entire grant area, approximately 68 acres. An estimated 12.1 upland acres of invasive species were cleared, and an estimated 4.5 of native species were planted.	This project protects critical bird habitat and improves the ability of the ecosystem to act as a buffer to the watershed (reducing runoff by storing excess water in the wetlands and through uptake into plant tissue) and to address nonpoint source pollution.
Bog turtle surveys to reevaluate historic sites and identify new sites in Cayuga and Wayne Counties of New York State (2010, completed)	$138,554	To locate populations of the federally threatened bog turtle in New York.	Surveyed 130 sites.	Identified three or four potential bog turtle sites.	Bog turtles are a rare component of rare ecosystems in the Great Lakes Basin. The identification and preservation of these rare habitats and their features is an indicator of the overall health of the Great Lakes ecoregion.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Community outreach and technical assistance for assessing climate change risks and vulnerabilities within the Great Lakes region (2010, completed)	$2,249,787 for the contract we reviewed	Part of an overall $3,750,000 project to collect baseline climate data to provide adaptation strategies throughout the Great Lakes Basin. The purpose of the contract we reviewed was to collect, process, and deliver bathymetric data—measurements of lake water depth—derived from lidar measurements—which are used to determine water depth by measuring the time delay between the transmission of a pulse and its return signal—for areas along Lake Superior, for use in coastal management decision-making applications.	Collected more than 900 linear kilometers of new bathymetric data to fill existing data gaps for Lake Superior.	Project data collected were used to help develop a new lake level visualization tool that helps users understand and visualize the impacts of lake level fluctuation on the shoreline and coastal area and helps make planning decisions that encourage habitat restoration and conservation. (The tool is available at http://coast.noaa.gov/llv/.) This work contributed to the results of the broader project, which produced long-term climate simulations for the Great Lakes, and provided information, strategies, and tools to state and local officials to guide their decision making in planning, zoning, wetland protection, and other coastal resource management areas.	The bathymetric data collected will be used for a wide array of coastal analyses, such as modeling water resource scenarios and lake-level trends, identifying potential migration areas for invasive species, and planning for wetland restoration projects. The climate simulations will help explain how nutrients, such as nitrogen and phosphorus, enter into the Great Lakes, which will be useful for researching and addressing the impacts of harmful algal blooms.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Enhanced St. Mary's River sea lamprey control (2010, completed)	$228,000	To gain a better understanding of sea lamprey swimming behavior near traps by determining if flow and water level influence trapping efficiency, among other things.	Captured sea lampreys to mark and release downstream. Collected video of sea lampreys congregating in groups of 50 or more at the corners of turbine outflows. Collected sea lampreys. Conducted nest surveys in spawning habitat. Counted males, females, and sterile males on spawning grounds and on nests; marked nests; took egg sample.	Increases in water flow resulted in increased trap capture near the upstream end of rapids in one location. In one location, 201 sea lampreys were captured when attractant flow was provided compared to 9 during 2010 when no attractant flow was added.	The knowledge gained will assist in developing trapping innovations to further suppress sea lamprey production in the Great Lakes, reducing the damage they cause to native and desirable species. For example, a single lamprey can kill up to about 40 pounds of fish in its lifetime. Results from this project are being used to develop effective trapping technologies and protocols for other tributaries in the Great Lakes Basin, including those with historically low trapping efficiencies.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Farm Bill programs for reducing agricultural nonpoint source loading (2010, completed)	$285,477 for the financial assistance contract we reviewed	Part of an overall $16.9 million project to provide financial assistance to agricultural producers for implementing conservation practices to reduce sediment, nutrients, and pesticides in surface runoff waters from agricultural land and nonindustrial private forest land in targeted areas. The purpose of the financial assistance contract we reviewed was to reduce sediment, nutrients, or pesticides from agricultural operations located within a field that adjoins a designated impaired water body, among other things.	Planted cover crops for seasonal protection, soil improvement, and nutrient management; managed the amount, form, placement, and timing of plant nutrient application; managed infestations of weeds, insects, and disease to reduce adverse effects on plant growth, crop production, and material resources.	This contract is expected to result in reduced nutrient and sediment losses from 1,200 acres by approximately 12,000 pounds of nitrogen, 2,160 pounds of phosphorous, and 870 tons of sediment each year for 4 years. The overall project is expected to reduce annual nutrient and sediment losses from fields in the Lake Erie Basin by approximately 200,000 pounds of nitrogen, 36,000 pounds of phosphorous, and 14,500 tons of sediment.	These conservation practices will reduce losses of sediment and nutrients, and encourage more landowners to implement these practices. Excess sediment and nutrients in the lakes can lead to harmful algal blooms, among other things.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Forecasting spread and bio-economic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes (2011, completed)	$320,389 for the cooperative agreement we reviewed	Part of an overall $488,022 project to develop mathematical models to predict the impacts of aquatic invasive species in the Great Lakes. The purpose of the cooperative agreement we reviewed was to identify high-risk species and forecast potential habitat, among other goals.	Collected and shared environmental data for use in forecasting models.	The project developed information on the potential dispersal, distribution, and habitat of various nonnative species in the Great Lakes; surveillance and analytical methods for species of concern; and prevention strategies for species.	Project results have been used to direct Fish and Wildlife Service sampling efforts and inform invasive species planning by some states. The project also increased collaboration between Great Lakes research and management institutions. The project is expected to combine scientific, economic, risk analysis, and management expertise to increase capabilities for forecasting ecological and economic effects of invasive species. It will also inform binational discussions on the invasive species aspects of the Great Lakes Water Quality Agreement with Canada.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Great Lakes Basin Program for Soil Erosion and Sediment Control (2012, ongoing)	$554,738	To provide soil and sediment control benefits through project demonstration grants, technical assistance, and information and education programs to improve water quality in the Great Lakes Basin.	Awarded grants to implement best management practices such as pasture seeding, hayland planting, cover crops, grassed waterways, roadbank stabilization, streambank and shoreline protection, and conservation tillage.	The project has saved an estimated 154,250 tons of soil through the conservation practices installed to date, and 458,680 tons of soil may be saved over the life (up to 20 years) of these conservation practices.	The amount of soil saved, and the subsequent reduction in sedimentation and phosphorus, contributes to the restoration of ecosystem health by reducing algal and blue green algal blooms, improving aquatic habitat for and survival of fish, and reducing conditions for bacteria to grow.
