OFFICE OF INSPECTOR GENERAL
U.S. ENVIRONMENTAL PROTECTION AGENCY

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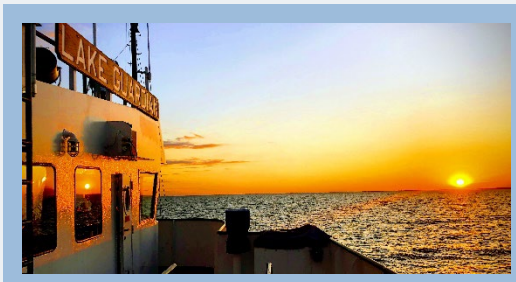
LESSONS IDENTIFIED FROM PRIOR OVERSIGHT OF THE EPA'S GEOGRAPHIC AND NATIONAL ESTUARY PROGRAMS



Great Lakes sunset on an EPA research vessel. (EPA photo)

Purpose:

The U.S. Environmental Protection Agency's Office of Inspector General initiated this evaluation to describe the lessons we identified from select EPA OIG and U.S. Government Accountability Office oversight reports to help inform the EPA's geographic programs' and National Estuary Program's future efforts to protect regional waters. These future efforts will be funded, at least in part, by the Infrastructure Investment and Jobs Act of 2021. The project number for this evaluation was OSRE-FY22-0074.

This evaluation supports an EPA mission-related effort:

- *Ensuring clean and safe water.*

This evaluation addresses a top EPA management challenge:

- *Managing infrastructure funding and business operations.*

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Overview

The U.S. Environmental Protection Agency's Office of Inspector General reviewed 49 EPA OIG and U.S. Government Accountability Office reports that included findings related to the EPA's 12 geographic programs and the EPA's National Estuary Program. Appendix A lists the reports we reviewed. We identified lessons from these prior reports and categorized them into seven programmatic themes. These lessons and themes are intended to aid EPA program managers and staff as they prepare to administer the $1.85 billion designated for the Agency's geographic programs and National Estuary Program pursuant to the Infrastructure Investment and Jobs Act of 2021, or IIJA.

Background

The EPA established its geographic and estuary programs to improve the protection and restoration of waterbodies and watersheds. According to the EPA, both its geographic programs and National Estuary Program deliver technical and financial assistance to stakeholders to solve problems and support healthy, climate-resilient ecosystems. The programs are intended to address water quality, water infrastructure, nutrient pollution, habitat loss, treaty rights, equity, and environmental justice.

Geographic Programs

The EPA designates specific areas around the country as "large aquatic ecosystems." Such ecosystems comprise multiple small watersheds and water resources within a large geographic area. According to the EPA, it partners with other federal agencies, state and local governments, tribes, and other stakeholders to develop geographic-based programs to protect and restore these large aquatic ecosystems. In its fiscal year 2023 budget request, the EPA requested funding for these 12 ecosystems: Chesapeake Bay, Columbia River Basin, Great Lakes, Gulf of Mexico, Lake Champlain, Lake Pontchartrain, Long Island Sound, Northwest Forest Watershed, Puget Sound, San Francisco Bay, South Florida, and Southeast New England. The EPA's budget and congressional appropriation acts refer to these as "geographic programs."

We identified seven programmatic themes across the 49 EPA OIG and GAO reports we reviewed:

Source: OIG analysis of prior EPA OIG and GAO reports. (EPA OIG image)

National Estuary Program

In addition to its geographic programs, the EPA operates the National Estuary Program, which was established in 1987 to protect and restore the water quality and ecological integrity of estuaries of national significance. As of March 2022, 28 estuaries located along the Atlantic, Gulf, and Pacific coasts and in Puerto Rico were designated as estuaries of national significance. A variety of stakeholders, including state and local agencies, universities, and individual nonprofits, have established and implemented local estuary programs to address each specific estuary. According to the EPA, it manages and oversees the National Estuary Program through annual funding, national guidance, and technical assistance to these local estuary programs.

IIJA Funding to Protect Regional Waters

On November 15, 2021, President Joseph R. Biden signed the IIJA, Pub. L. 117-58, into law. The IIJA provided the EPA with approximately $60 billion, allocated among 19 appropriations over five years (fiscal years 2022–2026), for infrastructure-related purposes. The vast majority of the EPA's IIJA funding is available until it is expended. The IIJA provides funding to the EPA to make significant investments to advance public health and safety by improving the nation's drinking water, wastewater, and stormwater infrastructure; cleaning up legacy pollution; investing in healthier air; increasing the Agency's workforce; and enhancing the country's climate resilience. In total, the EPA's 12 geographic programs and National Estuary Program will receive a combined $1.85 billion of the EPA's $60 billion in IIJA funds. Appendix B summarizes IIJA funding for the 12 geographic programs and the National Estuary Program

Responsible Office

The Office of Water is responsible for the Agency's geographic programs and National Estuary Program. The Office of the Administrator has primary oversight of the EPA's IIJA funds.

Scope and Methodology

See Appendix C for a description of our scope and methodology.

Results

We identified seven programmatic themes across the 49 EPA OIG and GAO reports we reviewed. We detail these themes in the order of the frequency they appear in these 49 reports. We also detail specific lessons under each theme for EPA program managers and staff to consider as the Agency and its partners expand their efforts to protect regional waters using IIJA funding. The seven themes are:

- Measurement of progress.
- Communication.
- Grant management.
- Strategic planning.
- Leadership.
- Program execution.
- Resources.

We summarize the seven themes we identified in the below tables. As the EPA begins to distribute IIJA funds to geographic and estuary programs, the Agency can use this information to address historical challenges and better position itself to achieve its programmatic goals and improve its environmental outcomes.

Measurement of Progress

Identified in 25 of 49 reports

According to the Council of the Inspectors General on Integrity and Efficiency, performance measurement is crucial to understanding the impact of programs and to proactively identifying areas of risk.* Within this theme, we identified three lessons for the EPA: 1) defining performance measures to assess program goals; 2) collecting sufficient, quality data; and 3) monitoring results and assessing progress.

* *Top Management and Performance Challenges Facing Multiple Federal Agencies* report, April 2018.

