



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL



EPA as a High-Performing Organization

Summary Report: Fiscal Year 2015 Reviews of EPA's Measurement of Environmental Program Performance and Outcomes

Report No. 16-N-0180

May 19, 2016



Report Contributors:

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Abbreviations

EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
OIG	Office of Inspector General
OMB	Office of Management and Budget

Cover images: The cover depicts images from the covers of prior OIG reports issued during FY 2015 that are discussed in this summary report. (EPA OIG images)

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At a Glance

Why We Did This Review

This summary report consolidates findings from five Office of Inspector General (OIG) reports issued during fiscal year 2015 that express a common, significant theme—that the U.S. Environmental Protection Agency (EPA) needs to improve data quality and identify performance measures that drive program results. The Government Performance and Results Act Modernization Act of 2010 requires that federal agencies, including the EPA, ensure that progress toward the achievement of all agency goals is communicated to leaders, managers, agency employees and Congress; and made available on a public website of the agency.

This report addresses the following OIG goals:

- *Contribute to improved EPA business practices and accountability.*
- *Be responsible stewards of taxpayer dollars.*
- *Contribute to improved human health, safety, and environment.*

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Listing of [OIG reports](#).

Summary Report: Fiscal Year 2015 Reviews of EPA's Measurement of Environmental Program Performance and Outcomes

What We Found

In fiscal year 2015, the EPA OIG issued the five reports listed below that disclosed common gaps that the EPA has in establishing program goals and identifying metrics that enable the agency to measure the effectiveness and benefits of environmental programs.

The agency's need to measure performance and benefits of environmental programs or activities was a theme in several OIG reports issued in the past year.

- *EPA Needs to Demonstrate Public Health Benefits of Drinking Water State Revolving Fund Projects* ([15-P-0032](#))
- *Benefits of EPA Initiative to Promote Renewable Energy on Contaminated Lands Have Not Been Established* ([15-P-0198](#))
- *EPA Needs Accurate Data on Results of Pollution Prevention Grants to Maintain Program Integrity and Measure Effectiveness of Grants* ([15-P-0276](#))
- *EPA's Presidential Green Chemistry Challenge Awards Program Lacks Adequate Support and Transparency and Should Be Assessed for Continuation* ([15-P-0279](#))
- *EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality* ([15-P-0280](#))

These five reports, which covered various EPA offices, all identified control weaknesses in data accuracy and in the EPA's success in collecting and reporting accurate program performance data or program benefits. These control weaknesses impede the EPA's ability to show it has achieved results and produced a benefit from public funds. The OIG made recommendations in each of the reports, and those recommendations are either complete or the agency is taking action on them. Consequently, this summary report does not provide further recommendations.

This summary report communicates a recurrent theme from the five OIG reports, and does not represent an opinion on every EPA program. The OIG is issuing this report to communicate and raise awareness of trends from our work that can signal management challenges or weaknesses affecting the EPA's success in achieving environmental goals and results.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

May 19, 2016

MEMORANDUM

SUBJECT: Summary Report: Fiscal Year 2015 Reviews of EPA's Measurement of Environmental Program Performance and Outcomes
Report No. 16-N-0180

FROM: Arthur A. Elkins Jr.

A handwritten signature in black ink, appearing to read "Arthur A. Elkins Jr.", is written over the printed name.

TO: David Bloom, Deputy Chief Financial Officer

This is our final report on the subject review conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report represents the opinion of the OIG and does not necessarily represent the final EPA position. It is provided to inform you of trends identified in OIG reports issued during fiscal year 2015.

Action Required

Since there are no recommendations in this report, there is no requirement to respond. However if you would like to comment on this report, we will post your comments and our response on the OIG's public website. If you choose to respond, you should provide your response within 60 days from the date of this report as an Adobe PDF file that complies with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended.

We will post this report to our website at www.epa.gov/oig.

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Purpose

This summary report consolidates findings from five Office of Inspector General (OIG) reports issued during fiscal year (FY) 2015 that express a common, significant theme—that the U.S. Environmental Protection Agency (EPA) needs to improve data quality and identify performance measures that drive program results.

Background

The EPA's mission is to protect human health and the environment—air, water and land. The EPA, states, and local and tribal agencies work together to ensure compliance with environmental laws passed by Congress, state legislatures and tribal governments.

The Government Performance and Results Act Modernization Act of 2010 requires that federal agencies—including the EPA—ensure that agency progress toward the achievement of all goals is communicated to leaders, managers, agency employees and Congress; and made available on a public website of the agency. Agencies are required to report on results and express goals in objective, quantifiable and measurable form.