Great Lakes Bay Watershed Education and Training Program administration (2011, completed)	$123,133	To fund initial expenses and administration to establish and implement the first year of the Great Lakes Bay Watershed and Education Training program. This program awarded competitive grants for projects that provide students with “meaningful” watershed educational experiences and teachers with professional development opportunities in the area of environmental education.	Wrote the Federal Funding Opportunity for the Bay Watershed Education and Training Program; processed applications; conducted reviews and recommended projects; managed awards and ensured their compliance with GLRI tracking and reporting requirements.	The project administered the Bay Watershed Education and Training Program that made 12 awards totaling $848,167. Those awards engaged 700 teachers in professional development on Great Lakes place-based education and in turn engaged 17,200 students in meaningful watershed educational experiences.	The program engages teachers in comprehensive training that allows them to implement year-long Great Lakes place-based environmental education in their classrooms, contributing to the GLRI goal of increasing outreach and education for the Great Lakes and providing ongoing K-12 education for students to understand its benefits and ecosystem functions so they can make decisions to ensure that restoration investments are enhanced over time.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Great Lakes earth partnership (2012, completed)	$686,889	To improve applied environmental literacy, outreach, and action in Great Lakes schools and communities.	Conducted two train-the-trainer professional development institutes to prepare teachers to implement the earth partnership program in schools and in their communities. Offered 26 professional development institutes.	The recipient has partnered with 168 organizations incorporating Great Lakes protection and stewardship criteria into their broader environmental education curricula, more than twice the original goal. More than 110 school teams guided students in restoration, service-learning, inquiry, and citizen science monitoring during the 2013-2014 school year. More than 140 student restoration activities included planning and building 63 rain gardens; depressed areas of the ground planted with vegetation that allow runoff from impervious surfaces, such as parking lots and roofs, the opportunity to be collected and infiltrated into the groundwater supply or returned to the atmosphere through evaporation and transpiration. Other restoration activities included shoreline and lakeshore restorations, prairie and woodland plantings, and invasive species monitoring and control. More than 600 teachers continue to integrate Great Lakes and water stewardship curricula into their practice and school and district educational plans.	The project's coordinated process of training trainers and mentors to provide relevant Great Lakes education and water stewardship to thousands of students and their families leads to a better understanding of how the Great Lakes influence humans and how humans impact the Great Lakes. This also builds a relationship to the Great Lakes and a commitment to stewardship among participants.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Green Bay Harbor dredged material disposal facility, WI (2011, completed)	$8,468,836	To create wave barriers that will protect coastal wetlands and create habitat through storage of clean dredged material.	Constructed 4.3-mile wave barrier made up of cells to hold 2.3 million cubic yards of clean dredged material that will be added over the course of 20 to 50 years.	The wave barrier protects 1,440 acres of marshland, in which a native rice species is reestablishing itself. Twenty-eight species of migratory birds have been observed roosting on the habitat created by the clean dredged material currently stored in the barrier.	The project is expected to reestablish a nearshore wetland, which acts as a filter, a fishery, a photoplankton respite, and a spawning area.
Implementing Michigan`s comprehensive state management plan for nonindigenous aquatic nuisance species (2010, completed)	$1,916,867	To establish a more formal, cohesive aquatic invasive species program, update the aquatic invasive species state management plan, and implement selected top priority actions in the plan.	Finalized new interagency policy and procedure on response plan for aquatic invasive species in Michigan. Wrote and submitted summary report on invasive species. Gave presentations throughout state on aquatic invasive species information and updated plan. Completed site assessment and survey of invasive plant species. Increased training about aquatic invasive species issues and identification. Conducted inspections and education.	Produced portable Asian carp display for field offices to increase awareness. Planned and filmed juvenile Asian carp identification video for fall 2013. Conducted 176 targeted site visits by the Department of Agriculture and Rural Development at firms with plant sales to check for regulated species and provide information to managers about prohibitions and restrictions. Two locations were found to be noncompliant and Department of Agriculture and Rural Development staff subsequently destroyed the plants.	These activities prevent new introductions of aquatic invasive species, limit their dispersal, detect and respond to new aquatic invasive species, and manage and control existing ones.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Long-term phragmites control through the Lake Erie Cooperative Weed Management Area (2011, completed)	$278,298	To enhance and perpetuate past phragmites management results, eradicate phragmites, and recolonize native plants.	Burned 156 acres of phragmites. Sprayed 200 acres with herbicide; monitored regrowth; purchased seeds to replant 85 acres.	Herbicide followed by burning (or burning and seeding) resulted in a 10 percent greater reduction of live phragmites than herbicide alone or herbicide and mechanical efforts.	Removal of phragmites may improve water quality because they degrade wetlands and coastal areas by crowding out native plants and animals. This project is also expected to contribute to improving an Area of Concern near the project site, improve fish spawning and nursery areas, reduce habitat fragmentation for aquatic and terrestrial species, improve habitat and migratory corridors for several species, and increase acreage of several impaired habitat types.
Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery (2012, completed)	$150,000	To supplement ongoing fish propagation and restoration efforts and support enhancement of work on a focal species of the GLRI Action Plan.	Purchased fish food; transported and stocked fish; reared and cared for lake trout at hatchery.	Increased lake trout production by 250,000 fish.	This project is expected to add significantly to the restoration of lake trout to self-sustaining levels. Lake trout were once the primary fish-eating predator in the Great Lakes deepwater ecosystem, which made them critical to a balanced and sustainable ecosystem. Restoring lake trout brings back the primary predator and sustains natural biodiversity in ecosystem.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Millennium Reserve-Calumet River corridor green infrastructure (2012, ongoing)	$80,225	To fund green infrastructure planning, mapping, and implementation activities within the Calumet River Corridor, an area located primarily along the Little Calumet River, to enhance and protect rare and significant natural resources.	Evaluated proposals and awarded contract for green infrastructure installations. Visited four of the six communities to identify possibilities and challenges related to each site, existing and future development plans, long-term maintenance challenges, signage needs, and funding strategies to accomplish a larger number of projects.	Geographic data has been collected for the project area, and analyzed to identify storm water problem areas and green corridors and to pinpoint high-priority green infrastructure implementation sites.	Green infrastructure installations are expected to reduce storm water runoff, decrease sedimentation, decrease nonpoint source pollution, and improve infiltration. They are also expected to contribute a small incremental improvement to the water quality in Lake Michigan.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Rosewood Park, IL (2011, completed)	$144,600	To conduct a feasibility study with fiscal year 2011 funds, along with fiscal year 2010 and fiscal year 2012 funds.	Conducted a feasibility study that evaluated effects and considered alternative plans to recommend and design the most cost-effective solution to man-made disturbances	The project completed a feasibility study that recommended moving forward with a restoration project.	The feasibility study led to additional GLRI funding in subsequent years, such as for a construction contract to restore and enhance 4 acres of coastal habitat along the Lake Michigan shoreline, supporting the measure of progress that addresses the number of acres of coastal, upland, and island habitats protected, restored, and enhanced. This will contribute to Great Lakes restoration through the removal of man-made structures to restore a more natural shoreline, removing man-made cover from over a small tributary to Lake Michigan, and enhancing coastal habitat for fish within a 25-mile radius.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Sheboygan River Area of Concern: pathway to delisting beneficial use impairments (2011, ongoing)	$5,890,854	To restore connectivity of wetlands to the Sheboygan River and enhance the habitat for a variety of organisms including fish, waterfowl, and herptiles.	Monitored native vegetation. Treated invasive plant species. Completed data analysis and map production for habitat mapping. Constructed duck traps and drop net to collect ducks for sample processing and analysis. Developed landowner and property agreements for invasive species control activities.	Stream and riparian habitat improvements were completed. Wetland habitat connections were increased.	Improved health of the Great Lakes ecosystem will be accomplished through the incremental completion of locally-led restorations within the lake basin over many years. These projects made important contributions to the bigger picture goals set forth in regional documents such as the Lakewide Management Plans. In June 2013, the Environmental Protection Agency announced the completion of all dredging and habitat restoration projects required to remove the Sheboygan River Area of Concern from the list of areas identified in the 1987 Great Lakes Water Quality Agreement.

