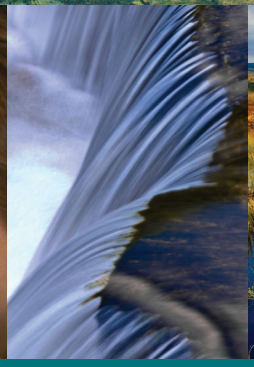
EPA

Office of Water

National Water Program

Best Practices and End of Year Performance Report

Fiscal Year 2013



March 2014

This report is based primarily on FY 2013 end-of-year performance data reported by states, tribes, and EPA regional and headquarters offices. The report presents materials and analysis developed in December 2013 and January 2014 by EPA headquarters and regional staff working together on Subobjective Teams. These materials provided data on progress toward environmental and public health goals of key program activities, along with management challenges in meeting or not meeting program commitments. Much of this work is accomplished through grants, and this report serves as the Office of Water's primary summary of progress under the Environmental Results Grants Order.

This report includes four key elements:

- An overview of FY 2013 national performance results and trends for all National Water Program measures.
- Highlights of performance trends for key commitment measures.
- Descriptions of innovative approaches and best practices in program implementation.
- An appendix of FY 2013 national commitments and results for environmental and program-related measures.

Additional information on the performance highlights and challenges for each subobjective area is available on the Internet at http://water.epa.gov/resource_performance/performance/. In addition, the website includes an overview of the National Water Program measure universe and a detailed appendix with historical data on national and regional commitments and results for all performance measures.

Program Contacts

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INTERNET ACCESS: This *FY 2013 National Water Program Best Practices and End-of-Year Performance Report* and supporting documents are available at: http://water.epa.gov/resource_performance/performance/index.cfm.

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National Water Program FY 2013 Performance Results

Executive Summary

Overview

EPA met **69%** of its commitments for all National Water Program performance measures in FY 2013. About **29%** were not met; for **2.3%**, either not enough data were available to assess progress or no reporting was expected by the end of the fiscal year. The FY 2013 results represented a decrease in the number of measures met from the previous year's results (80%). Other overarching highlights include:

- The national core drinking water and water quality programs were more successful than the geographic-based aquatic programs in meeting their commitments in 2013 **(71% vs. 65%)**. This was the reverse of the previous year's results, where 76% of the core program measures met their annual commitments compared to 87% of the geographic-based programs.
- Programs under the Mexico Border, Chesapeake Bay, Wetlands, and Great Lakes subobjectives were most successful in meeting their commitments.
- On average, **79%** of performance commitments set by the EPA regional offices were met in 2013, while **20%** of commitments were missed. This was a noticeable decline over the previous year's results of 87% met.

Protect Public Health

EPA met **71%** of its commitments for all drinking water measures in FY 2013. Of these:

- Approximately **92%** of the population was served by community water systems (CWSs) with drinking water that met all applicable health-based drinking water standards (commitment 92%).
- Ninety-one percent **(91%)** of the cumulative amount of Drinking Water State Revolving Funds (DWSRFs) available had loan agreements in place (commitment 89%). EPA has met its commitments for this measure six years in a row.

EPA did not meet **23%** of its drinking water commitments in FY 2013. A key challenge confronted by EPA and states:

- Approximately **93%** of community systems received sanitary surveys last year, falling short of the Agency's stretch goal of 95%.

For coastal and Great Lakes beaches monitored by state-based beach safety programs, EPA is reporting that **96%** of days of the beach season were open and safe for swimming (FY 2013 commitment 95%). EPA has consistently met this commitment over the past six years.

Restore and Improve Fresh Waters, Coastal Waters, and Wetlands

EPA met **67%** of its commitments under the Water Quality subobjective in FY 2013 and fell short on **30%**; data were not available for **3%**. The percentage of commitments met declined in FY 2013 over the FY 2012 results (79%). Performance highlights include:

- **3,679** of the waters listed as impaired in 2002 met water quality standards for all the identified impairments in FY 2013 (commitment 3,608). Of a universe of 39,503 waterbodies, 9.3% were attaining water quality standards by the end of FY 2013.
- For the sixth consecutive year, EPA and states achieved the national goal of having current National Pollutant Discharge Elimination System (NPDES) permits in place for **89.7%** of non-tribal facilities (FY 2013 commitment 88%). EPA and authorized states fell short, however, in meeting the annual national commitment for issuing high-priority permits.
- EPA and states made significant gains in documenting the full or partial restoration of waterbodies that are impaired primarily by nonpoint sources. Nationally, EPA exceeded its commitment (468), with **504** waterbodies that were partially or fully restored.
- The Clean Water SRF utilization rate reached **97%** in 2013. Of the $105.1 billion in funds available for projects through 2013, $100 billion have been committed to 33,325 loans. Project assistance reached $4.6 billion, which funded 1,477 loans in a single year.

EPA faced several management challenges in restoring and improving freshwater quality in FY 2013. These include:

- For the first time in five years, states and territories did not meet the national commitment for submitting new or revised water quality criteria acceptable to EPA that reflect new scientific information (**32** vs. 36 states/territories).
- EPA approved **82%** of water quality standard revisions submitted by states and territories which for the first time in six years fell below the national commitment (87%)

The 28 National Estuary Programs (NEPs) and their partners protected or restored almost **127,000 acres** of habitat within the NEP study areas—27,000 acres above the goal of 100,000 acres. The 28 NEPs played the primary role in directing $1.3 billion in additional funds toward Comprehensive Conservation and Management Plan implementation (leveraged from approximately $21 million in EPA Section 320 and earmark funds).This represents a **ratio of $39 raised for every $1** provided by EPA, which exceeds the historic ratio of $15 to $1 measured over the 2003–2012 period.

EPA, in partnership with the U.S. Army Corps of Engineers, states, and tribes, was able to report **"no net loss"** of wetlands under the Clean Water Act Section 404 regulatory program. More than **207,000 acres** have been restored and enhanced since 2002. As of FY 2013, **37 states and tribes** have built capacities in wetlands monitoring, regulation, restoration, water quality standards, mitigation compliance, and partnership building.

Improve Drinking Water and Water Quality on American Indian Lands

Safe drinking water and water quality on tribal lands continues to be a concern for the water program. Some key highlights and challenges include:

- **Seventy-seven percent (77%)** of the population in Indian Country was served by CWSs that receive drinking water meeting all applicable health-based standards. EPA failed to achieve its national stretch goal of 87% in FY 2013.
- EPA, in coordination with other federal agencies, provided **119,000** American Indian and Alaska Native **homes** with access to safe drinking water and almost **70,000 homes** with access to basic sanitation.

Improve the Health of Large Aquatic Ecosystems

EPA implements collaborative programs with other federal agencies, states, and local communities to improve the health of large aquatic ecosystems (LAEs). The following are highlights and challenges for each LAE or place-based program with performance measures in the National Water Program Guidance:

- **U.S.–Mexico Border.** Infrastructure construction project completions through FY 2013 resulted in the removal of **128 million pounds** of biochemical oxygen demand loadings annually from the U.S.–Mexico border area, slightly more than its commitment of 127 million pounds. EPA provided access to safe drinking water for

3,400 additional homes along the U.S.–Mexico border, which was above the annual goal of 3,000 additional homes. EPA provided adequate wastewater sanitation to an **additional 25,695 homes** over the past year, which was above the FY 2013 goal of 24,000 additional homes.

- **U.S. Pacific Island Waters.** Last year, **81% of the population** in the U.S. Pacific Island Territories was served by community drinking water systems that meet all applicable health-based drinking water standards throughout the year, compared with the commitment of 82%.
- **Great Lakes.** EPA worked with other federal and state agencies to protect, restore, and enhance more than **83,700** acres of wetlands and wetland-associated uplands across the Great Lakes Basin. This was well above the FY 2013 commitment of 68,000 acres. EPA, states, and other partners remediated a cumulative 1**1.5 million cubic yards** of contaminated sediments through 2012, including more than 1.8 million cubic yards in FY 2012.
- **Chesapeake Bay.** The Chesapeake Bay Program reported **48,100 acres** of submerged aquatic vegetation in the bay. This represents approximately **26%** of the program's long-term goal of 185,000 acres, which is the amount necessary to achieve Chesapeake Bay water quality standards. EPA expects enhanced implementation of nitrogen, phosphorus, and sediment pollution control measures as a result of the Total Maximum Daily Load (TMDL) that was established in December 2010.
- **Gulf of Mexico.** The size of the hypoxic, or "dead," zone[1] in the Gulf of Mexico increased significantly from 2,889 to **5,838 square miles** at the end of FY 2013. A number of hydrological, climate, and monitoring factors impact the hypoxic zone from year to year. For the first time in six years, the Gulf of Mexico Program ended the year slightly below its FY 2013 cumulative target to restore, protect, or enhance 30,600 acres of coastal and marine habitats. Previously funded projects resulted in 57.36 acres for a cumulative 30,306 acres.
- **Long Island Sound.** Due to the impacts of Superstorm Sandy in 2012, the Long Island Sound Program fell short of its commitment (420 acres) by restoring or protecting **336 acres** of coastal habitat, including tidal wetlands, dunes, riparian buffers, and freshwater wetlands. The size of the hypoxic zone in Long Island Sound decreased from 289 to **80 square miles**, which was below the five-year rolling average of 154 square miles.
- **South Florida.** The health and functionality of the sea grass beds in the Florida Keys National Marine Sanctuary (FKNMS) were maintained above 2006 baseline levels in 2013. Water quality of the near shore and coastal waters of the FKNMS showed some improvement in 2013, with positive results for chlorophyll a, light clarity, and total phosphorus. Elevated dissolved inorganic nitrogen levels due to polluted runoff into waterways, however, continue to be a subject of concern.
- **Puget Sound Basin.** More than **30,000 acres** of tidally and seasonally influenced estuarine wetlands have been restored in the Puget Sound Basin since FY 2006. The program fell short of its 2013 goal (31,818 acres) due to a delay in the anticipated restoration in a key habitat. The Puget Sound program improved water quality and lifted harvest restrictions for 714 additional acres (**cumulative total of 3,203**) of shellfish bed growing areas. Unfortunately, this was far short of the program's cumulative goal of 7,758 acres of unrestrictive commercial and recreational harvesting area in the Sound.
- **Columbia River Basin.** The Columbia River Program has cleaned up a total of **79 acres** of contaminated sediment in the Lower Columbia River in as of FY 2013. These cleanups provide a significant contribution to reducing toxics in the Columbia River. EPA measured a **95%** reduction in contaminants of concern in the water and fish at several key sites on the Columbia River.

[1] The dead zone is an area of oxygen-starved water, also known as hypoxia. It is fueled by nitrogen and phosphorus runoff, principally from agricultural activity in the Mississippi River watershed, which stimulates an overgrowth of algae that sinks, decomposes, and consumes most of the life-giving oxygen supply in the water.

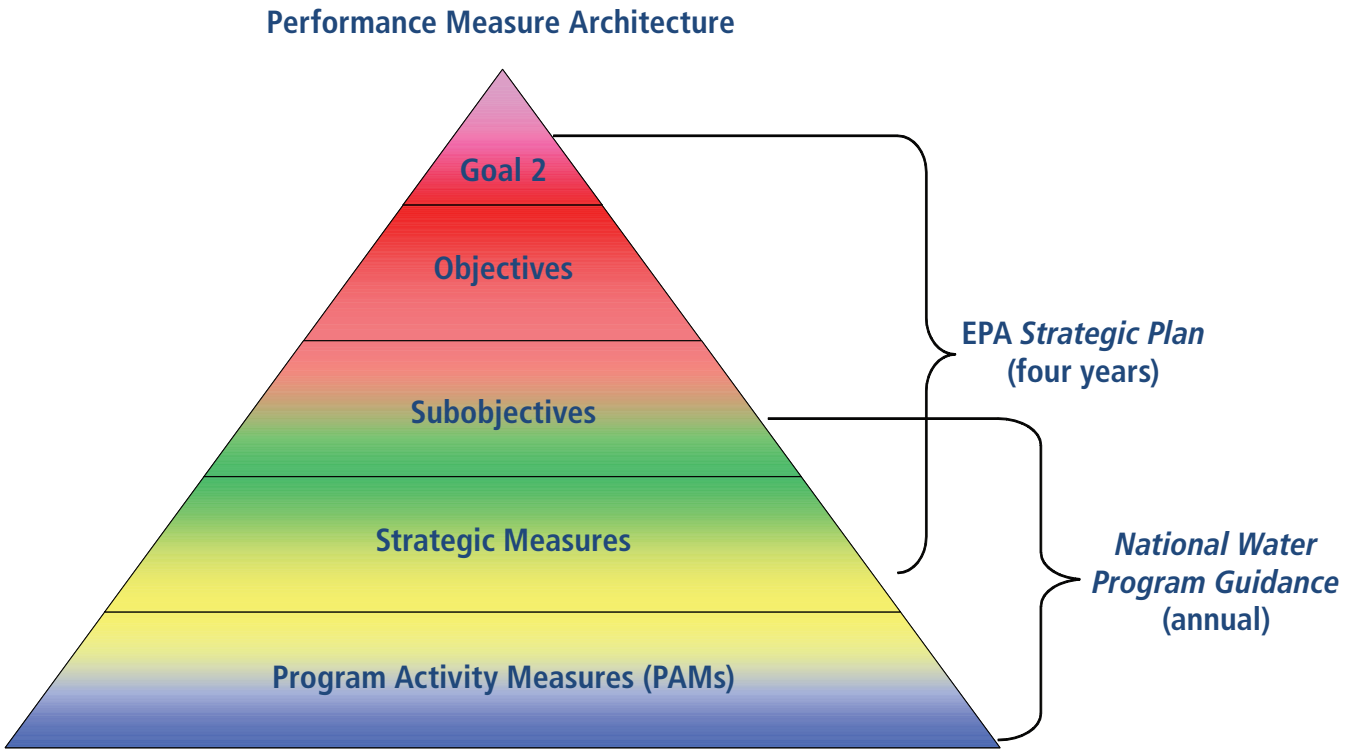
Introduction

The FY 2013 *National Water Program Best Practices and End-of-Year Performance Overview Report* describes the progress made in fiscal year 2013 by EPA, states, tribes, and others toward the objectives and subobjectives described in the FY 2013 *National Water Program Guidance (NWPG)* and the *FY 2011–2015 EPA Strategic Plan* (Table 1, "National Water Program—Key Subobjectives"). The *Strategic Plan* and the *FY 2013 NWPG* are available on the Internet at http://www.epa.gov/water/waterplan.

The *Strategic Plan* is divided into five goals. The National Water Program is addressed in Goal 2, "Clean and Safe Water." Each goal is divided into objectives and subobjectives, which include a limited number of targeted areas, or "strategic measures," where the Agency believes new or significant changes in strategies or performance measurement are most critical to helping EPA better achieve and measure environmental and human health. Each strategic measure includes a long-range quantitative goal (see highlighted measures in Appendix A).

In April 2012, the National Water Program published guidance that described the program strategies to be used to implement Goal 2 of the *EPA Strategic Plan* in FY 2013, including specific measures to be used to assess program implementation. The *FY 2013 NWPG* is divided into 15 subobjectives and includes strategic measures and national Program Activity Measures (PAMs) to assess progress toward the goals in the *Strategic Plan*:

- **Strategic measures:** Measures of environmental or public health changes (i.e., outcomes) that include long-range and, in most cases, annual commitments in the *FY 2013 NWPG*.
- **National PAMs:** Core water PAMs (i.e., output measures) address activities implemented by EPA, states, and tribes that administer national programs. They are the basis for monitoring progress in implementing programs to accomplish the environmental goals in the Agency's *Strategic Plan*. Most of these measures had national and many had regional commitments for FY 2013.



What's New in FY 2013

The *FY 2013 NWPG* included a number of changes in performance measures from the FY 2012 *Best Practices and End-of-Year Performance Report*. Most of these changes were due to a major streamlining effort by EPA in FY 2012 to reduce the number of performance measures that are required to be reported at the national level. The purpose of the streamlining effort was to reduce the reporting burden on EPA regions, states, and tribes, and to better focus EPA's oversight responsibilities on the most important National Water Program priorities. Some of the key changes to performance measures were:

- EPA deleted four indicator measures concerning small public drinking water systems—that is, those serving less than 500, between 501 and 3,300, and between 3,301 and 10,000 consumers (SDW-12, SDW-13, SDW-14, SDW-16).). The data that supported these measures will continue to be tracked in the Drinking Water National Information Management System.
- EPA replaced its two tribal drinking water and wastewater sanitation measures. The new measures focus on the number of American Indian and Alaska Native homes that have access to safe drinking water and sanitation as opposed to measuring a reduction in the number of homes lacking access (SDW-SP5: SCD-18.N11; WQ-SP15.WQ-24.N11).
- EPA deleted seven measures under the Water Quality subobjective pertaining to numeric water quality standards (WQ-1b and WQ-1c), state monitoring strategies (WQ-05), access to electronic data (WQ-07), water quality trading (WQ-20), watershed restoration plans (WQ-21) and healthy watershed protection (WQ-22b). EPA determined that most of these measures had outlived their usefulness and were providing limited value. The agency created a new measure that tracks states' and territories' implementation of nutrient reduction strategies (WQ-26). This measure will be more effective in tracking implementation of the policy outlined in Assistant Administrator of the Office of Water Nancy Stoner's March 2011 memo on the agency's nutrient reduction framework for states.[2]
- Among EPA's place-based[3] programs, the agency deleted its forest buffer planning goal for the Chesapeake Bay (CB-2) since it was inconsistent with the current forested buffer measure under the federal Chesapeake Bay Protection Strategy. In addition, the agency eliminated two measures tracking beach water quality and Publicly Owned Treatment Works (POTW) compliance in the Pacific Islands (PI-SP27 and PI-SP28). EPA considered both of these measures to be ineffective in measuring the impact of agency compliance efforts and programmatic activities.

Overall, the Office of Water added one new measure, deleted 21 measures, and modified 2 measures in its *FY 2013 NWPG*. As a result, the number of commitment measures decreased from 96 in FY 2012 to 85 in FY 2013. More information about measure changes can be found in Appendix B of this report.

[2] http://www2.epa.gov/sites/production/files/documents/memo_nitrogen_framework.pdf.

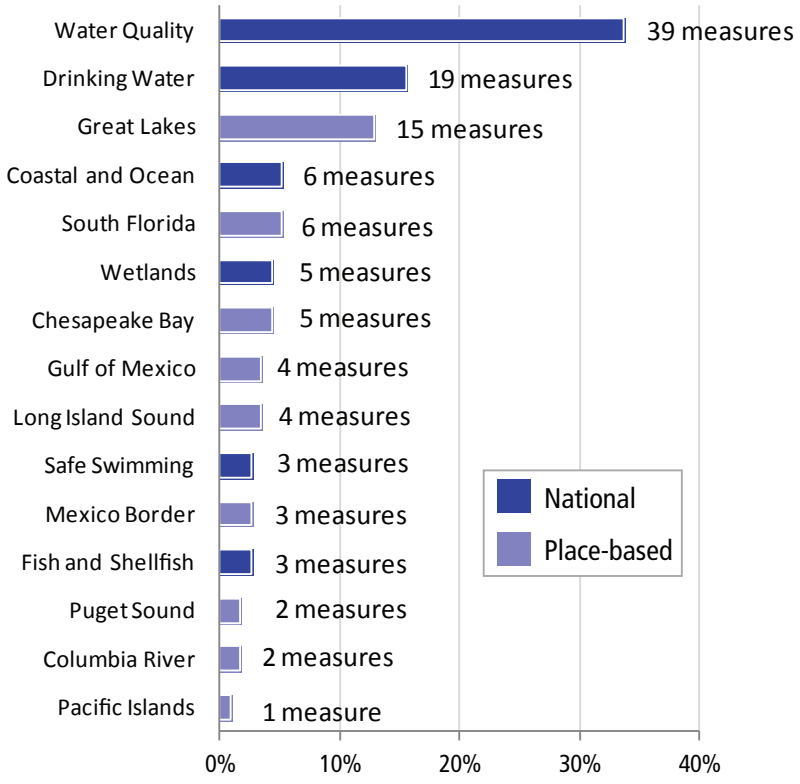
[3] EPA defines "place-based programs" in this report as those programs that may not include an ecosystem focus. For example, U.S.–Mexico Border and the Pacific Islands programs may be considered place-based.

Overview of Performance Results and Recent Trends

Total Measures by Subobjectives

Among the 15 subobjectives outlined in the *FY 2013 NWPG*, Water Quality had the largest share of performance measures at 34%; Drinking Water was next with 16%; and the Great Lakes was third with 13%. The remaining 37% of the measures were spread among the other 12 subobjectives (Figure 1).

Figure 1: Total FY 2012 Measures by Subobjective



Total Commitment Measures

Overall, the National Water Program's performance was less successful in FY 2013 than the previous year. Of 85 performance measures with commitments, over two-thirds (68.6%) met their commitments. About twenty-nine percent (29.1%) were not met, and for 2.3%, either not enough data were available to assess progress or no reporting was expected for 2013 (Figure 2).[4] Long-term trend data show that the percentage of commitment measures met has remained fairly consistent over the past six years, averaging about 72% (with a range between 69% and 80%). The average of commitments not met is 24% (range of 18% to 29%), and data unavailability/nonreporting is at 4% (range of 2% to 7%, not counting FY 2013) (Figure 3).

[4] Data for FY 2013 are what has been reported as of March 2014. Due to a lag in reporting, several measures will not have FY 2013 end-of-year data until later in FY 2014. Note that when reviewing trend data for previous years in this report, the results will include data for measures that routinely report late. As a result, this year's trend charts may not reflect the same results as shown in previous end-of-year reports.

Figure 2: FY 2013 Commitment Measures Met and Not Met

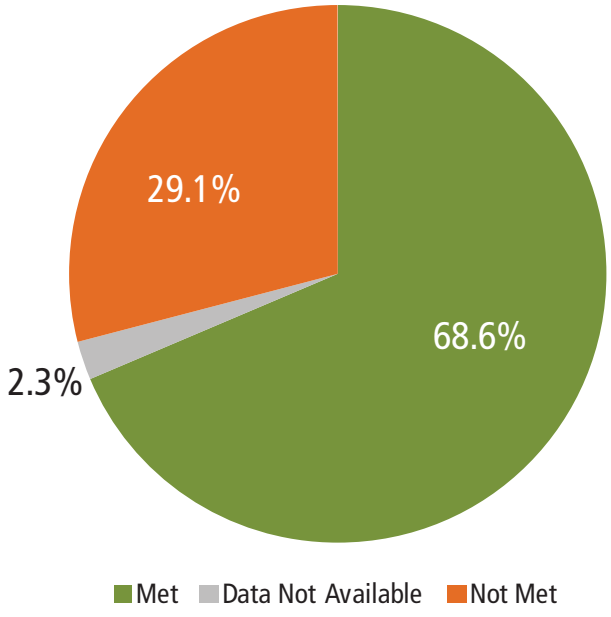
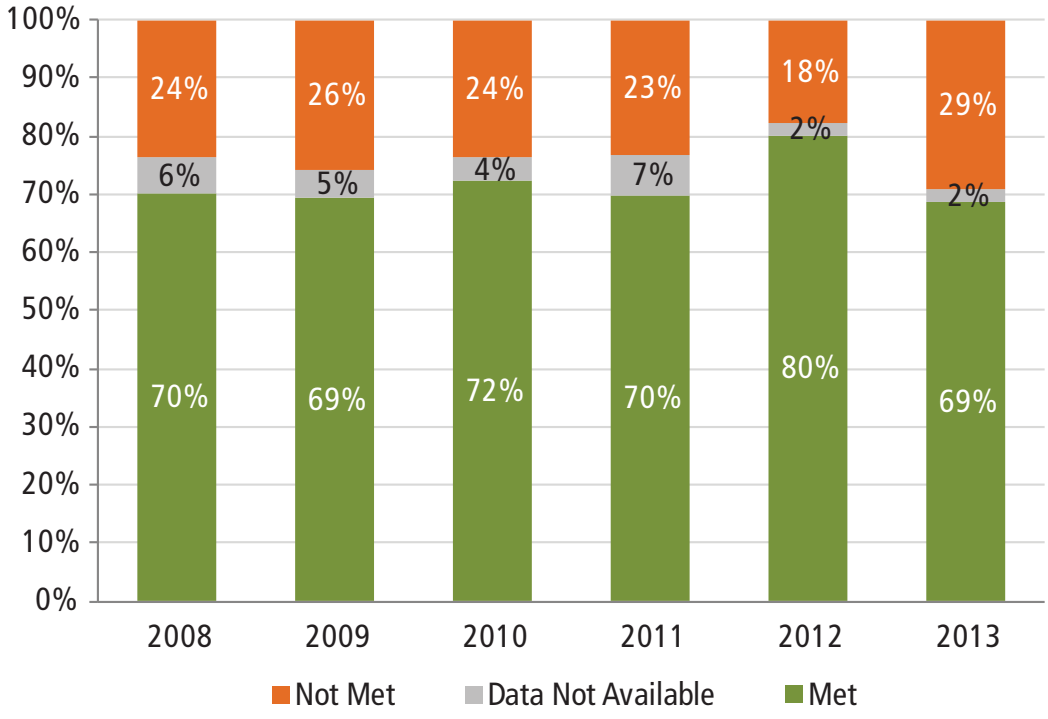


