

## Strategic Goal 2:

# Clean *and* Safe Water

Ensure drinking water is safe. Restore and maintain oceans, watersheds, and their aquatic ecosystems to protect human health, support economic and recreational activities, and provide healthy habitat for fish, plants, and wildlife.

## Overview of Goal 2

In recent years, EPA and its federal, state, and tribal partners have made significant progress in protecting and restoring the nation's waters.

### Contributing Programs

- Analytical Methods
- Beach Program
- Coastal and Ocean Programs
- Clean Water State Revolving Fund
- Drinking Water and Ground Water Protection Programs
- Drinking Water State Revolving Fund
- Effluent Guidelines
- Fish Consumption Advisories
- Great Lakes National Program
- Gulf of Mexico Program
- National Pollutant Discharge Elimination System
- Nonpoint Source Pollution Control
- Pollutant Load Allocation
- Targeted Watersheds
- Wastewater Management
- Water Efficiency
- Water Quality Standards, Criteria, and Methods
- Watershed Information Network
- Watershed Management
- Wetlands Program

Today, more Americans have safe and reliable drinking water, and people can fish and swim safely in rivers that were once polluted. Challenges remain, however, and EPA is using a variety of strategies to address them.

### PROTECTING HUMAN HEALTH

Thirty years ago, many of the nation's drinking water systems provided water to the tap with very little treatment (usually disinfection) or no treatment at all. Drinking water was too often the cause of acute illnesses linked to microbiological contaminants or of longer term health problems resulting from exposure to low levels of toxins and other contaminants.

Today, drinking water systems monitor the quality of the water they provide and treat water to ensure that it complies with standards covering a wide range of contaminants. EPA has established health-based

### Safe Drinking Water: Hoopa Valley Tribe

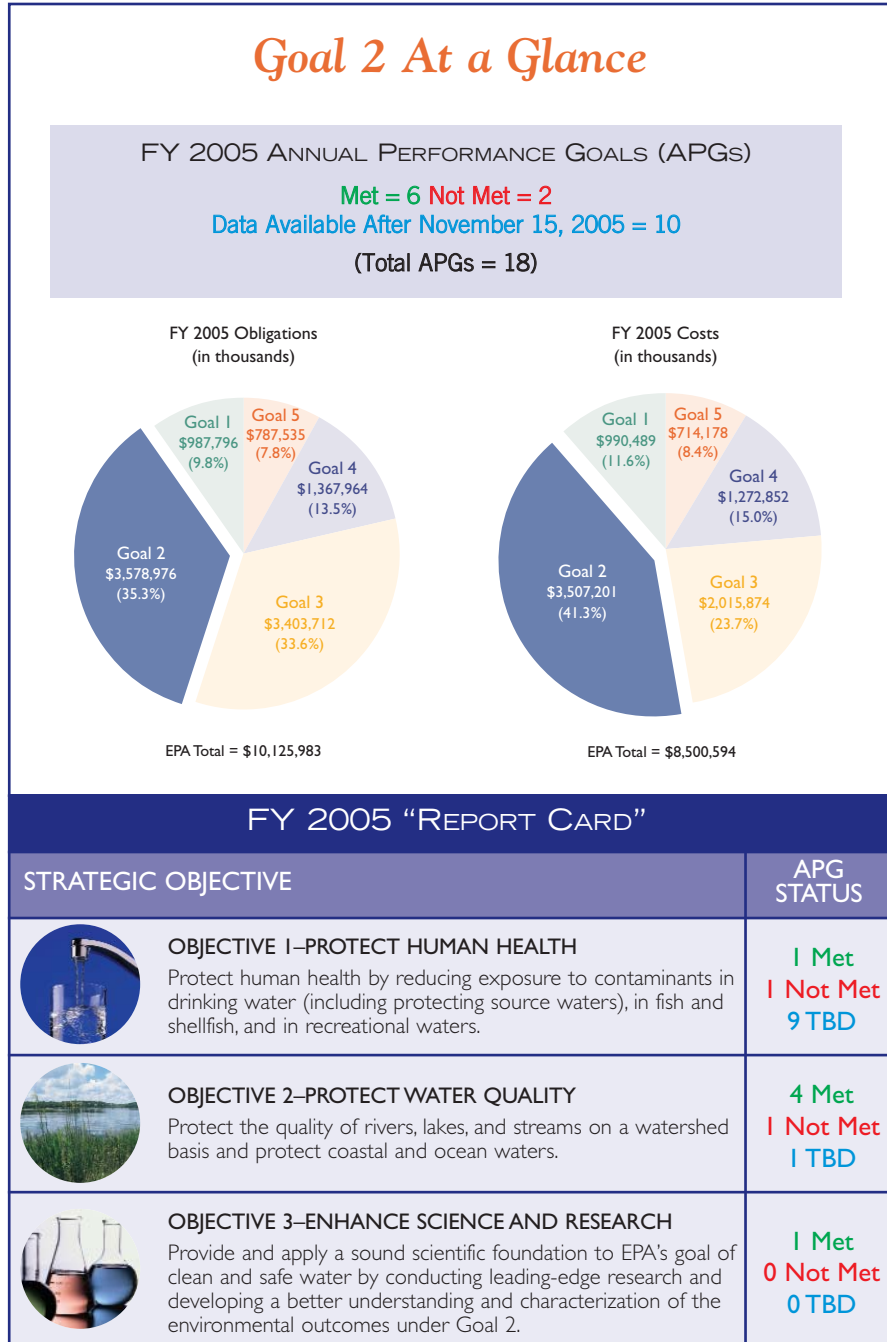
The Hoopa Valley Tribe's micro-filtration surface water treatment plant was constructed in 2005 as part of a \$4.3 million dollar project jointly funded by the Indian Health Service and the EPA Drinking Water Tribal Set-Aside Program (\$3.5 million). The project provides access to safe drinking water for 719 tribal households on the reservation. The project included construction of the treatment plant, the Trinity River intake, and a transmission line that included a highway crossing.