The Office of Management and Budget (OMB) is the implementation and enforcement arm of presidential policy governmentwide. OMB carries out its mission through five critical processes that are essential to the President's ability to plan and implement priorities across the Executive Branch.¹ OMB encourages agencies to allocate resources to programs and practices backed by strong evidence of effectiveness, while trimming activities that evidence shows are not effective. OMB advises that agency performance plans should be accompanied by a thorough discussion of existing evidence, both positive and negative, on the effectiveness of agency actions in achieving goals.

OMB Circular A-123, *Management's Responsibility for Internal Control*, provides guidance to federal managers on improving the accountability and effectiveness of federal programs and operations by establishing, assessing, correcting and reporting on internal control. The circular emphasizes management responsibility for establishing and maintaining internal control to achieve the objectives of effective and efficient operations, reliable financial reporting, and compliance with applicable laws and regulations. Management is to consistently apply the internal control standards to meet each of the internal control objectives and to assess internal control effectiveness.

¹ OMB's five critical processes are: budget development and execution, management-oversight of agency performance, coordination and review of all significant federal regulations by executive agencies, legislative clearance and coordination, and Executive Orders and Presidential Memoranda to agency heads and officials.

During FY 2015, the OIG issued five reports that shared a common theme: the EPA’s need to improve measurement of program performance, results or benefits. The five reports were:

Table 1: EPA OIG reports addressing need to improve measurement

Report no.	Report title	Date issued
15-P-0032	<i>EPA Needs to Demonstrate Public Health Benefits of Drinking Water State Revolving Fund Projects</i>	December 5, 2014
15-P-0198	<i>Benefits of EPA Initiative to Promote Renewable Energy on Contaminated Lands Have Not Been Established</i>	July 16, 2015
15-P-0276	<i>EPA Needs Accurate Data on Results of Pollution Prevention Grants to Maintain Program Integrity and Measure Effectiveness of Grants</i>	September 4, 2015
15-P-0279	<i>EPA’s Presidential Green Chemistry Challenge Awards Program Lacks Adequate Support and Transparency and Should Be Assessed for Continuation</i>	September 15, 2015
15-P-0280	<i>EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality</i>	September 16, 2015

Source: OIG analysis.

Scope and Methodology

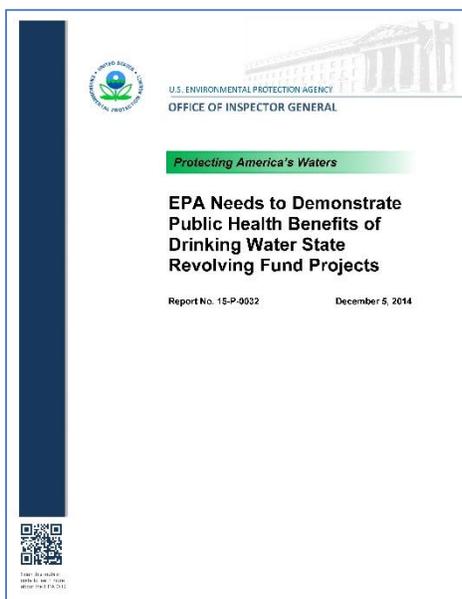
Our review focused on identifying any common findings or control weaknesses identified in the reports listed above. We also obtained information from the EPA’s Management Audit Tracking System on the status of open recommendations for the five reports reviewed. The work performed in this review is a summary report and does not constitute an audit in accordance with generally accepted government auditing standards.

Summary of Findings and Recommendations

Performance measurement is the ongoing monitoring and reporting of program progress and accomplishments, using pre-selected performance measures. Performance measurement shows how well a program is operating and if it is achieving environmental or other results. We identified five EPA OIG reports that shared a common theme. Specifically, the reports—which spanned across EPA offices—identified control weaknesses in data accuracy and in the EPA’s success in collecting and reporting accurate program performance data or program benefits. Details on each of the five reports follows.

Health Benefits of Drinking Water State Revolving Fund Projects

The 1996 Safe Drinking Water Act Amendments, in part, authorize the EPA to provide funding for capitalization grants to states. The EPA conducts annual reviews encompassing certain aspects of the states' programs. The EPA Drinking Water State Revolving Fund capitalization grant agreements direct states to inform the EPA about project-level data on a quarterly basis. The EPA grant conditions require that each state Drinking Water State Revolving Fund program provide public health protection results and progress in achieving program outputs and outcomes.