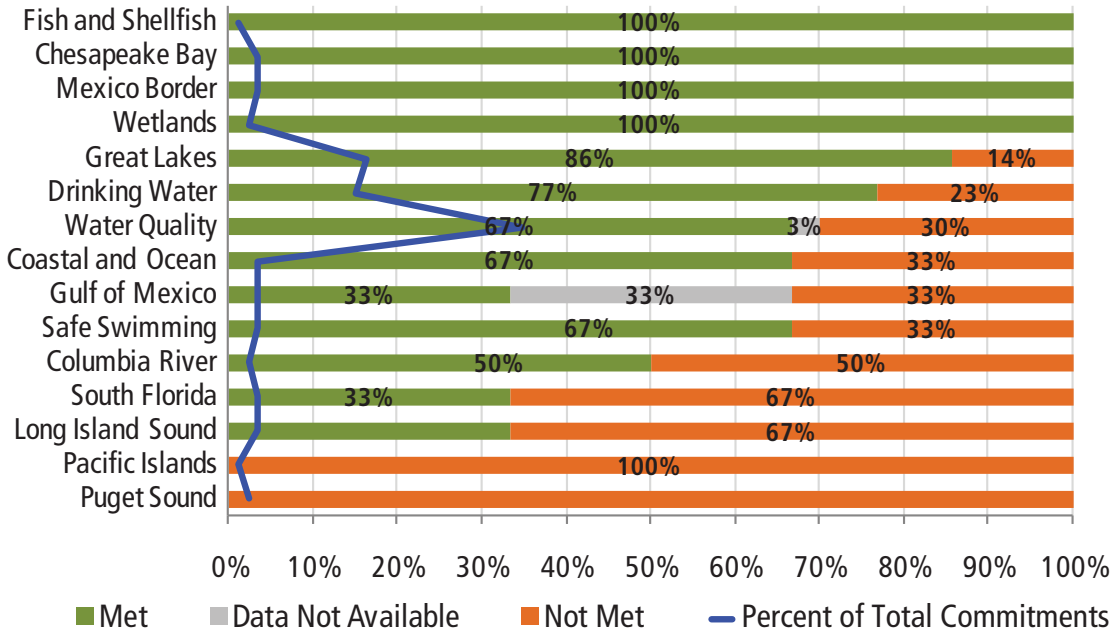
Figure 3: FY 2008–FY 2013 Commitment Measure Performance Trend



Commitment Measures by Subobjectives

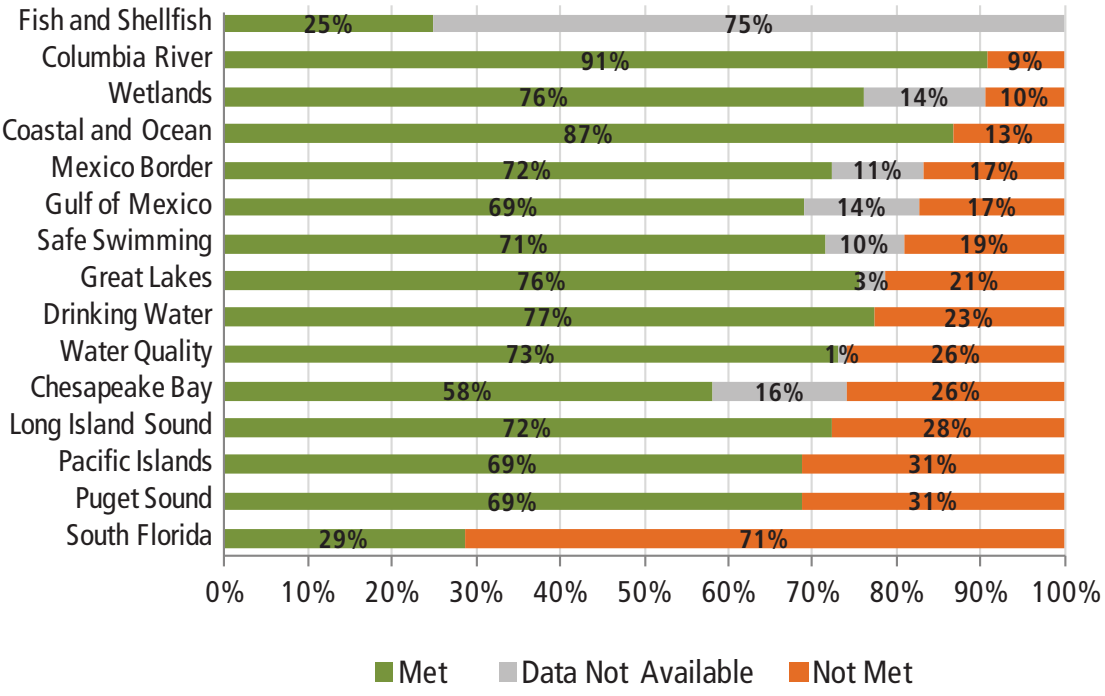
When the FY 2013 results are presented by subobjective, four of 15 subobjectives (Fish and Shellfish, Wetlands, Mexico Border, and Chesapeake Bay) were successful in meeting 100% of their commitments. This is down from eight subobjectives with a similar status in FY 2012. Six subobjectives fell below the FY 2013 national average of commitments met (61%): Water Quality (57%), Columbia River (50%), Gulf of Mexico (33%), South Florida (33%), Long Island Sound (33%), Pacific Islands (0%), and Puget Sound (0%). Note, however, that some subobjectives have more commitment measures than others. The dark blue line in Figure 4 represents the percentage of the total number of commitment measures that each subobjective encompasses. As was noted earlier, the Water Quality subobjective has the most measures, representing about 36% of all commitment measures.

Figure 4: FY 2013 Commitment Measures Met and Not Met by Subobjective



When comparing the FY 2013 results from Figure 4 with the long-term averages of commitments met for each subobjective (Figure 5), six subobjectives did better in FY 2013 compared with their long-term average. This was down from 11 subobjectives with a similar status in FY 2012. The Water Quality, Oceans and Coastal, Long Island Sound, and Puget Sound subobjectives fell below their long-term averages in FY 2013. The Fish and Shellfish subobjective has consistently had the greatest problems with data availability.

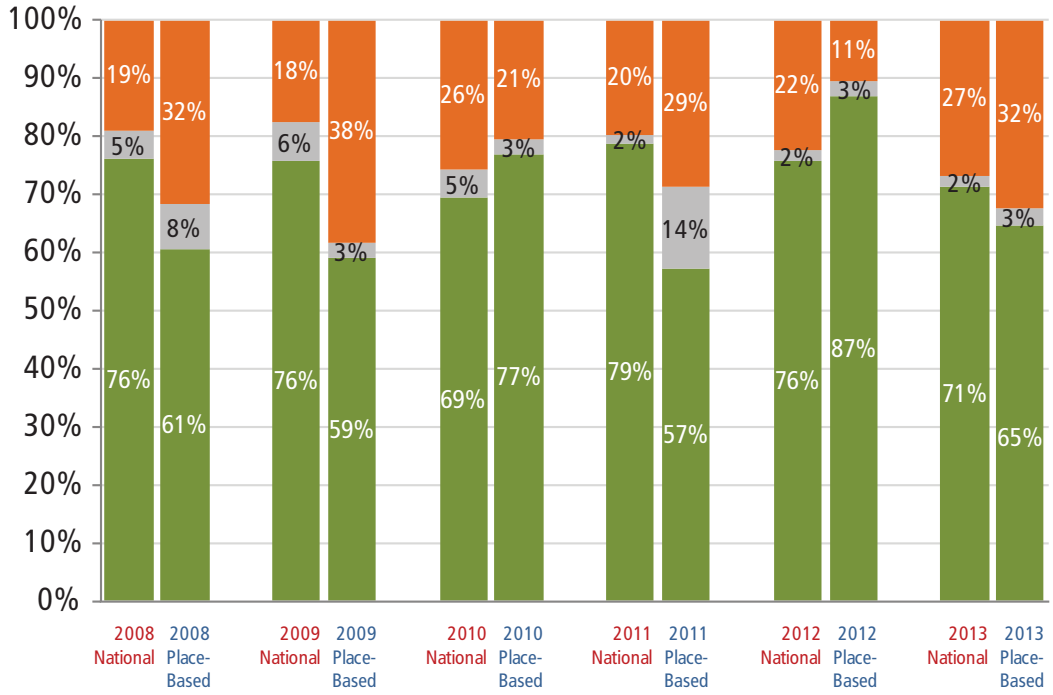
Figure 5: FY 2008–FY 2013 Average Commitments Met and Not Met by Subobjective



Commitments by National Core Water Program vs. Geographic Programs

The National Water Program comprises core drinking water and water quality programs and LAEs or place-based programs. Sixty percent (60%) of all commitment measures pertain to core water programs, and 40% track progress in LAE or place-based programs. Performance for the LAEs and place-based programs declined significantly in FY 2013, with 65% of commitments met (down from 87% in FY 2012). National core programs declined from 76% of commitments met in FY 2012 to 71% in FY 2013. This was the reverse of the previous year, with core programs at 76% commitments met and LAE and place-based programs at 87% (Figure 6).

Figure 6: FY 2008–FY 2013 National and Place-Based Programs Trend



National Water Program Long-Term Performance Trends

One way to capture long-term performance trends for individual measures is through a "heat map." The charts in Figure 7 below represent a history of the status of annual results of all the core drinking water and water quality program measures over a seven-year period (FY 2007 to FY 2013). The colors on the map represent the status (green for commitments met, orange for not met, gray for data unavailable or not reporting, and white for measures not in existence in a given year). Although the status of the results does not take into account the level of ambitiousness or "stretch goals" of the commitments from measure to measure, there are some interesting patterns in the trends. For example, 43% of all core program measures have met their commitments every year for the past six to seven years.

Figure 7: FY 2007–FY 2013 Core Water Program End-of-Year Status History

Subobjective	ACS Code	Abbreviated Measure Description	Commitment Status: = Met; = Not Met; = Data Not Available; = Measure Did Not Exist Or Not Applicable						
			2007	2008	2009	2010	2011	2012	2013
Drinking Water	SDW-211	Percent population served by CWSs	Met	Met	Met	Met	Met	Met	Met
	SDW-SP1.N11	Percent CWSs meeting safe standards		Met	Met	Met	Met	Met	Met
	SDW-SP2	Percent "person months" with CWSs safe standards		Met	Met	Met	Met	Met	Met
	SDW-SP3.N11	Percent population served by CWSs Indian country	Met	Not Met	Not Met	Met	Met	Not Met	Not Met
	SDW-SP4a	Percent CWSs and source water protection	Met	Met	Met	Met	Met	Met	Met
	SDW-SP4b	Percent Population and source water protection		Met	Met	Met	Met	Not Met	Met
	SDW-18.N11	Number Indian & Alaska Native homes provided safe drinking water					Not Met	Not Met	Not Met
	SDW-01a	Percent CWSs with sanitary survey	Not Met	Not Met	Not Met	Not Met	Met	Not Met	Not Met
	SDW-01b	Number Tribal CWSs with sanitary survey	Met	Met	Met	Met	Met	Met	Met
	SDW-04	DWSRF fund utilization rate	Met	Met	Met	Met	Met	Met	Met
	SDW-05	Number DWSRF projects initiated (cumulative)	Met	Met	Met	Met	Met	Met	Met
	SDW-07	Percent Class I, II, or III wells with mechanical integrity						Not Met	Met
	SDW-08	Number High Priority Class V wells closed/permitted (cumulative)		Not Met	Met	Met	Met	Met	Met
Fish and Shellfish	FS-SP6.N11	Percent Women and mercury blood levels		Data Not Available	Data Not Available	Data Not Available	Data Not Available	Met	Met
Safe Swimming	SS-SP9.N11	Percent beach days safe for swimming	Met	Met	Met	Met	Met	Met	Met
	SS-1	Number enforceable long-term CSO control plan with specific dates and milestones in place	Met	Met	Met	Met	Not Met	Not Met	Not Met
	SS-2	Percent significant public beaches monitored	Met	Met	Not Met	Met	Met	Met	Met
Coastal and Ocean	CO-222.N11	Improve coastal aquatic system health (index)	Met	Met	Met	Met	Met	Met	Met
	CO-SP20.N11	Percent ocean dumping sites acceptable conditions		Met	Met	Not Met	Not Met	Met	Not Met
	CO-432.N11	Number additional NEP acres habitat protected or restored	Met	Met	Met	Not Met	Not Met	Met	Met
Wetlands	WT-SP21.N11	Net increase wetlands achieved (acres)	Not Met	Not Met	Data Not Available	Data Not Available		Not Met	
	WT-SP22	No net loss of wetlands	Data Not Available	Data Not Available	Met	Met	Met	Met	Met
	WT-01	Number wetland acres restored and enhanced (cumulative)	Met	Met	Met	Met	Met	Met	Met

Figure 7: FY 2007–FY 2013 Core Water Program End-of-Year Status History (cont'd)

Subobjective	ACS Code	Abbreviated Measure Description	Commitment Status: = Met; = Measure Did Not Exist Or Not Applicable; = Not Met; = Data Not Available						
			2007	2008	2009	2010	2011	2012	2013
Water Quality	WQ-SP10.N11	Number formerly impaired waterbodies now meeting standards (cumulative)	Met	Met	Met	Met	Met	Met	Met
	WQ-SP11	Number causes of waterbody impairment removed (cumulative)	Measure Did Not Exist Or Not Applicable	Met	Met	Not Met	Met	Met	Met
	WQ-SP12.N11	Number impaired watersheds improved water quality (cumulative)	Measure Did Not Exist Or Not Applicable	Met	Met	Met	Met	Met	Met
	WQ-SP13.N11	Number of monitoring stations in tribal waters with improved water quality (cumulative)	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Not Met	Measure Did Not Exist Or Not Applicable
	WQ-SP14aN11	Identify number monitoring stations in tribal waters with no degradation in water quality (cumulative)	Data Not Available	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Met	Met
	WQ-24.N11	Number Indian & Alaska Native homes with access to sanitation	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Met	Met	Met
	WQ-01a	Number of numeric nutrient water quality standards approved or promulgated by EPA	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Not Met	Met	Met
	WQ-26	Number states/territories implementing nutrient reduction strategcies	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Met
	WQ-02	Number Tribes with approved water quality standards	Not Met	Met	Not Met	Not Met	Not Met	Met	Met
	WQ-03a	Number/Percent states/territories with updated water quality criteria	Not Met	Not Met	Met	Met	Met	Met	Not Met
	WQ-03b	Number/Percent Tribes with updated water quality criteria	Met	Met	Met	Met	Met	Met	Not Met
	WQ-04a	Percent states/territorial water quality standards revisions approved	Met	Met	Met	Met	Met	Met	Not Met
	WQ-06a	Number Tribes implementing monitoring strategies	Met	Met	Met	Not Met	Met	Met	Met
	WQ-06b	Number Tribes providing water quality data	Met	Met	Met	Met	Met	Met	Met
	WQ-08a	Number/Percent total TMDLs established/ approved EPA	Met	Met	Met	Met	Met	Met	Met
	WQ-08b	Number/Percent TMDLs developed by states/ approved by EPA	Met	Met	Met	Not Met	Met	Met	Met
	WQ-09a	Number pounds nitrogen reduced from non-point sources (millions)	Met	Met	Met	Met	Met	Met	Met
	WQ-09b	Number pounds phosphorus reduced from non-pount sources (millions)	Met	Not Met	Not Met	Not Met	Met	Not Met	Not Met
	WQ-09c	Number tons sediment reduction reduced from non-point sources (thousands)	Met	Met	Met	Met	Met	Met	Met
	WQ-10	Number NPS-impaired waterbodies restored (cumulative)	Not Met	Met	Met	Met	Met	Met	Met
	WQ-12a	Number/Percent Nontribal NPDES permits current	Met	Met	Met	Met	Met	Met	Met
	WQ-12b	Number/Percent Tribal permits current	Not Met	Not Met	Not Met	Met	Met	Met	Not Met
	WQ-14a	Number/Percent POTWs SIUs control mechanisms in place	Not Met	Met	Met	Not Met	Met	Met	Met
	WQ-15a	Percent major dischargers in SNC	Not Met	Not Met	Not Met	Not Met	Not Met	Met	Met
	WQ-16	Number/Percent POTWs comply wastewater discharge standards	Met	Met	Met	Met	Met	Met	Met
	WQ-17	CWSRF Fund utilization rate	Met	Met	Met	Met	Met	Met	Met
	WQ-19a	Number high priority state NPDES permits	Met	Met	Met	Met	Met	Met	Not Met
	WQ-19b	Number high priority state & EPA NPDES permits	Not Met	Met	Met	Met	Met	Met	Not Met
	WQ-23	Percent Alaska homes access to drinking water & sanitation	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Met	Not Met	Not Met
	WQ-25a	Number urban water projects initiated addressing water quality issues in the community	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Met	Not Met
	WQ-25b	Number urban water projects completed addressing water quality issues in the community	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Measure Did Not Exist Or Not Applicable	Data Not Available	Data Not Available

Figure 8 shows that 17% of all place-based program measures have met commitments every year for six to seven years.

Figure 8: FY 2007–FY 2012 LAE and Place-Based Programs End of Year Status History

Subobjective	ACS Code	Abbreviated Measure Description	Commitment Status: = Met; = Not Met; = Data Not Available; = Measure Did Not Exist Or Not Applicable						
			2007	2008	2009	2010	2011	2012	2013
Great Lakes	GL-433.N11	Improve health–Great Lakes ecosystem (index)	Met	Met	Met	Not Met	Not Met	Met	Met
	GL-SP29	Reduce PCBs in Great Lakes fish (cumulative)	Met	Met	Met	Met	Met	Met	Met
	GL-SP31	Number Areas of Concern (AOCs) with all management actions implemented (cumulative)	Met	Not Met	Not Met	Not Met	Met	Not Met	Not Met
	GL-SP32.N11	Number cubic yards (millions) of contaminated sediment remediated (cumulative)	Met	Met	Met	Met	Met	Met	Met
	GL-05	Number Beneficial Use Impairments (BUIs) removed			Not Met	Not Met	Met	Met	Met
	GL-06	Rate of invasive species newly detected in the Great Lakes (avg. since 2010)					Met	Met	Met
	GL-07	Response plans established, response exercises, and/or response actions (cumulative)					Met	Met	Met
	GL-08	Percent of days of the beach season that monitored Great Lakes beaches are open and safe for swimming					Not Met	Met	Met
	GL-09	Number acres managed for populations of invasive species controlled to a target level. (cumulative)					Met	Met	Met
	GL-10	Percent of populations of native aquatic non-threatened and endangered species self-sustaining in the wild. (cumulative)					Not Met	Met	Met
	GL-11	Number of acres of wetlands and wetland-associated uplands protected, restored and enhanced. (cumulative)					Met	Met	Met
	GL-12	Number of acres of coastal, upland, and island habitats protected, restored and enhanced. (cumulative)					Not Met	Met	Met
	GL-13	Number of species delisted due to recovery					Met	Met	Not Met
	GL-15	Five-year average annual loadings of soluble reactive phosphorus draining from targeted watersheds					Data Not Available	Data Not Available	Measure Did Not Exist Or Not Applicable
	GL-16	Percent increase in acres in Great Lakes watershed with USDA conservation practices implemented					Met	Met	Met
Chesapeake Bay	CB-SP35	Percent Bay nitrogen reduction practices implemented	Not Met	Not Met	Not Met	Not Met	Data Not Available	Met	Met
	CB-SP36	Percent Bay phosphorus reduction practices implemented	Not Met	Not Met	Met	Met	Data Not Available	Met	Met
	CB-SP37	Percent Bay sediment reduction practices implemented	Met	Met	Not Met	Met	Data Not Available	Met	Met
Gulf of Mexico	GM-435	Improve health–Gulf of Mexico ecosystem (index)	Met	Not Met	Not Met	Data Not Available	Not Met	Met	Met
	GM-SP38	Number of impaired Gulf water segments and habitat restored (cumulative)	Met	Data Not Available	Met	Met	Met	Met	Data Not Available
	GM-SP39	Percent reduction Long Island Sound nitrogen	Met	Met	Met	Met	Met	Met	Not Met

Figure 8: FY 2007–FY 2012 LAE and Place-Based Programs End of Year Status History (cont'd)

Subobjective	ACS Code	Abbreviated Measure Description	Commitment Status: = Met; = Not Met; = Data Not Available; = Measure Did Not Exist Or Not Applicable						
			2007	2008	2009	2010	2011	2012	2013
Long Island Sound	LI-SP41	Percent reduction Long Island Sound nitrogen		Not Met	Not Met	Met	Met	Met	Met
	LI-SP43	Number acres Long Island Sound coastal habitat restored		Met	Met	Met	Met	Met	Not Met
	LI-SP44	Number miles river and streams for fish passage reopened		Met	Met	Met	Not Met	Met	Not Met
Puget Sound	PS-SP49.N11	Number acres of Puget Sound shellfish areas improved (cumulative)		Met	Met	Met	Not Met	Not Met	Not Met
	PS-SP51	Number acres of Puget Sound estuarine wetlands restored (cumulative)		Met	Met	Met	Met	Met	Not Met
Mexico Border	MB-SP23	Number million pounds BOD loadings removed Mexico Border (cumulative)		Data Not Available	Data Not Available	Met	Met	Met	Met
	MB-SP24.N11	Number additional Mexico Border homes access to safe drinking water		Met	Met	Not Met	Met	Met	Met
	MB-SP25.N11	Number additional Mexico Border homes access to adequate sanitation		Met	Not Met	Not Met	Met	Met	Met
Pacific Islands	PI-SP26	Percent Pacific Islands population served by CWS		Met	Met	Met	Met	Met	Not Met
South Florida	SFL-SP47a	Percent South Florida monitoring stations maintain coastal water quality for chlorophyll a & light clarity					Met	Not Met	Met
	SFL-SP47b	Percent South Florida monitoring stations maintain coastal water quality for nitrogen and phosphorous					Not Met	Met	Not Met
	SFL-SP48	Maintain Everglades water quality measured by total phosphorus		Not Met	Not Met	Not Met	Not Met	Not Met	Not Met
Columbia River	CR-SP54	Number acres Columbia River contaminated sediments cleaned up (cumulative)							Met
	CR-SP53	Percent reducuction Columbia River contaminants in water & fish		Met	Met	Met	Met	Met	Not Met

Changes in Measure Performance Status from FY 2012 to FY 2013

The performance status of 18 of the 85 commitment measures changed between FY 2012 and FY 2013. Three measures switched from not meeting to meeting their annual commitments, whereas 15 previously met measures did not meet their commitments in the past year. This is a significant reversal in performance from the previous year, where 15 measures switched from "not met" to "met" status and six changed from met to not met. Core water programs and LAEs or place-based programs were almost evenly split, with the number of measures changing status from commitments met to not met in FY 2013 (7 and 8, respectively). Forty percent (40%) of all measures changing from met to not met were in the Water Quality subobjective (Table 1).