drinking water standards for more than 90 contaminants.<sup>1</sup> To help drinking water systems implement the standards, EPA, states, tribes, and key stakeholders work together to provide water systems with extensive technical assistance and training. Today, approximately 90<sup>2</sup> percent of the population served by community water systems is receiving drinking water meeting drinking water standards.

The importance of safe drinking water supplies for protecting public health has never been more evident than in the aftermath of Hurricane Katrina, which occurred late in FY 2005. EPA, state and local officials, systems operators, and volunteers worked around the clock to assist communities in repairing the infrastructure of drinking water systems and restore sources of safe drinking water for all people in the affected region.

In addition to ensuring the safety of drinking water, EPA works with states, tribes, and local governments to protect and restore waters for fishing, swimming, and recreation. The Agency's work under Goal 1 to reduce mercury releases to the air should ultimately help to reduce unhealthy levels of mercury in fish. Under Goal 2, EPA's efforts to reduce discharges from storm water systems, combined sewer overflows, and concentrated animal feeding operations are improving water and sediment quality, making more waters safe for swimming and more fish safe to eat. EPA is expanding the amount and type of information about fish safety and making this information available to the public.



EPA is also working to protect and restore the quality of beaches and other recreational waters. The Agency places high priority on monitoring waters and beaches and providing the public with current information on their safety.

### PROTECTING WATER QUALITY

To protect water quality and restore impaired waters, EPA,

states, interstate agencies, and tribes employ a watershed approach, which enables them to collaborate, share information, and leverage resources more effectively. For example, EPA works with its partners to help them establish state water quality standards and monitoring strategies. They are also increasing efficiencies and achieving better results by using a watershed perspective to develop



### Managing Wastewater: Block Island–Green Hill Pond

Under EPA's Block Island–Green Hill Pond Demonstration Project to protect coastal waters, EPA's New England office is working with three Rhode Island south shore coastal communities to comprehensively manage all onsite sewage treatment systems (such as septic systems, cesspools, and community treatment facilities discharging to groundwater). Under recently enacted ordinances to restore and protect water quality, Charlestown, South Kingstown, and Block Island now permanently employ onsite wastewater managers and require that all systems be inspected on a recurring three- to five-year basis. All cesspools are banned and, if discovered, must be replaced within five years of the inspection. More than 8,125 systems have been inspected, and more than 700 cesspools and 220 failed or substandard systems identified. Towns will enact treatment standards for advanced systems to reduce bacteria and nitrogen loadings to the Green Hill Pond embayment and Rhode Island Sound.