Project title (fiscal year funding made available, project status)	Funding expended	Project purpose	Examples of activities conducted	Examples of results achieved	How project will contribute to Great Lakes restoration
Shoreline habitat land acquisition for delisting fish and wildlife related beneficial use impairments and the White Lake Area of Concern (2011, completed)	$327,961	To acquire wetland parcels that will benefit the White Lake Area of Concern and protect 150 feet of shoreline on White Lake. The proposed site acquisition will directly conserve, restore, and enhance fisheries habitat in the aquatic and nearshore coastal areas of White Lake.	Obtained property surveys and appraisals; researched additional wetland acreage adjacent to GLRI restoration sites for possible acquisition; met with a local real estate agent to facilitate contacts with landowners; contacted landowners; and prepared purchase agreements, title insurance, and property acquisition.	The project acquired four parcels that benefit the White Lake Area of Concern and enhance public access and interaction with local natural resources through ownership by a public entity. The acquired sites were acquired via fee simple and will be further protected through permanent conservation easements.	The acquisition of these sites directly benefits the recently completed restoration efforts for the White Lake Area of Concern by adding acreage to the area's overall GLRI project and further protecting wildlife and fisheries habitat. In October 2014, the Environmental Protection Agency announced that the White Lake Area of Concern had been removed from the list of areas identified in the 1987 Great Lakes Water Quality Agreement.
Urban field observations in science (2011, completed)	$85,104	To prepare 100 urban teachers in the Detroit metropolitan area to provide meaningful watershed educational experiences to 4,000 to 5,000 upper and middle elementary students underrepresented in science, technology, engineering, and math higher education and careers.	Held five 1 ½ day workshops for 96 participating teachers and 23 field observation sessions.	The project expanded the participation of a low-income and minority student population in marine and environmental education. The program engaged 96 teachers who have contact with 6,600 students throughout the Detroit metropolitan area, with most students from urban, high poverty, and minority backgrounds.	The training provided to teachers will contribute to preparing the next generation of conservationists and environmental stewards for the Great Lakes.