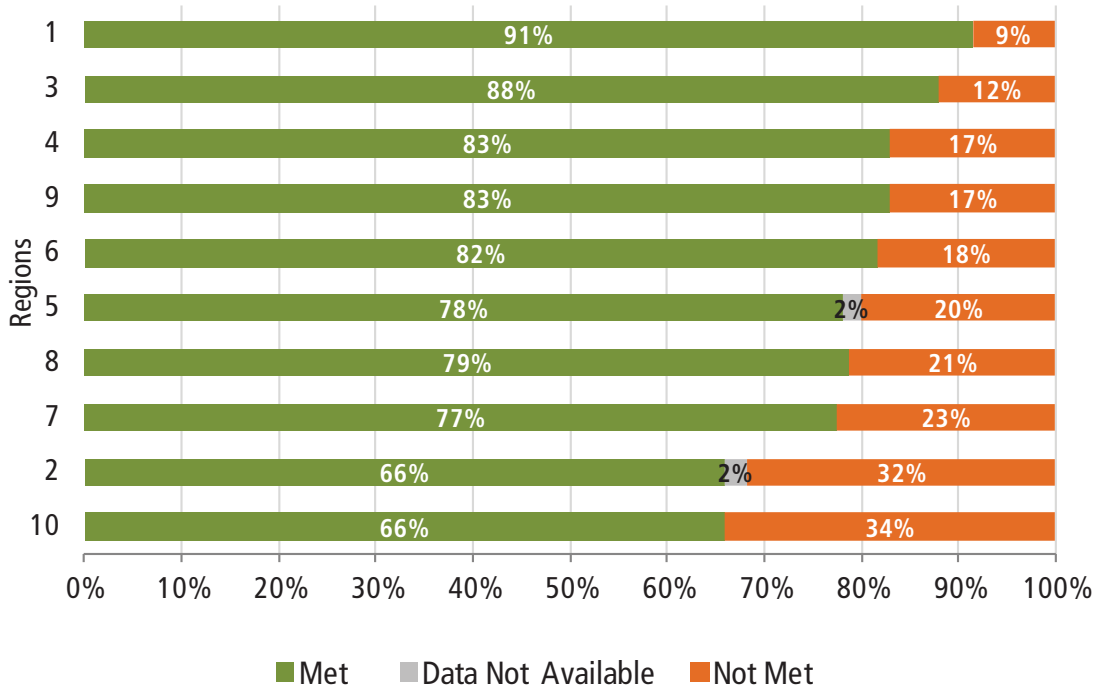
Table 1: Measures With Changes in Performance Status

Subobjective	ACS Code	Abbreviated Measure Description	Performance Status	
			2012	2013
2.1.1 Water Safe to Drink	SDW-SP4b	Percent CWSs and source water protection	Not Met	Met
2.1.1 Water Safe to Drink	SDW-07	Percent Class I, II, or III wells with mechanical integrity	Not Met	Met
2.2.1 Water Quality	WQ-3a	Number/percent states/territories with updated water quality criteria	Met	Not Met
2.2.1 Water Quality	WQ-3b	Number/percent tribes with updated water quality criteria	Met	Not Met
2.2.1 Water Quality	WQ-4a	Percent states/territorial water quality standards revisions approved	Met	Not Met
2.2.1 Water Quality	WQ-12b	Number/percent tribal permits current	Met	Not Met
2.2.1 Water Quality	WQ-19a	Number high-priority state NPDES permits	Met	Not Met
2.2.1 Water Quality	WQ-25a	Number urban water projects initiated addressing water quality issues in the community	Met	Not Met
2.2.2 Coastal and Ocean Waters	CO-SP20	Percent ocean dumping sites acceptable conditions	Met	Not Met
2.2.4 Great Lakes	GL-13	Number of species delisted due to recovery	Met	Not Met
2.2.6 Gulf of Mexico	GM-SP39	Number of Gulf Acres restored or enhanced (cumulative)	Met	Not Met
2.2.7 Long Island Sound	LI-SP43	Number acres Long Island Sound coastal habitat restored	Met	Not Met
2.2.7 Long Island Sound	LI-SP44	Number miles river and streams for fish passage reopened	Met	Not Met
2.2.8 Puget Sound	PS-SP51	Number acres of Puget Sound estuarine wetlands restored (cumulative)	Met	Not Met
2.2.10 Pacific islands	PI-SP-26	Percent Pacific Islands population served by CWS	Met	Not Met
2.2.11 South Florida	SFL-47a	Maintain South Florida coastal water quality—chlorophyll a	Not Met	Met
2.2.11 South Florida	SFL-47b	Maintain South Florida coastal water quality—nitrogen/phosphorous	Met	Not Met
2.2.10 Pacific Islands	PI-SP28	Pacific Islands beach days open for swimming	Not Met	Met
2.2.11 South Florida	SFL-SP47a	Maintain South Florida coastal water quality–chlorophyll a	Met	Not Met
2.2.11 South Florida	SFL-SP47b	Maintain South Florida coastal water quality–nitrogen/phosphorus	Not Met	Met
2.2.12 Columbia River	CR-SP53	Number acres Columbia River contaminated sediments cleaned up (cumulative)	Met	Not Met

Commitment Measures by EPA Regions

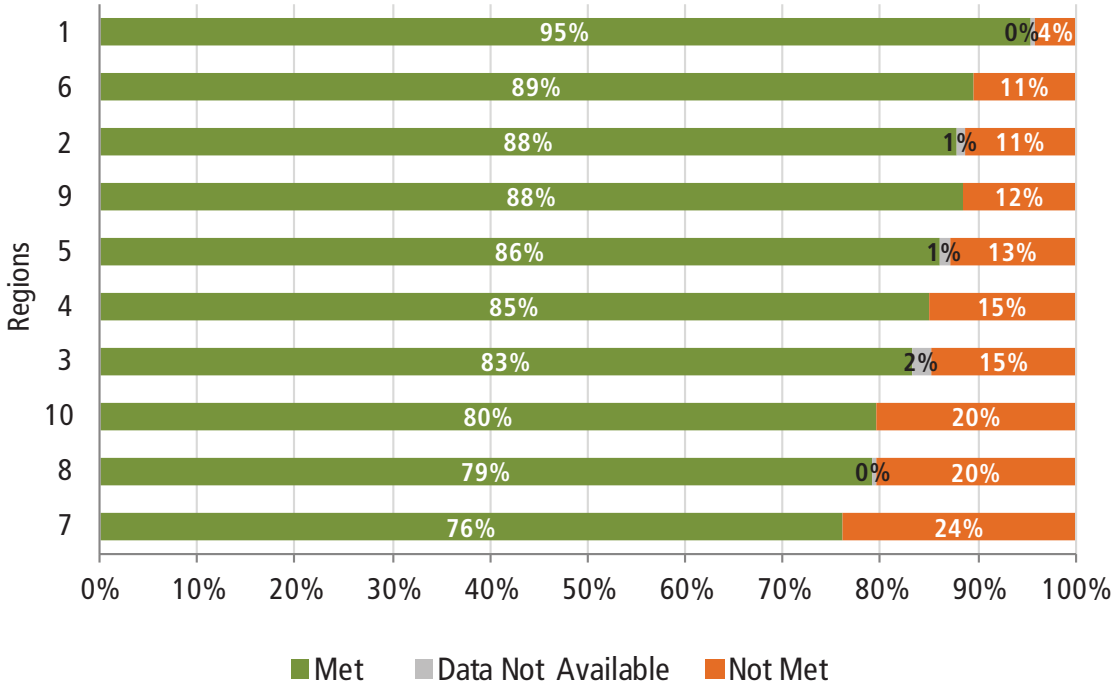
The 10 EPA regional offices, the states, and tribes are primarily responsible for implementing the programs under the Clean Water and Safe Drinking Water Acts. On average, 79% of performance commitments set by the EPA regional offices for activities in their geographic areas were met in 2013, while an average of 20% of commitments were missed. This was an 8% decline from the FY 2012 average of 87% of commitments met. Eight out of 10 regions saw a decline in commitments met in 2013. The biggest declines were in Region 2 (-27%) and Region 10 (-16%). Only Region 3 (+5%) and Region 7 (+2%) saw increases in their performance in 2013 compared to 2012. Regions 1 (91%) and 3 (88%) had the highest percentage of measures met in FY 2013, and Regions 2 and 10 had the lowest (66%) (Figure 9).

Figure 9: FY 2013 Commitments Met and Not Met by Region



Over the past six years, Regions 1, 2, 6, and 9 have had the highest percentages of commitments met. Regions 7, 8, and 10 have had the highest percentages of commitments not met (Figure 10).

Figure 10: FY 2008–FY 2013 Average Commitments Met and Not Met by Region



A trend analysis of individual regional performance over the past six years reveals that EPA Regions 7 and 3 have exhibited the most improvement in meeting their annual commitments between FY 2008 and FY 2013. Region 7 increased its performance by 13% (64% to 77% commitments met), and Region 3 raised its performance by 22% (66% to 88%). EPA Regions 2 and 5 showed the most decline in commitments met between FY 2012 and FY 2013. Region 2 declined by 20% (86% to 66%), and Region 5 dropped by 5% (84% to 78%). Region 2 exhibited the greatest variability in percent commitments met over the past six years, with a range of 32%. Regions 3, 5, and 7 had ranges of 24%, 20%, and 22%, respectively, in commitments met. The region with the least variability in performance over the past six years was Region 4, with a range of only 8%. (Figure 11) **Note that these regional trend analyses do not factor in the level of ambitiousness of individual regional commitments or stretch goals, which may or may not contribute to performance status.**

Another way to look at the EPA regions' FY 2013 performance is to focus on the status of end-of-year results of individual measures. This works best when the focus is on the core drinking water and water quality measures, as almost all regions set annual commitments and report on these measures. Figure 12 displays the end-of-year performance status for core program measures in each region for FY 2013. As the chart shows, almost 22% (7/32) of all core program measures met commitments by all regions in FY 2013 (SDW-SP1.N11, SDW-SP4a, SDW-01b, SDW-05, WQ-06a, WQ-06b, SP-14a). Some measures are problematic, with three or more regions not meeting annual commitments (SP-3, WQ-3a, WQ-4a, WQ-10, WQ-12a, WQ-12b, WQ-14a, WQ-17, WQ-19a, and WQ-19b). For several measures, such as the national numeric nutrient measure WQ-1a, a few regions do not set commitments or report annual results. Also, because Region 3 has a limited tribal population, it does not report on national tribal measures (SDW-SP-3, SDW-01b, WQ-SP-14a, WQ-02, WQ-03b, WQ-06b, and WQ-12b). More information about these measures can be found in the subobjective chapters and Appendix D on the Office of Water performance website.

Figure 11: FY 2008–FY 2013 Regional Performance Trends

Figure 12: FY 2013 Regional Commitment Performance Status

Subobjective	ACS Code	Abbreviated Measure Description	FY2013 Commitment Status: = Met; = Not Met; = Data Not Available; = Measure Did Not Exist Or Not Applicable									
			R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Drinking Water	SDW-211	Percent population served by CWSs										
	SDW-SP1.N11	Percent CWSs meeting safe standards										
	SDW-SP2	Percent "person months" with CWSs safe standards										
	SDW-SP3.N11	Percent population served by CWSs Indian country										
	SDW-SP4a	Percent CWSs and source water protection										
	SDW-SP4b	Percent Population and source water protection										
	SDW-01a	Percent CWSs with sanitary survey										
	SDW-01b	Number Tribal CWSs with sanitary survey										
	SDW-04	DWSRF fund utilization rate										
	SDW-05	Number DWSRF projects initiated (cumulative)										
	SDW-07	Percent Class I, II, or III wells with mechanical integrity										
	SDW-08	Number High Priority Class V wells closed/permitted (cumulative)										
Water Quality	WQ-SP10.N11	Number formerly impaired waterbodies now meeting standards (cumulative)										
	WQ-SP11	Number causes of waterbody impairment removed (cumulative)										
	WQ-SP12.N11	Number impaired watersheds improved water quality (cumulative)										
	WQ-SP14aN11	Identify number monitoring stations in tribal waters with no degradation in water quality (cumulative)										
	WQ-01a	Number of numeric nutrient water quality standards approved or promulgated by EPA										
	WQ-02	Number Tribes with approved water quality standards										
	WQ-03a	Number/Percent states/territories with updated water quality criteria										
	WQ-03b	Number/Percent Tribes with updated water quality criteria										
	WQ-04a	Percent states/territorial water quality standards revisions approved										
	WQ-06a	Number Tribes implementing monitoring strategies										
	WQ-06b	Number Tribes providing water quality data										
	WQ-08a	Number/Percent total TMDLs established/ approved EPA										
	WQ-08b	Number/Percent TMDLs developed by states/ approved by EPA										
	WQ-10	Number NPS-impaired waterbodies restored (cumulative)										
	WQ-12a	Number/Percent Nontribal NPDES permits current										
	WQ-12b	Number/Percent Tribal permits current										
	WQ-14a	Number/Percent POTWs SIUs control mechanisms in place										
	WQ-17	CWSRF Fund utilization rate										
	WQ-19a	Number high priority state NPDES permits										
	WQ-19b	Number high priority state & EPA NPDES permits										

Measuring the Ambitiousness of Regional Commitments

For many years, EPA has published the percentage of commitments met and not met nationally and by region in its annual *National Water Program Best Practices and End-of-Year Performance Overview Report.* Although this information can be useful in determining to what extent regions are setting and meeting realistic goals, it is limited in that it does not account for the level of ambitiousness or number of stretch goals a specific region attempts to undertake in a given year. In an effort to provide some context to the measure results, the Office of Water has developed a method that attempts to assess the ambitiousness of regional commitments, regardless of whether those commitments were met or not met.

EPA used three methods to evaluate the relative ambitiousness of regional commitments for a set of 28 performance measures.[5] The method or methods used depended on whether the commitment is expressed as a percentage or as a numeric value.

For each commitment expressed as a percentage, EPA computed both:

- The difference between FY 2013 regional commitments and FY 2013 national commitments, and
- The difference between FY 2013 regional commitments and FY 2012 regional end-of-year results.

For each commitment expressed in numeric units, EPA computed:

- FY 2013 regional commitments as a percentage of FY 2013 regional **universes**.

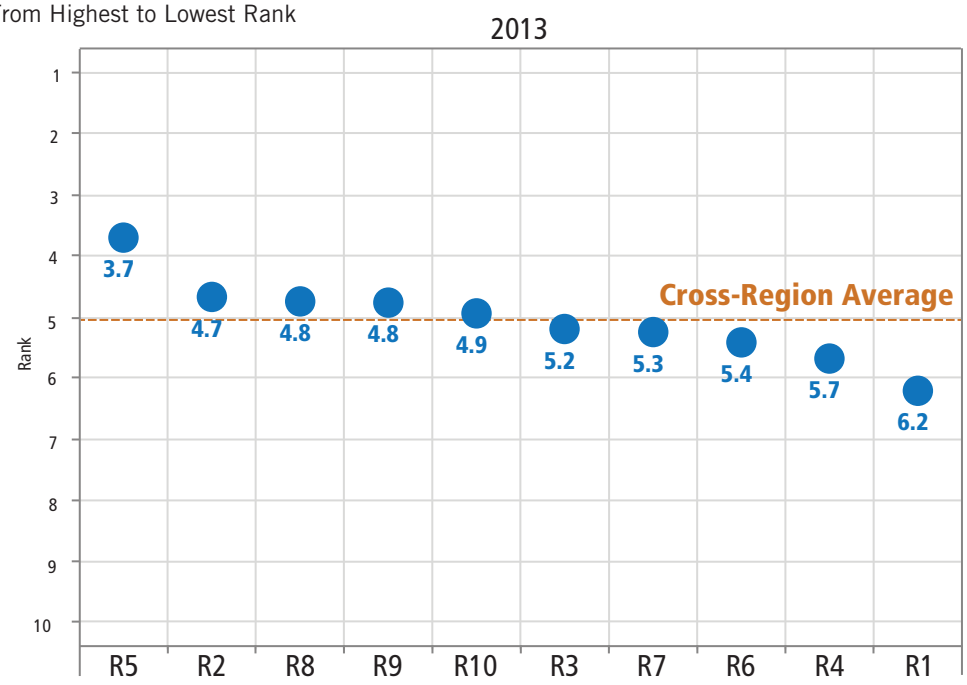
For each measure, within each of the analyses above, each region was assigned a rank based on its result relative to other regions (1= most ambitious, 10= least ambitious). For instance, for a particular numeric measure, the region committing to the greatest share of its universe would be ranked #1 for that measure. These measure-level rankings were combined to generate an average weighted rank per region. (The underlying methodology is described in more detail in Appendix C.)

The average weighted ranks for each region are shown in Figure 13, with regions sorted from high to low rank. Regions 5, 2, 8, and 9 appear to have developed the most ambitious commitments or stretch goals based on this analysis.

[5] The Office of Water focused only on those measures with eight or more regions setting commitments and reporting results, so that the meaning of different ranks would remain fairly constant across measures. This choice excluded measures for LAEs and place-based programs, which are often reported by only one or two regions.

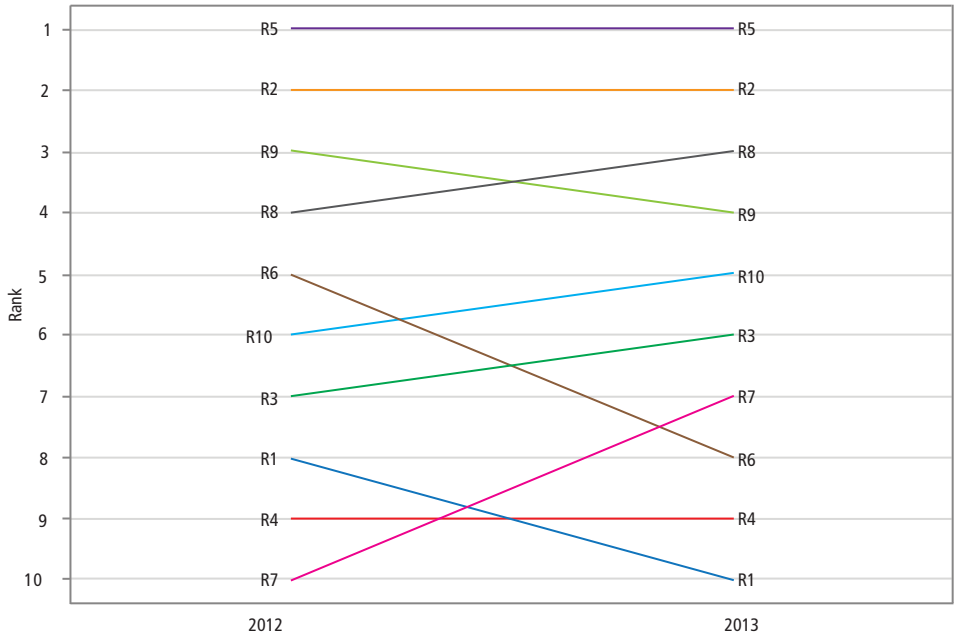
Figure 13: Regional Commitment Ambitiousness: Average Weighted Rank (FY 2013)

Regions Sorted From Highest to Lowest Rank



To compare the regions' level of ambitiousness in setting commitments between FY 2012 and FY 2013, the Office of Water developed a trend chart comparing the average weighted ranking for each region for the past two years (see Figure 14). Three regions dropped in rank (Regions 1, 6, 9), four regions increased their rank (Regions 3, 7, 8, 10) and three regions stayed in the same rank (Regions 2, 4, 5).

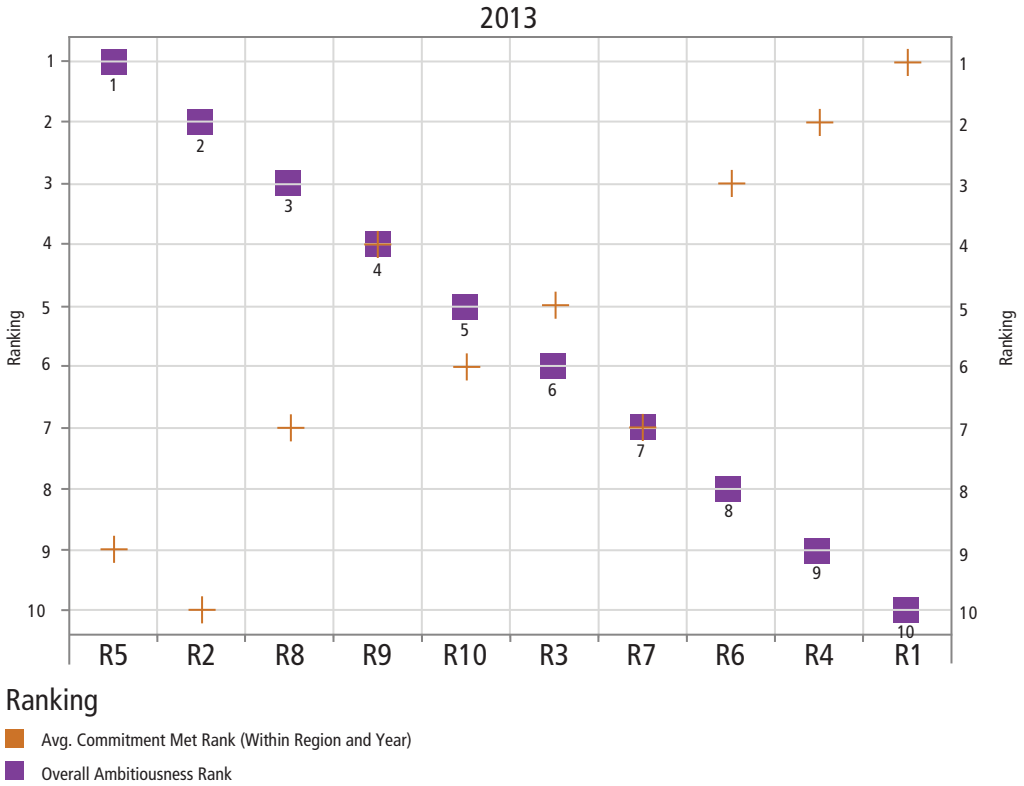
Figure 14: Change in Regional Ambitiousness Rank FY 2012 to FY 2013



EPA also explored the relationship between each region's level of ambitiousness for commitments and the degree to which commitments are met. To do so, EPA gave each region two overall rankings: one based upon its overall ambitiousness, using the average weighted rank discussed above, and one based upon its rate of commitments met for the same set of measures. EPA then compared the rankings for ambitiousness and commitments met across all 10 regions for FY 2013 (Figure 15).[6] As the figure illustrates, two of the three regions with the highest ranking for ambitiousness, Regions 5, 2, and 8, tended to rank lower than average in the percentage of annual commitments met in FY 2013. The regions ranked in the middle on ambitiousness generally ranked about the same in commitments met. The regions ranked eighth, ninth, and tenth in ambitiousness are ranked third, second, and first in commitments met.

Figure 15: FY 2013 Regional Ranks of Ambitiousness vs. Commitment Met

Regions Sorted by Ambitiousness Rank



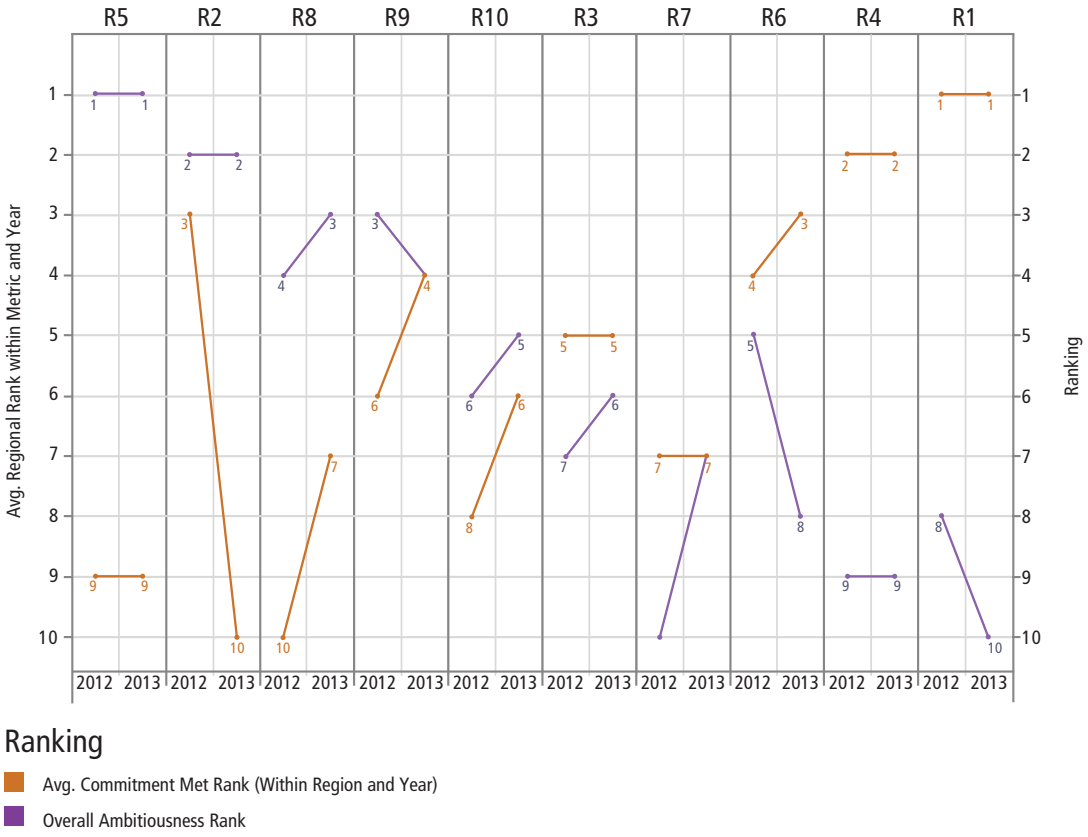
Another way to examine the impact of ambitiousness on the ability to meet commitments is to compare changes in regional rank between FY 2012 and FY 2013 (Figure 16).[7] In terms of ranking on commitments met, one region declined (Region 2), four regions increased (Regions 6, 8, 9, and 10), and five regions stayed the same in their rank in commitments met (Regions 5, 3, 7, 4, and 1). For commitment ambitiousness, three regions dropped in rank (9, 6, 1), four regions increased in rank, (8, 10, 3, 7) and three regions stayed in the same rank (5, 2, 4). Of the four regions that increased in commitment ambitiousness (Regions 8, 10, 3, and 7), two regions increased and two remained the same in commitment met rankings. Alternately, of the three regions that showed declines in relative ambitiousness between 2012 and 2013, regions' rankings on commitments met went up or stayed the same (Regions 9, 6, and 1).

[6] Because this ambitiousness analysis focused only on a subset of the Office of Water's measures, the rankings for commitments met may be different than those presented earlier in this document (Figure 9). This approach helps ensure appropriate comparability, in this analysis, between the ambitiousness ranks and commitments-met ranks.

[7] The FY 2012 rankings for ambitiousness and commitments met were calculated in the same manner as described earlier for the FY 2013 rankings.