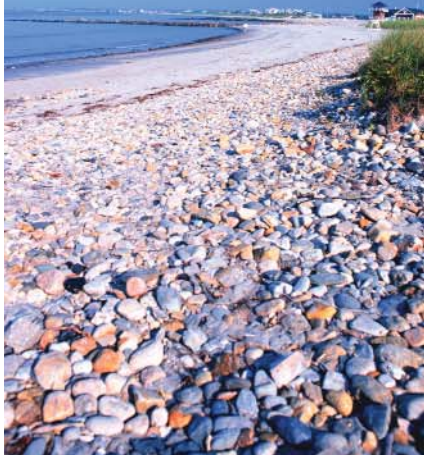


Photo: National Oceanic and Atmospheric Administration/Department of Commerce

### Monitoring Coastal Water Quality

EPA promulgated water quality standards for those states and territories bordering Great Lakes or ocean waters that have not yet adopted more protective health-based bacteria standards in accordance with the BEACH Act of 2000 (69 FR 67217). This rule provides greater assurance that American families will be informed when pathogen levels at beaches are unsafe. Americans take 910 million trips to coastal areas each year and spend about \$44 billion at those beach locations. Better indicators will provide decisionmakers with better information for making decisions about health risks in coastal recreation waters. Improved data are also likely to spur investigations into upstream pollution sources, preventing future contamination.



Photo: National Oceanic and Atmospheric Administration/Department of Commerce

Total Maximum Daily Loads (TMDLs) and set permitting priorities. EPA is working with its partners to upgrade and increase water quality monitoring, allowing states and tribes to provide better information on water conditions and sources of impairment.

EPA is working with states to evaluate the impact on water quality of key point source programs, like the Clean Water State Revolving Fund (CWSRF) Program. In collaboration with industry and others, EPA is implementing a strategy to help ensure that the nation's water infrastructure is sustainable in the future. This strategy is constructed around four key pillars—better management of utility operations, effective pricing of water and wastewater services, improvements in water efficiency, and watershed-based approaches to solving water quality and water quantity problems.

EPA works with a variety of partners to improve the condition of our nation's valuable coastal and ocean waters. In FY 2005, EPA focused its efforts on implementing the National Estuary Program (see Goal 4), reducing vessel discharges, managing dredged material, and managing non-indigenous invasive species.

### ENHANCING SCIENCE AND RESEARCH

Finally, EPA's research programs under Goal 2 continue to supply the information needed to set and implement drinking water and water quality criteria. EPA provides scientific information about contaminants and identifies innovative approaches to develop criteria to support states and tribes in adopting standards that will protect water for swimming, public use, and fish and wildlife.

# Goal 2 Strategic Objectives



## Strategic Objective 1—Protect Human Health

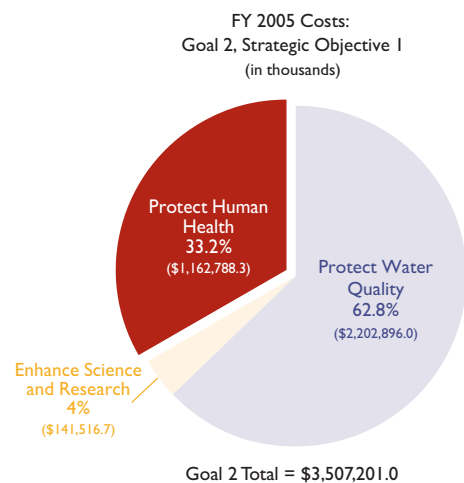
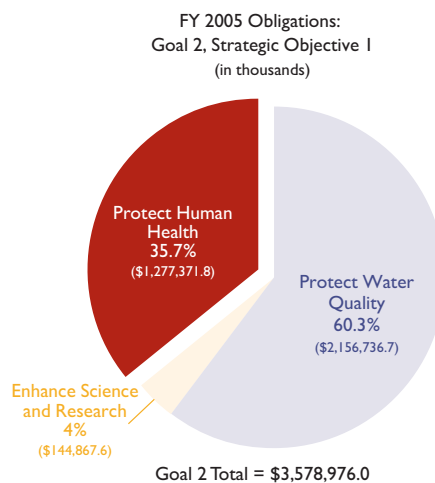
Protect human health by reducing exposure to contaminants in drinking water (including protecting source waters), in fish and shellfish, and in recreational waters.