Sources: GAO analysis of information from the Buffalo Audubon Society, Detroit Zoological Society, Fish and Wildlife Service, Great Lakes Commission, Great Lakes Fishery Commission, Muskegon County Soil Conservation District, National Oceanic and Atmospheric Administration, Natural Resources Conservation Service, Nature Conservancy, Illinois Department of Natural Resources, Michigan Department of Environmental Quality, State University of New York Research Foundation, U.S. Army Corps of Engineers, University of Minnesota, University of Notre Dame, University of Wisconsin-Madison, and Wisconsin Department of Natural Resources. | GAO-15-526

Appendix IV: Examples of Internal Controls Used By Selected Great Lakes Interagency Task Force Agencies

We examined key internal controls used by five Great Lakes Interagency Task Force (Task Force) agencies to oversee 19 projects that were conducted using Great Lakes Restoration Initiative (GLRI) funds to better understand how the agencies ensure accountability for the funds. Specifically, we reviewed relevant documents and interviewed agency officials to determine the methods the agencies used to assess the risks of organizations applying to receive GLRI funds; the training the agencies' required of officials responsible for managing financial agreements such as grants, cooperative agreements, or contracts; the policies governing agency site visits and the number of site visits for the 19 projects; and the types of reports each agency required the funding recipients to submit. In addition, we collected at least one of each type of the required reports, when possible, to confirm that recipients had submitted these documents.[1] The Task Force agencies we reviewed are the Environmental Protection Agency (EPA; see table 13), the Fish and Wildlife Service (FWS; see table 14), the National Oceanic and Atmospheric Administration (NOAA; see table 15), the Natural Resources Conservation Service (NRCS; see table 16), and the U.S. Army Corps of Engineers (Corps; see table 17).