Figure 16: Change in Regional Rank in Ambitiousness and Commitments Met

Regions Sorted by FY 2013 Ambitiousness Rank

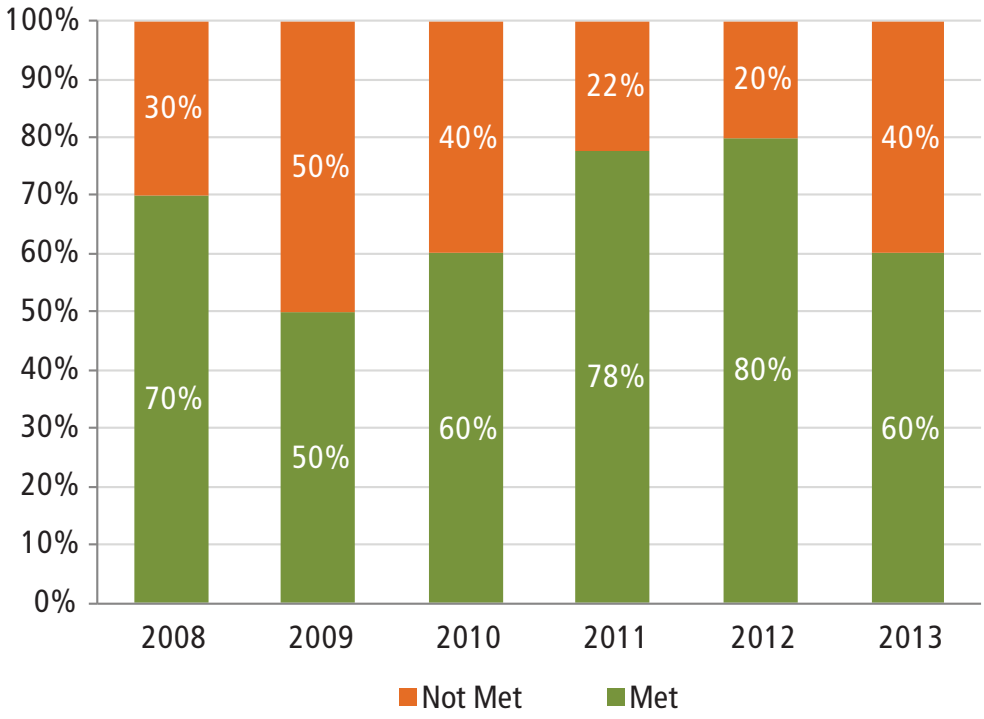


The analysis suggests a relationship between the level of ambitiousness in setting commitments and the percentages of commitments met at end of year. Note, however, that there are several key caveats in interpreting the results of this analysis. It is based on a relatively small set of measures (23 to 28) and focuses on only two years of data. Other methodological approaches probably could be used and might produce different results. And, finally, a multitude of factors influence regions in terms of setting commitments for individual measures (e.g., resource availability, size of measure universe, region-specific priorities, region-state oversight relationships). All of these factors are important in the ultimate outcome of negotiations among headquarters, regions, and states in setting annual commitments. The purpose of EPA's analysis in assessing ambitiousness is not to punish or embarrass any region whose rankings might be lower than other regions'. The goal is simply to provide additional benchmarking information for headquarters and regions to use during commitment negotiations.

Tribal Commitment Measures

Ten of the National Water Program measures focus specifically on drinking water and water quality on American Indian lands. There was a decrease in the number of commitments met in 2013 over the results in 2012 (Figure 17). End of the year results indicate that compliance with safe drinking water standards for CWS on tribal lands continues to be a serious challenge, as does access to safe drinking water for tribal populations. Although access to wastewater sanitation on tribal lands continues to improve, EPA failed to meet its commitment for the percent of tribal facilities covered by NPDES permits that are considered current over the past year. For more information on tribal performance results, see the "American Indian Drinking Water and Water Quality FY 2013 Performance" chapter on EPA's Water Program Performance Page (http://water.epa.gov/resource_performance/performance/index.cfm).

Figure 17: FY 2008–FY 2013 Tribal Commitments Met and Not Met



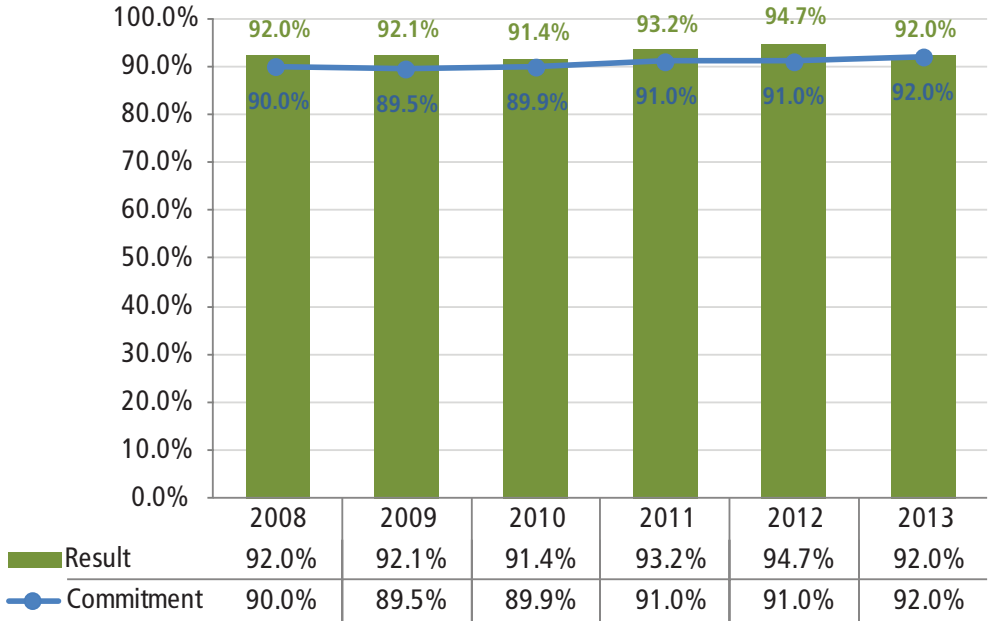
FY 2013 Performance Highlights

The National Water Program tracks the results of 115 commitment and non-commitment (indicators) performance measures for a diverse set of individual programs. Programs can be national or regional in scale and produce a multitude of outputs and outcomes. The following section provides historical trend data of many of the key performance measures in the national program. For more in-depth information about any of the measures or charts in this section, please refer to the specific subobjective chapter contained in the comprehensive *Best Practices and End-of-Year Performance Report* on EPA's website (http://water.epa.gov/resource_performance/performance/index.cfm).

Water Safe to Drink

Ninety-two percent (**92%**) of the population was served by CWSs with drinking water that met all applicable health-based drinking water standards. This was above the annual commitment of 92%.

Figure 18: Percent Population with Drinking Water Meeting Standards by Fiscal Year (SDW-211)

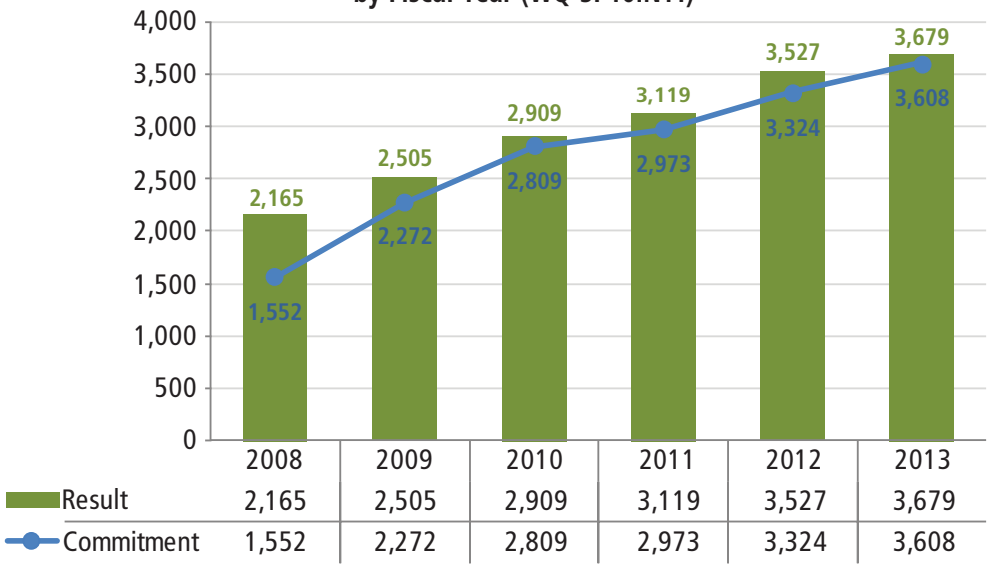


	2008	2009	2010	2011	2012	2013
Result	92.0%	92.1%	91.4%	93.2%	94.7%	92.0%
Commitment	90.0%	89.5%	89.9%	91.0%	91.0%	92.0%

Improve Water Quality on a Watershed Basis

Close to **3,700** of the waters listed as impaired in 2002 met water quality standards for all the identified impairments (commitment 3,608).

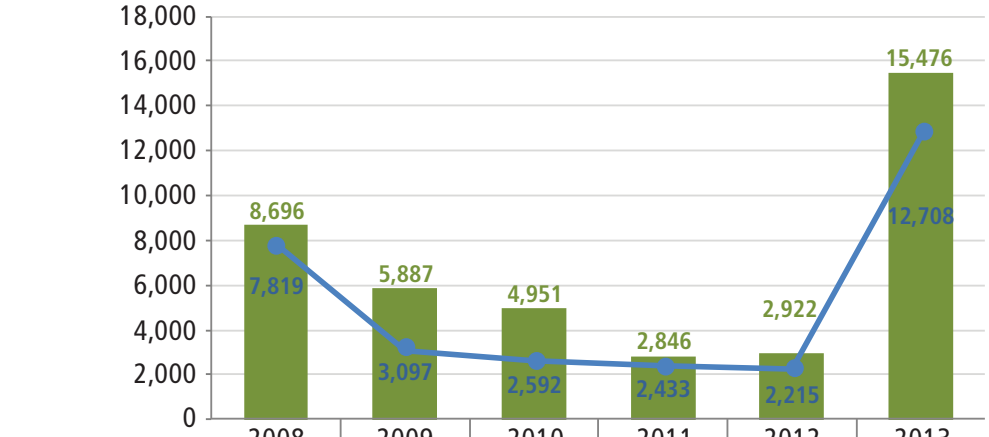
Figure 19: Formerly Impaired Waterbodies Meeting Water Quality Standards by Fiscal Year (WQ-SP10.N11)



	2008	2009	2010	2011	2012	2013
Result	2,165	2,505	2,909	3,119	3,527	3,679
Commitment	1,552	2,272	2,809	2,973	3,324	3,608

EPA established and approved **15,476 TMDLs**. More than 60,000 TMDLs have been completed since 1996.[8]

Figure 20: TMDLs Established or Approved on a Schedule Consistent with National Policy by Fiscal Year (WQ-08a)



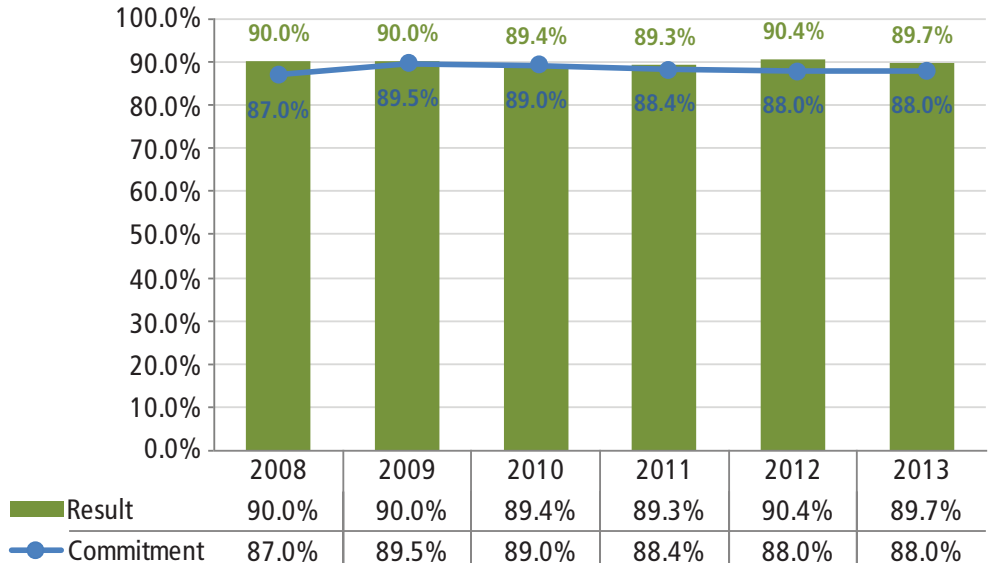
	2008	2009	2010	2011	2012	2013
Result	8,696	5,887	4,951	2,846	2,922	15,476
Commitment	7,819	3,097	2,592	2,433	2,215	12,708

[8] A TMDL is a technical plan for reducing pollutants in order to attain water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself.

Improve Water Quality on a Watershed Basis *(continued)*

For the sixth consecutive year, EPA and states achieved the national goal of having current NPDES permits in place for **88%** of non-tribal facilities.

Figure 21: Non-Tribal NPDES Permits Considered Current by Fiscal Year (WQ-12a)

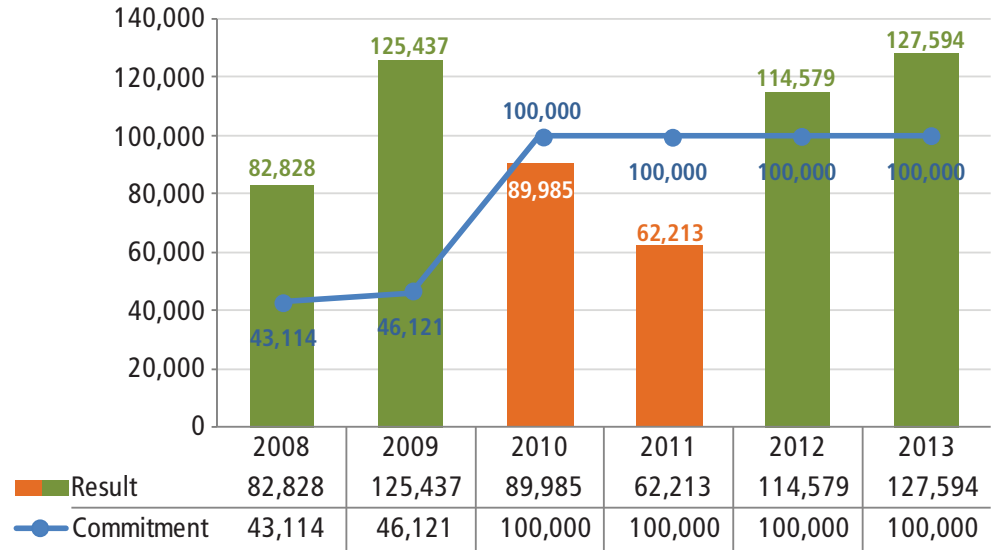


	2008	2009	2010	2011	2012	2013
Result	90.0%	90.0%	89.4%	89.3%	90.4%	89.7%
Commitment	87.0%	89.5%	89.0%	88.4%	88.0%	88.0%

Improve Coastal and Ocean Waters

The 28 NEPs and their partners protected or restored **over 127,000 acres** of habitat within the NEP study areas—exceeding EPA's goal of 100,000 acres. Since 2002, the NEPs and their partners have protected or restored more than 1.3 million habitat acres within the NEP study areas.

Figure 22: NEP Acres Protected or Restored (CO-432.N11) by Fiscal Year

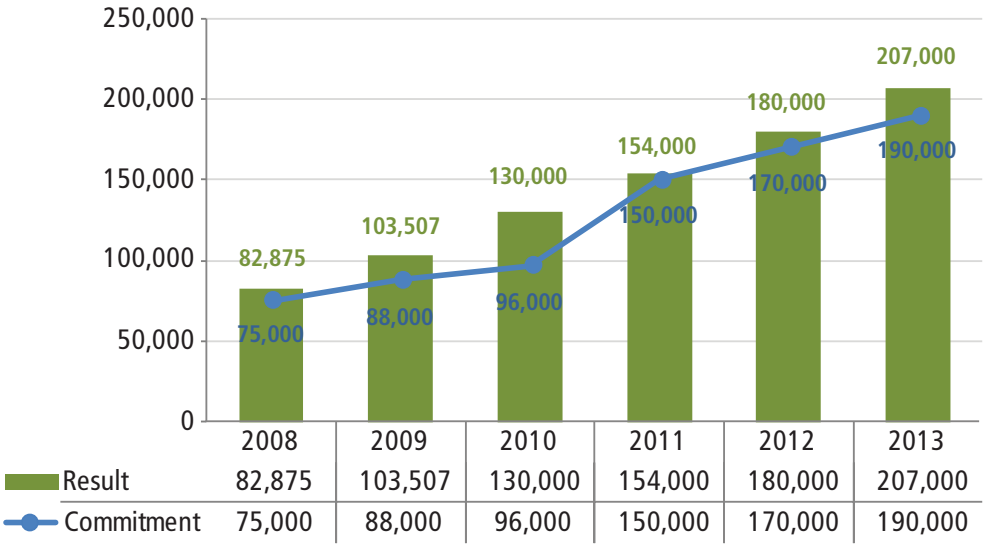


	2008	2009	2010	2011	2012	2013
Result	82,828	125,437	89,985	62,213	114,579	127,594
Commitment	43,114	46,121	100,000	100,000	100,000	100,000

Increase Wetlands

EPA continues to exceed expectations in wetlands restoration with **207,000 acres** restored and enhanced since 2002 (WT-1).

Figure 23: Wetland Acres Restored and Enhanced by Fiscal Year (WT-01)

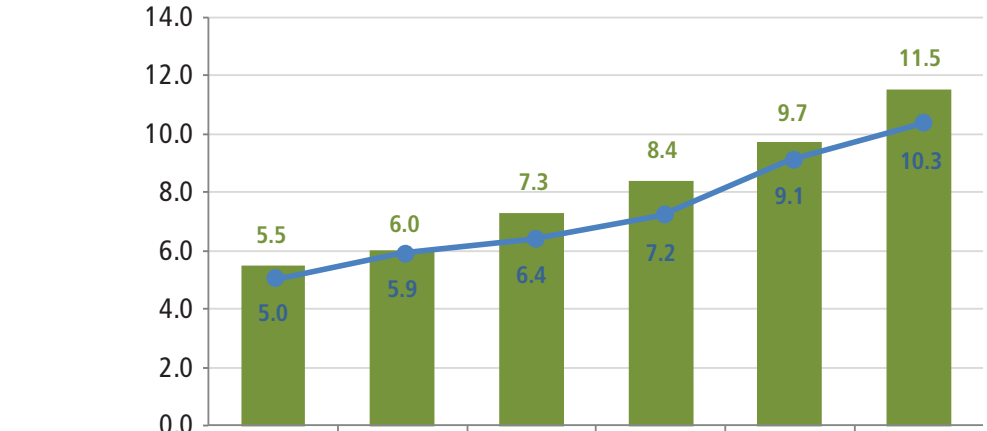


	2008	2009	2010	2011	2012	2013
Result	82,875	103,507	130,000	154,000	180,000	207,000
Commitment	75,000	88,000	96,000	150,000	170,000	190,000

Improve the Health of the Great Lakes

EPA, states, and other partners remediated **11.5 million cubic yards** of contaminated sediments in the Great Lakes through 2012, including more than 1.8 million cubic yards for the most recent year reported.

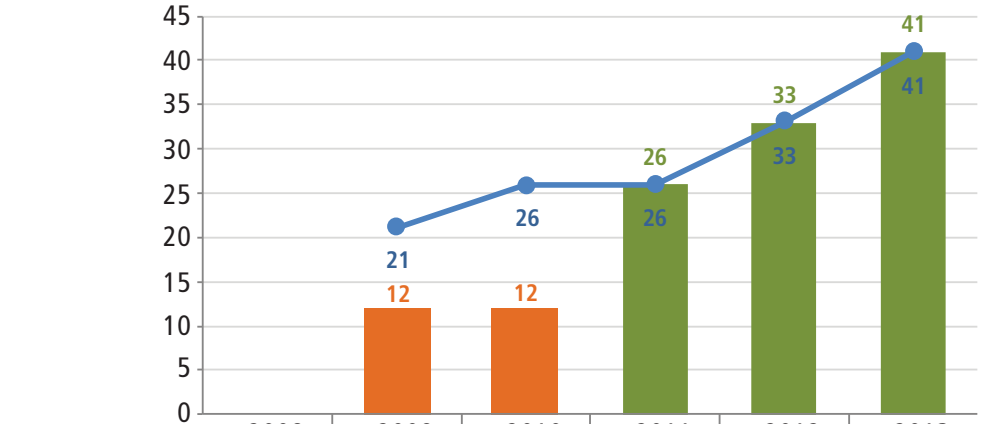
Figure 24: Cubic Yards of Remediated Sediment by Fiscal Year (GL-SP32.N11)



	2008	2009	2010	2011	2012	2013
Result	5.5	6.0	7.3	8.4	9.7	11.5
Commitment	5.0	5.9	6.4	7.2	9.1	10.3

The Great Lakes Program met its commitment to reduce eight additional Beneficial Use Impairments (BUIs) at Great Lakes Areas of Concern (AOCs). Examples of impairments removed include restrictions on fish and wildlife consumption at Muskegon Lake AOC and White Lake AOC; restrictions on drinking water at Muskegon Lake AOC; fish tumors and other deformities at Presque Isle Bay AOC; loss of fish and wildlife habitat at Waukegan Harbor AOC; tainting of fish and wildlife at Detroit River AOC; beach closing at River Raisin; and eutrophication at River Raisin.

Figure 25: Beneficial Use Impairments Restored by Fiscal Year (GL-05)

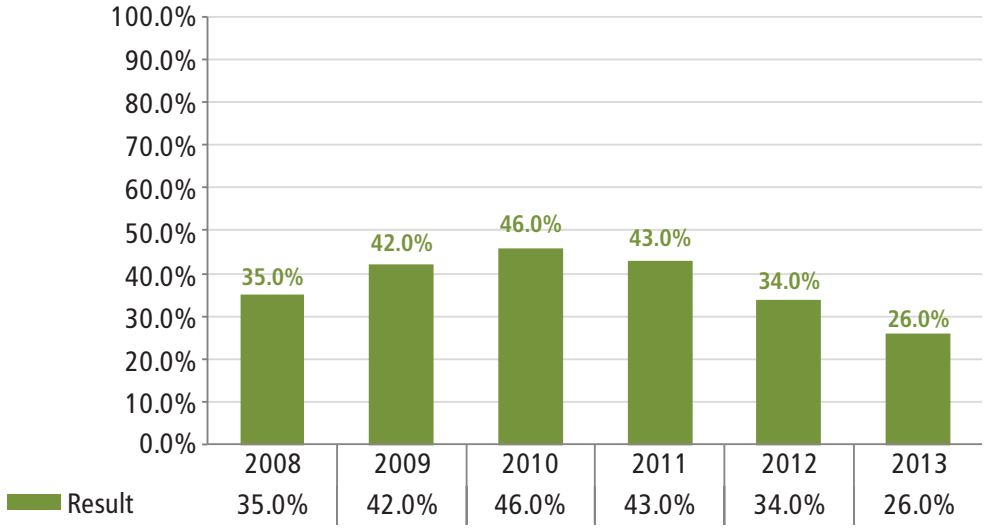


	2008	2009	2010	2011	2012	2013
Result		12	12	26	33	41
Commitment		21	26	26	33	41

Improve the Health of the Chesapeake Bay

Based on annual monitoring from the prior year, the Chesapeake Bay Program reported 48,195 acres of underwater grasses in the bay. This represents approximately 26% of the program's long-term goal of 185,000 acres.

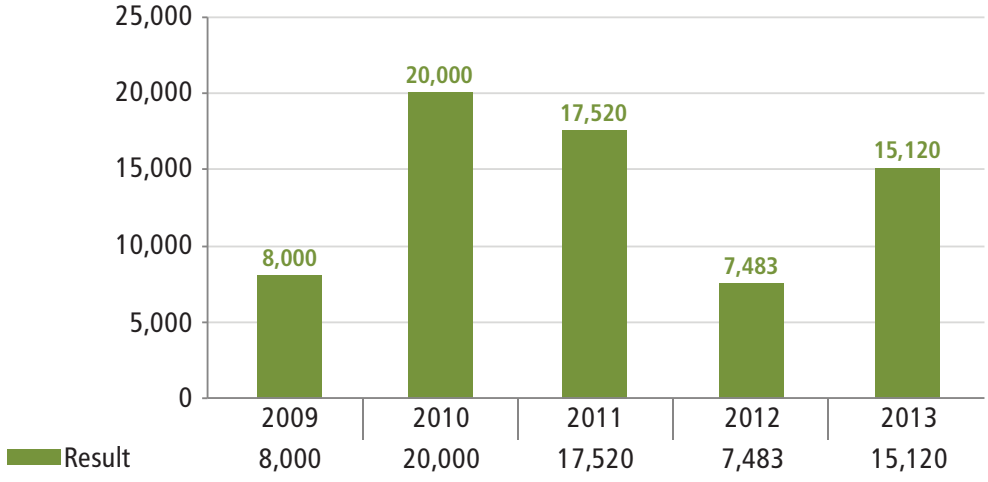
Figure 26: Chesapeake Bay Submerged Aquatic Vegetation Restored by Fiscal Year (CB-SP33.N11)



Restore and Protect the Gulf of Mexico

The size of the hypoxic, or "dead," zone in the Gulf of Mexico increased from 7,483 square kilometers in 2012 to 15,120 square kilometers in 2013. A number of hydrological, climate, and monitoring factors lead to variability in the size of the hypoxic zone from year to year.

