U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

Protecting America's Waters

EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality

Project No. 15-P-0280 **September 16, 2015**

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Report Contributors:

Kathlene Butler
Dan Engelberg
Julie Hamann
Gerry Snyder
Genevieve Borg Soule

Abbreviations

ACS	Annual Commitment System
CSO	Combined Sewer Overflow
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
GPRA	Government Performance and Results Act Modernization Act of 2010
NPDES	National Pollutant Discharge Elimination System
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General
OMB	Office of Management and Budget
OW	Office of Water

Cover photo: A faded sign at Proctor Creek in Atlanta, Georgia, warns of combined sewer overflow contamination. (OIG photo)

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U.S. Environmental Protection Agency
Office of Inspector General

15-P-0280
September 16, 2015

At a Glance

Why We Did This Review

We initiated this review to determine how selected municipalities are implementing actions, achieving milestones and achieving anticipated outcomes under the U.S. Environmental Protection Agency's (EPA's) stormwater enforcement initiative to address combined sewer overflows (CSOs). We also sought ways the EPA could improve the efficiency and effectiveness of its tracking efforts for this program.

The CSO program was intended to improve water quality through consent decrees with CSO communities. Based on EPA estimates, we calculate that consent decrees will eliminate at least 75 billion gallons of untreated CSO discharges each year and cost more than $32 billion. The EPA anticipates these actions will aid in the achievement of water quality standards—the objective of the CSO policy.

This report addresses the following EPA goals or cross-agency strategies:

- *Protecting America's waters.*
- *Working to make a visible difference in communities.*

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The full report is at: www.epa.gov/oig/reports/2015/20150916-15-P-0280.pdf

EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality

What We Found

We 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.

By tracking environmental results, the EPA can show how the $32 billion that communities are spending to address discharges of untreated sewage and contaminated stormwater improves water quality.

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 CSO enforcement efforts. However, without such an assessment, it is unknown whether billions of dollars invested in CSO 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 CSO 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 CSO program.

Recommendations and Planned Agency Corrective Actions

We recommended that the Assistant Administrator for Enforcement and Compliance Assurance (OECA) develop and report outcome-based goals and measures for the CSO 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 CSO consent decrees; and provide a public website for CSO consent decree information.

After we received OECA's corrective action plan, outlined in its July 30, 2015, response to the draft report, we held several follow-up discussions with the office. Based on our meetings and OECA's supplemental information, the corrective action plan meets the intent of the report's recommendations. All recommendations are considered resolved.

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

THE INSPECTOR GENERAL

September 16, 2015

MEMORANDUM

SUBJECT: EPA Needs to Track Whether Its Major Municipal Settlements for Combined Sewer Overflows Benefit Water Quality
Report No. 15-P-0280

FROM: Arthur A. Elkins Jr.

TO: Cynthia Giles, Assistant Administrator
Office of Enforcement and Compliance Assurance

This is our report on the subject evaluation conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

The EPA's Office of Enforcement and Compliance Assurance has primary responsibility for implementing the recommendations in this report.

In accordance with EPA Manual 2750, your office provided acceptable and complete planned corrective actions in response to OIG recommendations. All recommendations are resolved and no final response to this report is required.

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

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Chapter 1
Introduction

Purpose

The U.S. Environmental Protection Agency (EPA), Office of Inspector General (OIG), conducted this review to examine the EPA's efforts to address combined sewer overflow (CSO) enforcement. Specifically, the OIG addressed the following questions:

- How are selected municipalities implementing consent decrees issued under the EPA's enforcement initiative to keep raw sewage and contaminated stormwater out of the nation's waters, and are they achieving milestones and anticipated outcomes?

- What opportunities exist for the EPA to improve the efficiency and effectiveness of tracking the progress of consent decree implementation and outcomes?

Background

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 (CSOs).

CSO discharges of raw sewage can impair a state's water quality standards and impact designated uses, like fishing and swimming, in affected waters. In 2014, for example, a CSO event that occurred in the Potomac River in Washington, D.C., led to the cancellation of the swim portion of The Nation's Triathlon due to public health concerns.

The EPA's most recent 2004 CSO Report to Congress indicated that 828 Clean Water Act permits establish technology and water quality-based requirements for discharges from combined sewer systems to surface water. These combined sewer system permits under the National Pollutant Discharge and Elimination System (NPDES) provision are spread across 31 states and the District of Columbia.[1] In the 2004 report, the EPA estimated the combined systems with CSO discharges accounted for 850 billion gallons of contaminated discharge annually.

[1] Combined sewer communities may follow city, county or other municipal boundaries, like those designated by local water authorities.

EPA Has Taken Steps to Manage and Control CSOs

The EPA's Office of Water (OW) and the Office of Enforcement and Compliance Assurance (OECA) play complementary roles when it comes to CSOs meeting water quality standards.

In 1994, the EPA established a CSO policy that provides a comprehensive national strategy for the control of CSOs through NPDES permitting, water quality standards, and enforcement programs. The policy provides guidance to permittees on sewer system engineering and management controls, and developing and implementing a long-term CSO control plan as soon as practicable. Under the policy, permittees can develop long-term control plans to demonstrate how CSO communities would achieve compliance with Clean Water Act (CWA) requirements.

Congress amended the CWA by adding Section 402(q), which requires that each permit, order or decree issued pursuant to the CWA after the date of enactment for a municipal combined sewer discharge shall conform to the 1994 CSO Control Policy.

In 1998, OECA began a National Enforcement Initiative (CSO initiative) to focus enforcement action on cities that were not complying with their discharge permits and CSO policy. Since the initiative began, the EPA said it has targeted communities where CSOs have caused the most contamination of surface water. In OECA's 2011 strategy for this initiative, the EPA set a goal, which said OECA would address all large CSO communities by 2016. In their 2011 strategy, the agency identified 204 large CSO communities (those with more than 50,000 residents), and the number of large CSO communities grew to 213 by 2015. The EPA considers a CSO community "addressed" when the system is under an enforceable order, or is on a schedule to develop a long-term control plan that the EPA accepts.

Since 1998, the EPA has addressed 92 percent (196) of the 213 large CSO communities nationwide. Enforcement actions can include administrative orders and consent decrees. When the EPA uses consent decrees as enforcement tools, the agency, typically the state, and the U.S. Department of Justice negotiate and enter into a judicial consent decree with the municipality to bring about compliance.

Figure 1 shows the locations of CSO communities serving populations of 50,000 or more people. Red markers indicate CSO communities that the EPA has addressed through the initiative, and blue markers indicate CSO communities that have not yet been addressed.

Figure 1: Locations of addressed (red) and unaddressed (blue) large CSO communities

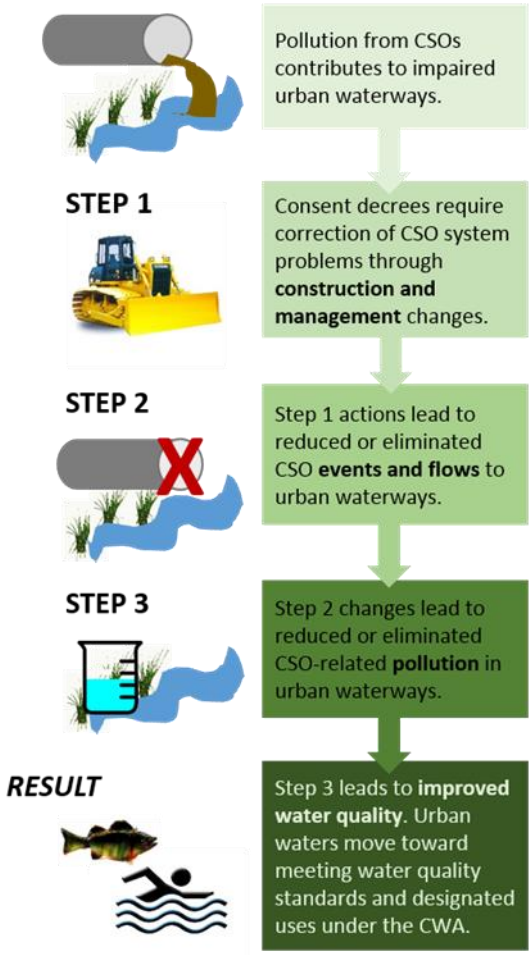
Source: EPA data.