Defining Performance Measures to Assess Program Goals

Performance metrics can be used to assess overall progress toward meeting desired program goals and objectives. The EPA OIG and the GAO identified concerns about a lack of adequately defined performance measures. For example:

- A 2018 GAO report stated that although the Puget Sound Management Conference developed a conservation and management plan, which was approved by the EPA under the National Estuary Program, the plan did not include targets for over one-third of the measures of environmental quality. These measures are referred to as "indicators." The lack of targets limited the conference's ability to assess the progress of its restoration efforts. The GAO identified measurable targets as a key attribute of successful performance measures. By working with the conference to help ensure that measurable targets are developed, the EPA would better position the Puget Sound Partnership to assess progress toward restoration goals. (Appendix A, Row 6)
- According to a 2007 EPA OIG report, the EPA and its Chesapeake Bay partners had not reported on their progress toward one of the geographic program's goals: reducing the growth rate of sprawl development. Such development converts natural landscapes to impervious surfaces, such as roads, driveways, and sidewalks, which traditionally have detrimental environmental impacts. The EPA's Chesapeake Bay Program Office and its partners did not report on progress partly because they were not able to define sprawl development in an easily measurable way. (Appendix A, Row 34)

Collecting Sufficient, Quality Data

EPA OIG and GAO reports detailed how adequate data, or data of sufficient quality, were not always available to assess the progress of the EPA's geographic programs or National Estuary Program. For example:

- A 2009 EPA OIG report stated that the EPA did not know the full extent of the contaminated sediment problem for areas of concern in the Great Lakes. Accurate sediment estimates for more than 30 percent of the Great Lakes sites under remediation were unknown. The lack of such information threatened the ability of the geographic program to achieve its intended results. (Appendix A, Row 29)
- A 2003 GAO report stated that neither the indicators developed at the State of the Lakes Ecosystem conferences—which are hosted by the EPA and Environment Canada every two years—nor the specific accomplishments reported by federal and state program managers provided an adequate basis for assessing the overall progress of the Great Lakes restoration efforts. The GAO also found that the indicators still under development were generally not supported by sufficient underlying data to make progress assessments. (Appendix A, Row 44)

Monitoring Results and Assessing Progress

Prior reports noted the importance of monitoring established measures and collecting data to assess program progress. For example:

- A 2018 GAO report noted that the Long Island Sound Study—a partnership of federal and state agencies, nonprofit and public organizations, and individuals—established an initial conservation and management plan for the sound in 1994, collected data on certain indicators of the sound's health, and published progress reports on its website. However, the study did not comprehensively assess progress against the 1994 plan. In the absence of such an assessment, the GAO interviewed study members, who generally agreed that moderate progress had been made in achieving goals for five of the six "problem areas" targeted in the 1994 plan. However, according to the GAO, without a comprehensive assessment, it was not possible to determine the extent those views reflected actual progress. (Appendix A, Row 7)
- A 2016 GAO report stated that the EPA monitored performance reports and program-specific data from grantees to ensure that grants achieved environmental and other program results. However, the GAO found issues in the EPA's review process of grantee performance reports and said those issues may hinder the Agency's ability to efficiently identify factors affecting grant results. For example, because grantees submitted performance reports in a written format, there were no built-in quality controls to ensure that the performance reports were consistent with the EPA's policies and guidance. (Appendix A, Row 14)

Communication

Identified in 22 of 49 reports

Because partnership programs like the EPA's geographic programs and National Estuary Program include multiple stakeholders, effective communication is needed to coordinate program activities and disseminate information that may influence program outcomes. Within this theme, we identified three lessons for the EPA: 1) coordination among stakeholders, 2) delivering information to stakeholders, and 3) reporting results and outcomes.

Coordination Among Stakeholders

EPA OIG findings related to stakeholder coordination included issues both with internal EPA coordination and with external coordination between the EPA and its geographic programs or National Estuary Program stakeholders. For example:

- A 2006 EPA OIG report stated that the Agency needed to improve its coordination and collaboration with the agricultural community around the Chesapeake Bay. The EPA OIG found little evidence that the agricultural community was committed to implementing many practices needed to significantly reduce nutrients in the Chesapeake Bay watershed. In operating their farms, agricultural producers rely on a variety of experts for technical advice, including veterinarians, feed suppliers, land grant university professionals, state agricultural office staff, cooperative extension agents, and U.S. Department of Agriculture conservation staff. The report concluded that the EPA needed to mobilize the assistance of these experts and parties to obtain greater commitment by the agricultural community in implementing nutrient-reduction practices. (Appendix A, Row 36)
- A 1999 EPA OIG report stated that the EPA's Great Lakes National Program Office did not have formal agreements with other EPA offices, such as EPA regional offices or the Agency's Office of Research and Development, to coordinate their various efforts on Great Lakes work. As a result, offices engaged in little coordination on research planning. (Appendix A, Row 46)

Delivering Information to Stakeholders

Prior reports noted opportunities for the EPA to better inform its stakeholders involved with or impacted by the geographic programs or National Estuary Program. The EPA OIG and the GAO both found that providing information to stakeholders could improve program effectiveness. For example:

- A 2020 GAO report examining the EPA's grants to tribes, including some grants assisting tribes under the Puget Sound Protection and Restoration Program, noted that the EPA needed to develop and nationally distribute onboarding materials to grant specialists, project officers, and new tribal staff to improve expertise at both the federal and tribal levels. Delivering this information to stakeholders would help enhance the efficiency and effectiveness of tribal grant programs. (Appendix A, Row 3)
- A 2008 EPA OIG report stated that the EPA should better use its authorities to inform Congress and Chesapeake Bay citizens of the challenges the geographic program faces to achieve its desired results. According to the report, the EPA should provide Congress and Chesapeake Bay citizens with a realistic picture of what it will take to clean the bay and when its water quality goals will be achieved. The report stated that such information was needed to make informed decisions on funding and policy. (Appendix A, Row 32)

Reporting Progress and Outcomes

This aspect of communication addresses how stakeholders report program results and outcomes. Prior reports noted the importance of program reporting as a tool for conducting oversight and ensuring accountability. For example:

- A 2016 EPA OIG report on water quality grants for the San Francisco Bay stated that progress reports submitted by grantees did not consistently include sufficient information to determine project progress toward completing outputs, outcomes, milestones, and deliverables as identified in agreed-upon work plans and timelines. (Appendix A, Row 13)
- A 2006 EPA OIG report that reviewed some grants given to states to restore the Chesapeake Bay noted that the EPA had two primary means to conduct oversight and to ensure results and outcomes: reviewing state-submitted data and reviewing the states' semiannual progress reports. (Appendix A, Row 38)

Grant Management

Identified in 16 of 49 reports

According to the Council of the Inspectors General on Integrity and Efficiency, deficiencies in the grant management process can lead to misspent funds and ineffective programs.* Within this theme, we identified five lessons for the EPA: 1) accounting for expenditures, 2) adhering to grant requirements, 3) maintaining proper documentation, 4) following processes for grant announcement and review, and 5) identifying mismanagement of funds.