Figure 27: Gulf of Mexico Hypoxic Zone 5-Year Average Size (Square Kilometers) by Fiscal Year (GM-SP40.N11)



Restore and Protect the Long Island Sound

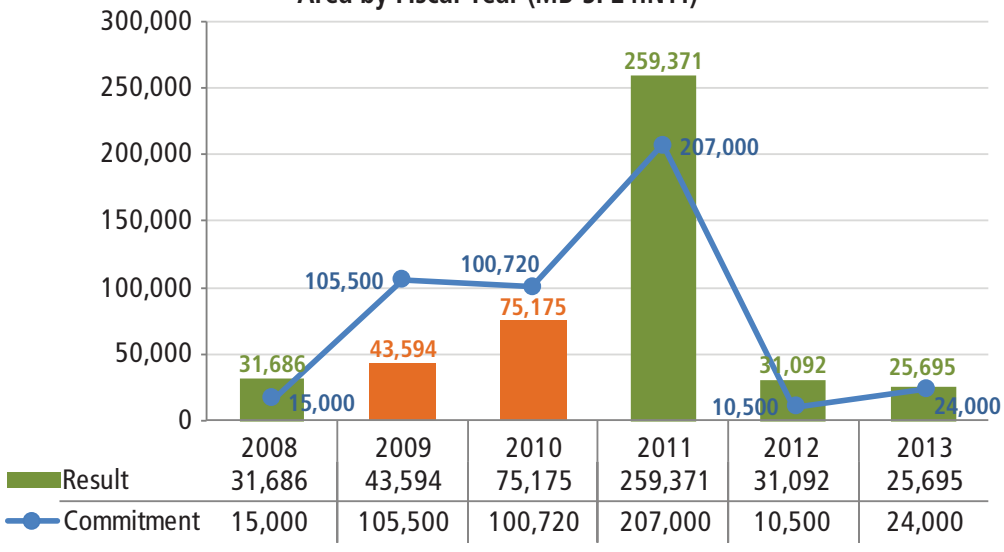
The maximum area of hypoxia in Long Island Sound measured 80 square miles. Ambient environmental conditions in the summer of 2013 led to the second lowest (tied) maximum area of hypoxia in the Sound since 1992.

Figure 28: Reduction in Size (Square Miles) of Long Island Sound Hypoxic Zone by Calendar Year (LI-SP42.N11)

Sustain and Restore the U.S.–Mexico Border Environmental Health

EPA provided adequate wastewater sanitation to an additional 25,695 homes over the past year, achieving its annual commitment (24,000 additional homes).

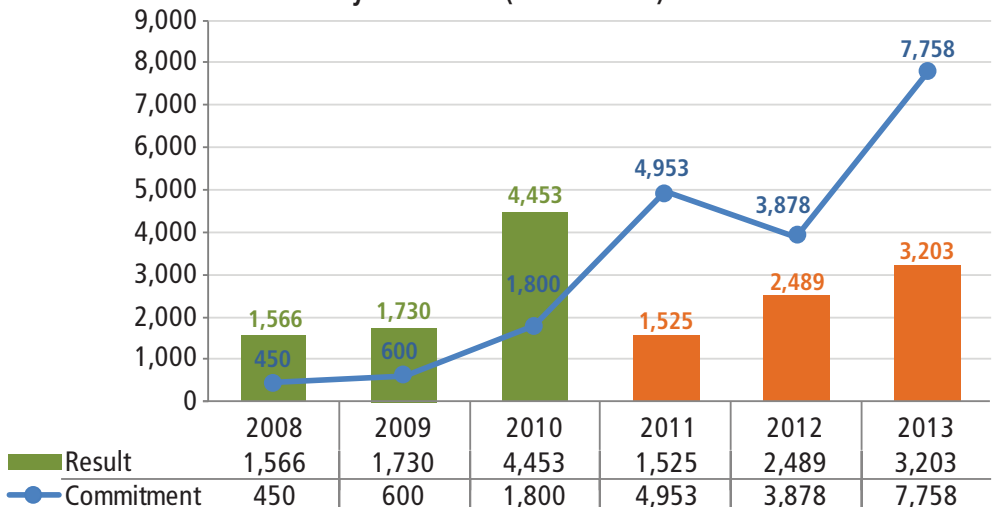
Figure 29: Homes Provided Adequate Wastewater Sanitation in the U.S.–Mexico Border Area by Fiscal Year (MB-SP24.N11)



Restore and Protect the Puget Sound Basin

The Puget Sound program improved water quality and lifted harvest restrictions for 714 additional acres of shellfish bed growing areas. Unfortunately, this was not enough to reach the program's cumulative goal of 7,758 acres of unrestrictive commercial and recreational harvesting area in the Sound.

Figure 30: Increased Acres of Puget Sound Shellfish Areas by Fiscal Year (PS-SP49.N11)

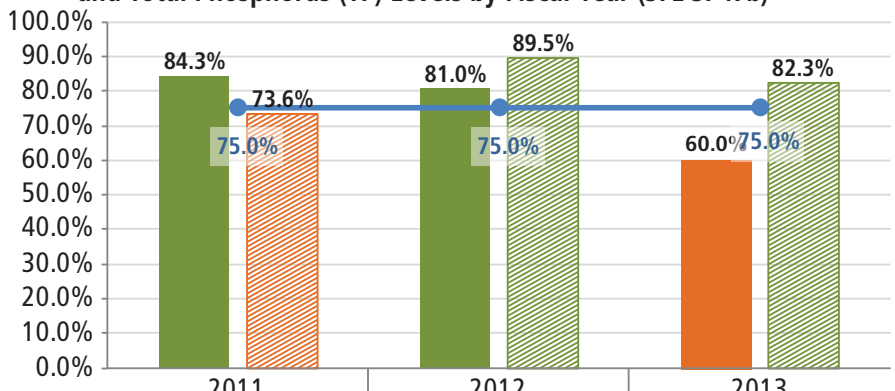


	2008	2009	2010	2011	2012	2013
Result	1,566	1,730	4,453	1,525	2,489	3,203
Commitment	450	600	1,800	4,953	3,878	7,758

Restore and Protect the South Florida Ecosystem

Due to the implementation of upgraded wastewater management, water quality in the Florida Keys Marine Sanctuary showed mixed progress in FY 2013, as measured by the percent of monitoring stations with dissolved nitrogen and total phosphorus at or below unhealthy levels. Dissolved nitrogen levels were at healthy levels at less than 75% of monitoring stations (60%) in near shore and coastal waters of the Marine Sanctuary.

Figure 31: Florida Keys National Marine Sanctuary Dissolved Inorganic Nitrogen (DIN) and Total Phosphorus (TP) Levels by Fiscal Year (SFL-SP47b)

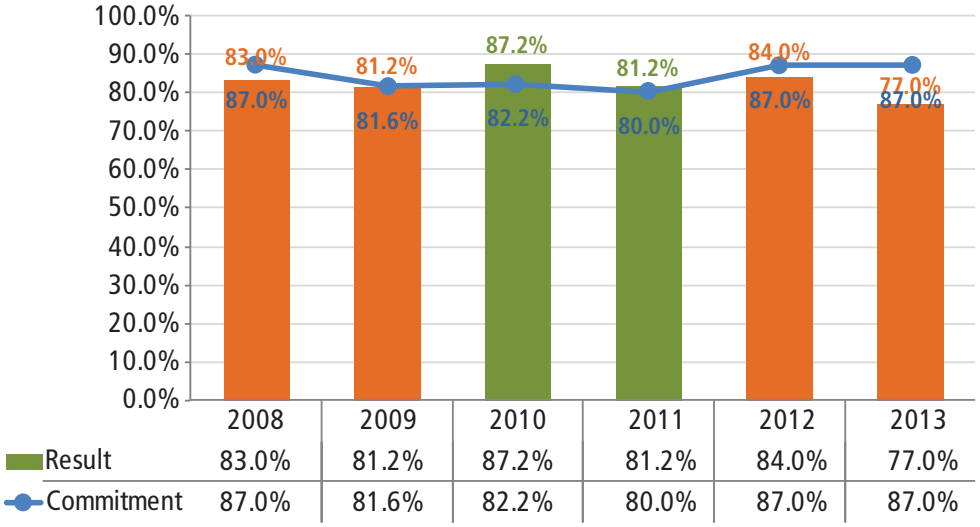


	2011	2012	2013
DIN Result	84.3%	81.0%	60.0%
TP Result	73.6%	89.5%	82.3%
Commitment	75.0%	75.0%	75.0%

Ensure Safe Drinking Water and Protect Water Quality on Tribal Lands

EPA set an ambitious commitment of 87% of the population in Indian Country served by CWSs that receive drinking water meeting all applicable health-based standards. The Agency fell short of this goal, mostly due to violations resulting from the Total Coliform, Stage 1 Disinfection Byproducts, and Nitrates Rules.

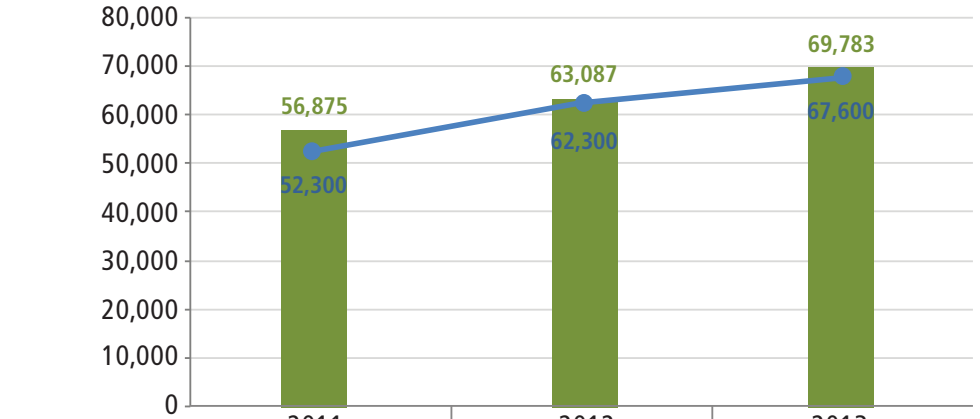
Figure 32: Population Served by CWSs In Indian Country by Fiscal Year (SDW-SP3.N11)



	2008	2009	2010	2011	2012	2013
Result	83.0%	81.2%	87.2%	81.2%	84.0%	77.0%
Commitment	87.0%	81.6%	82.2%	80.0%	87.0%	87.0%

The Agency and its partners provided access to basic sanitation to 69,783 American Indian or Alaskan Native homes.

Figure 33: Number of American Indian and Alaska Native Homes with Access to Basic Sanitation by Fiscal Year (WQ-24.N11)



	2011	2012	2013
Result	56,875	63,087	69,783
Commitment	52,300	62,300	67,600

National Water Program FY 2013 Best Practices

Introduction

The most effective governmental programs are those that can swiftly adapt to changing circumstances and adopt fresh approaches to difficult problems. This section highlights a number of practices undertaken by EPA regions and states that have proven successful in applying novel approaches to drinking water and water quality programs. To propagate their impact widely and encourage their adoption, it is important to identify and transfer these approaches to those individuals and functions within programs who will receive the greatest benefit.

A best practice is defined as a process or methodology that consistently produces superior or innovative results. EPA selected the 11 best practices highlighted in this section from proposals submitted by the water divisions in EPA's regional offices. The proposals were evaluated based on the following criteria:

- **Success Within the Program:** How has the activity resulted in improvements? Are the activity results clear? Does the activity have a direct or catalytic impact on program success?
- **Innovation:** How does the activity differ from existing approaches?
- **Replicability:** Can the activity be adopted by other regions/offices/states? Does it have the potential for expansion?
- **Direct Relation to the Administrator's Priorities**

The selected best practices do not represent a comprehensive list of the innovative activities that are being implemented. Rather, the selection is intended to provide examples of different types of activities occurring in different regions addressing different subobjectives. In selecting these best practices, EPA placed special emphasis on identifying activities or approaches that have produced measurable successful outcomes and have the greatest potential for transferability. These best practices are in addition to a number of activities identified in the FY 2013 *End-of-Year Report*.

The vision for this report is to promote the widespread use of these successful activities and scale up the benefits of their implementation by sharing information on them among the program and regional offices. This is part of a continuous learning process that is expected to yield even more innovation and successful outcomes.

CWSRF Financing Septic System Repairs By Partnering With State Housing Agencies

Brief Description:

Approximately 25% of all U.S. homes have onsite septic systems. An estimated 10% to 20% of these systems malfunction each year, releasing pollution to the environment and creating a risk to public health. Many states have numerous failing individual septic systems contributing to contaminated ground water. Repairing, replacing, and/or rehabilitating these systems is a high-priority nonpoint source problem. The CWSRF programs in Pennsylvania and West Virginia are addressing this water quality problem through innovative partnerships.

The Pennsylvania CWSRF program provides funding to the Pennsylvania Housing Financing Agency. The Housing Agency in turn provides low-interest (1%) loans to qualifying individual home owners to finance the needed repairs to their failing septic systems. The monthly loan payment also includes a .75% servicing and insurance fee. Loans are secured by a mortgage on the borrower's home. The maximum term of a loan is 20 years and loan repayment commences within 60 days after the date of loan disbursement. A loan must be immediately repaid in full if the property on which the project is located is either sold or transferred.

The West Virginia CWSRF program adopted Pennsylvania's example, then went beyond. In addition to the state's housing agency, the West Virginia Housing Development Fund, West Virginia also partners with the Safe Housing and Economic Development, Inc., a nonprofit organization that provides financial assistance directly to individual home owners. Beginning in 2013, West Virginia began offering principle forgiveness on the loans to some of the disadvantaged homeowners who would not have otherwise been able to afford even a very low interest loan.

Current Status:

This Best Practice is in support of President Obama's Executive Order (EO) on Chesapeake Bay Protection and Restoration, issued on May 12, 2009, along with the Chesapeake Bay Total Maximum Daily Load issued by EPA requiring Bay states, which include Pennsylvania and West Virginia, to accelerate actions needed to limit pollution (nutrients consisting primarily of nitrogen) inputs and restore the Bay. Onsite systems (or septic systems) contribute approximately 8 million pounds annually or 3.4% of the overall nitrogen load to the Bay. Approximately 1.7 million onsite systems were in operation in the Bay watershed in 2012, and this number is expected to increase to 19 million—a 13.5% increase—by 2015.

Subobjective:

Water Quality

Type:

Financing

Highlights:

- **What:** The Clean Water State Revolving Fund (CWSRF) programs in Pennsylvania and West Virginia established innovative partnerships with their respective state housing agencies to provide low-interest loans to financially disadvantaged homeowners to repair or replace over 625 failing septic systems.
- **Who:** EPA Region 3, Pennsylvania Department of Environmental Protection, West Virginia Department of Environmental Protection, Pennsylvania Housing Financing Agency, West Virginia Housing Department Fund, Safe Housing and Economic Development, Inc. of West Virginia.
- **Why:** Failing septic systems significantly contribute to water pollution in the mid-Atlantic region. They contribute approximately 8 million pounds annually or 3.4% of the overall nitrogen load to the Chesapeake Bay. The state CWSRF programs do not have the staff to manage small loans but were established to provide multimillion dollar loans to wastewater treatment plants. On the other hand, state housing authorities have experience in working with low-income homeowners.

As of June 30, 2013, Pennsylvania has financed the repair and/or replacement of 422 septic systems totaling over $7.2 million. West Virginia has financed the repair and/or replacement of 203 septic systems totaling over $3.8 million. For FY2014 and forward, both states plan to continue the septic loan programs as established.

Outcomes:

Partnerships between the CWSRF programs and their respective state housing agencies resulted in financing the repair and replacement of many failing individual septic systems that might not have been addressed otherwise. As a result, this Best Practice partnership established in Pennsylvania and West Virginia has significantly reduced ground water contamination and improved water quality throughout their states. Any state identifying failing individual septic systems as a priority nonpoint source water quality problem should consider following Pennsylvania's and West Virginia's examples. For more information on septic tank issues: http//www.epa.gov/septicsmart.

Lessons Learned/Recommendations:

Homeowners who can afford to do so take out a home equity loan to address their failing system without CWSRF financing. However, many homeowners need the special low-interest rate financing available only through the CWSRF program to afford the repairs. The CWSRF program can meet this financing need more easily through a partnership with another state organization that already targets low-income home ownership. Other regions interested in more information can contact Magdalene Cunningham and check out the Pennsylvania PennVest website: http://www.phfa.org/consumers/homeowners/pennvest.aspx.

Contact Information:

Magdalene Cunningham, Region III, 215-814-2338

http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm

EPA-State Sharing of Drinking Water Data to Improve Compliance

Brief Description:

EPA's SDWIS databases store information about drinking water. The federal version (SDWIS/FED) stores the information EPA needs to monitor approximately 156,000 public water systems. The state version (SDWIS/STATE) stores information the states need to help run their drinking water programs. Under this best practice, states in EPA's Region 6 voluntarily upload quarterly, or more often if needed, their state SDWIS/STATE data to Region 6's servers. Region 6 then runs a set of queries that have been developed nationally for SDWIS-state programs to assess the completeness of the states' data. Region 6 has modified these to run against our copies of the states' data. These queries identify 26 basic inventory parameters that the primacy agency should report for each public water supply system. These parameters can cover basic grant eligibility requirements (minimum data sets) to data necessary for supporting successful compliance decisions.

Building and maintaining a collaborative relationship with state partners facilitates states sharing their data with EPA Region 6. This Best Practice provides a win-win scenario, where states receive technical support to improve data quality, and EPA receives more timely and accurate SDWIS reports. Region 6 may be unique in getting this level of access to the states' database of record. There are no formal agreements between EPA and the states regarding receiving data uploads. Although states may discontinue sharing their SDWIS-STATE data at any time, they have continued to share their data every quarter. This is primarily because the practice is not seen as another reporting requirement by the states but rather as a way to collaborate with EPA to improve drinking water compliance.

Current Status:

EPA Region 6 continues to conduct quality assurance (QA) queries on the completeness of the states' SDWIS/STATE data. These queries may assess whether all sources have location data or check to see that all applicable entry points to a drinking water distribution system have appropriate chemical and radionuclide monitoring schedules.

Subobjective:

Safe Drinking Water

Type:

Data Sharing/Compliance Improvement

Highlights:

- **What:** EPA Region 6's State Drinking Water Programs not only report drinking water compliance and inventory data to the federal Safe Drinking Water Information System (SDWIS), but also provide on a quarterly basis a full replica of the SDWIS-STATE database.
- **Who:** EPA Region 6 Drinking Water Section has been maintaining each of the SDWIS-STATE bases on Region 6 servers.
- **Why:** This approach not only provides more comprehensive data to respond to citizen and congressional inquiries, but also provides a mechanism for EPA drinking water program and data managers to address data quality issues and assist Region 6 states in improving drinking water program data quality.

Outcomes:

EPA Region 6 uses the results of these queries, both to identify any of the 26 basic inventory parameters that need to be corrected and to assess the completeness and accuracy of drinking water program data. Ensuring that the states have complete and robust inventory and scheduling data for their Public Water System Supervision (PWSS) program allows for timely and correct determination of systems' compliance with SDWA regulations, materially affecting the national performance metrics for the PWSS program. In Region 6 this results in perhaps more systems being in violation of different rules, but the transparency of the compliance determination process and the underlying data makes it easier for state staff to

defend unpopular compliance determinations. For example, fewer violations are being rejected because they lack identification information (who committed the violation and why). In another example, a state used the results of a query on timeliness of compliance determination to identify staff who were routinely late in completing their determinations.

Performing these oversight tasks and working with the states to address any issues help the states improve the quality of their data and keeps Region 6 abreast of issues in the state drinking water programs. The region has found the data sharing helpful in determining the level of consistency in violation determinations between the federal database and a particular state's SDWIS/STATE system. For example, EPA's query of one state's data determined that it did not have full sample schedules for five entry points to a facility's drinking water distribution systems. Other examples include drinking water treatment plants that do not show treatment processes and facilities that have no or wrong flow information.

Lessons Learned/Recommendations:

Other regions' drinking water programs should acquire or develop in-house the SDWIS/STATE and the Oracle database administrator technical expertise to support state SDWIS/STATE programs. Regions can start by using the QA tools posted on the Association of State Drinking Water Administrator website (both the New York and the North Dakota QA tools are good places to start), then work with their states to modify the queries for each state. Regions can then work with the state, using these tools, to develop solutions to issues as they are found and to maintain a nonadversarial rapport in correcting data quality issues. Only after a level of trust is developed and a region has the necessary skills to support copies of states' SDWIS/STATE databases should the region request these databases. Such support will build trust between states and EPA regions, fostering collaboration on data and improving the completeness and accuracy of state drinking water compliance data.

Contact Information:

Andy Waite, 214-665-7332

Modeling and Abating the Impacts of Sea Level Rise on Five Estuaries in the Gulf of Mexico

Brief Description:

Tidal marshes are among the most susceptible ecosystems to climate change, especially accelerated sea level rise (SLR). Changes in tidal marsh area and habitat type in response to rising sea levels may be modeled using SLAMM, which simulates the dominant processes involved in wetland conversion and shoreline modifications during long-term sea level rise. It creates maps showing the predicted distributions of wetlands under conditions of accelerated SLR and summarizes results in tabular and graphical form. SLAMM can be run to a sequence of future dates and using varying rates of SLR. The tool is run on a desktop PC, which makes it accessible to a broad range of users. Within the contiguous United States, most required data for the model (National Oceanic and Atmospheric Administration (NOAA) tidal data, Fish & Wildlife Service National Wetland Inventory data, and U.S. Geological Survey (USGS) Digital Elevation Model (DEM) data) are readily available for download from the Web. The model can also use LiDAR (Light Detection and Ranging) elevation data, if available, and such high-quality elevation data are highly recommended to reduce model uncertainty. SLAMM results provide communities and natural resource managers with the information needed to take appropriate action and minimize the consequences from SLR. SLAMM is the most widely used model for this purpose.

Building on work funded by EPA since the 1980s to create and improve SLAMM and its use, this project improves the understanding of the vulnerability of natural and human communities to SLR in the Gulf of Mexico. At each of the five estuaries modeled in the Gulf (Corpus Christi Bay, Mobile Bay, Pensacola Bay, Southern Big Bend, and Tampa Bay), TNC held workshops with the resource managers and stakeholders of National Estuary Programs (NEPs) and National Estuarine Research Reserves (NERRs) to gather and deliver significant information on potential adaptation strategies and to share the results of SLAMM with federal, state, and community resource managers and planners. These resource managers and planners could then incorporate the information into future projects, policies, and related activities. Taking actions and conducting planning now using SLAMM results can minimize the hazards to human and natural communities and allow for cost-effective solutions in a planned way rather than a reactionary one.

TNC has been working with the Gulf of Mexico Alliance's Habitat Restoration and Conservation Team with the support of the EPA Gulf of Mexico Program Office (GMPO) to keep the Gulf Coastal Community informed and to obtain feedback on the progress of the modeling, assessment, planning, and implementation efforts. This collaboration has resulted in a number of beneficial outcomes as discussed below.

Subobjective:

Gulf of Mexico

Type:

Climate Change Modeling

Highlights:

- **What:** Five important Gulf Coastal estuaries were able to plan for future impacts from sea level rise using the Sea Level Affecting Marshes Model (SLAMM). SLAMM is a tool that assesses which geographic areas are the most vulnerable to the impacts of sea level rise and which areas are important for future habitat and protection planning. Such knowledge can allow agencies and organizations to take steps to help reduce the impacts of sea level rise on endangered and threatened habitats and species.
- **Who:** The Florida Chapter of the Nature Conservancy (TNC), Gulf of Mexico Alliance (GOMA), Gulf of Mexico Foundation, National Estuary Programs, and resource management agencies.
- **Why:** Coastal wetland systems and human communities along the Gulf of Mexico will be substantially affected by sea level rise in future years due to climate change.

Current Status:

The Gulf Coast Prairie Landscape Conservation Cooperative is using data generated by this five-estuary SLR planning project to apply SLR scenarios to forecast habitat shifts and impacts along coastal prairies and marshes and project their impact on carrying capacity of several different shore-dependent bird species.

NOAA is undertaking an SLR modeling effort in the northern Gulf of Mexico using mainframe computers and more complex models. When finished, the results of this effort will be compared to results obtained via SLAMM for validity and economic efficiency. This effort will help validate it as a tool that is accessible to a wider user audience who could not afford the use of mainframe models.

Outcomes:

SLAMM is actively being used by community decision makers around the Gulf in planning efforts to alleviate impacts of SLR over the coming decades. The tool has already helped coastal planning in several states to identify high-priority conservation areas that allow for wetland migration planning, future wildlife habitat locations, inundation area identification, and priority land conservation, especially in U.S. Fish and Wildlife Refuges and for species of concern (see visual diagram below).