### OVERVIEW OF PERFORMANCE

In collaboration with states, tribes, and local governments, EPA is working to protect human health by reducing contaminants in drinking water, fish and shellfish, and recreational waters. Despite the serious problems in the Gulf Coast resulting from Hurricane Katrina, EPA and the drinking water community at large continue to make steady progress in meeting the 2008 national goal of providing safe drinking water to 95 percent of the approximately 268 million people in the United States served by 54,000 community water systems. Although final 2005 data will not be available until January 2006, EPA has worked diligently in 2005 to sustain the 2004 level of 90 percent, an 11 percent increase in population from the 1993 level of 79 percent<sup>3</sup>.

EPA also continues to provide the public with information about fish consumption and the quality of recreational waters. In FY 2005, EPA improved the database for reporting fish consumption advisories.

STRATEGIC OBJECTIVE I—PROTECT HUMAN HEALTH		
APG #	APG Title	APG Status
2.1	Safe Drinking Water Meeting All Standards—Population	FY 2005 data available in FY 2006
		✗ Not met for FY 2004
2.2	Safe Drinking Water Meeting Existing Standards—Population (NEW IN FY05)	FY 2005 data available in FY 2006
2.3	Safe Drinking Water Meeting New Standards—Population	FY 2005 data available in FY 2006
		✓ Met FY 2004 goals in FY 2005
2.4	Safe Drinking Water Meeting Existing Standards—Systems (NEW IN FY05)	FY 2005 data available in FY 2006
2.5	Safe Drinking Water Meeting New Standards—Systems (NEW IN FY05)	FY 2005 data available in FY 2006
2.6	Safe Drinking Water—Tribal Communities (NEW IN FY05)	FY 2005 data available in FY 2006
2.7	Safe Drinking Water—Source Water Protection (NEW IN FY05)	FY 2005 data available late in FY 2006
2.8	Improve Water Quality to Support Increased Fish Consumption (NEW IN FY05)	✗ Not met for FY 2005
2.9	Improve Water Quality to Support Increased Shellfish Consumption (NEW IN FY05)	Data not available
2.10	Improve Water Quality to Allow Increased Safe Swimming (NEW IN FY05)	FY 2005 data available late in FY 2006
2.11	Increase Beach Safety (NEW IN FY05)	✓ Met in FY 2005



### Improving Tribal Drinking Water: Grants to Tribes

Until FY 2003, only about 60 percent of the tribal population in EPA Region 6 was receiving water meeting all drinking water health-based standards. Most violations of health-based standards involved the Total Coliform Rule (TCR). In 2002, EPA directed significant resources—including more than \$1.1 million in drinking water infrastructure, TCR training, and direct technical assistance through EPA-funded circuit riders—toward tribes with the most violations. Discussions with tribal leaders secured their commitment to address Compliance Agreement milestones, which significantly improved tribal drinking water. Further compliance assistance efforts through the Region 6 tribal operator training and certification program and performance-based training approach resulted in a dramatic 30-percent improvement in compliance, to just more than 90 percent in FY 2005.