EPA

Based on our analysis of agency documents and interviews with agency officials, we found that, to assess applicant risk, EPA required each applicant to certify it has the legal authority to apply for federal assistance and the institutional, managerial, and financial capability (including funds to pay the nonfederal share of the project cost) to ensure proper planning, management, and completion of the project described in the relevant application. EPA officials also told us that the agency searched the names of applicants in the System for Award Management to identify any applicant debarments or suspension,[2] performed a credit check on all

[1]We were unable to collect some reports, such as final reports for those projects that were ongoing during this review.

[2]The System for Award Management is the primary government repository for prospective federal awardee and federal awardee information and the centralized government system for certain contracting, grants, and other assistance-related processes. For additional information, see https://www.sam.gov.

applicants applying for funds, and checked for Single Audit Act findings.[3] Single audits focus on recipients' internal controls over financial reporting and compliance with laws and regulations governing U.S. federal awardees. They also provide key information about the federal grantee's financial management and reporting. EPA required project officers to complete grant training to be eligible to manage an EPA grant and to take a refresher course every 3 years. For its site visits, EPA targeted a minimum of 10 percent of GLRI funding recipients for advanced monitoring—an in-depth review of the recipient's project—which officials told us is the same percentage for all EPA grants and not just GLRI. EPA required each of its recipients to submit very similar types of reports (see table 13).

Table 13: Examples of Environmental Protection Agency Oversight of Five Great Lakes Restoration Initiative Projects

Project title (type of agreement)	Site visit(s) or other postaward oversight conducted	Types of reports required
Enhanced St. Mary`s River sea lamprey control (grant)	No	Semiannual progress reports Final progress report Final financial report
Great Lakes earth partnership (grant)	No	Semiannual progress reports Final progress report Annual financial reports Final financial report
Long-term phragmites control through the Lake Erie Cooperative Weed Management Area (grant)	No	Semiannual progress reports Final progress report Annual financial reports Final financial report
Millennium reserve-Calumet River corridor green infrastructure (grant)	No	Semiannual progress reports Final progress report Annual financial reports Final financial report

[3]The Single Audit Act, 31 U.S.C. §§ 7501-7507, as amended, requires nonfederal entities that expend more than a certain amount in a year in federal awards to have a single or program-specific audit conducted by an independent auditor. From 2004 until 2014, the threshold triggering a single audit was $500,000 or more in expenditures for the fiscal year. The Office of Management and Budget raised the threshold to $750,000 for single audits of nonfederal fiscal years that begin on or after December 26, 2014.

Project title (type of agreement)	Site visit(s) or other postaward oversight conducted	Types of reports required
Sheboygan River Area of Concern: pathway to delisting beneficial use impairments (grant)	Yes	Semiannual progress reports Final progress report Annual financial reports Final financial report

Source: GAO analysis of Environmental Protection Agency information. | GAO-15-526

FWS

Based on our analysis of agency documents and interviews with agency officials, we found that, to assess applicant risk, FWS officials interviewed organizations with which they are less familiar to understand their financial viability and management processes. FWS officials also searched the names of all applicants in the System for Award Management to identify any applicant debarments or suspension. FWS required 24 hours of training for those staff with authority to approve awards, but it required no training for project officers overseeing awards, or reviewing and ranking applications, according to FWS officials. FWS does not have a requirement for a certain number of site visits. However, agency officials told us that site visits are conducted more often for complex and expensive projects. FWS officials also told us that the agency has an on-the-ground presence through 34 field offices that is more extensive than any other Task Force agency. FWS reporting requirements varied by project (see table 14).