Lessons Learned/Recommendations:

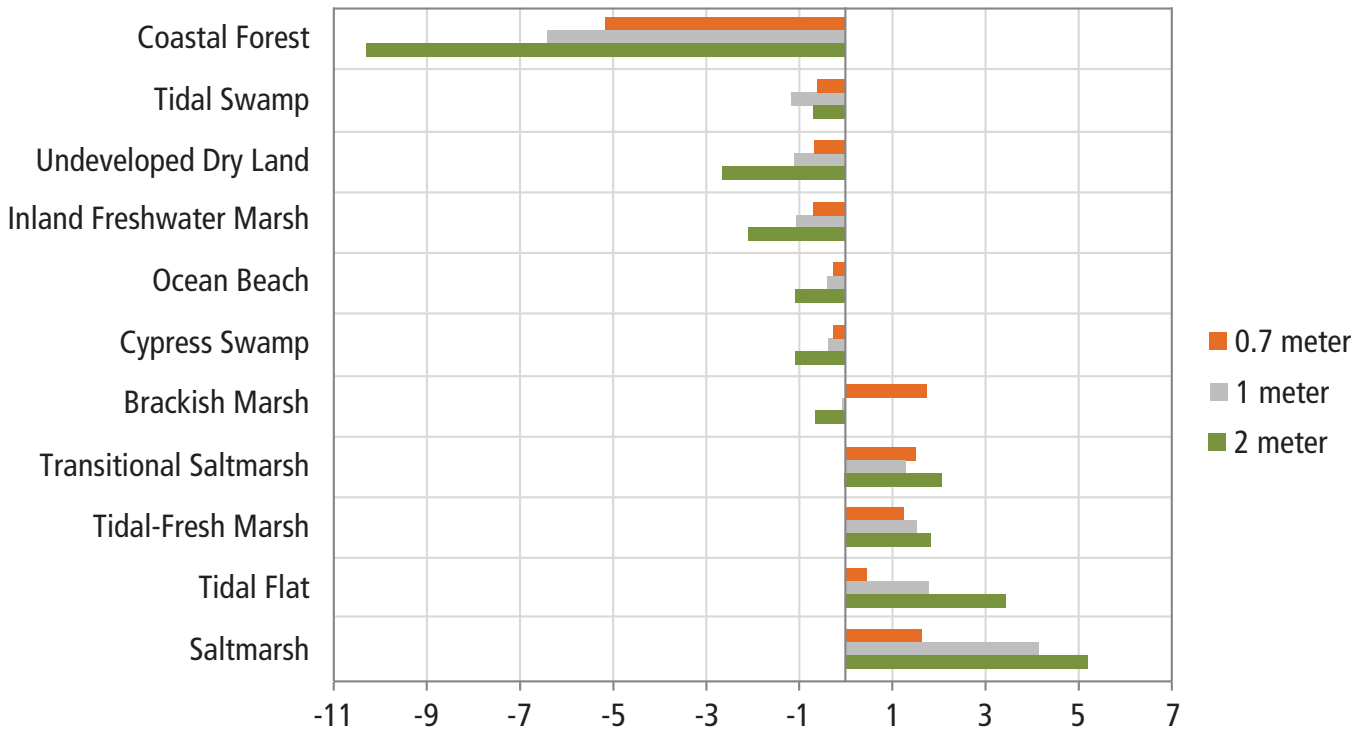
By working with a number of agencies and organizations, this project has effectively conveyed essential information regarding the impacts of, and options for addressing, SLR. This same cooperative approach has ensured that this information is being shared with other agencies and organizations that are carrying out similar projects. Finally, by using the networking capacity of the Gulf of Mexico Alliance and the Gulf of Mexico Foundation, agencies and institutions in Mexico are now being assisted and are gaining more knowledge about SLR modeling approaches, the impacts of SLR, and options for addressing those impacts.

Contact Information:

Laura Geselbracht, TNC, 954-383-3085,

Drew Puffer, EPA Gulf of Mexico Program, http://www.nature.org and http://maps.coastalresilience.org/network

Pensacola Bay Study Area Simulated Loss/Gain in Coastal Ecosystems from initial Condition through the year 2100 under 3 Sea Level Rise Scenarios



Cash Flow Modeling in Drinking Water State Revolving Fund Programs

Brief Description:

Cash flow modeling is a tool that calculates future fund balances based on anticipated cash inflows and outflows for a revolving loan fund. The financial aspects of SRF programs are highly complex with funds entering and leaving the program in multiple ways and at different times. Cash flow modeling allows fund managers to assess the future financial implications of current policy choices. For example, a fund manager can use a cash flow model to identify the maximum amount they can commit to new loan agreements in a given year without risking default when the loans are paid out. Without a cash flow model, the manager may decide to keep a large pool of funds idle as a hedge against uncertainties. Improved decision making based on cash flow modeling can reduce ULOs while maximizing the SRF's ability to create environmental benefits and positive impacts on water quality and human health. Some state SRF programs already use this approach (e.g., Arizona and Minnesota), but others do not.

In 2013, EPA Region 9 issued a notice of noncompliance to CDPH because of deficiencies in financial management and fund performance. The California DWSRF had $450 million in ULOs, while at the same time California had $39 billion in drinking water infrastructure needs. Through the notice of noncompliance, Region 9 required CDPH to adopt cash flow modeling.

Current Status:

Region 9 developed a cash flow model for CDPH and trained the staff on its use. Using the cash flow model, CDPH has increased loan commitments with the expectation of reducing ULOs to below $160 million in three years.

Outcomes:

The outcome of responsible cash flow modeling is informed decision making in the SRF programs. It is a feedback process that, if done correctly, continually becomes more accurate and offers continuous input for decision makers.

Subobjective:

Safe Drinking Water

Type:

Financing

Highlights:

- **What:** EPA is promoting the use of a financial modeling tool—cash flow modeling—that assists State Revolving Fund (SRF) loan programs in anticipating cash inflow and outflows for the program and reducing the amount of unliquidated obligations (ULOs).
- **Who:** Region 9 helped the California Department of Public Health (CDPH) develop and implement a cash flow model for its DWSRF program.
- **Why:** A number of SRF loan programs suffer from deficiencies in financial management and fund performance, particularly ULOs. Cash flow modeling helps ensure the maximum use of SRFs to build urgently needed infrastructure projects to improve water quality.

Region 9's development of a cash flow model for California has drawn interest from other regions and states. As a result, Region 9 is currently participating in cash flow modeling training for all state DWSRF programs on a national basis. This is the first in a series of webinars on strengthening DWSRF financial integrity sponsored by EPA's Office of Ground Water and Drinking Water. The purpose of the training is to familiarize states with the cash flow modeling process and to encourage states to adopt the modeling to improve fund management.

Lessons Learned/Recommendations:

1. Cash flow modeling is a valuable tool for improving financial performance of SRF programs and should be considered by all states.

2. EPA regions partnering with states must ensure that SRF management within each state understands the importance of financial management and the benefits of cash flow modeling to ensure successful implementation of cash flow modeling.

3. Building and utilizing a cash flow model requires a sustained partnership. The model must be tailored to a state's specific procedures and based on accurate information. Refinements will be necessary as the state gains experience using the model.

Visual Diagram:

Below is a visual representation of the simplest incarnation an SRF can take. The diagram shows all the cash flows associated with the fund and how often the flow can happen. A cash flow model accounts for all of these flows and calculates future fund balances, so that a fund manager can make informed decisions about appropriate loan commitment levels while in an environment that changes daily.

Contact Information:

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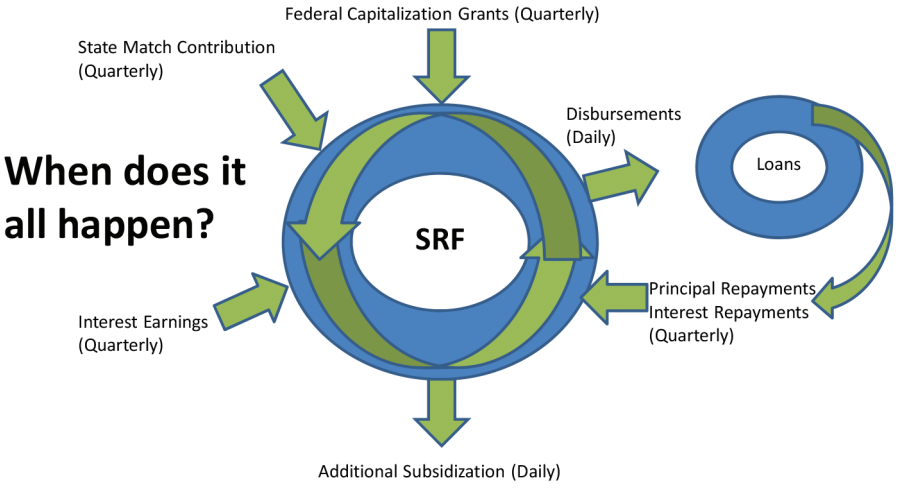
Revolving Loan Fund: Simplest Form



Advancing Energy Efficiency at Water and Wastewater Treatment Facilities

Brief Description:

Too often, energy management is not a priority for municipal officials whose primary concern is how water and wastewater treatment costs fit within a larger fiscal picture. Neither is it a priority for operators who are primarily responsible for ensuring that the treated water meets regulatory standards. As such, energy management at the facilities often falls between the cracks. Many municipalities may not notice that they are using more energy than necessary, typically accounting for 30% to 40% of the total energy budget. By making energy efficiency an established priority, facilities can reduce GHG emissions as well as the cost of energy to the municipality.

In 2008, with financial support from EPA's Office of Wastewater Management, Region 4 hosted a workshop in Nashville that presented energy efficiency as a management concept. In 2011, a formal partnership began with a proposal from Region 4 to TDEC for a joint Region 4-TDEC Energy Management Initiative (EMI) in Tennessee. The EMI would focus on a select group of water/wastewater utilities and assist them in identifying and implementing energy conservation measures. During the subsequent months, seven municipalities in Tennessee demonstrated significant interest and joined the EMI partnership. EPA and TDEC successfully obtained critical support from other key partners including the Tennessee Valley Authority, the University of Memphis, the University of Tennessee, the University of North Carolina Environmental Finance Center, Schneider Electric, Inc., and the Tennessee Department of Economic and Community Development.

EPA, TDEC, and the other partners visited the participating facilities to identify initial opportunities to save energy. EPA worked with the partners to develop Preliminary Energy Assessment reports that analyzed the process energy data and presented the partnership's recommendations. The municipalities were then invited to participate in four workshops to assist them with developing energy management plans that included their overall energy efficiency goals, specific projects, and potential opportunities to fund implementation of the projects.

Subobjective:

Water Safe to Drink and Water Quality

Type:

Energy Efficiency

Highlights:

- **What:** EPA Region 4 is promoting energy efficiency at water and wastewater treatment facilities through a three-pronged approach: (1) developing the capacity of state and tribal water regulatory programs, municipalities, and other stakeholders to act on the opportunities for reducing energy use and cost at facilities; (2) establishing relationships with potential collaborators and stakeholders to advance energy efficiency at facilities in certain geographic areas in the Southeast; and (3) targeting low- or no-cost strategies as developed by energy efficiency partnerships to achieve significant reductions in energy use, cost, and greenhouse gas (GHG) emissions.
- **Who:** EPA Region 4 Grants and Infrastructure Branch and the Tennessee Department of Environment and Conservation (TDEC).
- **Why:** The costs of energy use for water and wastewater treatment facilities can represent a significant share of most city government budgets. High energy costs reduce funds available for important upgrades for treatment technologies and compliance attainment.

Current Status:

EPA Region 4 has expanded its efforts to educate state agencies, municipalities, and other key stakeholders regarding the significant energy efficiency opportunities available. The success of the Tennessee EMI is being promoted by the municipalities and other stakeholders that participated in this effort. TDEC is leading a second initiative focused on a new group of utilities in Tennessee. Region 4 is supporting

the effort as it works to replicate the success of this initiative throughout the region.

The Alabama Department of Environmental Management has also partnered with Region 4 to conduct a similar initiative with selected utilities in Alabama. The utility selection process is underway, and site visits and workshops will occur over the rest of 2014. Region 4 has developed a simplified Energy Assessment Tool (R4 EAT) to help the EMI team and the utilities assess and track energy usage and prioritize processes/equipment for further analysis. The R4 EAT is being used in Alabama and will be made available for other states and utilities to help identify potential energy saving opportunities.

Region 4 is also collaborating with United South and Eastern Tribes, Inc. (USET), which provides assistance to tribal governments to enhance their capability to meet the needs of the Indian population. USET serves 26 tribes from Texas to Maine and is headquartered in Nashville, Tennessee. Region 4 is working with USET to build its capacity to provide energy management assistance to tribal utilities and will serve as a resource to provide onsite tribal assistance with USET as needed.

Outcomes:

Region 4 staff have measured and verified reductions of over 5 million kilowatt-hours per year in energy consumption, $400,000 in energy costs, and 4,800 tons of GHG emissions achieved by four of the seven municipal water and wastewater utilities that participated in the EMI partnership in Tennessee. Pending further verification, Region 4 projects that the seven utilities will reduce their energy consumption overall by 16%. This translates to saving a total of 7 million kilowatt-hours per year, reducing annual GHG emissions by 6,600 tons, and saving nearly $600,000 per year.

These results underscore the significant energy saving opportunities available through operational modifications of water and wastewater treatment facilities that the utilities can implement at minimal cost. These modifications can also reduce GHG emissions and provide municipalities with a cash flow to fund additional energy conservation measures, water/wastewater treatment upgrades, or other important needs. Region 4's effort builds on the work initiated by EPA's Office of Wastewater Management through the Plan-Do-Check-Act framework outlined in its Energy Management Guidebook for Water and Wastewater Utilities issued in 2008. Other EPA regions have undertaken similar efforts.

Lessons Learned/Recommendations:

The most important lessons learned through the EMI partnership were:

- The opportunity to save energy exists at almost all public water and wastewater systems, often through operational changes the utility can implement for little to no cost.
- Disconnects often exist between those who use the energy and those who pay for the energy.
- The success of an energy management effort depends upon the involvement of people with good relationships with the utilities.
- A more intensive engagement with the utilities helps develop a long-term focus on energy as a management concept, rather than a one-time problem with a one-time solution.

EPA expects that the results of these efforts will continue to encourage other states to seek similar success, directly advancing the Agency's priorities to make visible differences in communities, take action on climate change, and advance sustainability.

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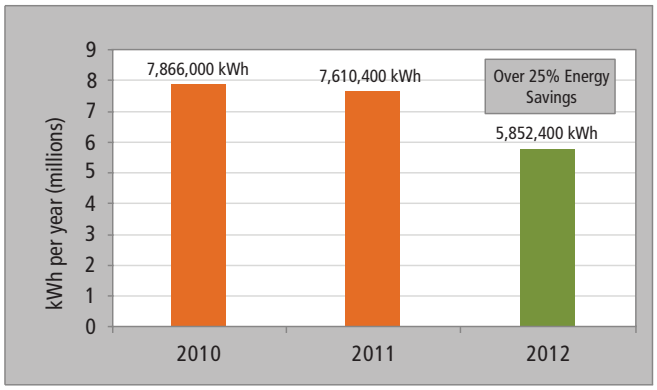
Columbia TN Total Energy Use By Year



New York State's Green Innovation Grant Program (GIGP)

Brief Description:

In 2009, Congress introduced new requirements for projects that receive funds through the Clean Water State Revolving Fund (CWSRF). One of these requirements is that a percentage of the CWSRF should be utilized in projects that meet the requirements of Green Project Reserve (GPR). EPA describes GPR requirements as projects that use green practices to complement or augment gray infrastructure; adopt practices that reduce the environmental footprint of water and wastewater treatment, collection, and distribution; help communities adapt to climate change; enhance water and energy conservation; adopt more sustainable solutions to wet weather flows; and promote innovative approaches to water management problems. NYS meets this requirement through the GIGP and traditional CWSRF projects that meet the definition of GPR. The GIGP reserves a portion of the CWSRF specifically to support projects across NYS that utilize unique stormwater infrastructure design and create cutting-edge green technologies. NYS is the first state to create this type of set-aside. All GIGP applications must be submitted through the Consolidated Funding Application, which allows projects to be considered for funding by various NYS programs, thereby increasing the likelihood of funding.

Eligible applicants include municipalities, state agencies, public authorities, not-for-profit corporations, for-profit corporations, individuals, firms, partnerships, and associations. Applicants must provide a minimum of 10% nonfederal matching funds. All GIGP projects must meet or exceed the standards set forth in the New York State Department of Environmental Conservation's (NYSDEC's) 2010 New York State Stormwater Management Design Manual. Projects must include at least one of the eight acceptable green infrastructure practices to be considered eligible for GIGP funding. Project selection is based on criteria such as a measurable improvement in water quality, innovation in the area of green infrastructure, and plans for long-term maintenance and monitoring. Additional criteria include alignment with economic goals, likelihood of project success, stakeholder involvement, educational opportunities workforce development, and community revitalization.

Subobjective:

Water Quality

Type:

Green Infrastructure

Highlights:

- **What:** The Green Innovation Grant Program (GIGP) supports projects across New York State (NYS) that utilize unique stormwater infrastructure design and create cutting-edge green technologies.
- **Who:** The New York State Environmental Facilities Corporation developed and implemented this Best Practice.
- **Why:** The program was developed to protect and improve water quality and spur innovation in stormwater management.

Current Status:

Projects that have been funded in previous years continue to be constructed, and a similar round of funding opportunities is expected to be available in 2014. Funded projects include the installation of permeable pavements and bioretention practices, green roofs, green streets, and stream daylighting.

Outcome:

Since its inception, GIGP has funded 138 innovative green infrastructure projects, awarding over $102.7 million in grants and, ultimately, leveraging more than $162 million in funding from additional resources. Calendar year 2014 will be the sixth year that this program is being implemented. The base funding for this program is the CWSRF, which is available to all states.

Lessons Learned/Recommendations:

Funds dedicated for green infrastructure projects has greatly increased the use of green practices for stormwater

management. The high visibility of these projects facilitates the acceptance of green practices throughout NYS.

It is particularly valuable to have a balance of projects that demonstrate green infrastructure as specified by NYSDEC and projects that push the envelope. Projects at the most challenging sites allow designers, owners, and maintenance staff the opportunity to really understand how to use and improve green infrastructure practices.

A mistake in many funding proposals is when the applicant relies solely on professional engineers and does not engage the expertise of landscape architects. . Implementing successful green infrastructure projects requires a multidisciplinary team. This is a lesson learned that is continually shared across the state. Unlike grey infrastructure where green components might serve only an aesthetic function, green infrastructure relies on the soils and plant palettes as critical elements of the treatment process.

Contact Information:

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Using Software Automation to Improve EPA's Review of State Clean Water Act Section 303(d) Lists of Impaired Waters

Brief Description:

EPA must approve or disapprove state lists of impaired waters every two years, based on input from the states. Historically, regional staff followed several EPA guidance documents to determine whether state submittals met applicable regulatory requirements and the efforts to verify the accuracy and completeness of state lists varied. After completing reviews, staff used word processing software to generate all of the individual supporting documents described below. This process for generating the documentation was inefficient, error-prone, and subject to the creativity of staff who sometimes crafted unique language to describe a finite number of outcomes.

To implement process improvements, EPA Region 6 developed a complex spreadsheet template that includes a checklist to prompt reviewers to check for compliance with all applicable regulatory requirements. The checklist is integrated with a "listing reconciler" that compares the state's current and previous lists and automatically verifies the accuracy of the state submittal and appropriateness of the state's classification of waters. Ultimately, the checklist options selected by the reviewer determine which prevetted text and reviewer notes will be automatically and simultaneously compiled into (1) letters to the state, (2) records of decisions for proposed and final actions, (3) tables of proposed and final established listings, (4) supporting technical documentation, and (5) *Federal Register* notices about proposed and final actions.

Current Status:

EPA Region 6 staff used a beta-test version to expedite EPA's action on the state of Oklahoma's 2012 Section 303(d) list and distributed a modified version for use by other EPA regions. To date, Region 6 has conducted webinars for other regions to facilitate their evaluation of the tool.

Outcomes:

Using the tool, Region 6 reviewed and validated 100% of 1,199 Oklahoma listings within about three weeks, whereas, a less comprehensive review in the past would have required more than two months. The integration of prevetted language reduced the time required for management review of the supporting documentation from about 12 hours to 1 hour, as the final review was limited to one unique paragraph to be inserted into the standard letter and three unique paragraphs to be included in the record of decision. Greater time savings will be realized for disapproval actions that require extensive reviews by counsel.

The document auto-generator can save considerable time and manpower when new information becomes available that results in a change in the direction of EPA's action on a Section 303(d) list. Staff can "re-write" all supporting documents in a matter of seconds to reflect new information without concern about the potential for any inconsistencies between the documents. Previously, it would have taken several days to rewrite and review all supporting documents in response to new information.

Subobjective:

Water Quality

Type:

Data Assessment

Highlights:

- **What:** EPA Region 6 has created a spreadsheet template for reviewing state Clean Water Act (CWA) Section 303(d) lists, called "ListROD," that includes a checklist to determine compliance with regulatory requirements, a listing reconciler and counter, and an automatic generator of prevetted text for supporting decision documents.
- **Who:** EPA Region 6 Water Quality Protection Division
- **Why:** Modernize business practices to ensure comprehensive EPA reviews, generate consistent high-quality records of decisions, and meet 30-day statutory deadlines for EPA actions.

The template also facilitates completing much of the review prior to the states' official submittals, helping to expedite EPA's final actions. Reviewers can fully document the adequacy of the states' assessment methods and public participation process by completing parts of the checklist before receiving final lists. Reviewers can also populate the "listing reconciler" with listings identified in draft lists, so that minimal data entry is required upon receiving final lists.

A significant benefit comes from having new or less experienced staff use the tool, as the integrated reminders and prompts incorporate the "institutional knowledge" of more experienced staff. The tool helps staff get the job done right in an efficient, consistent, and expeditious way, and it will provide a useful mechanism for on-the-job training for new staff.

Lessons Learned/Recommendations:

We can become more efficient by identifying repetitive and inefficient manual work processes that can be expedited using software automation.

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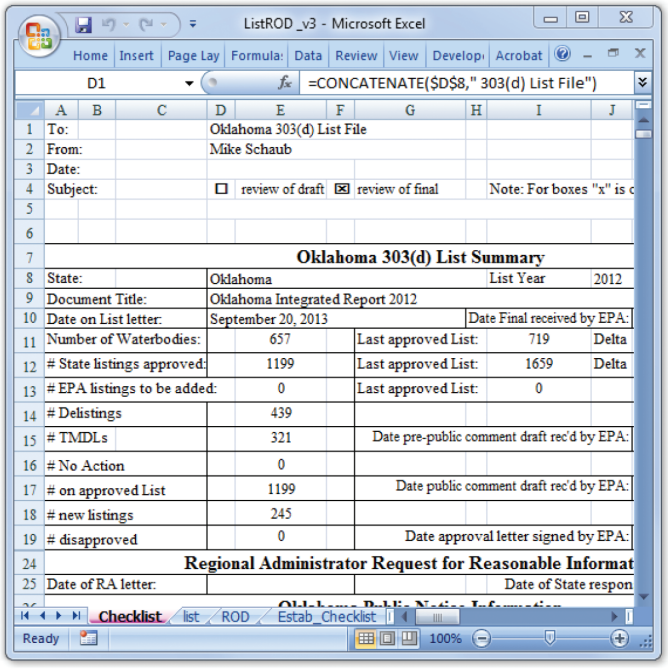

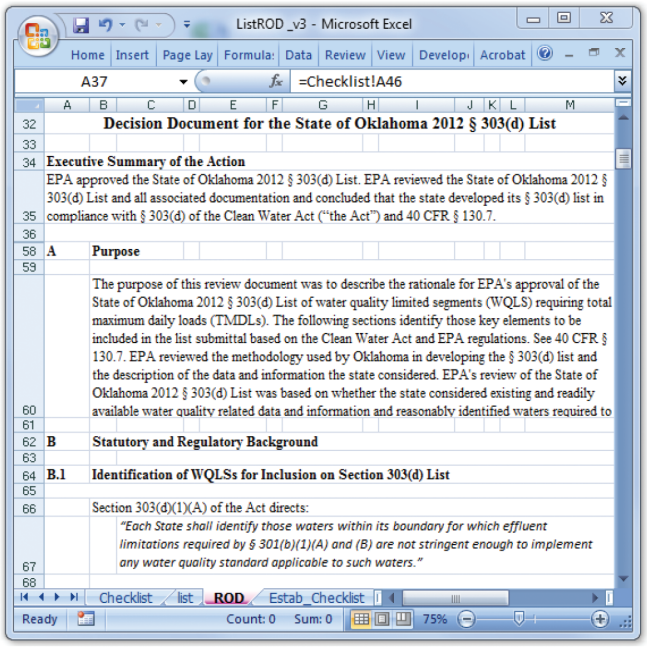

8 Nonpoint Source Watershed-Based Plan Tracking Tool

Brief Description:

State nonpoint source programs are required to develop and implement WBPs to be eligible for CWA Section 319(h) funding. Region 6 states have numerous WBPs in various stages of development. As such, keeping track of WBPs can use valuable staff time to track down information. T efficiently monitor WBPs in Region 6, the nonpoint source (NPS) program staff developed a tracking tool in 2013 that allows them to input information about the authors, location, completion status, and implementation progress of all of the WBPs in a given state. The tracking tool functions as a shared network database that allows both staff and management to view and search for all WBPs from each state that are under development, completed in draft form, accepted by the region, and/or in active implementation phases. This tool saves valuable time for EPA staff and managers making evaluations about eligibility for CWA Section 319 funds in watersheds by quickly determining whether or not an accepted WBP exists for a given watershed. Additionally, the tool is useful for evaluating the extent of implementation that has been carried out for the watersheds with WBPs. The Excel-based WBP tracking tool can be continually updated with new information as new WBPs are received, reviewed, revised, and accepted. The categories included in the WBP tracking tool are:

- State and state agency responsible for plan
- Watershed/WBP name
- Segment(s) ID
- Water quality impairment/concerns
- WBP area size
- Number of HUC-12 units included
- WBP status (in progress, draft, revisions, final)
- Date received by EPA
- EPA reviewer
- Review status
- Is WBP accepted?
- Location of WBP and correspondence letters on network drives
- Comments and remarks

Subobjective:

Water Quality

Type:

Planning/Assessment

Highlights:

- **What:** EPA Region 6 developed a watershed-based plan (WBP) tracking tool to create a database of information regarding the status of all watershed-based plans developed by its states.
- **Who:** EPA Region 6 Water Quality Protection Division
- **Why:** To be eligible for Clean Water Act (CWA) Section 319 funding, state nonpoint source programs are required to develop and implement WBPs. As a result, state nonpoint source programs have a large number of WBPs in multiple stages of development, from conceptualization to implementation. EPA Region 6 needed an effective tracking tool to allow staff and management to quickly determine status and obtain other information on WBPs in Region 6.