EPA continues to monitor improvements in water quality in waters used for swimming. The Agency and its partners are making progress toward the goal of reducing the risk of exposure to disease-causing bacteria at recreational beaches. Calendar year

### Beach Water Monitoring: Grants to States

As part of the Bush Administration's Clean Beach Plan, EPA awarded approximately \$10 million in BEACH Act grants to all 35 eligible coastal and Great Lakes states and territories for implementing beach monitoring and notification programs. The grants support beach water monitoring, which helps provide people with information they can use to protect their health when visiting beaches. For example, officials use beach water monitoring results to issue warnings and closures if bacteria levels are unsafe and help identify actions needed to reduce pollution. The data for the 2004 swimming season show that only 4 percent of beach days were lost due to advisories or closures triggered by monitoring. Of the 3,574 beaches that were monitored in 2004, 942, or 26 percent, had a least one advisory or closing during the 2004 season.<sup>4</sup>



2004 data, reportable in FY 2005, show that the percentage of days during the beach season that beaches were open and safe for swimming increased from 94 percent in 2003 to 96 percent in 2004, allowing EPA to exceed its FY 2005 goal by 2 percent<sup>5</sup>.

### CHALLENGES

Toward the end of FY 2005, Hurricane Katrina rendered many drinking water systems in the Gulf States non-operational. In early September, more than 895 public water systems in Alabama, Louisiana, and Mississippi had no water available to their customers or had boil water advisories in place<sup>6</sup>. EPA, state and local officials, systems operators, and volunteers worked around the clock to assist in repairing drinking water system infrastructure so

that sources of drinking water could be filtered, treated, and declared safe to drink for all people in the affected region. By the end of October, less than 200 systems were still inoperable or operating under boil water advisories<sup>7</sup>. In FY 2006, EPA will assess the impact of Katrina on the Agency's progress towards achieving the 2008 drinking water protection goal. EPA is committed to providing safe drinking water nationally and restoring safe drinking water access to communities affected by Katrina.

In its 2004 performance report, EPA predicted that it would not meet its 2005 target of 93 percent of the population receiving drinking water meeting all standards because of the number of standards and regulations



that have been implemented over the past 7 years. EPA does not expect progress toward its FY 2008 goal of 95 percent to be evident as a straight line increase. As new regulations are implemented, not all systems will be able to gear up to meet health-based standards in the same time frame. In fact, a significant decrease may occur in 2006, when the arsenic rule is implemented. Many small systems with insufficient managerial, technical, and financial capacity may be out of compliance with the arsenic in drinking water standard every day in 2006. EPA, states,

and major stakeholders are providing extensive technical assistance and training to drinking water systems operators on arsenic, as well as on the next suite of pathogens that will be regulated in the near future. Through this continuing effort, the gap between the ideal target and actual results should decrease, and the Agency expects to meet its 2008 goal.

Increased monitoring of recreational waters may identify more problems, potentially leading to more beach closures. While a higher number of beach closures may slow progress toward the goal,

the public exposure to contaminated beach water will be reduced.

Most fish consumption advisories are attributable to mercury and/or polychlorinated biphenyls (PCBs), both of which are bioaccumulative toxins. Thus, even once the source of the mercury or PCBs has been lessened or eliminated, fish will continue to retain these contaminants in their systems for years. Consequently, EPA's actions to reduce mercury air—emissions, the primary cause of mercury in fish—may not show results for several more years.



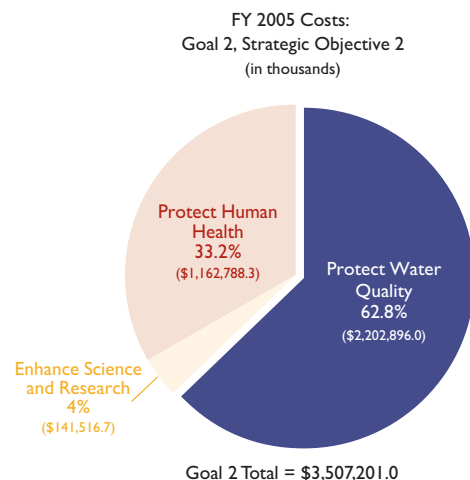
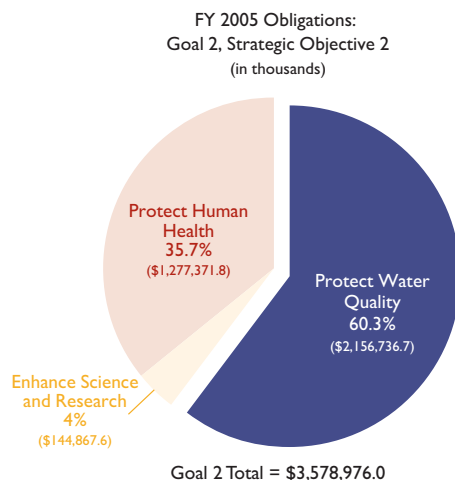
### Strategic Objective 2—Protect Water Quality