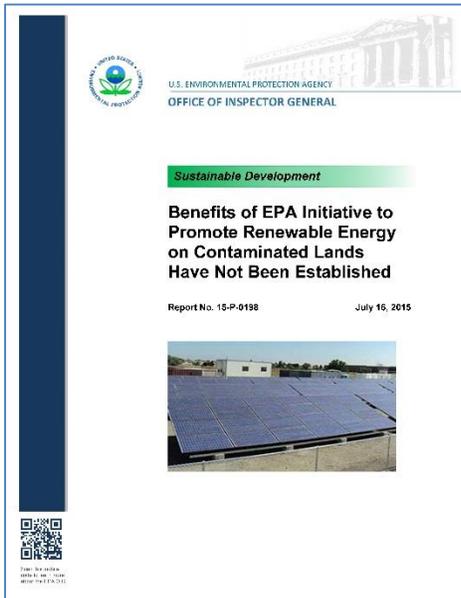


The report *EPA Needs to Demonstrate Public Health Benefits of Drinking Water State Revolving Fund Projects* found that the EPA does not obtain all required Drinking Water State Revolving Fund project data from states, despite capitalization grants that require states to input key project information into EPA databases. The EPA also does not always use annual reviews of state Drinking Water State Revolving Fund programs to assess project outcomes. Without this information, the EPA cannot determine whether completed Drinking Water State Revolving Fund projects contributed to improved drinking water quality and public health.

The OIG recommended that the Assistant Administrator for Water enforce grant requirements that states input all necessary data in the project-level tracking database and review data completeness as part of the EPA's annual review of state performance. The OIG also recommended that the EPA enhance coordination between Drinking Water State Revolving Fund and Public Water System Supervision programs, and periodically evaluate program results. Since report issuance, the EPA reports that all corrective actions are complete.

Initiative to Promote Renewable Energy on Contaminated Lands

In 2008, the EPA's Office of Solid Waste and Emergency Response (now the Office of Land and Emergency Management) launched the RE-Powering America's Land Initiative. Through this initiative, the EPA encouraged renewable energy development on current and formerly contaminated lands, landfills and mine sites (referred to hereafter as contaminated lands). According to the EPA, the siting of renewable energy on contaminated lands can reduce the demand for development on agricultural land, which protects watersheds and wetlands and provides habitat as well as raw resources and food.



In the OIG's report *Benefits of EPA Initiative to Promote Renewable Energy on Contaminated Lands Have Not Been Established*, we found that the EPA sets specific goals for its program activities related to promoting and providing education and outreach for siting renewable energy on contaminated lands through its RE-Powering America's Land Initiative. However, the EPA does not have a mechanism to measure the outcomes of accomplishing initiative goals, nor does it have information on the return on investment realized for the activities completed or resources the agency stated it has invested.

The OIG recommended that the EPA's Office of Land and Emergency Management determine whether the benefits from its renewable energy promotion efforts demonstrate the value of the RE-Powering initiative. If benefits cannot be demonstrated, the EPA should modify or terminate the

program. Further, the OIG recommended that if the EPA continues with this initiative, it should establish management controls to measure and report on progress, use available data to track and report on economic and environmental benefits realized, and refer participants to EPA guidance covering human health and environmental protection.

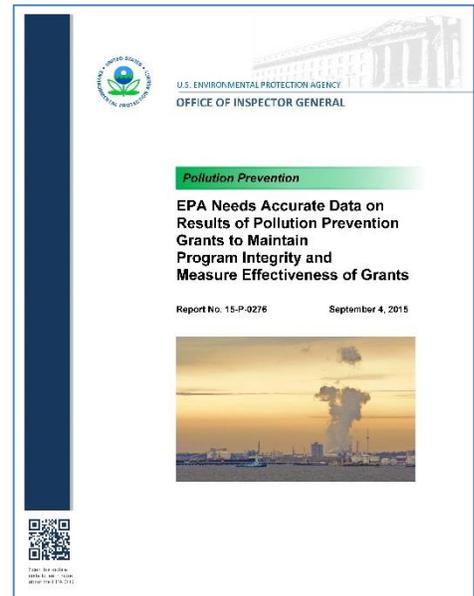
The agency agreed and provided planned corrective actions and estimated completion dates for all recommendations. Since report issuance, the EPA reports that corrective actions have been delayed for two of the recommendations and are ongoing for the remainder.

Integrity and Data Accuracy of Pollution Prevention Grants Program

Pollution prevention is any practice that reduces, eliminates or prevents pollution at its source, also known as "source reduction." Source reduction is fundamentally different and more desirable than recycling, treatment and disposal. The Pollution Prevention Act of 1990 found that the United States annually produced millions of tons of pollution, and spends tens of billions of dollars per year controlling this pollution. The Pollution Prevention Act authorizes the EPA to award grants to state governments.