Communities under Federal Consent Decrees

The EPA has addressed CSO issues through federal consent decrees in 47 communities. These cases are located in seven of the 10 EPA regions, and include both large (more than 50,000 residents) and small CSO communities. The average anticipated duration for a CSO consent decree is 13 years from the date of entry to the final construction date, and some existing consent decrees have been extended.

Figure 2 shows how consent decree milestones and actions are intended to lead to communities' compliance with the CSO policy and place them on the path to achieving water quality standards. Required infrastructure and management improvements include dozens of projects under each consent decree, and each decree is designed to achieve the overall goal of reducing the number and volume of CSO events. The EPA anticipates that fewer CSO events will mean reduced pollution to receiving waterways. The EPA expects that these actions will reduce impacts to communities' watersheds and sources of drinking water. Appendix B shows the goals for pollution reductions and the cost estimates associated with the CSO consent decrees in our sample.

Figure 2: CSO program consent decree steps to achieving results



Source: OIG analysis of OECA documents.

As communities work through consent decree projects, consent decrees require communities to submit progress reports to the EPA and to their respective states, where appropriate. Although reporting requirements vary by consent decree, reports are typically required to include information about accomplishing construction and management changes, and information on the resulting reductions in the number and volumes of CSO flows. Some consent decrees also require regular reporting on water quality components in CSO flows, like fecal coliform bacteria levels, metals, or other contaminants of concern.

Consent Decree Costs Require Ratepayer Investments

Consent decrees involve significant investments from ratepayers to bring about CWA compliance and to achieve associated improvements in water quality. Using EPA data, the OIG estimates that it will cost communities more than $32 billion to complete the required actions and penalties contained in the 47 consent decrees. The costs averaged $709 million per case, and ranged from $60,000 to $4.7 billion. Many municipal officials indicated that costs for consent decree actions typically lead to sewer rate increases for their customers. As such, in our opinion the EPA and municipalities bear a responsibility for demonstrating that these funds are spent in a way that achieves the results intended by the consent decrees (i.e., eliminating the unlawful discharge of raw sewage in an effort to improve water quality).

EPA Required to Plan and Manage Programs to Achieve Results

The EPA is required and advised to report on results and evidence of program effectiveness and results. The agency is subject to governmentwide guidance and policy, EPA guidance, and guidance specific to OECA. The Government Performance and Results Act (GPRA) Modernization Act of 2010 requires that federal agencies 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. The Office of Management and Budget (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.

Within OECA's internal programs, the *Guide for Addressing Environmental Problems: Using an Integrated Strategic Approach (2007)* describes a strategic approach for achieving improved compliance and better protection of human health and the environment. The guide reflects GPRA requirements by instructing national enforcement initiatives, like the one covering CSOs, to include measures and evaluation strategies to determine how well the EPA is achieving its goals.

Responsible Offices

Responsibility for implementing CSO programs at the EPA is shared among OECA, OW and the agency's regional offices. Within OECA, the Water Enforcement Division holds primary responsibility for implementing CSO enforcement work. Within OW, the Office of Wastewater Management holds primary responsibility for ensuring CSO policy is implemented in NPDES permits.

Scope and Methodology

We performed our work from August 2014 to June 2015. We conducted this performance audit 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 objectives.

To answer our objectives, we evaluated the nationwide CSO consent decree program by reviewing National Enforcement Initiative documents that set forth policies, goals and strategies. We also interviewed key EPA personnel in OECA, met with the National Association of Clean Water Agencies, and reviewed EPA databases for relevant enforcement and compliance information related to the wet weather National Enforcement Initiative.

In addition, we requested information regarding general monitoring practices to determine whether regions saw CSO consent decrees as on track nationwide. The EPA provided Excel spreadsheets with limited nationwide consent decree data. The information that OECA provided met our need to provide background and context for CSO consent decrees.

We requested information from seven EPA regions where CSO consent decrees exist (Regions 1, 2, 3, 4, 5, 7 and 10). Under this request, we asked the seven regional leads a set of questions related to their CSO consent decrees.

We reviewed nine specific consent decrees, including reports of results and public information, and interviewed municipal officials in nine of these communities. One community—Atlanta, Georgia—was selected based on congressional interest, whereas the other eight communities were selected randomly. The nine selected consent decrees included both large communities (more than 50,000 residents) and small communities (less than 50,000 residents). The randomly selected consent decrees included two from Region 1, one from Region 4, and five from Region 5.

We conducted a site visit to Atlanta, Georgia, to evaluate the Atlanta CSO consent decree. We reviewed the consent decree, and interviewed Region 4 personnel and officials involved in the monitoring and tracking of the consent decrees. We also interviewed officials from the Georgia Environmental Protection Division, the City of Atlanta Department of Watershed Management, the Chattahoochee Riverkeeper, and the South River Watershed Alliance.

Details on prior OIG reports are included in Appendix A. All consent decrees reviewed in preliminary research are listed in Appendix B.

Chapter 2
EPA Has Not Analyzed Existing CSO Data to Determine Environmental Results

Some CSO communities under consent decrees are achieving project milestones, and there is some evidence that CSOs have been reduced. However, the EPA has not analyzed this information nationwide, and there is little evidence or analysis about whether the outcomes anticipated from CSO consent decrees (i.e., reduced pollution in surface waters and achievement of water quality standards) are occurring.

The EPA could compile existing information on these outcomes to develop national reports on the overall progress of the CSO initiative. However, despite federal requirements and guidance to report on results and evidence of program effects and impact, the EPA has not yet done this for the 1998 CSO initiative. The EPA can improve its ability to efficiently oversee and manage consent decrees and demonstrate environmental results from the CSO consent decrees by creating a national tracking system and a related tracking goal, and by utilizing new technologies and public information.

Progress Is Being Made and CSO Events Are Being Reduced

In general, CSO communities under consent decrees are making progress toward meeting milestones and reducing CSO events and flows. Case managers in five of the seven regions monitoring CSO consent decrees reported that communities generally met milestones (Table 1). In addition, for CSO consent decrees signed after 2007, EPA enforcement and compliance data as of October 2014 show that 76 percent of consent decrees were in general compliance with all critical milestones.

Table 1: Regional survey responses on nationwide consent decree milestones and renegotiations

Region	Were milestones missed?	Have consent decrees required renegotiation?
1	No	Yes
2	Yes	No
3	Yes	Yes
4	No	No
5	Yes	Yes
7	No	Yes
10	No	No
Summary	*Yes: 3 regions* *No: 4 regions*	*Yes: 4 regions* *No: 3 regions*

Source: OIG survey of regional CSO case managers.

Within our sample, a local official from one CSO community, and a local senior manager from a second community, said they may not be able to complete some of their intended projects on schedule due to a lack of funds. Likewise, four of the seven EPA regions that manage CSO consent decrees told us that consent decrees in their region have required renegotiation, in part to address financial or timeframe problems. Communities and the EPA saw these

modifications as important to ensuring the effectiveness and affordability of consent decrees.