*Protect the quality of rivers, lakes, and streams on a watershed basis and protect coastal and ocean waters.*

#### OVERVIEW OF PERFORMANCE

EPA, states, and tribes continue to use a watershed approach to protect water quality, including that of coastal waters, nationwide. EPA and states made progress toward attaining water quality standards in waters previously identified as impaired. EPA's 2006 goal, as presented in its Strategic Plan, is to restore 5 percent of the waters identified by states as impaired. Current data indicate that 8 percent have been restored<sup>8</sup>. This figure represents substantial progress toward the 2012 goal of restoring 25 percent of impaired waterbodies.

STRATEGIC OBJECTIVE 2—PROTECT WATER QUALITY		
APG #	APG Title	APG Status
2.12	Watershed Protection	✗ Not met for FY 2005
		✗ Not met for FY 2004
2.13	Watershed Protection—Waterbodies (NEW IN FY05)	✓ Met in FY 2005
2.14	State/Tribal Water Quality Standards—Monitoring (NEW IN FY05)	FY 2005 data available in FY 2006
2.15	State/Tribal Water Quality Standards—Sanitation Access (NEW IN FY05)	✓ Met in FY 2005
2.16	Coastal Aquatic Conditions—Ecological Health (NEW IN FY05)	✓ Met in FY 2005
2.17	Coastal Aquatic Conditions—Use Attainment (NEW IN FY05)	✓ Met in FY 2005



EPA is committed to improving water quality for tribal communities and continues to expand monitoring of water quality on tribal lands. In FY 2005, EPA exceeded its goal of providing tribal communities with access to basic sanitation, reducing the cumulative number of households on tribal lands that lack access by 34 percent<sup>9</sup>. This figure represents EPA's FY 2002 through FY 2005 cumulative progress towards the 2015 goal of reducing the number of households lacking access to sanitation by 50%.

EPA also continues to provide nationally consistent, comparable, quality data to evaluate various indicators of estuarine condition in each U.S. coastal region and across the nation. Comparing data presented in the 1990-1996 National Coastal Condition Report (NCCR) with data reported in the 1997-2001 NCCR indicates that, while water clarity declined (a result of episodic, catastrophic events and increased pollution), the overall ecological health of coastal waters has improved. These data reflect monitoring results against multiple indicators, including water clarity, dissolved oxygen, coastal wetlands loss, eutrophic condi-

tions, sediment contamination, benthic health, and fish tissue contamination. Conditions in the Gulf of Mexico and Great Lakes showed the greatest improvement<sup>10</sup>.

## CHALLENGES

Because many years of monitoring are required, and data are often limited, documenting



progress in complying with water quality standards is challenging. For example, a state might identify a stream as impaired due to elevated temperatures which prevent it from supporting its designated use as a coldwater fishery. An appropriate restoration action may be to replant the stream's banks with trees which, when mature, will provide shade and restore stream temperatures. In this case, while the correct restoration action may have been implemented, monitoring data

will not demonstrate full restoration results for 10 or 20 years. Other challenges include limited resources such that, on average, over a 2-year period, states monitor and assess only about 20 percent of their stream miles and 40 percent of their lakes<sup>11</sup>. Thus progress made in areas not assessed during that 2-year period is not reported. Limited monitor-

ing information also makes it difficult to aggregate data on individual stream segments into a meaningful watershed scale assessment that can be used for efficient restoration planning and targeting response actions.

EPA is working to develop better measures for documenting environmental improvement on a watershed basis, such as measures to track incremental progress toward full restoration and document the results of the considerable effort EPA and its partners devote to maintaining water quality. EPA expects to include some improved measures in the 2006-2011 *Strategic Plan* and may present plans for other potential measures that will take longer to develop.