**Top Management and Performance Challenges Facing Multiple Federal Agencies* report, April 2018.

Accounting for Expenditures

Prior reports highlighted the importance of the proper accounting of federal funding, including tracking costs for associated restoration efforts and properly characterizing certain types of expenditures. For example:

- A 2018 GAO report detailed how the GAO was unable to identify the total federal expenditures used for the Columbia River Basin restoration efforts. The GAO cited the lack of a congressionally authorized geographic program for the Columbia River Basin as a factor, but the EPA's Columbia River Basin program has since been congressionally mandated by 2016 amendments to the Clean Water Act. The GAO also said that neither state nor national programs that funded restoration efforts

tracked their expenditures by restoration activity or even, in some cases, by region or location within the larger Columbia River Basin area. (Appendix A, Row 4)

- A 2015 EPA OIG report stated that the EPA did not include direct labor and indirect costs in project agreements awarded under the Great Lakes Legacy Act. These "project agreements" are, in effect, cost-sharing agreements between the EPA and nonfederal sponsors—state and local governments, industry, and other partners—in support of projects to clean up contaminated sediment in the Great Lakes areas of concern. The Act requires nonfederal sponsors to provide at least 35 percent of total project costs. According to the report, if the EPA had included direct labor and indirect costs in the project agreements, the Agency could have collected the nonfederal sponsors' share of the direct labor and indirect costs, which the report estimated to be $2.7 million per year. The EPA could use the direct labor and indirect costs recovered to pay for other environmental activities. (Appendix A, Row 15)

Adhering to Grant Requirements

Prior EPA OIG and GAO reports noted instances in which the EPA did not ensure that grantees adhered to approved work plans, as well as in which grantees did not comply with federal regulations. For example:

- A 2014 EPA OIG report said that EPA Region 10 did not consistently ensure that Puget Sound cooperative agreements met administrative requirements. Cooperative agreement recipients are responsible for the overall management of subawardees and for ensuring that subawardees comply with applicable federal and EPA requirements. According to the report, EPA project officers emphasized the monitoring of overall progress rather than compliance with specific subaward requirements. This emphasis on overall progress increased the risk that project officers would not detect issues needing corrective action that might impact the project meeting its goals. (Appendix A, Row 20)
- A 2012 EPA OIG report noted that the Alliance for the Chesapeake Bay, a recipient of an EPA grant, produced the *Bay Journal*, which was an expected deliverable of the grant. However, the grantee did not comply with federal regulations regarding procurement and financial management. Specifically, the grantee did not prepare and document a cost or price analysis, nor did the grantee evaluate the performance of its *Bay Journal* contractor. Also, the grantee's federal financial reports were not supported by its accounting records. The report questioned project costs totaling $1,357,035. (Appendix A, Row 25)

Maintaining Proper Documentation

Prior reports found that EPA project officers and grant management specialists did not always maintain adequate documentation of grant oversight activities. For example:

- A 2017 EPA OIG report stated that EPA Region 2 needed to improve its internal documentation in support of grants provided to Puerto Rico to protect human health and the environment. Among the grants reviewed in this report were two to improve the water and sediment quality of the San Juan Bay, a national estuary. Specifically, the report found that EPA Region 2 project officers and grant management specialists needed to improve documentation in three areas: 1) hard copy file documentation, 2) programmatic baseline report information, and 3) comprehensive administrative review checklist responses. (Appendix A, Row 8)
- A 2016 EPA OIG report said that EPA Region 9 project officers did not consistently collect progress reports or review and document monitoring and oversight activities for grants administered to the San Francisco Bay Water Quality Improvement Fund. The project officers did not, for example, review progress reports, document communication, or document site visits. (Appendix A, Row 13)

Following Processes for Grant Announcement and Review

According to the GAO, a lack of sufficient information in grant announcements could prevent potential applicants from knowing the specific activities, projects, or programs for which funding is available. The GAO also said that a lack of information could make it difficult for potential applicants to determine the level of funding available, which could affect their decision to apply. Both the GAO and the EPA OIG identified findings related to the EPA's grant announcements and the EPA's review process for funding grants. For example:

- A 2017 GAO report said that the EPA generally followed its process for advertising grant opportunities and for evaluating and selecting which applications to fund. However, the GAO also found that, although the EPA publishes information on its grants via four federal websites, information about the EPA's discretionary grants, such as the opportunities available and the grant amounts awarded, was not easy to identify or was incomplete. Discretionary grants are those for which the EPA has the discretion to determine grantees and dollar amounts. The GAO report said that the EPA's internal grants management system did not identify all the EPA's discretionary grants, making it difficult for the EPA to provide complete information on the four websites or to internal and external decision-makers. (Appendix A, Row 12)
- A 2013 EPA OIG report noted that an announcement about the Great Lakes Shoreline Cities Green Infrastructure grants did not specifically require proposed projects to support lakewide management plan goals. To address this issue, Region 5 developed criteria for staff to use when reviewing grant applications; the criteria included considering how each proposed project would support such goals and result in reduced discharges to the Great Lakes. (Appendix A, Row 21)

Identifying Mismanagement of Funds

Prior reports identified issues with mismanaged funds, including funds used in a manner inconsistent with laws or requirements, primarily due to a lack of internal controls or awareness of applicable requirements. For example:

- A 2017 EPA OIG report identified $88,093 of unallowable costs resulting from improper application of an indirect cost rate for a grant subaward to the Sauk-Suiattle Indian Tribe made by the Northwest Indian Fisheries Commission. The grant was awarded under the National Estuary Program to help tribal efforts to protect and restore the Puget Sound. The improper allocation occurred because the Sauk-Suiattle Indian Tribe and Northwest Indian Fisheries Commission personnel did not understand federal cost principle requirements and the provisions contained in the Sauk-Suiattle Indian Tribe's indirect cost rate agreements. (Appendix A, Row 10)
- A 2014 EPA OIG report stated that EPA Region 6's Water Quality Protection Division—which manages and conducts regional activities under the National Estuary Program and the Gulf of Mexico geographic program—used Coastal Wetlands Planning, Protection and Restoration Act funds for purposes that were not consistent with the Act's authority, appropriations law and principles, and interagency agreements. Further, division management did not accurately record labor and contractor costs. The division spent funds totaling $780,793 on questioned costs, augmented the EPA's annual appropriations, and overstated program costs. (Appendix A, Row 17)

Strategic Planning

Identified in 16 of 49 reports

As outlined in Office of Management and Budget Circular No. A-11,* strategic planning is a valuable tool for communicating a vision to Agency managers, staff, stakeholders, Congress, and the public. The EPA should use strategic goals and objectives to align resources and guide decision-making to accomplish priorities and improve outcomes. Within this theme, we identified three lessons for the EPA: 1) establishing and refining strategic plans, 2) including adaptive management processes, and 3) prioritizing projects.