Current Status:

The WBP tracking tool is currently used routinely by Region 6 NPS Program Managers and supervisors. For example, NPS Program Managers and Project Officers use the tracking tool during work plan evaluations to assess whether or not a given watershed has an accepted WBP to determine eligibility for CWA Section 319(h) funding for implementation. The

tracking tool has reduced the time it takes to query the status of a given WBP from a few hours in some cases to just a few seconds. It has also provided a foundation to evaluate the effectiveness of older WBPs that have been in their implementation phases for several years.

Outcomes:

The WBP tracking tool has allowed NPS staff to streamline the process of inventorying and tracking the growing number of WBPs in Region 6. It has also improved staff reviews of state water quality agency activities by providing an efficient means of determining the status of WBPs for each state. Prior to the implementation of the WBP tracking tool, a query about the status of a given WBP usually involved multiple phone calls or emails to state water quality agency counterparts as well as coordination among Region 6 Program Managers and Project Officers. After the WBP tracking tool was implemented, these queries can now be efficiently answered by one individual in a matter of minutes, saving valuable staff time and allowing supervisors to quickly understand the scope and progress of WBPs in a given state. The tracking tool is also easily adaptable for use by other regions.

Lessons Learned/Recommendations:

EPA Region 6 has learned that the tracking tool is most effective when the categories included are tailored to a region's specific informational needs. For example, if the tracking tool is to be used for financial tracking, then funds spent on WBPs should be included in the tracking tool categories. Staff do not need to be highly skilled using Microsoft Excel software to create and implement a WBP tracking tool. There is a slight time investment to initially populate the tracking tool with information, and NPS Program Managers will need to coordinate with their state counterparts to ensure that all of the active and inactive WBPs in a state are included. This time investment varies by the size of the state and the number of past and present WBPs, but the Region 6 tracking tool was populated within a time frame of about two weeks. Once the initial setup is completed, the ongoing maintenance to revise and update the tracking tool is minimal.

Contact Information:

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The Coastal Stewards Youth Development Program

Brief Description:

Coastal Stewards program began in 2009 as a natural outgrowth of the Upward Bound Marine and Estuarine Program conducted by the MCBP. The Upward Bound Program serves area high school students in grades 9-12 and those students learn about issues affecting the coastal bays watershed, careers in science, and natural resource conservation and stewardship. Now in its fourth year, the Coastal Stewards program provides opportunities for youth in high school and college to develop personal and professional skills; experiences in education, interpretation, restoration, conservation, and stewardship; opportunities to network with local, state, and national leaders in government, nonprofits, and the private sector to foster relationships with agencies and organizations that have hiring power; and green jobs in their community.

The Coastal Stewards program is advertised on the MCBP website, social media, job fairs, mass emails, and other recruiting events. Students are sent applications when they submit an online interest form; MCBP and its partner organizations then review, score, and rank the submitted applications and subsequently conduct interviews and select candidates.

This program fulfills one of the action items in the Memorandum of Understanding (MOU) that the EPA Region 3 Water Protection Division has with the MCBP, the University of Maryland Eastern Shore (UMES), Maryland Department of Environment (MDE), and the Maryland Department of Natural Resources (MDNR) under the Linking Environmental Academic Programs (LEAP). The MOU is part of a series of MOUs representing partnerships that Region 3 has with historically black colleges and universities and other state partners in the Mid-Atlantic Region. Funding for the program comes from EPA, National Park Service (NPS), Maryland Park Service, and MDNR. All other resources provided are in kind. The partners are involved on a voluntary basis.

Subobjective:

Oceans and Coastal Protection

Type:

Environmental Education

Highlights:

- **What:** The Coastal Stewards Program provides high school and college students with experiences in education, interpretation, restoration, conservation, and environmental stewardship.
- **Who:** The Maryland Coastal Bays Program (MCBP) developed this program. The partners involved are EPA Region 3, EPA Headquarters, MCBP, the Maryland State Park Service, and Maryland National Park Service.
- **Why:** This program was created to expand upon the MCBP's Upward Bound Marine and Estuarine Program to provide opportunities for green jobs for those students who have matriculated from the Upward Bound Program and have a strong interest in environmental stewardship.

Current Status:

The Coastal Stewards Program is going into its fifth year and surveys have demonstrated an increase in environmental literacy and connection to land and water in the Coastal Bays Watershed among the participating student population.

EPA's Office of Water at the Agency's headquarters has awarded the MCBP approximately $969,000 in grant funding since 2010. This funding was added to the Section 320 grant funds that the MCBP receives from EPA yearly. Funds are used to bolster the MCBP's outreach and education programming with minority communities, which includes the Upward Bound Marine and Estuarine Program and the Coastal Stewards Program.

Outcomes:

The MCBP has been able to hire a Coastal Steward to work year-round at the MCBP Office with partners from MCBP, Assateague State Park, and Assateague Island National Seashore to plan, coordinate, and supervise Coastal Stewards' training, projects, and programs. Other Coastal Stewards have gone on to work full-time and temporary positions with the NPS where they are stationed at the Assateague Island National Seashore. The Coastal Stewards have constructed and installed rain gardens and rain barrels, enhanced shorelines, monitored sensitive habitats and wildlife populations in the coastal bays, and conducted education and outreach activities designed to reach over 10,000 residents of and visitors to the coastal bays watershed.

Throughout the duration of the program, the MCBP has implemented a number of evaluative measures to monitor the success of the program. Though this was never a stated goal of the program, some students have changed their focus in school, changed majors at the college level, and are exploring new career paths as a result of their experiences as a Coastal Steward. Environmental literacy is increasing as is care for the environment. Behavior change has been documented as has the influence Coastal Stewards are having on their peers, in their families, and in their communities. Because of the success of the Coastal Stewards Program, EPA has provided funding for the MCBP to document the program's impact so that it can be used as a template for other National Estuary Programs to follow to increase diversity and inclusion in their watersheds and in their programs.

Lessons Learned/Recommendations:

The Coastal Stewards Program is an excellent vehicle to mimic if programs are interested in building support, creating the next generation of environmental stewards, and fostering an environment of diversity and inclusion in their workforce and programming. What makes the MCBP successful in outreach efforts and programs like the Coastal Stewards is its focus on building relationships and genuine connections to the community, and ensuring that the programming is conducted in a mutually beneficial way. For other regions that may be interested in developing a similar program, MCBP recommends researching other agencies, universities, nonprofit organizations, and secondary and elementary schools that may already have student-based after-school or summer programs (like an Upward Bound). Regions may offer to provide environmental education or stewardship programming into their curriculum.

Contact Information:

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Using a Collaborative, Adaptive Approach to Identify Sources of Bacteria Loadings in the Onondaga Lake Watershed

Brief Description:

The MTWG was established in 2008 to support OEI and OCDWEP's efforts to identify and monitor potential bacterial sources and spatial and seasonal variability in Harbor Brook and Onondaga Creek in the Onondaga Lake Watershed in New York. The purpose of the MTWG was to provide technical guidance, comment on action items and deliverables, project oversight, and field assistance. OEI and OCDWEP worked closely together implementing field activities, while the City of Syracuse and Onondaga County assisted in identifying and mapping the sewer system. All parties, including EPA Region 2, NYSDEC, ASLF, NYS Department of Law, and representatives of the Onondaga Nation provided project oversight and technical guidance during work plan development, field implementation, data analysis and interpretation, and recommended strategies going forward. Field work on Phase 1 of the microbial trackdown study was completed in November 2009; sampling results suggested that, despite the identification and correction of several dry-weather sources, follow-up sampling was needed, and MTWG recommended a Phase 2 microbial tracking study.

The MTWG used the sampling results from the Phase 1 study to target "Priority Point Sources" for initial sampling during Phase 2 to obtain more specific information on the duration and location of bacterial loadings. Five field tests were completed under the Phase 2 work plan for monitoring fecal coliform, suspended solids, and water quality (e.g., temperature, dissolved oxygen) during dry weather conditions in several streams in the watershed. Regular meetings were held with the MTWG throughout the duration of the project to update members on the progress of the study, as well as present sample results as they became available. Sampling in 2012 found several of the priority point sources to be corrected, while others remained problematic. At the conclusion of the 2012 field season, the MTWG met and developed a more targeted sampling strategy for the 2013 season for identifying bacterial sources. This adaptive strategy carried through the 2013 sampling season, and in August 2013 the MTWG revised the sampling strategy for the remaining Phase 2 sampling period and completed all field efforts in October 2013.

Subobjective:

Water Quality

Type:

Partnership/Monitoring

Highlights:

- **What:** Federal, state, local, and tribal partners in the Onondaga Lake Watershed in New York State (NYS) formed a working group to assess, oversee, and provide technical assistance to local efforts to identify and monitor potential bacterial sources. The working group adopted a collaborative, adaptive-management-based approach that allowed for a more streamlined approach to addressing sampling results and adapting field methods to address the concerns and priorities.
- **Who:** The Microbial Trackdown Working Group (MTWG) included the Onondaga Environmental Institute (OEI), Onondaga County Department of Water Environment Protection (OCDWEP), EPA Region 2, NYS Department of Environmental Conservation (NYSDEC), Atlantic States Legal Foundation (ASLF), City of Syracuse Department of Public Works, Onondaga County Office of Environment, NYS Department of Law, and the Onondaga Nation.
- **Why:** A study of pathogens in Onondaga Creek in the Onondaga Lake Watershed in NYS in 2007 indicated that fecal coliform concentrations were above the state standard on an annual average basis of 16% and 75% of dry weather days at several rural and urban locations. These results suggested that wet weather combined sewer overflow (CSO) discharge was not solely responsible for bacterial release to Onondaga Creek and that there were unidentified and unmonitored sources of persistent bacterial discharges.

An integral component of the Phase 2 work plan was convening regularly scheduled meetings to update MTWG members on the progress of the study, as well as present sample

results as they became available. During these meetings, the MTWG adopted a collaborative, adaptive-management-based approach that allowed for a more streamlined approach to addressing sampling results and adapting field methods to address the concerns and priorities identified by the MTWG. The collaborative effort during ongoing field efforts has allowed work group members to address identified sites and areas of concern, identify areas where corrective action(s) appeared successful, and then direct sampling efforts and resources towards identifying bacterial sources. This adaptive management approach has been an invaluable component to the study design and has allowed all partners to devote more time and resources towards corrective actions on the problematic bacterial sources in the system.

Current Status:

With the Phase 2 field sampling completed, MTWG members are compiling and synthesizing all the collected data from the field efforts. OEI is preparing a draft Phase 2 Final Report and a draft is tentatively scheduled to be distributed to the MTWG by March 31, 2014.

Outcomes:

At the conclusion of Phase 2 sampling (October 2013), over a dozen corrections had been made in the Onondaga Creek, Harbor Brook, and Ley Creek systems due to the Microbial Trackdown Studies and the efforts of the MTWG. Sources of bacteria have included collapsed pipes, cross connections, and illicit discharges and connections. Over 50 point sources were identified in Ley Creek for the first time during Phase 2 sampling, with only one point source identified as having severely high bacteria levels. Collaboration with Onondaga County and the Town of Dewitt allowed EPA to identify the source of the discharge and eliminate the discharge. Additional work in the Upper Onondaga Creek Watershed, in conjunction with the Microbial Trackdown Studies, has identified and corrected several bacterial sources, including a collapsed septic system and a horse barn adjacent to an unnamed tributary.

Lessons Learned/Recommendations:

A collaborative effort among several groups and agencies allowed for open channels of communication during and subsequent to field efforts. This process allowed for:

- A more comprehensive understanding of the sewer and storm systems in the City of Syracuse and Town of Dewitt. During this study, EPA and the state observed first-hand the complexity of the aging storm and sewer systems and the need for a comprehensive and integrated database to better understand and map these systems. This would allow for more easily establishing efficient and cost-effective track-down strategies, as well as allowing the municipalities to more quickly identify and remedy failures in the systems.
- Easier data-sharing between all MTWG parties. To truly understand the dynamic nature of the streams in the watershed and the effects of bacterial discharges on stream quality, assimilating data from multiple studies has become an major part of better understanding the integrated and potentially compounding effects on bacterial levels. EPA and the state have also learned how invaluable a comprehensive database is for comparing spatial and temporal trends in bacteria levels and how they relate to ongoing, concurrent work in the system that may have important implications.
- Collaboration among the different municipalities to identify and eliminate problematic bacterial discharges. This collaborative process has allowed EPA and its partners to identify existing data gaps and better incorporate the work performed by each municipality, which is not only beneficial for the purpose of this study, but for work performed by the city and county outside the scope of this study.
- Adapting field efforts to maximize field time and costs and more efficiently track down sources of bacteria. EPA and its partners learned that, to successfully address the concerns and priorities identified by the MTWG, an adaptive management approach was an invaluable component to addressing those issues, while at the same time fulfilling the objectives of the Phase 2 study.

Contact Information:

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Demonstrating Successful Community-Based Public-Private Partnerships (CBP3) for Affordable Green Infrastructure

Brief Description:

According to the Maryland Department of the Environment, 95% of Maryland's land area and its stormwater drain into the Chesapeake Bay, and all of Maryland's streams, rivers, reservoirs, and drinking water are impacted by stormwater pollution. The estimated cost for retrofitting existing municipal separate storm sewer systems (MS4s) in the Chesapeake Bay is more than $7.8 billion per year for the next15 years. Because traditional approaches to treating stormwater runoff have had insufficient results, coupled by mandates requiring local governments to accelerate implementation of stormwater control measures, many communities are opting for more affordable green infrastructure practices, which are designed to prevent runoff pollution, assist with flood management and water demand, and provide multiple community benefits.

This reliance on green infrastructure is expected to significantly increase as the economic, environmental, and social benefits of green infrastructure over traditional gray infrastructure practices become more widely known. Local governments need affordable solutions—cost-effective, higher-performing, innovative technologies for greater environmental results and faster procurement to build, operate, and maintain extensive green infrastructure networks. Moreover, public funding sources are increasingly limited and insufficient to meet the escalated needs. EPA estimates that, over the next 20 years, over $600 billion is needed to address water and wastewater infrastructure and $ 100 billion is necessary to address stormwater issues.

To provide some relief and assistance to its jurisdictions, EPA Region 3 worked with national leaders and practitioners in both the green infrastructure and public-private partnership (P3) national financing communities to identify the types of P3 models that would best assist regulated communities in financing their green infrastructure-driven urban stormwater retrofits. A CBP3 model for green stormwater retrofits was developed by an EPA Region 3 team through partnering with experts in the green infrastructure and financing fields, based upon a P3 military approach previously utilized for housing.

Subobjective:

Water Quality

Type:

Partnership/Green Infrastructure

Highlights:

- **What:** EPA used a Community-Based Public-Private Partnership (CBP3) model in working with local organizations to develop financing for green infrastructure stormwater retrofits. The effort is expected to retrofit an initial 2,000 acres by leveraging private sector resources, including alternative financing to treat, operate and maintain 90% and one-inch retention of runoff for purposes of achieving significant pollution reductions of nitrogen, phosphorus, and sediment.
- **Who:** EPA Region 3, Maryland Department of the Environment (MDE), and Prince George's County, Maryland, in addition to the county's private partner and local nonprofit organizations.
- **Why:** This pilot is helping to demonstrate alternative funding strategies to meet obligations under the Chesapeake Bay TMDL.

The CBP3 model (see diagram below) can leverage public investment with private equity at an estimated rate of 10:1 (10 dollars of private equity per 1 public dollar) or higher. The CBP3 model develops a strong, long-term partnership between the municipality and the private equity group, creating shared risk burden and greater accountability, by reinvesting cost savings and revenues to create a pool of funds for reinvestment in additional and future projects.

The team's research, collaboration, and facilitation led to a partnering effort between EPA, MDE, and Prince Georges County to support developing and launching the Prince Georges County Urban Stormwater Retrofit Public Private

Partnership pilot. The project is a $100-200 million pilot to accelerate the retrofit (including operation and maintenance) of 2,000 impervious acres over the next few years, which will create over 5,000 local jobs and eventually revenues to support additional retrofits in the county. Driven by the MS4 permit requirements and the county's stormwater utility fee, the pilot will also create a Partnership Agreement between the public and private partner to ensure the following: total funds raised up front are protected for stormwater retrofit use—design-build-operate-maintain; MS4 permit requirements are met and accounted for in a more timely fashion; implementation is fee-driven (i.e., the greater the degree of savings by the private partner, the more additional dollars to reinvest in additional retrofits/implementation); local jobs and economic redevelopment are supported through the effort.

Current Status:

Prince George's County has selected a private partner and is currently applying the CBP3 model developed by Region 3 and partners.

Outcomes:

The performance goal of the pilot is to treat at least 90% of annual runoff, retain 1 inch of runoff, and achieve effective annual load reductions of 50% nitrogen, 40% phosphorus, and 80% sediment to meet requirements related to the Chesapeake Bay total maximum daily loads and local water quality. This CBP3 model will leverage the county's funds from local stormwater utility fees with private equity. Prince George's County Department of Environmental Resources (DER) is expected to benefit from the pilot partnership by reducing the administrative and procurement costs of green infrastructure practices (est. 60% to 80%) and creating efficiencies only available through private business and market forces. By reinvesting the cost savings, the county expects to retrofit more of the 6,000 acres remaining to be converted, thereby increasing the environmental benefits. The county is also expecting to create an estimated 5,000 jobs as part of this pilot effort.

Lessons Learned/Recommendations:

Lessons learned from the Prince George Urban Stormwater Public-Private Partnership Demonstration Pilot are being captured and transferred by the regional CBP3 team and partners to educate counties, municipalities, states, regulators, engineering, financial, and legal professionals and academics through workshops, webcasts, newsletters, and other social networks. Some of these lessons learned include the following: (1) early outreach and education to key local decision makers, particularly legal and financing officials is important, given this presents a major shift in financing stormwater infrastructure; (2) an MS4 permit and dedicated fee source create certainty and surety for lending institutions, thereby attracting affordable, private financing; (3) highlighting economic development and local business and jobs creation is an effective incentive to attract investment in greener stormwater retrofits; and 4) variations of alternative funding approaches (e.g., may use public funds for design and build, with transition to private for operation and maintenance—or vice-versa) are to be expected. The model is intended to be flexible (not a one-size-fits-all approach), which is why the Region 3 team continues to support additional green infrastructure CBP3 demonstrations for different types of communities and needs.

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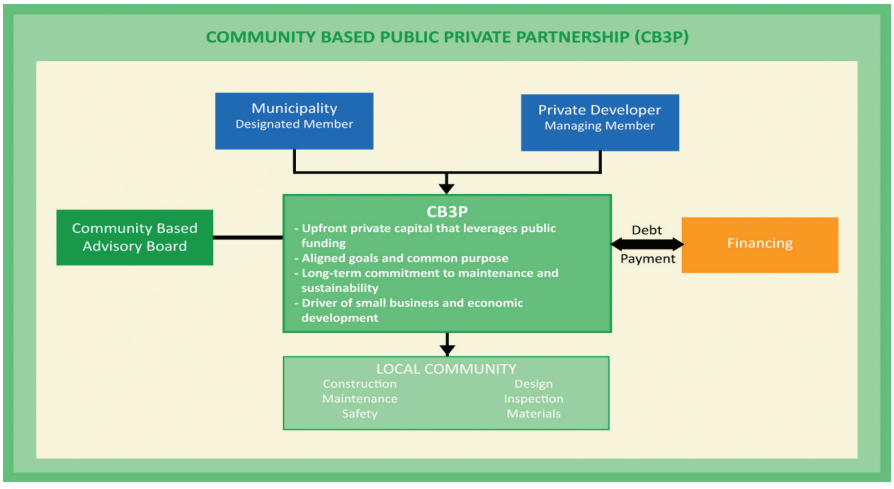


Appendix A: National Water Program FY 2013 End-of-Year Performance Measure Commitments, Results, and Status