Table 14: Examples of Fish and Wildlife Service Oversight of Five Great Lakes Restoration Initiative Projects

Project title (type of agreement)	Site visit(s) or other postaward oversight conducted	Types of reports required and frequency
A comprehensive regional public outreach campaign on aquatic invasive species (grant)	No	Semiannual progress reports Annual progress reports Final progress report Quarterly financial reports Final financial report
Avian habitat restoration at Joseph Davis State Park (NY) (grant)	Yes	Annual interim progress reports Final progress report Annual interim financial reports Final financial report
Bog turtle surveys to reevaluate historic sites and identify new sites in Cayuga and Wayne counties of New York State (grant)	Yes	Mid-project progress report Final progress report Annual financial report
Implementing Michigan`s comprehensive state management plan for nonindigenous aquatic nuisance species (grant)	No	Semiannual progress reports Annual progress reports Final progress report Quarterly financial reports Final financial report
Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery (no agreement, implemented by agency)	Yes	The Fish and Wildlife Service office conducting this project is not required to provide progress and financial reports.

Source: GAO analysis of Fish and Wildlife Service information. | GAO-15-526

NOAA

Based on our analysis of agency documents and interviews with agency officials, we found that NOAA used different oversight processes depending on the type of financial agreement involved; i.e., grants, cooperative agreements, or contracts. To assess applicant risk for grants and cooperative agreements, NOAA officials said that they perform a credit check for organizations applying for funds, check the System for Award Management for exclusions from procurement or nonprocurement activities for those applicants, check the agency's "do not pay" list for delinquent debts, and they also check for Single Audit Act findings. In addition, NOAA reviews applicants' past performance. If an organization is deemed high risk, NOAA will impose a special award condition, such as requiring the recipient to submit financial or progress reports more frequently, according to agency officials. The imposed special award condition remains on the award until the recipient demonstrates compliance. For awards that are made competitively, NOAA evaluates

applications using criteria set forth in the applicable program regulations and announcement of federal funding opportunity. According to NOAA officials, training for officials who managed grants and cooperative agreements was specific to each of NOAA's program offices. Within the National Ocean Service, which has responsibility for the five NOAA GLRI projects we reviewed, program officers and grant coordinators were required to complete a certification program, which required completion of a 3-day course on grants and cooperative agreements and annual training on grants. The National Ocean Service also required training on NOAA's Grants Online system. NOAA did not require site visits for all projects funded through grants and cooperative agreements. According to NOAA officials, the decision to conduct a site visit is based on need and the availability of funds, and high-risk recipients are a priority. Officials noted that, as a matter of standard practice, agency staff conduct site visits and work closely with cooperative agreement recipients for all habitat restoration projects in Areas of Concern.

To assess contractor risk, a NOAA team evaluates proposals and assigns a rating, using criteria outlined in the request for proposals for the relevant project. The team considers the past performance of the entities offering proposals and assigns them each one of five possible ratings for past performance. NOAA's contract management staff are to be certified through the Federal Acquisition Certification Contracting Officer Representative Certification Program, which requires a minimum of 40 hours of training and includes additional training requirements for staff managing contracts valued at more than $150,000. Site visits are not required for NOAA contracts, according to NOAA officials. NOAA program offices may determine the need for site visits based on the type of work funded. NOAA reporting requirements varied by project (see table 15).

Table 15: Examples of National Oceanic and Atmospheric Administration Oversight of Five Great Lakes Restoration Initiative Projects

Project title (type of agreement)	Site visit(s) or other postaward oversight conducted	Types of reports required and frequency
Community outreach and technical assistance for assessing climate change risks and vulnerabilities within the Great Lakes region (grants, contracts, and agency conducted work)	Officials from the National Oceanic and Atmospheric Administration attended a project kick-off meeting to discuss project requirements and priorities and to develop a foundation for communication with the contractor, for the contract we reviewed.	Monthly progress reports, for the contract we reviewed
Forecasting spread and bio-economic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes (grant and cooperative agreement)	Yes, for the cooperative agreement we reviewed	Quarterly progress reports Final progress report Semiannual financial reports Final financial report These reports were required for the cooperative agreement we reviewed.
Great Lakes Bay Watershed Education and Training Program administration (agency conducted work)	Not applicable	Not applicable
Shoreline habitat land acquisition for delisting fish and wildlife related beneficial use impairments and the White Lake Area of Concern (grant)	Yes	Semiannual progress reports Final progress report Semiannual financial reports Final financial report
Urban field observations in science (grant)	No	Semiannual progress report Final progress report Semiannual financial report Final financial report

Source: GAO analysis of National Oceanic and Atmospheric Administration information. | GAO-15-526