**Preparation, Submission, and Execution of the Budget*, August 2021.

Establishing and Refining Strategic Plans

Prior reports identified strategic plans as tools to better position stakeholders to execute their responsibilities and coordinate their activities to meet program goals. For example:

- A 2018 GAO report concluded that the EPA did not have a program management plan to guide its Columbia River Basin restoration efforts. A program management plan would provide the EPA with more reasonable assurance that it could implement section 123 of the Clean Water Act in a timely and effective manner. Furthermore, the report said that establishing a Columbia River Basin geographic program would better position the EPA to carry out its responsibilities, including prioritizing and evaluating the progress and effectiveness of environmental protection and restoration projects and actions implemented throughout the Columbia River Basin. (Appendix A, Row 4)
- A 2008 GAO memorandum stated that the Chesapeake Bay geographic program's strategic framework provided only broad strategies for meeting the program's goals and did not identify the activities needed to reach those goals, the resources needed to undertake the activities, or the partners who would be responsible for funding and carrying out those activities. The GAO concluded that additional work was needed before the framework could move the restoration effort forward in a more strategic and well-coordinated manner. (Appendix A, Row 30)

Including Adaptive Management Processes

The GAO identified adaptive management as an important approach for improving resource management. Adaptive management uses a science-based process to modify management policy, strategies, and practices. In the context of the EPA's geographic programs and National Estuary Program, it would involve evaluating the impacts of restoration efforts to inform and adjust future actions. For example:

- A 2013 GAO report stated that the EPA and other stakeholders had not fully established an adaptive management process for the Great Lakes Restoration Initiative. They did not establish such an approach despite the fact that a unified federal policy on watershed management, issued in 2000 by the EPA and other federal agencies, defined adaptive management as a science-based process for managing natural resources. The GAO report said that an adaptive management process would allow the EPA and other stakeholders to evaluate whether projects address the objectives and goals of the Great Lakes Restoration Initiative and to adjust future actions, if needed. (Appendix A, Row 22)
- A 2003 GAO report on South Florida restoration efforts identified gaps in the development of adaptive management tools—such as models and a comprehensive monitoring plan based on key indicators—that would allow scientists to assess how the implementation of restoration projects and plans affected the aquatic ecosystem and whether implementation resulted in successful restoration. (Appendix A, Row 43)

Prioritizing Projects

The GAO detailed the importance of prioritizing efforts and actions within the overall process of strategic planning. For example, the GAO identified an instance in which project prioritization helped accelerate certain program results and an instance in which the absence of project prioritization threatened the effectiveness of a program's plan:

- A 2015 GAO report noted that, from fiscal years 2012 to 2014, accelerated restoration results occurred under the Great Lakes Restoration Initiative for areas that were prioritized for accelerated cleanup activities and funding. (Appendix A, Row 16)
- A 2007 GAO report on South Florida restoration efforts stated that there were no overarching sequencing criteria for restoration officials to use when making implementation decisions for the effort's 222 projects. Instead, decisions for 162 projects were driven largely by the availability of funds. For the remaining 60 projects, which were among the most critical to the success of the restoration effort, Congress and the U.S. Army Corps of Engineers established criteria to ensure that goals of the geographic program were achieved, and the Corps was required to issue a master implementation sequencing plan by December 13, 2004. However, the master sequencing plan that the Corps issued was not consistent with the established criteria; therefore, there was little assurance that the master sequencing plan would be effective. (Appendix A, Row 35)

Leadership

Identified in 14 of 49 reports

Given that the IIJA provides funding for EPA's 12 geographic programs and the National Estuary Program and that the EPA works with other federal agencies, state and local governments, tribes, and others to protect and restore these areas, the EPA must provide effective leadership for these programs. Within this theme, we identified two lessons for the EPA: 1) identifying and monitoring challenges or obstacles and 2) providing guidance and technical expertise.

Identifying and Monitoring Challenges or Obstacles

The EPA can lead its partnerships by helping to identify and share information about program challenges and obstacles to success. Where challenges exist, the EPA may need to monitor progress in addressing those challenges to ensure they are mitigated. For example:

- As detailed in a 2009 EPA OIG report, the EPA issued a national strategy, *Water Quality Criteria and Standards Plan—Priorities for the Future*, in June 1998 to promote state adoption of nutrient water quality standards. This plan said that there was a critical need for states to adopt improved water quality standards given the number of waters that were impaired from nutrients. In the 11 years between when the EPA issued its 1998 strategy and the EPA OIG issued its 2009 report, half the states had still not adopted numeric nutrient standards. The EPA OIG found that these states, despite agreeing to develop the standards and committing to implementation milestones, were not motivated to create standards because implementing them was costly and often unpopular with various constituencies. Also, the EPA OIG found that the EPA did not hold the states accountable for their committed milestones. As such, the EPA's strategy did not ensure that states would develop standards that provided adequate water quality. (Appendix A, Row 31)
- A 2008 EPA OIG report said that the EPA needed to identify and disseminate lessons learned from its oversight of the Chesapeake Bay states' development of water quality trading programs. The report highlighted the importance of this task given the challenges faced by partners in addressing complex trades and states testing different water quality trading approaches. Water quality trading allows facilities facing higher pollution control costs to meet regulatory obligations by purchasing

equivalent or superior pollution reductions from another source at a lower cost. The Chesapeake Bay states rely on trading as a tool to achieve and maintain the geographic program goals. (Appendix A, Row 33)

Providing Guidance and Technical Expertise

Findings in prior reports showed that the EPA can provide leadership for its partner programs by issuing guidance to stakeholders and offering scientific expertise. For example:

- A 2021 EPA OIG report said that states faced obstacles in addressing trash pollution in waterways and that the EPA could offer technical expertise to help states. The report outlined how the EPA could further improve its efforts to reduce trash, including plastic, in U.S. waterways by evaluating the regulatory and nonregulatory obstacles faced by states and municipalities and by continuing its support of trash-reduction initiatives. (Appendix A, Row 2)
- A 2007 EPA OIG report noted that some communities near the Chesapeake Bay already had extensive responsibilities under the Clean Water Act. As such, these communities may be reluctant to invest in practices that are not statutorily required unless the EPA provides information about their effectiveness. The report stated that the EPA could support local communities by completing a set of stormwater-management principles to guide environmentally sensitive development; addressing potential conflicts between environmental and economic goals; and expanding educational opportunities, so that community officials can make more-informed development decisions. (Appendix A, Row 34)

Program Execution

Identified in 12 of 49 reports

Programs, including the projects and activities within a program, are intended to be executed efficiently and effectively to contribute to the goals and objectives that are set out for the programs. Within this theme, we identified two lessons for the EPA: 1) conducting effective oversight and 2) taking timely and effective actions.