For the communities we reviewed, we found instances where progress reports that the communities submitted to the EPA indicated that the number and volume of CSO events are declining. For example:

- The Greater Lawrence (Massachusetts) Sanitary District, located on the Merrimack River, reported to the EPA that its 2007 consent decree reduced the number of CSO events in the area from 14 to an average of less than five per year, and reduced CSO flow volume by almost 60 million gallons per year.

- Atlanta, Georgia, which releases combined sewer flows to both the Chattahoochee River and Intrenchment Creek, reported that the city had reduced the number of CSO events from 80 to fewer than four per year since work began under its 1998 consent decree.

We discussed each of the consent decrees in our sample with officials from the regions and communities. Although the EPA has not analyzed ongoing results for the CSO consent decrees nationwide, we found that regions and municipalities were able to make case-by-case assessments of whether the consent decrees in our sample met milestones and reduced CSO flows.

Due to the long timeframe associated with consent decrees—decades in many cases—interim monitoring of results is necessary to determine if consent decrees are on track. The consent decrees we reviewed have an average duration of more than 10 years, ranging from 1 to 18 years. Over time, cities will experience population changes, infrastructure maintenance problems, funding issues, and other challenges that could affect their ability to achieve the results the CSO consent decrees initially projected. Because circumstances change over the course of CSO projects, the EPA needs to analyze and summarize interim monitoring data to assess whether the work completed under consent decrees and anticipated water quality improvements are on track.

EPA Has Not Evaluated Pollution Reduction or Water Quality Information Derived From Consent Decree Requirements

The EPA estimated the reduction in CSO flows that would result from many of the communities under consent decrees, but the agency has not evaluated whether the results anticipated from the consent decrees are being achieved. Based on the EPA's estimates, we calculated that these communities could eliminate 75.5 billion gallons of untreated sewage overflows each year, or about 8 percent of the estimated 850 billion gallons of untreated sewage released nationwide.

The EPA estimated pollution reductions for about half of the communities. Based

on the EPA's estimates, we calculated that the decreased combined sewer flows from these consent decrees could prevent more than 500 million pounds of pollutants from being discharged into the nation's waters. The pollutants include suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutant examples.

The CSO policy aims to improve water quality through improved CSO controls. In order to determine the extent of improvement in CSO controls and water quality, we believe that the EPA needs to analyze information about CSO consent decrees.

Pollutant Loading Data

Consent decree reports include information about construction and management milestones, the number and volume of CSO events, and some pollutant loading and water quality information. For our sample of 9 consent decrees, four communities collect and report water quality information, including one case involving levels of pollutants in CSO flows. In three of these four cases, the EPA had not analyzed the available data to determine whether permitted CSO flows met the consent decree-required water quality metrics.

Two CSO communities in our case study are required to submit discharge monitoring reports required under their NPDES permits. When CSO communities are required to report pollutant loading information about CSO flows to states, some states enter data into EPA data systems maintained by OW. However, the EPA has not used this data to assess the extent that CSO communities are reducing the pollutant load to receiving waters under the terms of their consent decrees. Without regularly tracking the amount of CSO pollution introduced into receiving waters, it is unclear whether sewage-related pollution in surface waters may have been reduced or eliminated as a result of CSO consent decrees.

Water Quality Impacts and Data From Consent Decrees

Correlating water quality changes with a specific EPA effort like the CSO consent decrees presents an analytical challenge to the EPA. The agency has acknowledged both the challenge and the necessity of meeting the challenge.

Our survey of the seven EPA regions with CSO consent decrees indicated that all of their CSO consent decrees require communities to collect some water quality data (Table 2). Four of the seven regions reported that they have not analyzed the data for evidence of water quality improvements. OECA said the data were likely required in Post Construction Compliance Monitoring Plans. OECA also said CSO communities generally did not develop these required plans until the later stages of the consent decrees, after the communities complete the design or implementation of final controls.

Table 2: Regional survey responses regarding nationwide consent decree water quality data

Region	***Do your consent decrees require water quality data collection?***	***Do you have evidence of water quality improvement?***
1	Yes	Yes
2	Yes	No
3	Yes	Yes*
4	Yes	Yes*
5	Yes	No
7	Yes	No
10	Yes	No

*Regions 3 and 4 responded "Yes," but on follow-up could not provide information describing water quality improvement during our evaluation..

Source: OIG survey of EPA regional CSO case managers.

OECA said that due to the length of consent decrees, not many communities had entered into this phase. Once completed, consent decrees require that these plans include both ambient and effluent water quality monitoring and all other appropriate assessments to determine whether the community complies with water quality standards. Of the 47 CSO consent decree communities, OECA data show that final construction should have already occurred in 11, and four additional consent decrees were within 2 years of completion.

Where post construction monitoring is occurring, CSO personnel in OW said they had conducted some preliminary reviews. OW personnel said that although small communities that have eliminated all CSOs have been successful, the limited post-construction monitoring results for larger communities indicate the communities may have to complete additional control measures to achieve desired water quality standards, even after completing implementation of their Long-Term Control Plans.

Of the three regions reporting that they had evidence of water quality improvement from consent decrees, only Region 1 provided documentation of that effort. Region 1 provided a report demonstrating improved water quality for Boston—one of the region's consent decree communities. Region 1 said the controls that Boston has implemented since it began work on its 2012 consent decree have resulted in a dramatic reduction of CSO discharges to the Charles River basin and correlate with water quality improvements in Boston Harbor.

Water Quality Data From Existing Monitoring Networks

All states maintain a water quality monitoring network. Data from these networks serve as the primary source of data for states to determine whether surface waters meet established water quality standards and intended uses. According to OECA, results of the states' assessments are compiled in the National Assessment Database. By collaborating with OW, which manages this data for the EPA, OECA could use this information to help correlate changes in water quality with the CSO upgrades that occur under consent decrees. For example, the EPA's 2004 Report to Congress on CSOs included a comprehensive assessment of CSO locations and impacts, which were based on a combination of EPA water quality data and modeling results. Using the most current assessments, the EPA could estimate whether the CSO enforcement initiative has contributed to improved environmental conditions.

The EPA has not developed sufficient program controls and processes to determine whether CSO changes are contributing to associated improvements in water quality as decades-long consent decrees progress. Without reviewing available data on water quality, it is unknown whether billions of dollars and decades of work put into CSO system changes have, in fact, led to the anticipated environmental improvements that the EPA has reported to Congress and the public in its annual results.

Enhanced Management Can Improve Oversight and Program Results

The EPA can better monitor its national CSO initiative, improve the consistency of tracking and oversight of regional tracking activities, and better manage the CSO program to achieve the needed pollution reductions. By establishing an Annual Commitment System (ACS) goal for regional consent decree tracking, EPA headquarters can prioritize consent decree implementation in regional offices, and guide regional activities toward tracking whether consent decrees are achieving intended environmental goals. Applying the EPA's Next Generation Compliance principles to this program in the form of new technologies and expanded transparency with the public can also improve CSO program effectiveness and efficiency.

National Consent Decree Tracking System Will Reduce Duplication and Improve Oversight

Through the development of centralized, standardized tracking and monitoring tools and resources, the EPA can help eliminate duplicate efforts occurring in the regions, improve information accessibility, and improve national consistency in tracking and overseeing consent decrees.

EPA headquarters has not established a national system to track specific consent decree milestones, CSO events, and CSO-related water quality information included in municipal reports. In the absence of a national data management system, each region has developed its own monitoring methods, leading to duplicate efforts across the seven EPA regions with CSO consent decrees. While some techniques are well-organized and comprehensive, others are not.