Strategic Measures in FY 2011–FY 2015 Strategic Plan

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
Subobjective 2.1.1: Water Safe to Drink				
SDW-211	Percentage of population served by community water systems (CWSs) that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment & source water protection.	92%	92%	Met
SDW-SP1.N11	Percentage of community water systems that meet all applicable health-based standards through approaches that include effective treatment and source water protection.	90%	91.4%	Met
SDW-SP2	Percentage of person months during which community water systems provide drinking water that meets all applicable health-based standards.	95%	96.9%	Met
SDW-SP3.N11	Percentage of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.	87%	77%	Not Met
SDW-SP4a	Percentage of community water systems where risk to public health is minimized through source water protection.	45%	48.3%	Met
SDW-SP4b	Percentage of the population served by community water systems where risk to public health is minimized through source water protection.	57%	59.1%	Met
SDW-18.N11	Number of American Indian and Alaska Native homes provided access to safe drinking water in coordination with other federal agencies.	119,000	108,881	Not Met
SDW-01a	Percentage of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance).	95%	92.6%	Not Met
SDW-01b	Number of tribal CWSs that have undergone a sanitary survey within the past three years (five years for outstanding performers) as required under the Interim Enhanced and Long-Term 1 Surface Water Treatment Rule.	79	84	Met
SDW-04	Fund utilization rate for the Drinking Water State Revolving Fund (DWSRF).	89%	91.4%	Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
SDW-05	Number of DWSRF projects that have initiated operations.	6,976	7,474	Met
SDW-07	Percentage of Classes I, II, and Class III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.	85%	89%	Met
SDW-08	Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) (approximately 23,640 in FY 10) that are closed or permitted (cumulative).	25,225	26,027	Met
SDW-11	Percentage of DWSRF projects awarded to small public water systems (PWS) serving <500, 501-2,200, and 2,201-10,000 consumers.	Indicator	71%	Indicator
SDW-15	Number and percentage of small CWS and non-transient non-community water systems (NTNCWS)(<500, 501-3,300, 3,301-10,000) with repeat health based nitrate/nitrite, stage 1D/DBP, Surface Water Treatment Rule (SWTR), and Total Coliform Rule (TCR) violations.	Indicator	1,263	Indicator
SDW-17	Number and percent of schools and childcare centers that meet all health-based drinking water standards.	Indicator	7,068	Indicator
SDW-19a	Volume of CO2 sequestered through injection as defined by Underground Injection Control (UIC) Final Rule.	Indicator	47,781.14	Indicator
SDW-19b	Number of permit decisions during the reporting period that result in CO2 sequestered through injection as defined by the UIC Final Rule.	Indicator	0	Indicator
Subobjective 2.1.2: Fish and Shellfish Safe to Eat				
FS-SP6.N11	Percentage of women of childbearing age having mercury levels in blood above the level of concern.	2.5%	2.3%	Met
FS-1a	Percentage of river miles where fish tissue will be assessed to support waterbody-specific or regional consumption advisories or a determination that no consumption advice is necessary (Great Lakes measured separately; Alaska not included).	Indicator	36%	Indicator
FS-1b	Percentage of lake acres where fish tissue will be assessed to support waterbody-specific or regional consumption advisories or a determination that no consumption advice is necessary (Great Lakes measured separately; Alaska not included).	Indicator	42%	Indicator
Subobjective 2.1.3 Water Safe for Swimming				
SS-SP9.N11	Percentage of days of beach season that coastal and Great Lakes beaches monitored by state beach safety programs are open and safe for swimming.	95%	96%	Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
SS-1	Number and national percentage, using a constant denominator, of combined sewer overflow (CSO) permits with a schedule incorporated into an appropriate enforceable mechanism, including a permit or enforcement order, with specific dates and milestones, including a completion date consistent with Agency guidance, which requires: 1) implementation of a Long Term Control Plan (LTCP) that will result in compliance with the technology and water-quality-based requirements of the Clean Water Act (CWA); or 2) implementation of any other acceptable CSO control measures consistent with the 1994 CSO Control Policy; or 3) completion of separation after the baseline date, cumulative.	785	758	Not Met
SS-2	Percentage of all Tier I (Significant) public beaches that are monitored and managed under the Beaches Environmental and Coastal Health (BEACH) Act program.	96.8%	98%	Met
Subobjective 2.2.1 Improve Water Quality on a Watershed Basis				
WQ-SP10. N11	Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).	3,608	3,679	Met
WQ-SP11	Remove the specific causes of water body impairment identified by states in 2002 (cumulative).	11,473	11,754	Met
WQ-SP12.N11	Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).	370	376	Met
WQ-SP13. N11	Ensure that the condition of the Nation's streams does not degrade (i.e., there is no statistically significant decrease in the streams rated "good").	Long-term		Long-term
WQ-SP14a. N11	Improve water quality in Indian Country at baseline monitoring stations in tribal waters (i.e., show improvement in one or more of seven key parameters: dissolved oxygen, pH, water temperature, total nitrogen, total phosphorous, pathogen indicators and turbidity) (cumulative).	20	20	Met
WQ-SP14b. N11	Identify monitoring stations on tribal lands that are showing no degradation in water quality (meaning the waters are meeting uses) (cumulative).	Indicator	4	Indicator
WQ-24.N11	Number of American Indian and Alaska Native homes provided access to basic sanitation in coordination with other federal agencies.	67,600	69,783	Met
WQ-01a	Number of numeric water quality standards for total nitrogen and for total phosphorus adopted by states and territories and approved by EPA, or promulgated by EPA, for all waters within the state or territory for each of the following water body types: lakes/reservoirs, rivers/streams, and estuaries (cumulative, out of a universe of 280).	42	44	Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
WQ-26	Number of states and territories implementing nutrient reduction strategies by (1) setting priorities on a watershed or state-wide basis, (2) establishing nutrient reduction targets, and (3) continuing to make progress (and provide performance milestone information to EPA) on adopting numeric nutrient criteria for at least one class of water by no later than 2016 (cumulative).	22.66	22.99	Met
WQ-02	Number of tribes that have water quality standards approved by EPA (cumulative).	40	40	Met
WQ-03a	Number and percentage of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to EPA that reflect new scientific information from EPA or sources not considered in previous standards.	36	32	Not Met
WQ-03b	Number and national percentage of tribes that, within the preceding three-year period, submitted new or revised water quality criteria acceptable to EPA that reflect new scientific information from EPA or other resources not considered in the previous standards.	13	9	Not Met
WQ-04a	Percentage of submissions of new or revised water quality standards from states and territories that are approved by EPA.	87%	59.5%	Not Met
WQ-06a	Number of tribes that currently receive funding under Section 106 of the CWA that have developed and begun implementing monitoring strategies that are appropriate to their water quality program consistent with EPA guidance (cumulative).	222	224	Met
WQ-06b	Number of tribes that are providing water quality data in a format accessible for storage in EPA's data system (cumulative).	189	193	Met
WQ-08a	Number of total maximum daily loads (TMDLs) that are established or approved by EPA [total TMDL] on a schedule consistent with national policy (cumulative). [A TMDL is a technical plan for reducing pollutants to meet water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself.]	12,708	15,476	Met
WQ-08b	Number of TMDLs that are established by states and approved by EPA [state TMDL] on schedule consistent with national policy (cumulative). [A TMDL is a technical plan for reducing pollutants to meet water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself.]	12,694	15,277	Met
WQ-09a	Estimated additional reduction in million pounds of nitrogen from nonpoint sources to water bodies (Section 319-funded projects only).	9.1	10.4	Met
WQ-09b	Estimated annual reduction in millions of pounds of phosphorus from nonpoint sources to water bodies (Section 319-funded projects only).	4.5	3.5	Not Met
WQ-09c	Estimated additional reduction in millions of tons of sediment from nonpoint sources to water bodies (Section 319-funded projects only).	1.1	1.2	Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
WQ-10	Number of water bodies identified by states as being primarily nonpoint source impaired that are partially or fully restored.	468	504	Met
WQ-11	Number and national percentage, of follow-up actions that are completed by assessed National Pollutant Discharge Elimination System (NPDES) programs.	Indicator	364	Indicator
WQ-12a	Percentage of non-tribal facilities covered by NPDES permits that are considered current. [Measure will still set targets and commitments and report results in both % and #.]	88%	89.7%	Met
WQ-12b	Percentage of tribal facilities covered by NPDES permits that are considered current. [Measure will still set targets and commitments and report results in both % and #.]	88%	83.4%	Not Met
WQ-13a	Number and national percentage of municipal separate storm sewer systems (MS4s) covered under either an individual or general permit.	Indicator	7,774	Indicator
WQ-13b	Number of facilities covered under either an individual or general industrial stormwater permit.	Indicator	94,447	Indicator
WQ-13c	Number of sites covered under either an individual or general construction stormwater site permit.	Indicator	158,525	Indicator
WQ-13d	Number of facilities covered under either an individual or general confined animal feeding operation (CAFO) permit.	Indicator	6,684	Indicator
WQ-14a	Number, and national percent, of Significant Industrial Users (SIUs) that are discharging to publicly owned treatment works (POTWs) with pretreatment programs that have control mechanisms in place that implement applicable pretreatment standards and requirements.	20,711: 98%	20,739: 98%	Met
WQ-14b	Number and national percentage of categorical industrial users that are discharging to POTWs without pretreatment programs that have control mechanisms in place that implement applicable pretreatment standards and requirements.	Indicator	1,629: 94%	Indicator
WQ-15a	Percentage of major dischargers in significant noncompliance (SNC) at any time during the fiscal year.	<22.5%	21%	Met
WQ-16	Number and national percent of all major POTWs that comply with their permitted wastewater discharge standards.	3,644: 86%	88.3%	Met
WQ-17	Fund utilization rate for the Clean Water State Revolving Fund (CWSRF).	94.5%	97%	Met
WQ-19a	Number of high-priority state NPDES permits that are issued in the fiscal year.	595	404	Not Met
WQ-19b	Number of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.	652	449	Not Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
WQ-22a	Number of regions that have completed developing a Healthy Watershed Initiative (HWI) strategy and have reached agreement with at least one state to implement its portion of the region's HWI strategy.	Indicator	7	Indicator
WQ-23	Percentage of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal.	92.5%	90.5%	Not Met
WQ-25a	Number of urban water projects initiated addressing water quality issues in the community.	10	9	Not Met
WQ-25b	Number of urban water projects completed addressing water quality issues in the community.	N/A		Data Not Available
Subobjective 2.2.2 Improve Coastal and Ocean Waters				
CO-222.N11	Prevent water pollution and protect coastal and ocean systems to improve national and regional coastal aquatic system health on the "good/fair/poor" scale of the National Coastal Condition.	3	3	Met
CO-SP20.N11	Percentage of active dredged material ocean dumping sites that will have achieved environmentally acceptable conditions (as reflected in each site's management plan).	97%	96%	Not Met
CO-02	Total coastal and no coastal statutory square miles protected from vessel sewage by "no discharge zone(s)" (cumulative).	Indicator	63,773	Indicator
CO-04	Dollar value of "primary" leveraged resources (cash or in-kind) obtained by the National Estuary Program (NEP) Directors and/or staff in millions of dollars rounded to the nearest tenth of a percent.	Indicator	822	Indicator
CO-06	Number of active dredged material ocean dumping sites that are monitored in the reporting year.	Indicator	40	Indicator
CO-432.N11	Acres protected or restored in NEP study areas.	100,000	127,594	Met
Subobjective 2.2.3 Increase Wetlands				
WT-SP21.N11	Working with partners, achievement of a net increase of wetlands nationwide, with additional focus on coastal wetlands, and biological and functional measures and assessment of wetland condition.	Long-term		Long-term
WT-SP22	In partnership with the U.S. Army Corps of Engineers (Corps), states, and tribes, achievement of no net loss of wetlands each year under the CWA Section 404 regulatory program.	No Net Loss	No Net Loss	Met
WT-01	Number of acres restored and improved under the 5-Star, NEP, CWA Section 319, and great water body programs (cumulative).	190,000	207,000	Met
WT-02a	Number of states/tribes that have substantially built or increased capacity in wetland regulation, monitoring and assessment, water quality standards, and/or restoration and protection.	Indicator	37	Indicator

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
WT-03	Percentage of CWA Section 404 standard permits, upon which EPA coordinated with the permitting authority (i.e., Corps or state), where a final permit decision in FY 08 documents requirements for greater environmental protection* than originally proposed.	Indicator	78%	Indicator
Subobjective 2.2.4 Improve the Health of the Great Lakes				
GL-433.N11	Improvement in the overall ecosystem health of the Great Lakes by preventing water pollution and protecting aquatic systems (using a 40-point scale).	23.4	24.7	Met
GL-SP29	Cumulative percentage decline for the long-term trend in concentrations of polychlorinated biphenyls (PCBs) in whole lake trout and walleye samples.	43%	45.9%	Met
GL-SP31	Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented.	4	3	Not Met
GL-SP32.N11	Cubic yards of contaminated sediment remediated (cumulative from 1997) in the Great Lakes.	10.3	11.5	Met
GL-05	Number of Beneficial Use Impairments removed within Areas of Concern.	41	41	Met
GL-06	Number of nonnative species newly detected in the Great Lakes ecosystem.	0.8	0.71	Met
GL-07	Number of multiagency rapid response plans established, mock exercises to practice responses carried out under those plans, and/or actual response actions (cumulative).	15	30	Met
GL-08	Percentage of days of the beach season that the Great Lakes beaches monitored by state beach safety programs are open and safe for swimming.	90%	94%	Met
GL-09	Acres managed for populations of invasive species controlled to a target level (cumulative).	34,000	35,924	Met
GL-10	Percentage of populations of native aquatic nonthreatened and nonendangered species self-sustaining in the wild.	34%	34%	Met
GL-11	Number of acres of wetlands and wetland-associated uplands protected, restored and enhanced (cumulative).	68,000	83,702	Met
GL-12	Number of acres of coastal, upland, and island habitats protected, restored and enhanced (cumulative).	20,000	33,250	Met
GL-13	Number of species delisted due to recovery.	2	1	Not Met
GL-15	Five-year average annual loadings of soluble reactive phosphorus (metric tons per year) from tributaries draining targeted watersheds.	Deferred	Deferred	Long-term

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
GL-16	Acres in Great Lakes watershed with U.S. Department of Agriculture (USDA) conservation practices implemented to reduce erosion, nutrients, and/or pesticides.	198,000 (20%)	263,400 (60%)	Met
Subobjective 2.2.5 Improve the Health of the Chesapeake Bay				
CB-SP33.N11	Percentage achieved of the 185,000 acres of submerged aquatic vegetation necessary to achieve Chesapeake Bay water quality standards.	Long-term	26%	Long-term
CB-SP34	Percentage achieved of the long-term restoration goal of 100% attainment of the dissolved oxygen water quality standards in all tidal waters of Chesapeake Bay.	Long-term	35%	Long-term
CB-SP35	Percentage of goal achieved for implementing nitrogen reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.	22.5%	25%	Met
CB-SP36	Percentage of goal achieved for implementing phosphorus reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.	22.5%	27%	Met
CB-SP37	Percentage of goal achieved for implementing sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.	22.5%	32%	Met
Subobjective 2.2.6 Restore and Protect the Gulf of Mexico				
GM-435	Improvement in the overall health of coastal waters of the Gulf of Mexico on the "good/fair/poor" scale of the National Coastal Condition Report.	2.4	2.4	Met
GM-SP38	Restoration of water and habitat quality to meet water quality standards in impaired segments in CWA Section 13 priority coastal areas (cumulative starting in FY 07).	360		Data Not Available
GM-SP39	Restoration, enhancement, or protection of a cumulative number of acres of important coastal and marine habitats.	30,600	30,306	Not Met
GM-SP40. N11	Reduction in releases of nutrients throughout the Mississippi River Basin to reduce the size of the hypoxic zone in the Gulf of Mexico, as measured by the 5-year running average of the size of the zone.	Long-term	15,120 sq. km	Long-term
Subobjective 2.2.7 Restore and Protect the Long Island Sound				
LI-SP41	Percentage of goal achieved in reducing trade-equalized (TE) point source nitrogen discharges to Long Island Sound from the 1999 baseline of 59,146 TE lbs/day.	76%	88%	Met
LI-SP42.N11	Reduction in the size (square miles) of observed hypoxia (Dissolved Oxygen <3mg/l) in Long Island Sound.	Deferred for FY 2013	80	Long-term
LI-SP43	Restoration, protection, or enhancement of acres of coastal habitat from the 2010 baseline of 2,975 acres.	420	336	Not Met
LI-SP44	Miles of river and stream corridors reopened to diadromous fish passage from the 2010 baseline of 177 river miles by removing dams and barriers or by installing bypass structures.	75	56	Not Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
Subobjective 2.2.8 Restore and Protect the Puget Sound				
PS-SP49.N11	Improvement in water quality to enable lifting harvest restrictions in acres of shellfish bed growing areas impacted by degrading or declining water quality.	7,758	3,203	Not Met
PS-SP51	Restoration of the acres of tidally and seasonally influenced estuarine wetlands.	31,818	30,128	Not Met
Subobjective 2.2.9 Sustain and Restore the U.S.-Mexico Border Environmental Health				
MB-SP23	Loading of biochemical oxygen demand removed (million pounds/year) from the U.S.-Mexico border area since 2003.	126.5	128.3	Met
MB-SP24.N11	Number of additional homes provided safe drinking water in the U.S.-Mexico border area that lacked access to safe drinking water in 2003 (cumulative).	3,000	3,400	Met
MB-SP25.N11	Number of additional homes provided adequate wastewater sanitation in the U.S.-Mexico border area that lacked access to wastewater sanitation in 2003 (cumulative).	24,000	25,695	Met
Subobjective 2.2.10 Sustain and Restore the Pacific Island Territories				
PI-SP26	Percentage of population in each of the U.S. Pacific Island Territories (served by community water systems) that meet all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.	82%	81%	Not Met
Subobjective 2.2.11 Restore and Protect the South Florida Ecosystem				
SFL-SP45	Achievement of "no net loss" of stony coral cover (mean percent stony coral cover) in the Florida Keys National Marine Sanctuary (FKNMS) and in the coastal waters of Dade, Broward, and Palm Beach Counties, Florida, working with all stakeholders (federal, state, regional, and local).	Indicator	6.86%	Indicator
SFL-SP46	Annual maintenance of the overall health and functionality of sea grass beds in the FKNMS as measured by the long-term sea grass monitoring project that addresses composition and abundance, productivity, and nutrient availability.	Indicator	Maintained	Indicator
SFL-SP47a	Maintenance by at least 75% of the monitored stations in the near shore and coastal waters of the FKNMS of chlorophyll a levels at less than or equal to 0.35 ugl-1 and light clarify levels at less than or equal to 0.20 m-1.	0.75	84.5%; 80.4%	Met
SFL-SP47b	Maintenance by at least 75% of the monitored stations in the near shore and coastal waters of the FKNMS of dissolved inorganic nitrogen levels at less than or equal to 0.75 uM and total phosphorus levels at less than or equal to 0.25 uM.	0.75	60%; 82.3%	Not Met

FY12 ACS Code	FY 2013 National Water Program Guidance Measures	FY 2013 National Commitment	FY 2013 EOY Result	FY 2013 EOY Status
SFL-SP48	Improvements in the water quality of the Everglades ecosystem as measured by total phosphorus, including meeting the 10 ppb total phosphorus criterion throughout the Everglades Protection Area marsh.	Maintain	Not Maintained	Not Met
SFL-1	Two percent (1500 EDUs) increase annually of sewage treatment facilities and onsite sewage treatment and disposal systems receiving advanced wastewater treatment or best available technology as recorded by EDU in Florida Keys.	Indicator	5%; 52,209	Indicator
Subobjective 2.2.12 Restore and Protect the Columbia River Basin				
CR-SP53	Clean-up of acres of known contaminated sediments (cumulative starting in FY 06).	80	79	Not Met

Appendix B: Performance Measurement Changes from FY 2012 to FY 2013[9]

ACS Code	Abbreviated Measure Description	Change in FY 2013
Water Safe to Drink		
SDW-SP5	Tribal households safe drinking water	Deleted measure replaced by SDW-18.N11 (Indian & Alaska Native homes with access to safe drinking water)
SDW-03	Lead/Copper Rule data in SDWIS-FED	Deleted
SDW-12	% Drinking Water State Revolving Fund (DWSRF) dollars to small public water systems (PWS)	Deleted
SDW-13	% DWSRF loans to disadvantaged communities	Deleted
SDW-14	#/% community water systems (CWS) serving < 500 people	Deleted
SDW-16	Average time small CWS returned to compliance	Deleted
Improve Water Quality on a Watershed Basis		
WQ-SP15	% tribes lacking access to basic sanitation	Deleted measure replaced by WQ-24.N11 (Indian & Alaska Native homes with access to sanitation)
WQ-1b	Numeric nutrient water quality standards proposed	Deleted measure replaced by WQ-26
WQ-1c	States/territories providing nutrient water quality standards milestones	Deleted measure replaced by WQ-26
WQ-26	States/territories implementing nutrient reduction strategies	New measure
WQ-05	States/territories adopted monitoring strategies	Deleted
WQ-07	States/territories using Assessment Database	Deleted
WQ-19a	High priority state National Pollutant Discharge Elimination System (NPDES) permits	Modified the background selection and commitment process of methodology
WQ-19b	High priority EPA NPDES permits	Modified the background selection and commitment process of methodology
WQ-20	Facilities providing trading	Deleted
WQ-21	Completion of impaired segments restoration planning	Deleted
WQ-22b	State Healthy Watershed Initiative	Deleted

[9] Explanation of changes to performance measures from FY 2012 to FY 2013 can be found in Appendix C of the *FY 2013 National Water Program Guidance*, April 2012. http://water.epa.gov/resource_performance/planning/upload/FY-2013-NWPG-4-20-2012_Appendix-C.pdf,

ACS Code	Abbreviated Measure Description	Change in FY 2013
Improve Coastal and Oceans Waters		
CO-05	Dredged material management plans in place	Deleted
Wetlands		
WT-04	Measurement of states' wetland condition trend	Deleted
Gulf of Mexico		
GM-01	Warning system to manage algal blooms	Deleted
Chesapeake Bay		
CB-2	Achievement of Bay forest buffer planting goal	Deleted
Pacific Islands		
PI-SP27	Pacific Islands treatment plans with biochemical oxygen demand limits	Deleted
PI-SP28	Pacific Islands beach days open for swimming	Deleted

Appendix C: Methodology for Measuring Ambitiousness of Regional Commitments

This methodological description supplements the description provided in the Overview chapter of the report. EPA used three methods to evaluate the relative ambitiousness of regional commitments for a set of 28 performance measures.[10] The method or methods utilized depended on whether the commitment is expressed as a percentage or as a numeric value.

For each commitment expressed as a percentage, EPA computed both:

1) The difference between FY 2013 regional commitments and FY 2013 national commitments.

2) The difference between FY 2013 regional commitments and FY 2012 regional results.

For each commitment expressed in numeric units, EPA computed:

3) FY 2013 regional commitments as a percentage of FY 2013 regional universes for all measures with numeric commitments and results.

Then, for each measure, within each of the analyses above, each region was assigned a rank based on its result relative to other regions (1 = most ambitious, 10 = least ambitious). For instance, for a particular numeric measure, the region committing to the greatest share of its universe would be ranked #1 for that measure, using analysis #3. On the other hand, for a particular percentage measure, regions would each receive two different ranks—one each for analysis #1 and analysis #2. Then, each region was given a weighted ambitiousness rank for each measure, as follows: for percentage measures, this measure-level-weighted rank was the sum of ranks for analysis #1 and analysis #2, divided by 2; for numeric measures, this measure-level-weighted rank was just the value of the rank for analysis #3. This weighting approach was taken in order to avoid giving undue influence to the percentage measures in the overall comparison. EPA repeated this approach with FY 2012 data for the same set of measures.

Figure 1, below, shows the range and distribution of the FY 2013 measure-level-weighted ranks within each region. This type of graphic is a variation on a traditional statistical box plot or "box and whiskers" plot, and is intended to help understand the range and distribution of measure-level rankings within each region, as follows:

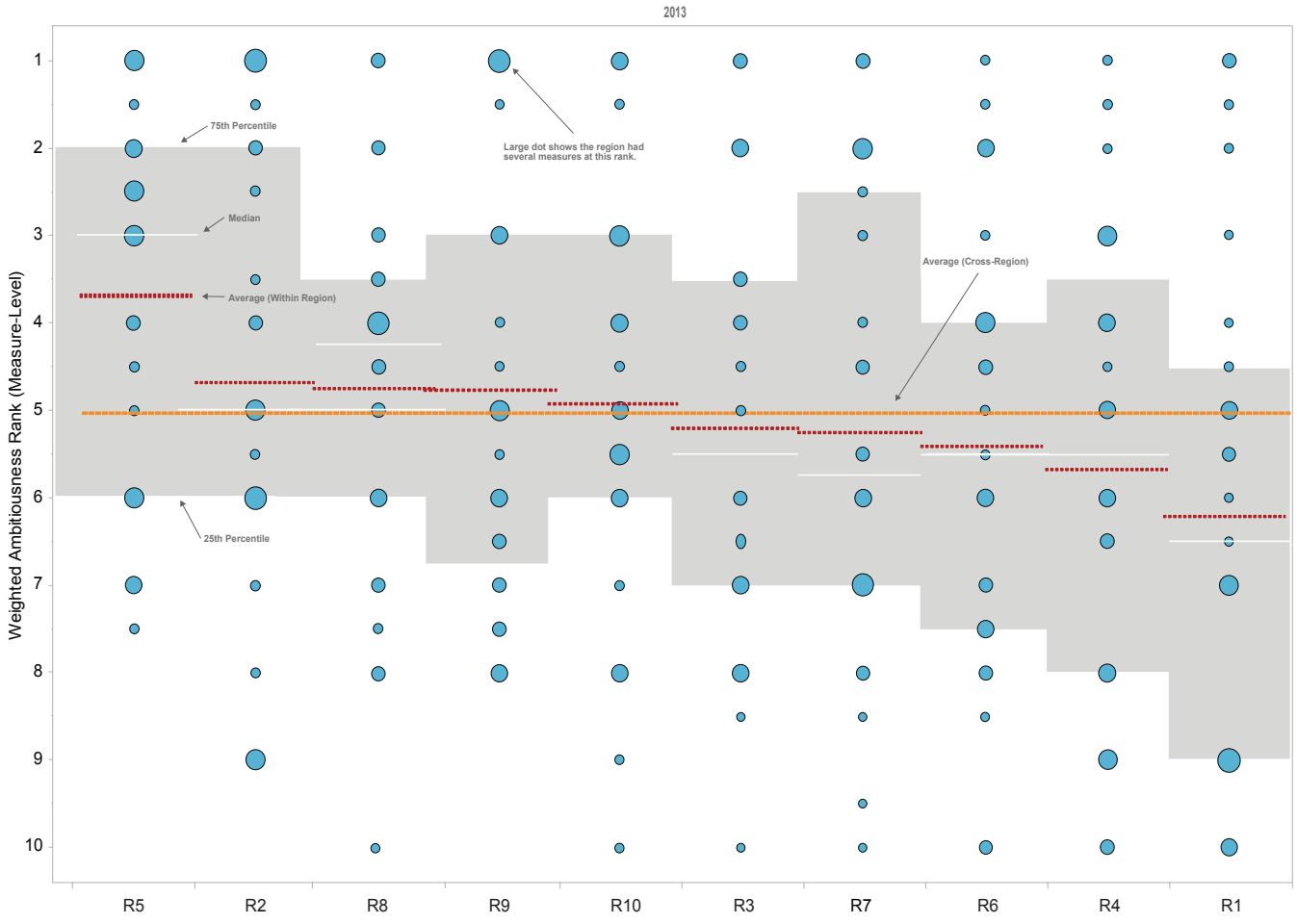
- **Blue dots.** Each blue dot indicates that the particular region in question received a measure-level-weighted ranking of that value for at least one measure. The size of each dot gives a rough indication of the number of measures within each region at that particular rank, ranging from one to nine measures. The larger the dot, the greater the number of measures.
- **Gray boxes.** The gray boxes in the chart represent where the middle 50% of each region's measures are ranked.[11] For example, by examining the gray box at the far left, we see that the middle 50% of Region 5's measures had a ranking between 2 and 6. On the other hand, at the far right, we see that Region 1's middle 50% is lower, ranging from 4 to 9.
- **Light gray lines.** The light gray lines represent the median rank within each region. Fifty percent of all measures rank at or above the median.

[10] The Office of Water focused only on those measures with eight or more regions setting commitments and reporting results, so that the meaning of different ranks would remain fairly constant across measures. This choice excluded measures for LAEs and place-based programs that are often reported by only one or two regions.

[11] This middle 50% of values is typically called the "interquartile range" in statistics.

- **Red dashed lines.** Each dashed red line in the chart represents, for each region, the average of all its measure-level-weighted ranks. This is referred to elsewhere in the report as the average weighted rank for each region. The regions in the chart are sorted by this measure, which is the basis for Figure 13 in the Overview chapter.
- **Orange dashed line.** The orange dashed line indicates the average of all weighted ranks, across all regions and measures.

Figure 1: Weighted Ambitiousness Ranks, By Region and Measures (FY 2012 & FY 2013)



In addition to the calculations described above, regions were rank-ordered by this average weighted rank, with the region with the highest average weighted rank receiving a rank of 1, etc. Table 1, below, provides details on the number of measures and average weighted rank, for each region. These average weighted ranks are the basis for the overall ambitiousness ranks, displayed in the table and in Figures 14 and 15 in the Overview chapter.

Figure 2: Number of Measures and Rankings By Region and Year

Regions Sorted by FY 2012 Ambitiousness Rank (Final Column)

Region	2012			2013		
	# of Measures Ranked	Average Weighted Rank (Across Measures)	Overall Ambitiousness Rank	# of Measures Ranked	Average Weighted Rank (Across Measures)	Overall Ambitiousness Rank
R5	28	3.46	1	28	3.70	1
R2	28	4.07	2	28	4.68	2
R8	26	4.80	4	26	4.75	3
R9	28	4.72	3	28	4.77	4
R10	28	5.43	6	28	4.93	5
R3	23	5.48	7	23	5.20	6
R7	26	6.38	10	26	5.25	7
R6	27	4.85	5	27	5.41	8
R4	28	5.74	9	28	5.68	9
R1	27	5.69	8	27	6.20	10

For the same set of measures used to assess commitment ambitiousness, EPA also developed regional rankings for the percentage of commitments met for FY 2012 and FY 2013. Because this ambitiousness analysis focused only on a subset of the Office of Water's measures, the rankings for commitments met may be different than those presented elsewhere in this report (for instance, see Figure 9 in the Overview chapter of the report). This approach helps ensure appropriate comparability, for this analysis, between the ambitiousness ranks and commitments-met ranks. EPA compared the rankings for ambitiousness and commitments met to understand whether ambitiousness in setting of commitments appears to be correlated with the meeting of commitments. Figures 14 and 15 in the Overview chapter show comparisons of these ranks.

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