Conducting Effective Oversight

Prior reports noted the importance of the EPA and its partners providing oversight of the geographic programs and the National Estuary Program. For example:

- A 2012 GAO report stated that the EPA's oversight of and measures of effectiveness for state nonpoint source management programs had not consistently ensured the selection of projects likely to yield measurable water quality outcomes. Pollution from nonpoint sources, such as runoff from farms or construction sites, is a leading cause of impairment to the nation's waters. The EPA's ten regional offices varied widely in how they reviewed state work plans, which describe the projects that the states plan to fund in the upcoming year, and how they established project selection criteria, which identify eligibility parameters for which projects should receive funds. For example, three regional offices reported that they conducted in-depth reviews of work plans and actively influenced, via the selection criteria they established, the projects selected and funded by the states. Three other regional offices, however, reported limited to no involvement in reviewing the work plans and deferred to states' judgment on project feasibility and selection. The GAO found that the EPA had not provided its ten regions with guidance on how to oversee the state programs. (Appendix A, Row 26)
- A 2008 GAO memorandum stated that the Chesapeake Bay geographic program could take additional steps to establish a more independent peer review process that would further enhance the credibility and objectivity of the various reports published by the program. (Appendix A, Row 30)

Taking Timely and Effective Actions

Both the EPA OIG and the GAO identified instances in which stakeholders either took untimely or ineffective actions to address program goals. For example:

- A 2012 GAO report said that, in attempts to address nonpoint source water pollution, some states directed funding from section 319 of the Clean Water Act toward projects that did not achieve their objectives. Specifically, projects that relied on voluntary participation did not achieve goals when third-party buy-in was not secured in advance. Other projects used indirect approaches, such as community outreach, that did not have a clear connection to achieving tangible water quality results. (Appendix A, Row 26)
- A 2008 EPA OIG report noted that Chesapeake Bay wastewater treatment facilities risked not achieving a 2010 deadline for nutrient reductions if key facilities were not upgraded in time. The report stated that, as of the end of 2006, only Maryland could provide a schedule of plant upgrades but Maryland still could only report that construction was completed at two facilities. Pennsylvania and Virginia did not have schedules. To meet the deadline, these states needed to issue permits with enforceable milestones. (Appendix A, Row 33)

Resources

Identified in 3 of 49 reports

According to the Council of the Inspectors General on Integrity and Efficiency, the lack of adequate, predictable funding and staffing can negatively affect an agency's ability to meet its mission.* Within this theme, we identified one lesson for the EPA: identifying and prioritizing resources.

**Top Management and Performance Challenges Facing Multiple Federal Agencies* report, April 2018.

Identifying and Prioritizing Resources

In previous GAO and EPA OIG reports, we noted concerns about how scarce resources could impact stakeholder decisions about which work to prioritize and which grants to apply for, potentially deprioritizing certain environmental areas of need. For example:

- A 2020 GAO report examining the EPA's grants to tribes, including some grants assisting tribes under the Puget Sound Protection and Restoration Program, said that some tribes expressed concern that a lack of resources threatened their ability to operate tribal environmental programs. Officials from one tribe stated that they must use their resources to complete work prioritized by their grants, which is not necessarily the work that would address the highest-priority tribal needs, such as conducting mercury testing in fish or supporting monitoring programs to establish tribal water quality standards. (Appendix A, Row 3)
- A 2007 EPA OIG report stated that, in 2004, the Chesapeake Bay geographic program estimated that nearly two-thirds (or $18 billion) of the $28 billion allotted for the program's tributary strategies was needed to reduce nutrient loads from developed and developing lands. Funds had not been identified for the vast share of the anticipated need, however. Further, about two-thirds of the estimated $18 billion was for reduction efforts not required by regulations at that time; thus, these efforts would not have been a top priority for funding. (Appendix A, Row 34)

Reports Reviewed

Row	Report title	Report number	Report date
1	*EPA Needs an Agencywide Strategic Action Plan to Address Harmful Algal Blooms*	21-E-0264	9/29/21
2	*EPA Helps States Reduce Trash, Including Plastic, in U.S. Waterways but Needs to Identify Obstacles and Develop Strategies for Further Progress*	21-P-0130	5/11/21
3	*EPA Grants to Tribes: Additional Actions Needed to Effectively Address Tribal Environmental Concerns*	GAO-21-150	10/20/20
4	*Columbia River Basin: Additional Federal Actions Would Benefit Restoration Efforts*	GAO-18-561	8/24/18
5	*San Francisco Bay Delta Watershed: Wide Range of Restoration Efforts Need Updated Federal Reporting and Coordination Roles*	GAO-18-473	8/16/18
6	*Puget Sound Restoration: Additional Actions Could Improve Assessments of Progress*	GAO-18-453	7/19/18
7	*Long Island Sound Restoration: Improved Reporting and Cost Estimates Could Help Guide Future Efforts*	GAO-18-410	7/12/18
8	*Region 2 Needs to Improve Its Internal Processes Over Puerto Rico's Assistance Agreements*	17-P-0402	9/25/17
9	*Improved Management of the Brownfields Revolving Loan Fund Program Is Required to Maximize Cleanups*	17-P-0368	8/23/17
10	*Northwest Indian Fisheries Commission Complied With Most Federal Requirements but Claimed Some Unallowable Costs*	17-P-0184	4/24/17
11	*EPA Needs to Provide Leadership and Better Guidance to Improve Fish Advisory Risk Communications*	17-P-0174	4/12/17
12	*Grants Management: EPA Has Taken Steps to Improve Competition for Discretionary Grants but Could Make Information More Readily Available*	GAO-17-161	1/23/17
13	*EPA Region 9 Needs to Improve Oversight of San Francisco Bay Water Quality Improvement Fund Grants*	16-P-0276	8/22/16
14	*Grants Management: EPA Could Improve Certain Monitoring Practices*	GAO-16-530	7/14/16
15	*EPA Should Collect Full Costs for Its Interagency Agreements and Report Full Costs for Great Lakes Legacy Act Project Agreements*	15-P-0300	9/30/15
16	*Great Lakes Restoration Initiative: Improved Data Collection and Reporting Would Enhance Oversight*	GAO-15-526	7/21/15
17	*EPA Region 6 Mismanaged Coastal Wetlands Planning, Protection and Restoration Act Funds*	15-P-0003	10/9/14
18	*Ocean Acidification: Federal Response Under Way, but Actions Needed to Understand and Address Potential Impacts*	GAO-14-736	9/12/14
19	*Nutrient Pollution: EPA Needs to Work With States to Develop Strategies for Monitoring the Impact of State Activities on the Gulf of Mexico Hypoxic Zone*	14-P-0348	9/3/14
20	*EPA Should Improve Oversight and Assure the Environmental Results of Puget Sound Cooperative Agreements*	14-P-0317	7/15/14
21	*Environmental Benefits Being Considered in Award of Great Lakes Grants*	14-P-0004	11/5/13
22	*Great Lakes Restoration Initiative: Further Actions Would Result in More Useful Assessments and Help Address Factors That Limit Progress*	GAO-13-797	9/27/13
23	*Improved Internal Controls Needed in the Gulf of Mexico Program Office*	13-P-0271	5/30/13
24	*Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers*	GAO-13-242	4/12/13
25	*Examination of Costs Claimed Under EPA Cooperative Agreements CB-97324701 Through CB-97324705 Awarded to Alliance for the Chesapeake Bay, Inc.*	12-4-0720	8/22/12
26	*Nonpoint Source Water Pollution: Greater Oversight and Additional Data Needed for Key EPA Water Program*	GAO-12-335	5/31/12