### Strategic Objective 3— Enhance Science and Research

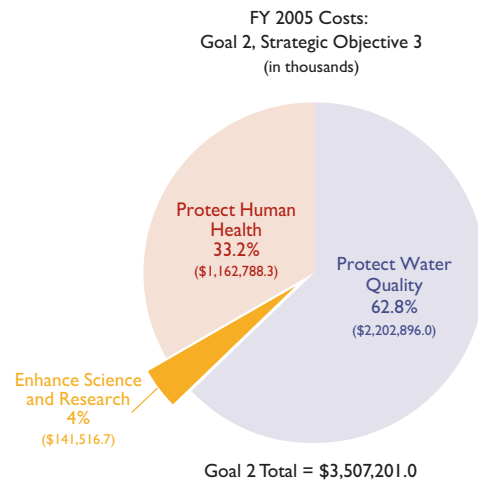
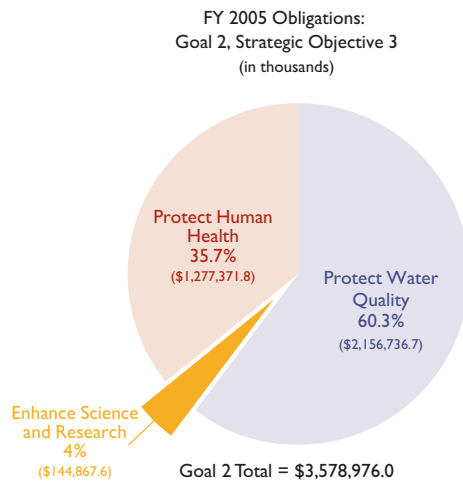
Provide and apply a sound scientific foundation to EPA's goal of clean and safe water by conducting leading-edge research and developing a better understanding and characterization of the environmental outcomes under Goal 2.

#### OVERVIEW OF PERFORMANCE

EPA continues to provide crucial research for developing effective water quality criteria. The demonstration of a population-based methodology for water quality criteria for aquatic and aquatic-dependent wildlife has been developed. In 2005 ORD is providing methods for developing water quality criteria so that, by 2008, approaches and methods are available to states and tribes for their use in developing and applying criteria for habitat alteration, nutrients, suspended and bedded sediments, pathogens, and toxic chemicals that will support designated uses for aquatic ecosystems and increase the scientific basis for listing and delisting impaired water bodies under Section 303(d) of the Clean Water Act.

For many of the waters listed as impaired under Section 303(d) of CWA, the impairments result from a number of stressors,

STRATEGIC OBJECTIVE 3—ENHANCE SCIENCE AND RESEARCH		
APG #	APG Title	APG Status
2.18	Water Quality Research (NEW IN FY05)	✓ Met in FY 2005



including chemicals, nutrients, sediments, and loss of habitat. Maintaining healthy populations of aquatic life and aquatic dependant wildlife is the objective of the water quality criteria. APG 2.18 reports on the development of a population-based approach for a data rich case study, namely loons in the Northeast. The evaluation and adoption of such an approach will ultimately be applicable to development of criteria for a wide range of aquatic systems that may be impacted by a combination of chemical and non-chemical stressors.

EPA has conducted research and developed a methodology to assess the cumulative impact of a number of stressors (e.g. loss of

habitat and exposure to mercury through fish consumption) on loon populations in order to develop criteria supporting designated uses of waterbodies. The method includes approaches for extrapolating mercury toxicity across wildlife species, predicting population-level responses to mercury exposure and habitat alteration, and projecting risks to loon population at spatial scales ranging from watersheds to biogeographic regions.

#### CHALLENGES

EPA is making progress toward meeting this strategic objective and does not foresee significant challenges.



# Goal 2 Annual Performance Goals



## Strategic Objective 1—Protect Human Health

Protect human health by reducing exposure to contaminants in drinking water (including protecting source waters), in fish and shellfish, and in recreational waters.

### PERFORMANCE

This group of APGs measures the percent of the population that receive safe drinking water from community water systems (CWSs) in compliance with health-based standards.

APG 2.1 includes all standards; APG 2.2 include older standards that went into effect before January 2002; and APG 2.3 tracks compliance with the new standards that went into effect January 2002 or later.