In some cases, regional case managers monitor and track consent decrees using individually prepared Microsoft Excel spreadsheets. We encountered a case where staff turnover occurred and case officers were not sure if they could retrieve information about an ongoing consent decree. Regional staff said they may miss whether a community meets a milestone date because staff did not receive notification of the approaching milestone. In some instances, files related to current consent decrees were stored off-site, which made accessing consent decree history difficult. Such occurrences create an inefficient and inconsistent system for conducting regional oversight of consent decrees and for EPA headquarters trying to oversee consent decrees in a nationally consistent manner.

We spoke with EPA regional staff and officials who expressed a need for improved tracking systems. For example, one region said the EPA's current consent decree tracking system (i.e., the Integrated Compliance Information System (ICIS)-NPDES database) is not "user friendly" and does not allow staff to track consent decree details needed for monitoring. Several EPA regional staff said that tracking efficiency would be enhanced by having an improved data management system that could house project documents, allow for more detailed milestone tracking, provide national tracking of scheduled milestones, and provide alerts for milestones.

EPA Could Prioritize Consent Decree Tracking and Progress Monitoring Through Annual Commitment System Goals

By establishing annual regional goals in the ACS for tracking CSO consent decree outcomes, the agency would improve the prioritization of consent decree monitoring in regional offices. Regions prioritize their work based on priorities set by EPA headquarters through ACS goals. Annual accomplishments by the regions are marked at EPA headquarters under the region's respective ACS achievements. By adding ACS goals associated with consent decree implementation and results, the EPA would demonstrate to regional offices that consent decree tracking is a priority.

New Technologies Can Improve Program Management

OECA is investing in a new approach toward compliance monitoring called "Next Generation Compliance." This initiative aims to use new monitoring technologies, electronic reporting, and expanded public information to improve the effectiveness of the EPA's compliance program.

Region 1 is using new technology to measure flows and volumes at CSO discharge locations for some consent decrees. In recent consent decrees, Region 1 required electronic monitoring devices so that communities can accurately estimate the size and design of CSO controls. Region 1 management estimated that the cost for installing electronic monitoring is $10,000 per device. Once consent decree requirements were set, Region 1 officials told one community that they could remove the monitors. However, the community elected to keep the monitors, since the monitors provide the public with real-time alerts of overflows that could impact public health.

Region 1 also reported that information from these systems would help the region prioritize its work. With real-time information about where overflows are occurring, Region 1 said it could better manage CSO oversight to address communities with the most pressing problems. The promising practice of utilizing electronic monitoring devices for CSO system planning, implementation and

monitoring could be replicated in other regions to improve CSO design, reporting and public information.

Region 5 officials said that while some communities in their region have good monitoring of their CSOs, monitors with real-time reporting are unusual. Region 5 officials said that Region 1's real-time data systems, which also include providing some data to the public, offer improved transparency over conventional systems.

Expanded Transparency for the Public Can Facilitate Oversight and Results

OECA documents (e.g., the OECA's Next Generation Compliance Initiative, the EPA's congressional budget justification, and OECA's strategy for addressing municipal infrastructure, including CSOs) emphasize providing meaningful information to the public about the progress being made under enforcement initiatives. OECA's strategy for addressing CSOs established a goal to provide, "information on EPA's website that will highlight the key strategy goals and results in a way that will matter to citizens." By providing information and a way to report concerns under CSO efforts, the EPA could leverage the interest of financially invested communities to help monitor whether consent decrees are achieving the results that the EPA has already reported, and that communities are funding with water and sewer bill payments.

The EPA's website for the CSO initiative describes problems caused by stormwater and sewer discharges, program goals, and identifies locations where the agency has addressed CSO communities through consent decrees or other activities. However, the EPA website for the CSO national enforcement initiative does not provide information about consent decrees or their progress and results.[2] The EPA provides consent decrees on a separate "Civil Cases and Settlements" website, but this site only provided consent decrees for two of the 9 communities in our sample. For three of the 9 communities, the consent decree was listed, but the link was not working during our evaluation.[3]

Neither of these EPA websites provided any consent decree progress reports to the public. Further, even though many of the CSO consent decrees have passed their anticipated conclusion dates, the CSO initiative website does not provide any information about ongoing or concluded consent decree progress toward solving the problem or achieving the program goal cited on the website.

OECA managers agreed that providing more public information would improve the EPA's ability to oversee the program, and the agency has agreed to provide such information under other consent decree programs like the National

[2] http://www2.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our
[3] http://cfpub.epa.gov/enforcement/cases/

Petroleum Refinery Initiative. By providing more information about municipal CSO consent decrees (including milestones and progress toward achieving intended environmental results), the EPA can meet its transparency goals, show how public funds are used to improve public conditions, and allow the public to be involved in monitoring progress and results.

Conclusion

Under consent decrees with the EPA, communities are spending more than $32 billion on projects to reduce and manage untreated sewage and contaminated stormwater discharge into water bodies so that communities can come into compliance with water quality standards. The EPA needs improved program controls so that it can assess and track the outcomes resulting from consent decree requirements.

Evaluating water quality impacts associated with consent decree activities has significant challenges. However, it is incumbent on the EPA to attempt this analysis given the large costs associated with consent decree execution, the need to protect water resources, and the need to support public confidence in EPA accountability.

Improved program controls can also create efficiencies and identify opportunities for program improvements. A national system would improve the efficiency of oversight by providing a consistent system for nationwide use. Because CSO consent decree tasks stretch out over years or decades, the EPA should take a long-term view of monitoring consent decree results that will allow the EPA to identify opportunities to adapt to changed circumstances and new information.

A national tracking system and a nationwide region-focused goal of tracking consent decree performance will improve the EPA's management capabilities, opportunities and efficiency. By increasing its reliance on next generation technologies, the EPA will be able to:

- Provide real-time information on sewage discharge events.
- Access more information that can be used by the EPA and CSO communities to prioritize work.
- Target limited resources effectively.
- Inform and sustain public confidence.

Recommendations

We recommend that the Assistant Administrator for Enforcement and Compliance Assurance:

1. Report annual results of the CSO enforcement initiative to the public using data collected under consent decrees, including CSO events and volume changes; pollutants emitted; and wherever possible, changes to quality in receiving water.

2. Develop a nationally consistent consent decree tracking and accountability system that includes:

    a. Consent decree milestones.
    b. Frequency of CSO events and changes in CSO volumes.
    c. Effluent and water quality data collected by states and communities at CSO outfalls.
    d. Wherever possible, water quality improvement of municipal impaired waters attributable to CSO upgrades.

3. Develop an ACS goal that establishes regional goals for monitoring and reporting outcomes associated with CSO consent decrees, in order to prioritize consent decree tracking in regional offices.

4. Provide information on a public website that links the public to CSO consent decree information, and links to information produced under the recommendation pertaining to progress and results.

Agency Comments and OIG Evaluation

The Assistant Administrator for Enforcement and Compliance Assurance provided a response to our draft report on July 30, 2015 (Appendix C). OIG staff also met with OECA officials on four subsequent dates to discuss the agency's responses. After these meetings, OECA provided a supplemental response to the draft report and proposed alternative corrective actions.