NRCS

Based on our analysis of agency documents and interviews with agency officials, we found that NRCS provided most of its GLRI funds through financial assistance contracts to agricultural producers who carry out different conservation practices on their land using NRCS GLRI funding.[4] According to NRCS officials, the agency does not assess applicants' risk

[4]NRCS refers to its agreements with agricultural producers as financial assistance contracts. These are not the same as contracts that are subject to the requirements described in the Federal Acquisition Regulation (FAR).

because it cannot deny program funds to a producer based on perceived financial or performance capabilities. Instead, the agency informally assesses applicants' performance capabilities as part of the conservation planning process and provides technical assistance to producers. NRCS officials told us that the agency conducts training in contract management, usually annually, but did not provide us with documentation of this training. Agency officials said that NRCS conducts site visits several times a year for financial assistance contracts.

NRCS also provided GLRI funding through cooperative agreements. According to agency officials, the majority of the agreements are with entities that have previously partnered with the agency, such as state programs or local conservation districts. For new applicants, NRCS officials said that they conduct assessments using Single Audit Act findings, among other things. The officials told us that there is no formal process for reviewing applicants that have worked with the agency before. An NRCS official told us that the agency required annual program management training of its program managers, but did not provide us with documentation of this training. NRCS officials also told us that the agency did not have specific requirements for conducting site visits to projects funded through cooperative agreements, which they said NRCS generally used for capacity building and not for site-specific projects. NRCS reporting requirements varied by project (see table 16).

Table 16: Examples of Natural Resources Conservation Service Oversight of Two Great Lakes Restoration Initiative Projects

Project title (type of agreement)	Site visit(s) or other postaward oversight conducted	Types of reports required and frequency
Farm Bill programs for reducing agricultural nonpoint source loading (financial assistance contracts)	Yes	Recipients of these agreements are not required to provide progress or financial reports.
Great Lakes Basin Program for Soil Erosion and Sediment Control (cooperative agreement)	Yes	Quarterly progress reports Semiannual progress reports Annual progress reports Final progress report Quarterly financial reports Final financial report

Source: GAO analysis of Natural Resources Conservation Service information. | GAO-15-526

Corps

Based on our analysis of agency documents and interviews with agency officials, we found that the Corps primarily used contracts to accomplish its GLRI work. In addition, Corps officials told us that the technical

features of their projects were planned and designed by Corps staff, and contracts for projects were awarded using plans and specifications developed by the agency. To assess contractor risk, according to Corps officials, the contractor must provide proof of financial capability to do the work prior to receiving the award. Corps officials told us that contracting officers must undergo training including, but not limited to, 40-hour blocks of quality assurance/quality control classes. The Corps did not perform site visits because Corps officials worked at each project site, and other Corps officials visited the sites on a regular basis (see table 17).

Table 17: Examples of U.S. Army Corps of Engineers Oversight of Two Great Lakes Restoration Initiative Projects

Project title (type of agreement)	Site visit(s) or other post-award oversight conducted:	Types of reports required and frequency
Green Bay Harbor dredged material disposal facility, WI (contract)	The U.S. Army Corps of Engineers maintains a permanent presence at its contract worksites.	Daily quality control reports
Rosewood Park, IL (agency conducted work)	The U.S. Army Corps of Engineers maintains a permanent presence at its contract worksites.	Not applicable because the Corps conducted the work itself.

Source: GAO analysis of U.S. Army Corps of Engineers information. | GAO-15-526

Appendix V: Indirect Costs for 19 Great Lakes Restoration Initiative Projects

We analyzed indirect cost information for the 19 Great Lakes Restoration Initiative (GLRI) projects that we reviewed and compared the amount of GLRI funds expended on indirect costs for each project with the overall amount of GLRI funds that had been expended on the project. To do this, we reviewed the Federal Financial Reports or other information provided by the recipients of GLRI funds that conducted the 19 projects we reviewed.[1] Indirect costs are those that cannot be identified with a program objective. That is, they represent the expenses of doing business that are not readily identified with a particular grant or contract, but are necessary for the general operation of the organization. These include, for example, building utilities and administrative staff salaries. In comparison, direct costs can include salaries, equipment, and travel, among other things, that can be specifically identified with the objective of a particular grant or contract. Table 18 shows the GLRI funds expended on indirect costs by the recipients for the 19 projects we reviewed.