The OIG report *EPA Needs Accurate Data on Results of Pollution Prevention Grants to Maintain Program Integrity and Measure Effectiveness of Grants* highlighted that the EPA is unable to determine the extent to which pollution prevention grants achieved pollution prevention goals. Neither headquarters nor the regions we reviewed consistently implemented EPA quality control guidance and practices when compiling pollution prevention grant results. In addition, we found reporting and transcription errors. Because of the lack of controls to ensure that results are reported accurately and consistently, we found that:

- Due to errors and inconsistent regional reporting, EPA headquarters significantly modified results reported by the grantees to EPA regions. For example, in our sample year of FY 2011, the regions reported over \$200 million saved by incorporating pollution prevention practices. We found headquarters reduced this amount of dollars saved by businesses by 58 percent. EPA headquarters revised initial results again 2 years later.
- Errors in the reporting of grants results occurred. For example, one region reported 17,000 gallons of water saved to headquarters instead of the 17,000,000 gallons actually reported by the grantee.
- Reporting guidance was not applied consistently. For example, reported FY 2011 results associated with one state pollution prevention leadership program were reported at 10 percent, whereas in the following fiscal year the results from the same activities were reported at 40 percent.



Inconsistent and arbitrary application of the measurement guidance hampers the agency's ability to accurately report reliable grant program results. This creates a risk for the integrity and value of the EPA's reported pollution prevention achievements and weakens confidence that the agency's pollution prevention goals have been achieved.

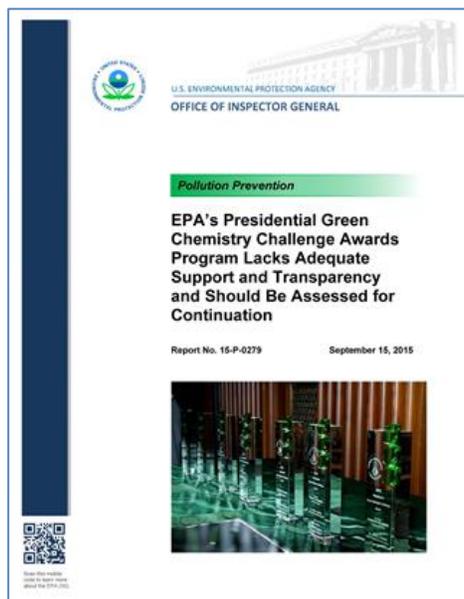
The OIG recommended that the Assistant Administrator for Chemical Safety and Pollution Prevention:

- Implement the pollution prevention GrantsPlus database to begin the process for enhancing the reporting and recording of its pollution prevention grants.
- Develop and implement controls to ensure accurate reporting of regional results to headquarters and documentation of revisions made by headquarters.

The EPA agreed with the recommendations and proposed acceptable corrective actions. Since report issuance, the EPA reports that all corrective actions are complete.

Presidential Green Chemistry Challenge Awards Program

The Presidential Green Chemistry Challenge Awards Program promotes the environmental and economic benefits of developing and using green chemistry. This awards program is one of several initiatives within the EPA's Pollution Prevention Program. The program stemmed from the 1995 National Partnership for Reinventing Government Initiative, and began issuing awards in 1996. Companies (including academic institutions and other nonprofit organizations) and their representatives are eligible to receive Presidential Green Chemistry Challenge Awards for outstanding or innovative source-reduction technologies.



The report *EPA's Presidential Green Chemistry Challenge Awards Program Lacks Adequate Support and Transparency and Should Be Assessed for Continuation* identified that Green Chemistry Awards results are self-reported by award recipients. The EPA does not verify or validate the results, and award recipients are not required to conduct any quality-assurance certification on results they report. Moreover, these self-reported results are included in the agency's summary of Pollution Prevention Program accomplishments. Green Chemistry Award results can be significant. For example, in FY 2012, the EPA exceeded its

target for metric tons of carbon dioxide equivalent (reduced or offset through pollution prevention) by slightly more than 200 percent. The success was attributed primarily to results self-reported by Green Chemistry Award winners.

Results achieved by award winners are from private companies and include international as well as domestic accomplishments. However, the EPA does not clearly state that the work from the Green Chemistry Awards was solely from private companies' self-reported results, and the agency lacks controls or procedures to separate or distinguish domestic results from international results. The inability to distinguish the results creates the risk of misrepresenting the source of the program's results and overstating results that would typically be perceived as exclusively benefiting the United States. Some applicants are attracted to the Green Chemistry Awards Program because of the EPA support and the presidential title. We found that Green Chemistry Awards lack presidential support; according to the EPA, the awards program was endorsed by an earlier administration but the program had not received that level of endorsement in several years. However, based on our findings, the EPA obtained renewed support from the White House Office of Science and Technology Policy.