Row	Report title	Report number	Report date
27	*Great Lakes National Program Should Improve Internal Controls to Ensure Effective Legacy Act Operations*	12-P-0407	4/9/12
28	*Chesapeake Bay: Restoration Effort Needs Common Federal and State Goals and Assessment Approach*	GAO-11-802	9/15/11
29	*EPA Needs a Cohesive Plan to Clean Up the Great Lakes Areas of Concern*	09-P-0231	9/14/09
30	*Recent Actions by the Chesapeake Bay Program Are Positive Steps Toward More Effectively Guiding the Restoration Effort, but Additional Steps Are Needed*	GAO-08-1131R	8/28/08
31	*EPA Needs to Accelerate Adoption of Numeric Nutrient Water Quality Standards*	09-P-0223	8/26/09
32	*EPA Needs to Better Report Chesapeake Bay Challenges: A Summary Report*	08-P-0199	7/14/08
33	*Despite Progress, EPA Needs to Improve Oversight of Wastewater Upgrades in the Chesapeake Bay Watershed*	08-P-0049	1/8/08
34	*Development Growth Outpacing Progress in Watershed Efforts to Restore the Chesapeake Bay*	2007-P-00031	9/10/07
35	*South Florida Ecosystem: Restoration Is Moving Forward but Is Facing Significant Delays, Implementation Challenges, and Rising Costs*	GAO-07-520	5/31/07
36	*Saving the Chesapeake Bay Watershed Requires Better Coordination of Environmental and Agricultural Resources*	2007-P-00004	11/20/06
37	*Chesapeake Bay Gateways Program: National Park Service Needs Better Accountability and Oversight of Grantees and Gateways*	GAO-06-1049	9/14/06
38	*EPA Grants Supported Restoring the Chesapeake Bay*	2006-P-00032	9/6/06
39	*EPA Can Better Implement Its Strategy for Managing Contaminated Sediments*	2006-P-00016	3/15/06
40	*Chesapeake Bay Program: Improved Strategies Are Needed to Better Assess, Report, and Manage Restoration Progress*	GAO-06-96	10/28/05
41	*Sustained Commitment Needed to Further Advance Watershed Approach*	2005-P-00025	9/21/05
42	*Grants Management: EPA Needs to Strengthen Efforts to Provide the Public with Complete and Accurate Information on Grant Opportunities*	GAO-05-149R	2/3/05
43	*South Florida Ecosystem Restoration: Task Force Needs to Improve Science Coordination to Increase the Likelihood of Success*	GAO-03-345	5/18/03
44	*Great Lakes: An Overall Strategy and Indicators for Measuring Progress Are Needed to Better Achieve Restoration Goals*	GAO-03-515	4/30/03
45	*South Florida Ecosystem Restoration: Substantial Progress Made in Developing a Strategic Plan, but Actions Still Needed*	GAO-01-361	3/27/01
46	*EPA's Great Lakes Program*	99P00212	9/1/99
47	*Environmental Protection: Collaborative EPA-State Effort Needed to Improve New Performance Partnership System*	RCED-99-171	6/21/99
48	*Water Pollution: Improved Coordination Needed to Clean Up the Great Lakes*	RCED-90-197	9/28/90
49	*A More Comprehensive Approach Is Needed To Clean Up the Great Lakes*	CED-82-63	5/21/82

Summary of IIJA Funding and Recommendations

Table B-1 summarizes the IIJA funds allotted for the 12 geographic programs and the National Estuary Program, along with the number of reports we reviewed that included findings relevant to each program.

Table B-1: Geographic programs and National Estuary Program IIJA funding and report content

EPA program	Total IIJA funding amount	Number of reports with program relevance*
Geographic programs		
Chesapeake Bay	$238,000,000	13
Columbia River Basin	$79,000,000	3
Great Lakes Restoration Initiative	$1,000,000,000	15
Gulf of Mexico	$53,000,000	7
Lake Champlain	$40,000,000	0
Lake Pontchartrain	$53,000,000	0
Long Island Sound	$106,000,000	1
Other geographic activities which includes Pacific Northwest**	$4,000,000	1
Puget Sound	$89,000,000	6
San Francisco Bay	$24,000,000	3
South Florida	$16,000,000	4
Southern New England Estuaries**	$15,000,000	0
National Estuary Program		
National Estuary Program grants	$132,000,000	10
TOTAL	**$1,849,000,000**	

Source: EPA OIG analysis of information in the IIJA and 49 selected EPA OIG and GAO reports. (EPA OIG table)

* Some reports were relevant to multiple EPA programs; thus, the tally of reports in this table exceeds 49.