Based on information and discussions from our meetings, OECA provided a supplemental response further describing proposed corrective actions. In light of our discussions and the supplemental response, we accept the agency's corrective actions for all four recommendations. All recommendations are resolved and open with agreed-to corrective actions pending. The agency also provided technical comments that were incorporated into our report as appropriate.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in $000s)	
Rec. No.	Page No.	Subject	Status[1]	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	15	Report annual results of the CSO enforcement initiative to the public using data collected under consent decrees, including CSO events and volume changes; pollutants emitted; and wherever possible, changes to quality in receiving water.	O	Assistant Administrator for Enforcement and Compliance Assurance	12/01/15		
2	15	Develop a nationally consistent consent decree tracking and accountability system that includes: a. Consent decree milestones. b. Frequency of CSO events and changes in CSO volumes. c. Effluent and water quality data collected by states and communities at CSO outfalls. d. Wherever possible, water quality improvement of municipal impaired waters attributable to CSO upgrades.	O	Assistant Administrator for Enforcement and Compliance Assurance	4/01/16		
3	15	Develop an ACS goal that establishes regional goals for monitoring and reporting outcomes associated with CSO consent decrees, in order to prioritize consent decree tracking in regional offices.	O	Assistant Administrator for Enforcement and Compliance Assurance	2/28/16		
4	15	Provide information on a public website that links the public to CSO consent decree information, and links to information produced under the recommendation pertaining to progress and results.	O	Assistant Administrator for Enforcement and Compliance Assurance	4/01/16		

[1] O = Recommendation is open with agreed-to corrective actions pending.
C = Recommendation is closed with all agreed-to actions completed.
U = Recommendation is unresolved with resolution efforts in progress.

Prior OIG Reports

The OIG issued one report on CSOs and a series of reports on the national enforcement initiatives, including the CSO-related initiative. The OIG has also written extensively about incorporating program planning into the EPA's programs. Although most of these recommendations are considered complete, prior reports reflect findings similar to those identified in this evaluation, as well as other program improvement recommendations.

EPA OIG Report No. 2002-P-00012, *Wastewater Management: Controlling and Abating Combined Sewer Overflows*, issued August 26, 2002 (http://www.epa.gov/oig/reports/2002/csofinal.pdf), reviewed CSO control progress in Regions 1, 3 and 5. We found that many communities did not have the data to determine the effect of CSO controls on water quality. Most communities were only monitoring the number, volume and duration of CSO discharges, and did not have data on the effect CSO controls were having on the quality of receiving waters. This was because the EPA did not require monitoring until completion of CSO projects. Consequently, it could not be determined until it was too late whether each CSO project being undertaken was a wise investment of taxpayers' dollars. We recommended that the EPA work with CSO permitting authorities and communities to assure the performance of interim reviews regarding water quality, and take a leadership role in encouraging the use of watershed approaches and having states and communities work together to accomplish clean water.

At the time, the Assistant Administrator for Water disagreed with the recommendation in the draft report, which recommended that the EPA amend its CSO policy to require communities to perform interim reviews of the water quality impacts of CSO upgrade projects. Although he agreed with our contention that these reviews are often beneficial, he argued that it would be more expedient if the EPA achieved this by working with individual communities and permitting authorities, rather than implementing a policy change. The EPA reported the recommendations as complete in 2012.

EPA OIG Report No. 08-P-0278, *EPA Has Initiated Strategic Planning for Priority Enforcement Areas, but Key Elements Still Needed*, issued September 25, 2008 (http://www.epa.gov/oig/reports/2008/20080925-08-P-0278.pdf), reviewed strategic planning for the national enforcement priority areas now referred to as national enforcement initiatives. We found that the CSO priority strategic plan did not have a comprehensive set of performance measures that could provide a complete picture of program performance. Specifically, we found that the CSO priority plan did not include any outcome measures. At the time, we recommended that OECA issue a policy requiring a full range of performance measures with targets and timeframes. The EPA concurred with our recommendation. The planned completion date for this recommendation was April 2009. The EPA reported the recommendations as complete in 2009.

In 2004 and 2014, we reviewed the National Petroleum Refinery Initiative, another national enforcement initiative. In **EPA OIG Report No. 2004-P-00021, *EPA Needs to Improve Tracking of National Petroleum Refinery Compliance Program Progress and Impacts*, issued**

June 23, 2004 (http://www.epa.gov/oig/reports/2004/20040622-2004-P-00021.pdf), we found and reported that OECA's performance measurement and reporting approach for the national petroleum refinery program had not provided useful and reliable information necessary to effectively implement, manage, evaluate and continuously improve program results. We recommended that OECA develop clear overall refinery program goals. The EPA reported that the recommended actions were completed in 2009.

In **EPA OIG Report No. 14-P-0184, *EPA Needs to Demonstrate Whether It Has Achieved the Goals It Set Under the National Petroleum Refinery Initiative*, issued April 15, 2014** (http://www.epa.gov/oig/reports/2014/20140415-14-P-0184.pdf), we found the EPA had not analyzed the available facility data to determine whether the initiative achieved the established emissions-reduction goal. We also found the EPA did not place the same attention on monitoring initiative outcomes as it did on negotiating consent decrees. We reported that the EPA had replicated this enforcement model in other National Enforcement Initiative sectors, such as the Stormwater Initiative, and we said the EPA needed to know whether this enforcement approach produced intended outcomes. We recommended that OECA develop and implement a plan to assess whether the National Petroleum Refinery Initiative led to sustained improvement in compliance and sustained reductions in pollution among refineries. We also recommended that the EPA report the results of its efforts to the public. The recommendations were reported as complete in 2014.

Appendix B

Municipal CSO Consent Decrees Selected for Review

Consent decrees in our sample include the earliest signed consent decree (Atlanta, Ga.) from 1998, which was scheduled to conclude in 2014, and a recent consent decree (Ironton, Ohio) from 2009, which is scheduled to conclude in 2026. The anticipated duration of the consent decrees range from 1 year (Greater Lawrence Sanitary District, Mass.) to 18 years (Hamilton County, Ohio).

Although four consent decrees in our sample were scheduled to be completed by the end of 2014, none of the consent decrees in our sample have been terminated. In some cases, communities may have completed construction but are working through additional consent decree tasks. The sample consent decrees cover three of the seven EPA regions managing consent decrees nationwide, and generally reflect the distribution of CSO consent decrees between regions.

Municipality	EPA region	Date entered	Anticipated environmental benefits (estimated by EPA)	Estimated cost of injunctive relief	Final construction date	Duration (years)
Atlanta, Ga.*	4	12/20/1998	Reduction of 5.2 billion gallons of inadequately treated sewage per year	$2 billion	7/1/2014	16
Fort Wayne, Ind.	5	4/1/2008	Elimination of 175 tons of biochemical oxygen demanding materials; 350 tons of total suspended solids; and 2000 (2.0E15) trillion colony-forming units of fecal coliform.	$250 million	12/31/2025	17
Gloucester, Mass.	1	9/2/2005	Reduction of 26.4 million gallons of raw sewage overflows per year.	$9 million	12/31/2014	9
Greater Lawrence Sanitary District, Mass.	1	1/30/2007	Reduction of approximately 67 million gallons per year; 122,931 pounds per year.	$9 million	6/30/2008	1
Hamilton County, Ohio	5	6/9/2004	Reduction of 5.27 billion gallons from CSOs; Reducing the 6.2 billion gallons of	$3.29 billion	2/28/2022	18

			raw sewage discharged annually from the CSOs by at least 85% and the elimination of hundreds of millions.			
Ironton, Ohio	5	3/17/2009	Remedial measures in this consent decree will reduce the volume of overflows by approximately 1.38 million gallons per year, resulting in an annual reduction in discharges of approximately 115,084 pounds of BOD, and 460,336 pounds of TSS.	$12.5 million	12/31/2026	15
Louisville, Ky.	4	11/20/2008	Reduction in 4.5 billion gallons of average annual CSOs.	$800 million	1/1/2020	12
Port Clinton, Ohio	5	9/8/1999	No information available.	---	2006	7
Toledo, Ohio	5	12/19/2002	Reduction of 1 billion gallons of raw sewage overflows per year.	$433 million	8/31/2016; 1/1/2016	14
* Atlanta, Ga., was not randomly selected.						