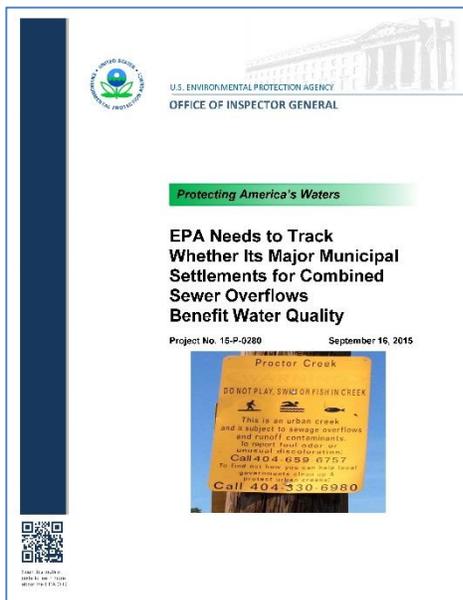
The OIG recommended that the Assistant Administrator for Chemical Safety and Pollution Prevention:

- Discontinue using data from the Presidential Green Chemistry Challenge Awards Program in the EPA's pollution prevention performance metrics until data quality controls are in place.
- Assess the need and value of the awards program for supporting agency goals.

The EPA agreed with the recommendations. The EPA reports that actions are complete for the first recommendation, with corrective actions underway to address the second recommendation.

Water Quality Benefits From Major Municipal Settlements for Combined Sewer Overflows

Combined sewers transport both sanitary sewage and stormwater runoff in a single-pipe system to a wastewater treatment facility. In dry weather, the flow in combined sewers consists only of sewage. However, during periods of high precipitation, a portion of the combined flow of stormwater runoff and sewage is discharged directly to surface waters (e.g., oceans, rivers, creeks, bays and streams). These discharges are combined sewer overflows.



In the report *EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality*, the OIG found that some communities under consent decrees are meeting project milestones, and there is evidence that combined sewer overflows have been reduced. However, the EPA is not tracking and assessing results from consent decrees or determining whether the consent decrees are leading to desired water quality improvements.

Consent decrees involve significant financial investments from ratepayers. Consent decrees also require communities to collect information to demonstrate progress in achieving results, including pollution reduction and meeting water quality standards. The EPA could compile information on consent decree compliance to develop a national assessment and view of the overall progress of its combined

sewer overflow enforcement efforts. However, without such an assessment, it is unknown whether billions of dollars invested in combined sewer overflow system changes and upgrades actually lead to the water quality improvements that the EPA anticipated and reported to Congress and the public.

The EPA lacks a national tracking system that consistently monitors combined sewer overflow consent decree results and improves oversight of the agency's regional tracking activities. The EPA also has not established an Annual Commitment System goal for regional consent decree tracking, which would allow EPA headquarters to incentivize consent decree tracking in regions. Further, the increased use of promising new technologies and public reporting can improve the efficiency of EPA oversight and its ability to demonstrate that associated water quality improvements result from the combined sewer overflow program. The OIG recommended that the Assistant Administrator for Enforcement and Compliance Assurance:

- Develop and report outcome-based goals and measures for the combined sewer overflow consent decrees.
- Develop a national consent decree tracking system for regional and headquarters use.
- Develop an Annual Commitment System goal that establishes regional goals for monitoring and reporting outcomes associated with combined sewer overflow consent decrees.
- Provide a public website for combined sewer overflow consent decree information.

After several meetings, the EPA provided the OIG with an acceptable corrective action plan with estimated completion dates. Since report issuance, the EPA has completed actions to develop an Annual Commitment System goal that establishes regional goals for monitoring and reporting outcomes associated with combined sewer overflow consent decrees. Actions are ongoing on the remaining recommendations.

Conclusion

The five OIG reports discussed in this report show similar gaps across the EPA in setting program goals and identifying metrics that enable the EPA to measure the effectiveness and benefits of environmental programs. To demonstrate that publicly funded programs produce useful benefits and results for the public, the EPA needs to establish measures that gauge program success. Each of the reports identified control weaknesses in data accuracy, and in the EPA's success in collecting and reporting accurate program performance data. These control weaknesses impede the EPA's ability to show that it has achieved results and produced a public benefit. The lack of program goals and metrics also affects management's ability to assess internal control effectiveness to achieve the objectives of effective and efficient operations in compliance with OMB Circular A-123. Improved program controls can create program improvements, facilitate accomplishment of program goals, and enable measurement of program outcomes.

Distribution

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