Table 18: Indirect Cost Information Provided by Recipients for 19 Great Lakes Restoration Initiative (GLRI) Projects

Project title (fiscal year funding made available)	Recipient	GLRI funding expended	Expenditure on GLRI indirect costs (GLRI indirect costs as a percentage of federal funding expended)
A comprehensive regional public outreach campaign on aquatic invasive species (2010)	University of Minnesota	$1,554,472	$145,864 (9.4%)
Avian habitat restoration at Joseph Davis State Park, NY (2011)	Buffalo Audubon Society	$157,391	$0[a]
Bog turtle surveys to reevaluate historic sites and identify new sites in Cayuga and Wayne Counties of New York state (2010)	State University of New York Research Foundation	$138,554	$51,767 (37.4%)
Community outreach and technical assistance for assessing climate change risks and vulnerabilities within the Great Lakes region (2010)	Fugro Earth Data, Inc.	$2,249,787	$0[a]

[1]For additional information about Federal Financial Reports, also called Standard Form 425, see https://www.whitehouse.gov/omb/grants_forms.

Project title (fiscal year funding made available)	Recipient	GLRI funding expended	Expenditure on GLRI indirect costs (GLRI indirect costs as a percentage of federal funding expended)
Enhanced St. Mary's River sea lamprey control (2010)	Great Lakes Fishery Commission	$228,000	$0[b]
Farm Bill programs for reducing agricultural nonpoint source loading (2010)	Agricultural producer	$285,477	$0
Forecasting spread and bio-economic impacts of aquatic invasive species from multiple pathways to improve management and policy in the Great Lakes (2011)	University of Notre Dame	$320,389	$18,078 (5.6%)
Great Lakes Basin Program for Soil Erosion and Sediment Control (2012)	Great Lakes Commission	$554,738	$36,579 (6.6%)
Great Lakes Bay Watershed Education and Training Program administration (2011)	National Oceanic and Atmospheric Administration	$123,133	$18,153 (15%)
Great Lakes earth partnership (2012)	University of Wisconsin, Madison	$686,889	$141,739 (21%)
Green Bay Harbor dredged material disposal facility, WI (2011)	U.S. Army Corps of Engineers	$8,540,000	$187,000 (2.2%)
Implementing Michigan`s comprehensive state management plan for nonindigenous aquatic nuisance species (2010)	Michigan Department of Environmental Quality	$1,916,867	$90,168 (4.7%)
Long-term phragmites control through the Lake Erie Cooperative Weed Management Area (2011)	The Nature Conservancy	$137,505	$22,008 (16%)
Maintain and enhance lake trout production capabilities at Pendills Creek National Fish Hatchery (2012)	Fish and Wildlife Service	$150,000	$0[a]
Millennium reserve-Calumet River corridor green infrastructure	Illinois Department of Natural Resources	$80,225	$0[b]
Rosewood Park, IL (2011)	U.S. Army Corps of Engineers	$146,000	$59,000 (40%)
Sheboygan River Area of Concern: pathway to delisting beneficial use impairments (2011)	Wisconsin Department of Natural Resources	$5,890,854	$6,488 (0.11%)

Project title (fiscal year funding made available)	Recipient	GLRI funding expended	Expenditure on GLRI indirect costs (GLRI indirect costs as a percentage of federal funding expended)
Shoreline habitat land acquisition for delisting fish and wildlife related beneficial use impairments and the White Lake Area of Concern (2011)	Muskegon County Soil Conservation District	$327,961	$0[b]
Urban field observations in science (2011)	Detroit Zoological Society	$85,104	$13,507 (15.9%)

Sources: GAO analysis of Federal Financial Report (Standard Form 425) or other information from the Buffalo Audubon Society, Detroit Zoological Society, Fish and Wildlife Service, Great Lakes Commission, Great Lakes Fishery Commission, Muskegon County Soil Conservation District, National Oceanic and Atmospheric Administration, Natural Resources Conservation Service, Nature Conservancy, Illinois Department of Natural Resources, Michigan Department of Environmental Quality, State University of New York Research Foundation, U.S. Army Corps of Engineers, University of Minnesota, University of Notre Dame, University of Wisconsin-Madison, and Wisconsin Department of Natural Resources. | GAO-15-526

[a]According to representatives from the Buffalo Audubon Society, and officials from the Fish and Wildlife Service and National Oceanic and Atmospheric Administration, an indirect cost rate was not established for these projects.

[b]According to representatives from the Great Lakes Fishery Commission, Illinois Department of Natural Resources, and Muskegon County Soil District, no indirect costs were charged for these projects.

Appendix VI: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

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