Source: OECA data. Post-1994 concluded federal CSO case settlements.

Appendix C

Agency Response to Draft Report

July 30, 2015

MEMORANDUM

SUBJECT: EPA Comments on Draft Report: "*EPA Needs to Track the Extent Its Enforcement Work on Combined Sewer Overflows Keeps Raw Sewage and Contaminated Stormwater out of Nation's Waters and Benefits Water Quality*." Project No. OPE-FY14-0045 June 26, 2015.

FROM: Cynthia Giles, Assistant Administrator
Office of Enforcement and Compliance Assurance

TO: Arthur A. Elkins, Jr., Inspector General
Office of the Inspector General

We appreciate the opportunity to provide you with comments on the draft report *EPA Needs to Track the Extent Its Enforcement Work on Combined Sewer Overflows Keeps Raw Sewage and Contaminated Stormwater out of Nation's Waters and Benefits Water Quality.* EPA agrees that assuring that we accomplish the huge environmental benefits from this enforcement work is vitally important to reducing pollution from raw sewage and contaminated stormwater that threatens people's health and imperils our nation's waters. EPA appreciates the IG's finding that large pollution reductions are scheduled to result from EPA's enforcement actions, and that EPA is tracking implementation of these enforcement settlements, and that municipalities are largely on track to meet the milestones and the pollution reductions contained in the consent decrees.

As the IG's report points out, this national enforcement initiative was started back in 1998 to address the very serious problem of large volumes of raw sewage and contaminated stormwater flowing into our nation's waters. Exposure to raw sewage is a significant health threat both from direct exposure through contact with water in rivers and streams and beaches, as well as basement backups, and indirect contact through consumption of fish and shellfish that have been contaminated. In addition, these high volume discharges can threaten drinking water supplies as well as fish and other living organisms in our waters, and add to the nutrient and other pollution loading that causes poor water quality and harmful algal blooms.

EPA decided early on to focus on the largest contributors to discharges of raw sewage and set as a goal for this initiative getting the largest CSO municipal systems (population over 50,000) with raw sewage discharges under an enforceable schedule to significantly reduce or eliminate those discharges. We are very close to reaching that goal, which we think is a huge accomplishment for clean water in this country.

As the IG's report also notes, for some communities significantly reducing discharges of raw sewage can be a complicated and sometimes expensive undertaking. For that reason, the schedules set for this work can be long, sometimes 15 years or more. Thus, getting an enforceable schedule in place is only the first step toward cleaner and safer water; the essential next step is to ensure that the schedules are being adhered to and that the large volumes of raw sewage discharge are actually being significantly reduced. These are the benchmarks against which we measure our progress: getting the commitment to a schedule to reduce the pollution, usually through a federal consent decree, then assuring that the pollution actually is reduced and that the communities meet the required schedules.

The appropriate solution for each community is different, and EPA has worked hard to tailor our enforcement outcomes to the needs, challenges and finances of each community. In addition, EPA has incorporated the latest thinking on sensible management of stormwater and sewage, including adopting integrated planning and green infrastructure solutions into these schedules as is appropriate for each community. This is definitely not a one size fits all approach to enforcement.

The IG's report focuses on two main topics: how best to account for and measure the health and environmental benefits of this enforcement work, and some possible approaches to strengthening our oversight and monitoring of the consent decrees under which the work is being done. EPA agrees that these are important topics and appreciates the opportunity to engage with the IG about them.

The health and environmental benefits of the work

The IG's report acknowledges that the goal of EPA's enforcement work for this initiative was to establish an enforceable scheduled for these communities to significantly reduce the volume of discharges of raw sewage and contaminated stormwater and to ensure that these schedules are met. The IG's report notes that the intended result of the consent decrees is eliminating the unlawful discharge of raw sewage. The report also finds that communities under consent decrees are making progress toward milestones for reducing CSO events and flows. That is the objective of our enforcement cases and we are pleased that the IG's review finds success in achieving this important goal. In addition to this critical metric, the IG also explored whether there may be additional ways to demonstrate a connection to water quality improvement from this work.

Reducing discharges of raw sewage and contaminated stormwater into our nation's waters will certainly minimize exposure to pathogens and other health-threatening contamination. Multiple studies have confirmed both the seriousness of the present exposure pathways [1] and the benefit from reducing that pollution loading[2].

[1] National Beach Guidance and Required Performance Criteria for Grants, 2014 Edition, [EPA, 2014, EPA-823-B-14-001], http://www2.epa.gov/sites/production/files/2014-07/documents/beach-guidance-final-2014.pdf; Chapter 4: Faecal pollution and water quality, [WHO, 2003], http://www.who.int/water_sanitation_health/bathing/srwe1/en/

[2] Recreational water quality criteria [USEPA, 2012, 820-F-12-058], http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/RWQC2012.pdf

Because discharge of raw sewage is primarily a rainfall related event – i.e., it occurs largely when the amount of rain overwhelms the capacity of the storage and treatment system to process it – it is not well correlated with the established water quality monitoring systems[3]. This is why reductions in raw sewage loading are often not evident in ambient water quality monitoring data. However, the benefits of reductions in raw sewage discharges are evident in other types of monitoring, such as pathogen monitoring at beaches, and numerous studies have shown the public health benefits of reducing the discharge of those pollutants. Although pathogen monitoring reveals such public health benefits, it is impractical to conduct such large-scale monitoring because… Municipal CSOs, of course, are not the only source of pollution into our nation's waters, so work on other sources of pollution – both point and nonpoint – are important for achieving our water quality goals.

Established ambient monitoring for water quality by state and local governments typically does not focus on characterizing the impact of specific wet weather sources, so we do not support attempting to draw that connection. Ambient monitoring during precipitation events adds significant variability to the interpretation of data because of the number of point source activations (storm outlets, CSOs, etc.). Furthermore, nonpoint runoff increases depending on the magnitude of the storm, thus making it technically infeasible to determine the contributions of CSOs unless significant corollary analysis is undertaken [See Tiered Monitoring Plan in National Beach Guidance[4]]. However, EPA has a number of other means for tracking the pollution reductions from implementation of consent decrees. These include specific monitoring requirements for individual consent decrees and the post construction monitoring by the municipality that will occur after construction of the remedy is completed. As noted in the report, some consent decrees do include water quality monitoring requirements negotiated for case specific reasons, e.g., both the Atlanta and Toledo decrees have requirements for water quality monitoring.