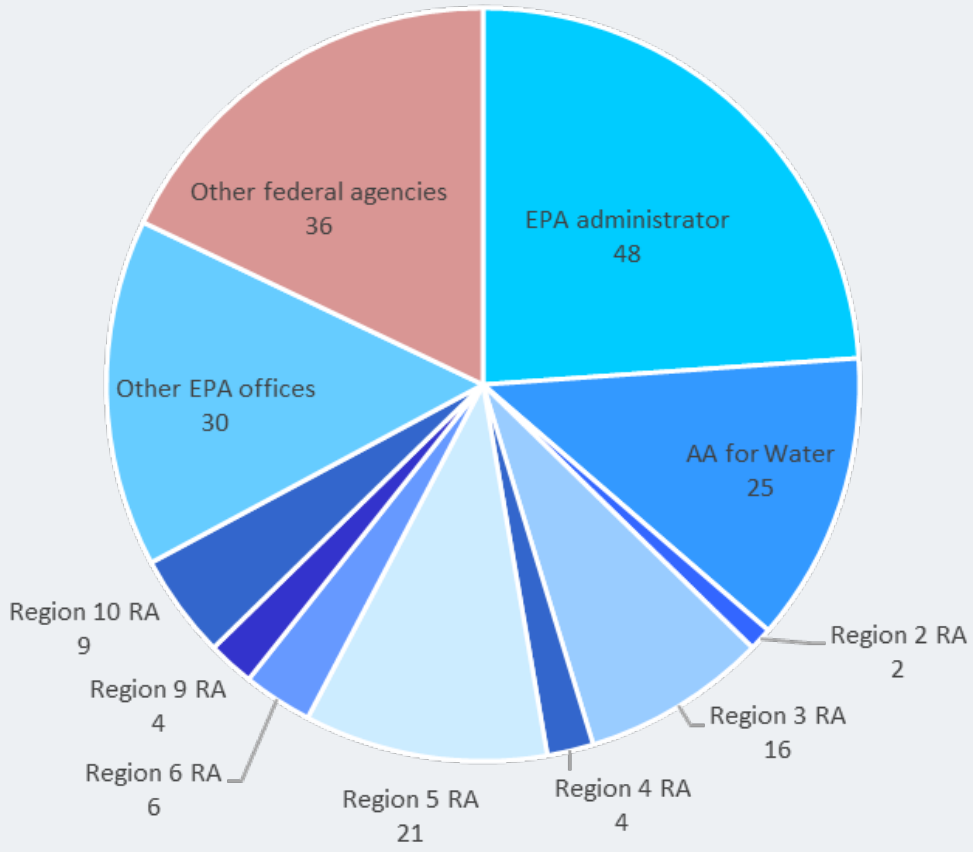
** The IIJA provides funding for the programs identified in Table B-1. However, the Pacific Northwest and Southern New England programs are referred to differently in other sources. For example, the EPA's website refers to the "Southeast New England Program," and the White House's *A Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal, and Territorial Governments, and Other Partners* refers to the "Northwest Forest" geographic program.

As shown in Figure B-1, the 49 reports we reviewed made 201 recommendations to a variety of entities, both internal and external to the EPA. Most recommendations were directed to various offices within the EPA. However, given the collaborative nature of the geographic programs and the National Estuary Program, some GAO reports included recommendations to other federal agencies. While most recommendations were implemented, we identified three EPA OIG reports with ten unimplemented recommendations,[1] and six GAO reports with open or closed but not implemented recommendations that were issued to the EPA or other federal agencies.[2] These reports and recommendations are listed in Appendix D.

[1] EPA OIG recommendations are characterized as "unimplemented" when the EPA and the EPA OIG agree on the recommendation and proposed corrective actions but when the corrective actions have not yet been completed, regardless of whether the expected completion dates for these corrective actions are in the past or the future. Unimplemented recommendations are also referred to as "open."

[2] The GAO defines "open" recommendations as those where actions to satisfy the intent of the recommendation have not been taken or are being planned or where actions that partially satisfy the intent of the recommendation have been taken. The GAO defines "closed but not implemented" recommendations as those where time or circumstances have rendered the recommendation invalid even though the intent of the recommendation had not been satisfied.

Figure B-1: Number of recommendations in reports by entity



Source: OIG analysis of sampled reports. (EPA OIG image)

Note: AA stands for assistant administrator and RA stands for regional administrator.

Scope and Methodology

We conducted this evaluation from April to August 2022 in accordance with the *Quality Standards for Inspection and Evaluation* published in December 2020 by the Council of the Inspectors General on Integrity and Efficiency. Those standards require that we perform the evaluation to obtain sufficient and appropriate evidence to support our findings.

We identified a sample of 49 EPA OIG and GAO reports and evaluated them for lessons relevant to the EPA's geographic programs and National Estuary Program (Appendix A). Not all reports we reviewed exclusively focused on the programs of interest. For example, some reports covered several grants, but not all of those grants may relate to one of the programs of interest for this evaluation. All 49 reports included findings or recommendations that were applicable to at least one geographic or estuary program. We reviewed these 49 reports to identify and summarize:

- Descriptive information, such as the date of publication and the applicable program.
- Key themes and significant findings.
- Unimplemented recommendations.

Unimplemented Recommendations

While most recommendations were implemented, we identified three EPA OIG reports with ten unimplemented recommendations, and six GAO reports with open or closed but not implemented recommendations. These recommendations were addressed either to the EPA or other federal agencies. The GAO reports included five open recommendations to the EPA, one closed but not implemented recommendation to the EPA, eight open recommendations to other federal agencies, and two closed but not implemented recommendations to another federal agency.

Report	Recommendation	Action official	Status as of June 2022
EPA OIG Reports			
EPA Needs an Agencywide Strategic Action Plan to Address Harmful Algal Blooms Issued 9/29/21 21-E-0264	1. Develop an agencywide strategic action plan, including milestones, to direct the EPA's efforts to maintain and enhance a national program to forecast, monitor, and respond to freshwater harmful algal blooms. This plan should incorporate strategies for: a. Identifying knowledge gaps. b. Closing identified knowledge gaps, particularly related to health risks from exposure to cyanotoxins in drinking water and during recreational activities. c. Monitoring and tracking harmful algal blooms. d. Enhancing the EPA's national leadership role in addressing freshwater algal blooms. e. Coordinating EPA activities internally and with states. f. Assessing the health risks from exposure to cyanotoxins in drinking water and during recreational activities and establishing additional criteria, standards, and advisories, as the scientific information allows.	Assistant Administrator for Water	Unimplemented
	3. Mindful that the EPA has substantial work to complete before publishing final numeric water quality criteria recommendations for nitrogen and phosphorus under the Clean Water Act for rivers and streams, establish a plan, including milestones and identification of resource needs, for developing and publishing those criteria recommendations.		
	4. Assess and evaluate the available information on human health risks from exposure to cyanotoxins in drinking water and recreational waters to determine whether actions under the Safe Drinking Water Act are warranted.		
EPA Helps States Reduce Trash, Including Plastic, in U.S. Waterways but Needs to Identify Obstacles and Develop Strategies for Further Progress Issued 5/11/21 21-P-0130	1. Evaluate the obstacles to implementing the Clean Water Act to control trash in U.S. waterways and provide a public report describing those obstacles.	Assistant Administrator for Water	Unimplemented
	2. Develop and disseminate strategies to states and municipalities for addressing the obstacles identified in the evaluation from Recommendation 1. These strategies may include guidance regarding how to develop narrative water quality criteria, consistent assessment and measurement methodologies, and total maximum daily loads for trash. pollution.		