The pollution reduction benefits of the consent decrees sometimes occur gradually throughout the implementation of the consent decree and sometimes they happen all at once after the necessary work is complete. For example, in some instances, a consent decree will require the construction of a storage tunnel. In such cases, pollutant reductions will not occur until the construction is complete and the tunnel becomes operational, a process that can sometimes take more than a decade to complete. Similarly, a consent decree can require separation of sewers into sanitary and storm sewers, which generally requires monitoring upon completion of the work, rather than at interim steps along the way. This approach is consistent with agency wide policy; EPA's 1994 CSO Policy and the Clean Water Act (the Wet Weather Quality Act of 2000 in section 402(q) requires that permits and enforcement orders shall conform with EPA's 1994 CSO Policy) specifically requires "Post-construction Compliance Monitoring" to be conducted at the end of a long-term control plan. For both of these reasons – it is often technically infeasible to determine the contribution of CSOs from established water quality monitoring, and sometimes the pollution reductions do not happen until close to the end of the CD schedule – interim

[3] 1) When data is reported, typically it is not reported whether it is raining during (or before) the sampling event; 2) During wet weather events, many sources may be impacting water quality, making it difficult to evaluate CSO contribution/reductions; and/or 3) Monitoring data may not be correlated with CSO events.
[4] National Beach Guidance and Required Performance Criteria for Grants, 2014 Edition, [EPA, 2014, EPA-823-B-14-001], http://www2.epa.gov/sites/production/files/2014-07/documents/beach-guidance-final-2014.pdf

measures of water quality progress are not a reliable or relevant measure of success. Including them would add expense and complexity to the implementation of the decree without adding information of scientific validity or relevance.

The metric that EPA can and does require municipalities to measure, and that is the best indicator of reduced pollution and protection of public health from raw sewage exposure, is the reduction in the number and volume of raw sewage discharges from the work required in the consent decree. As described above, during post-construction monitoring, the municipality will incorporate these CSO reductions into their hydraulic model (the model must continually be adjusted to account for changes in collection system). Dependent on numerous conditions, including precipitation patterns (i.e. how much rain in the city and where), the hydraulic model will indicate the average projected CSO reductions. Municipalities can then demonstrate from their hydraulic models how much CSO volume and numbers were cut per the required injunctive relief.

Because rainfall amount and intensity varies from year to year, the modeled number of CSO discharges from the upgraded systems after the construction required by the consent decrees is completed is the most reliable method for describing the pollution load reduction that will occur under different rainfall possibilities. The measured number of CSO discharges in any given year may be higher or lower than the year before based primarily on the weather; thus, it is the overall long-term trend and reduction that matters. What EPA is seeking to achieve is a system that is resilient to a variety of rainfall intensities and amounts. In any given year, a smaller number of CSOs could be either due to better system design or just a reduced amount of rainfall. The water quality impacts are predicted through modeling to normalize to a target level of precipitation. Conducting such modeling requires extensive flow monitoring in the system, which is expensive and time consuming. This is part of the reason that the CSO Policy relies on post-construction monitoring to provide the data necessary to run the model.

Because of the generally long implementation times of the consent decrees, we are only beginning to get to the post construction phase for any of these consent decrees. Most are many years away from that point. Some of the consent decrees that were originally scheduled to be complete by now are still in progress, pursuant to extensions they received based on new information, improved design or other factors. This is probably why the IG incorrectly assumed that EPA is not reviewing water quality information that it receives through consent decrees; the IG assumed that over ten consent decrees have reached the post-construction monitoring stage when, in fact, only a handful have reached this stage. Atlanta is one example, cited by the IG, where all of the long-term control plan work has been completed, post-construction water quality monitoring has occurred, and the review showed water quality improvements. As more consent decrees reach the post-closure stage, EPA will be closely following the requirements for post-construction monitoring.[5]

[5] The IG report also mentioned that DMR data might be an additional way to track progress on pollution reduction. There are occasional exceptions, but the majority of permits, and therefore DMRs, do not track CSO discharges, and are instead limited to the discharges directly from the sewage treatment facilities. Most DMRs therefore do not provide information on CSO volumes, which is the subject of the IG's inquiry.

What EPA committed to in this initiative, and what we think is an essential part of protecting public health and water quality, is reducing the discharge of raw sewage into our nation's waters. We think that the IG's review supports our view that the consent decrees are achieving that objective. That is the question that the IG set out to examine for this review, and we think the results are definitive that the initiative is meeting this important objective. As more consent decrees are completed, and post-construction monitoring is done, the evidence to support that finding will grow. For these reasons, we think that the IG's language in the heading and in the opening summary is misleading. It is incorrect to suggest that we do not know whether the CSO system upgrades that are the subject of this review are benefitting clean water. Rather, the consent decrees will result in reduced discharges of raw sewage and contaminated stormwater, the science and modelling and reporting under the decrees are designed to achieve and to monitor that, and the IG itself has found that we are on track to implementation of the consent decrees.

Strengthening monitoring of CSO consent decrees

The IG report supports what EPA has long said about this important work: under the consent decrees the number and volume of CSO events are declining. This is the measure of our work that is most important, and we agree that the consent decrees are having the desired impact. Having said that, we also agree that there are ways we can strengthen both our monitoring of the consent decrees and our public accountability for this work.

The current system for monitoring CSO consent decree compliance operates on three parallel tracks. The first is an ICIS-based system, developed in response to a previous IG report.[6] This system requires that major milestones of the consent decree, including completion of all consent decree requirements, payment of penalties, and completion of any Supplemental Environmental Projects, be entered in ICIS so that these critical consent decree requirements can be tracked and monitored. The ICIS-based system also requires a periodic review of compliance with all consent decree requirements, at least every three years. Consistent with this guidance, OECA and the Regions assure that achievement of the major critical milestones and overall consent decree compliance for CSO (and other) consent decrees are being tracked.

Second, OECA's commitment to review all consent decrees for compliance every three years is such a high priority for EPA that we have established a Government Performance and Results Act (GPRA) measure for the current EPA strategic plan. The GPRA target for this performance measure is 100% and we are very pleased to say that we meet or come very close to meeting that target every year. OECA already monitors regional performance on this important metric, and it is something that regions also track very closely. For this reason, adding an ACS measure for the identical work seems duplicative and unnecessary.

Third, every region has an additional system for monitoring the day-to-day oversight of the CSO consent decrees. Every consent decree requires regular reporting of progress toward the milestones in the decree. Failure to submit the reports, and failure to meet the milestones in the decree, subject the municipality to penalties and possible additional enforcement action. These

[6] This tracking system is described in the 2010 *Revised Guidance on Tracking Civil Judicial Consent Decree Implementation in ICIS*), developed in response to an earlier OIG Audit Report, No. 2001-P-00006.

regional tracking systems have worked very well to monitor progress. We are pleased that the IG recognized this in finding that regions are able to make case-by-case assessments of whether the consent decrees met milestones and reduced CSO flows.

Although we do have a national system that is doing an effective job tracking performance and compliance, we agree that there is still room for improvement. We agree with the OIG that it is important to continue to work to ensure effective and timely implementation of consent decree obligations. We think that sharing of best practices for tracking implementation across regions would be a valuable addition to our approach. Regions are acutely aware of the large amount of resources they devote to this important tracking work, and ways to make this more effective and more efficient will be widely embraced. EPA has also identified some ways to make implementation and monitoring of consent decree compliance more cost effective[7]. As consent decrees are reopened to address scheduling problems, incorporation of green infrastructure, and other issues, EPA intends to bring these ideas to the table, so we can modernize and update some of the older consent decrees. That will also be an ideal time to explore some of the newer monitors that can measure CSO discharges that some communities are experimenting with now and that may prove to be a cost-effective monitoring strategy for both EPA and the communities themselves. These new monitors may allow communities to collect data from CSO discharges that, when paired with data on rainfall levels, other dischargers, and water quality, may be useful for assessing water quality improvements.

In an ideal world, OECA would also agree that developing a national data system and approach for tracking of the CSO consent decrees would be a helpful addition. However, OECA's budget has been cut every year for the past five years, and we do not currently have or expect to receive funds sufficient to establish such a system. As the IG has found that we are effectively tracking consent decree implementation, and that municipalities are largely meeting the obligations under EPA's oversight, a national tracking system, while desirable, is clearly not necessary to ensuring that the important work is getting done. Because the IG's own review does not indicate that such a system is essential to the work, and because OECA cannot afford such a system, EPA respectfully disagrees with this recommendation.