Report	Recommendation	Action official	Status as of June 2022
Improved Management of the Brownfields Revolving Loan Fund Program Is Required to Maximize Cleanups Issued 8/23/17 17-P-0368	1. Develop a policy to reduce balances of available program income of Brownfields Revolving Loan Funds being held by recipients. The policy should establish a time frame for recipients to use or return the funds to the EPA.	Assistant Administrator for Land and Emergency Management	Unimplemented
	8. Develop and implement required training for all regional Brownfields Revolving Loan Fund staff. Have the training include all program policy and guidance relating to maintaining a Brownfields Revolving Loan Fund after the cooperative agreement is closed if program income exists.		
	13. Require regional project officers, through a policy, to be assigned and maintain information on all closed cooperative agreements with pre- and post-program income.		
	14. Develop and implement a method for the Office of Brownfields and Land Revitalization to track closed cooperative agreements with pre- and post-program income.		
	16. Create a method for the Office of Brownfields and Land Revitalization, and EPA regional managers, to track compliance with reporting requirements for closed cooperative agreements.		
GAO Reports			
EPA Grants to Tribes: Additional Actions Needed to Effectively Address Tribal Environmental Concerns Issued 10/20/20 GAO-21-150	1. The Associate Administrator of EPA's Office of Congressional and Intergovernmental Relations should update Performance Partnership Grant best practices guidance for tribes to clarify, for EPA and tribal staff, how PPGs operate, including that tribes may use PPG funds for any activity that is eligible under any grant eligible for inclusion in PPGs.	Associate Administrator for EPA's Office of Congressional and Intergovernmental Relations	Open
	5. The Principal Deputy Assistant Administrator of EPA's Office of Air and Radiation, the Assistant Administrator of EPA's Office of Water, and the Director of EPA's American Indian Environmental Office should update and nationally distribute guidance for project officers and tribes that clarifies documentation requirements and eligibility definitions for quality assurance project plans and the Indian Environmental General Assistance Program.	• Principal Deputy Assistant Administrator of EPA's Office of Air and Radiation • Assistant Administrator of EPA's Office of Water • Director of the EPA's American Indian Environmental Office	
Columbia River Basin: Additional Federal Actions Would Benefit Restoration Efforts Issued 8/24/18 GAO-18-561	1. The Administrator of the EPA should develop a program management plan that includes a schedule of the actions EPA will take and the resources and funding it needs to establish and implement the Columbia River Basin Restoration Program, including formation of the associated Columbia River Basin Restoration Working Group, and submit this plan to the appropriate congressional authorizing committees as part of the fiscal year 2020 budget process.	EPA Administrator	Closed - Not implemented
	2. The Director of OMB should develop and provide guidance on the types of projects and activities that agencies involved in the protection and restoration of the Columbia River Basin should include in their reports, as well as the processes they should follow in compiling the related budget and spending information.	Director of Office of Management and Budget	Open

Report	Recommendation	Action official	Status as of June 2022
	3. The Director of OMB should direct each federal agency involved in the protection and restoration of the Columbia River Basin to collect the information OMB needs for the interagency crosscut budget and to submit this information to OMB for inclusion in the interagency crosscut as part of the President's budget request for fiscal year 2020.		Closed - Not implemented
San Francisco Bay Delta Watershed: Wide Range of Restoration Efforts Need Updated Federal Reporting and Coordination Roles Issued 8/16/2018 GAO-18-473	2. The Secretary of the Interior should notify all participating entities to ensure they are aware of the Interim Federal Action Plan and their role in it.	Secretary of the Interior	Open
	4. The Chair of CEQ should notify all participating entities to ensure they are aware of the Interim Federal Action Plan and their role in it.	Chair of the Council on Environmental Quality	
	5. The Secretary of the Interior should coordinate with appropriate state entities to obtain and report the information available to meet the requirements under section 105 of the Calfed Bay-Delta Authorization Act (CALFED Act).	Secretary of the Interior	
	6. The Director of OMB should coordinate with appropriate state entities to obtain and report the information available to meet the requirements under section 106 of the CALFED Act.	Director of Office of Management and Budget	
	7. The Director of OMB should direct staff to update OMB's written guidance for federal and state agencies on submitting data for the budget crosscut reports OMB is required to submit under section 106 of the CALFED Act.	Director of Office of Management and Budget	
Puget Sound Restoration: Additional Actions Could Improve Assessments of Progress Issued 7/19/18 GAO-18-453	1. The EPA Region 10 Administrator should work with the management conference on future updates to the CCMP to help prioritize among the indicators that currently lack measurable targets and ensure that such targets are developed for the highest priority indicators where possible.	EPA Region 10 Regional Administrator	Open
Grants Management: EPA Could Improve Certain Monitoring Practices Issued 7/14/16 GAO-16-530	The EPA Administrator should direct OGD and program and regional offices, as appropriate, as part of EPA's ongoing streamlining initiatives and the development of a grantee portal, once EPA's new performance system is in place, to ensure that the Office of Water adopts software tools, as appropriate, to electronically transfer relevant data on program results from program-specific databases to EPA's national performance system.	EPA Administrator	Open
	The EPA Administrator should direct OGD and program and regional offices, as appropriate, as part of EPA's ongoing streamlining initiatives and the development of a grantee portal, to expand aspects of EPA's policy for certain categorical grants, specifically, the call for an explicit reference to the planned results in grantees' work plans and their projected time frames for completion, to all grants.		

Report	Recommendation	Action official	Status as of June 2022
Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers Issued 4/12/13 GAO-13-242	To improve the resilience of the nation's infrastructure to climate change, the Executive Director of the United States Global Change Research Program or other federal entity designated by the Executive Office of the President should work with relevant agencies to identify for decision makers the "best available" climate-related information for infrastructure planning and update this information over time.	Executive Director of the United States Global Change Research Program	Open
	To improve the resilience of the nation's infrastructure to climate change, the Executive Director of the United States Global Change Research Program or other federal entity designated by the Executive Office of the President should work with relevant agencies to clarify sources of local assistance for incorporating climate-related information and analysis into infrastructure planning and communicate how such assistance will be provided over time.		
	To improve the resilience of the nation's infrastructure to climate change, the Chairman of the Council on Environmental Quality should finalize guidance on how federal agencies can consider the effects of climate change in their evaluations of proposed federal actions under the National Environmental Policy Act.	Chairman of the Council on Environmental Quality	Closed - Not implemented

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