EPA appreciates the IG's observation that information is not available to the public on all of the consent decrees. Transparency is an important element of EPA enforcement work, and we agree that improvements can be made to the presentation of CSO consent decree information on existing web pages. As the study found, older consent decrees may have broken links or predate our present system for posting all new decrees, settlements and consent decree amendments. EPA agrees to make these improvements.

For your consideration, we have also included a Technical Comments attachment.

[7] Guidance on Streamlining Oversight in Civil Settlements (*Guidance is Privileged and Confidential*), http://intranet.epa.gov/oeca/oce/io/documents/finalstreamliningmemo11013.pdf

OIG Recommendations:

No.	Recommendation	Agency Explanation/Response	Proposed Alternative
1.	*Report annual results of the CSO enforcement initiative to the public using data collected under consent decrees, including CSO events and volume changes; pollutants emitted; and wherever possible, changes to quality in receiving water.*	• Every consent decree is different and most do not have annual information of the type suggested here, as described more fully in the comments above. • OECA currently reports to the public on the results of the CSO portion of the Municipal Infrastructure National Enforcement Initiative" via its National Enforcement Initiative website: http://www2.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our. OECA report on progress made in addressing the universe of Large CSS's, provides a map indicating which CSS's have and have not been addressed, and provides information on the most recent CSO enforcement cases. The enforcement case information is updated as new cases conclude, and the entire website is updated annually.	The Office of Civil Enforcement and Compliance Assurance will continue to update the CSO results portion of the Municipal Infrastructure National Enforcement Initiative" via its National Enforcement Initiative website: http://www2.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our.
2.	*Develop a nationally consistent consent decree tracking and accountability system that includes:* *a. Consent decree milestones.* *b. Frequency of CSO events and changes in CSO volumes.* *c. Effluent and water quality data collected by states and*	• OIG found that progress is being tracked on a case by case basis. • Effective tracking may be achieved with different levels of effort in different regions depending on the number and complexity of decrees in that region. • Water quality data collected by states and community groups are not tailored to evaluating CSO impacts.	Work with the regional offices to identify and then share best practices for tracking of CSO consent decree milestones to ensure that case specific milestones are being met.

	communities at CSO outfalls. *d. Wherever possible, water quality improvement of municipal impaired waters attributable to CSO upgrades.*		
3.	*Develop an ACS goal that establishes regional goals for monitoring and reporting outcomes associated with CSO consent decrees, in order to prioritize consent decree tracking in regional offices.*	EPA already has an effective GPRA (Government Performance and Results Act) measure tracking whether we are reviewing Consent Decrees in accordance with our 2010 consent decree tracking guidance. This measure is effective in focusing regional attention on this important work. Adding an ACS measure to the same effect would be duplicative.	OECA will continue to monitor and report on the GPRA measure for regional attention to consent decree tracking.
4.	*Provide information on a public website that links the public to CSO consent decree information, and links to information produced under the recommendation pertaining to progress and results.*	OECA agrees that it would be beneficial to review our web pages to seek improvements. As the study found, older consent decrees may have broken web links or predate our present system for posting new decrees, settlements and consent decree amendments online. EPA also agrees that EPA should continue its ongoing efforts to make settlement agreement monitoring and reporting more efficient and effective to ensure compliance.	Review and improve OECA web pages that provide public access to CSO consent decrees, amendments, and other settlement documents to ensure better transparency with regards to consent decree milestones, progress and compliance.

Appendix D

Agency's Supplemental Response to Draft Report

OECA Supplemental Response to Draft OIG Report: *"EPA Needs to Track the Extent Its Enforcement Work on Combined Sewer Overflows Keeps Raw Sewage and Contaminated Stormwater out of Nation's Waters and Benefits Water Quality, Project No. OPE-FY14-0045*

Proposed EPA Alternatives for Recommendations:

- **Based on OECA-OIG discussions of 8/26/15, 9/2/15, 9/3/15, and 9/8/15**

OIG Recommendations:

No.	Recommendation	OECA Proposed Actions to Address Recommendation	Completion Date
1.	*Report annual results of the CSO enforcement initiative to the public using data collected under consent decrees, including CSO events and volume changes; pollutants emitted; and wherever possible, changes to quality in receiving water.*	• As a component of OECA's FY 2015 end-of-year reporting effort, update the CSO results portion of the Municipal Infrastructure National Enforcement Initiative (NEI) via the OECA National Enforcement Initiative website: http://www2.epa.gov/enforcement/national-enforcement-initiative-keeping-raw-sewage-and-contaminated-stormwater-out-our. • Supplement the CSO portion of the Municipal Infrastructure National Enforcement Initiative website by adding a link to a table of the CSO facilities with federal judicial Consent Decrees presented on the National Enforcement Initiative website map (including facility name, location, addressed status, link to facility on the ECHO Website, link to the Consent Decree, date CD was entered, date Region projected terms of CD will be completed, projected estimated environmental benefits (lbs and gallons), and projected estimated cost of compliance).	December 1, 2015
2.	*Develop a nationally consistent consent decree tracking and accountability system that includes:* *a. Consent decree milestones.* *b. Frequency of CSO events and changes in CSO volumes.* *c. Effluent and water quality data collected by states and communities at CSO outfalls.* *d. Wherever possible, water quality improvement of municipal impaired waters attributable to CSO upgrades.*	*Proposed alternative action:* • As an interim measure, pending the outcome of the effort described immediately below, make available to the public the current data collected by OECA for the GPRA measure on the overall compliance status of CSO consent decrees. Publish this data in a public-friendly format, identifying EPA's determination of consent decree compliance status for each NEI CSO under a consent decree. • Establish an OECA/Regional group to: determine how best to obtain and relay the compliance status of individual federal judicial CSO consent decrees to the public; and, review the current approach for regularly determining the overall compliance status for each open CSO consent decree and revise as needed to support relaying CSO consent decree compliance status to the public. Initiate efforts to implement any agreed upon course of action.	April 1, 2016
3.	*Develop an ACS goal that establishes regional goals for monitoring and reporting outcomes associated with CSO consent decrees, in order to*	*Proposed alternative action:* • Emphasize in the FY 2015 Updates and Clarifications memorandum the need for the EPA Regions to monitor and report for the GPRA measure that concerns consent decree tracking.	February 28, 2016

	prioritize consent decree tracking in regional offices.	• Convene a meeting with senior EPA enforcement management to examine the existing EPA approach and measure for reviewing consent decree compliance tracking to revise or develop new approaches and/or metrics as appropriate to assure adequate accounting for this enforcement work and initiate efforts to implement any agreed upon course of action.	
4.	*Provide information on a public website that links the public to CSO consent decree information, and links to information produced under the recommendation pertaining to progress and results.*	• See Proposed Actions for recommendation 2, above.	April 1, 2016

Appendix E

Distribution

Office of the Administrator
Assistant Administrator for Enforcement and Compliance Assurance
Deputy Assistant Administrator for Water
Agency Follow-Up Official (the CFO)
Agency Follow-Up Coordinator
General Counsel
Associate Administrator for Congressional and Intergovernmental Relations
Associate Administrator for Public Affairs
Principal Deputy Assistant Administrator for Enforcement and Compliance Assurance
Deputy Assistant Administrator for Enforcement and Compliance Assurance
Principal Deputy Assistant Administrator for Water
Audit Follow-Up Coordinator, Office of Enforcement and Compliance Assurance
Audit Follow-Up Coordinator, Office of Water