The FY 2005 data for these APGs will be available in January 2006. It is not possible to determine the results before January because they are based on a cumulative, annual count of water systems reporting at least one health-based violation during the year. Primacy agencies (states) historically report more than a third of all such violations in the last quarter of the calendar year (regulations allow primacy agencies 90 days for reporting data). In addition, primacy agencies are required to annually update water systems information by the end of December.

In FY 2005, the target of 75 percent for APG 2.3 was set to reflect challenges associated with compliance with newer standards,

### APG 2.1 Safe Drinking Water Meeting All Standards—Population

DATA AVAILABLE FY 2006	FY 2005: Percent population served by community water systems in compliance with health-based drinking water systems in compliance with health-based drinking water standards. (PART)		
(Performance measure is included in the annual goal above.)	Planned 93%	Actual Data avail 2006	
X GOAL NOT MET FOR FY 2004	FY 2004: Population served by community water systems will receive drinking water meeting all health-based standards, up from 83% in 1994.		
(Performance measure is included in the annual goal above.)	Planned 92%	Actual 90%	X

### APG 2.2 Safe Drinking Water Meeting Existing Standards—Population

DATA AVAILABLE FY 2006	FY 2005: 94% of the population served by community water systems will receive drinking water that meets health-based standards with which systems need to comply as of December 2001. (NEW IN FY05)		
(Performance measure is included in the annual goal above.)	Planned 94%	Actual Data avail 2006	

### APG 2.3 Safe Drinking Water Meeting New Standards—Population

DATA AVAILABLE FY 2006	FY 2005: 75% of the population served by community water systems will receive drinking water that meets health-based standards with a compliance date of January 2002 or later. (NEW IN FY05)		
(Performance measure is included in the annual goal above.)	Planned 75%	Actual Data avail 2006	
✓ GOAL MET FOR FY 2004	FY 2004: Population served by community water systems will receive drinking water meeting health-based standards promulgated in 1998.		
(Performance measure is included in the annual goal above.)	Planned 85%	Actual 97%	✓

Data Source(s): Primacy agency (states, tribes, and EPA regions) data supplied through the Safe Drinking Water Information System (SDWIS). Also see [www.epa.gov/safewater](http://www.epa.gov/safewater).

## Program Assessment Rating Tool (PART)

OMB assessed the Public Water System Supervision Grant program and reassessed the Drinking Water State Revolving Fund program related to these APGs in the 2004 PART process. Both programs received adequate ratings.

### Program Evaluations

Inspector General report: “Progress Report on Drinking Water Protection Efforts” (Report No. 2005-P-00021). Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-7.

Government Accountability Office report: “District of Columbia’s Drinking Water: Agencies Have Improved Coordination, but Key Challenges Remain in Protecting the Public from Elevated Lead Levels.” (GAO-05-344)

### Grants Supporting the Achievement of This APG

Drinking Water State Revolving Fund and Public Water System Supervision Grant Program.

though EPA anticipates a higher compliance level. Even though newer standards are a sub-set of all standards captured in APG 2.1, the target for APG 2.1 was not adjusted as low as the target for APG 2.3. The target for APG 2.1 was kept at a level consistent with previous years to encourage states and regions to strive for better compliance.

In FY 2004, APG 2.1 was not met. Although the vast majority of the nation’s community water systems supplied drinking water that met all health-based standards, some very large systems serving a large number of people (e.g., Los Angeles and Phoenix) reported short-term non-compliance violations during the year. The Agency is pursuing ways to account for these short-term non-compliance events to more comprehensively and accurately reflect the public health benefits over the entire year.

In FY 2004, APG 2.3 was significantly exceeded with 97 percent of the population served

by community water systems receiving drinking water that met health-based standards with a compliance date of 1998 or later. The APG was changed for 2005 to track with newer standards (e.g., “Cryptosporidium Rule”), with compliance dates of January 2002 or later.

APG 2.1 is based on a baseline of 94 percent of the population in FY 2002 received drinking water from CWSs in compliance with all applicable health-based standards. APG 2.2’s baseline is the same except

compliance is based on standards issued before January 2002.

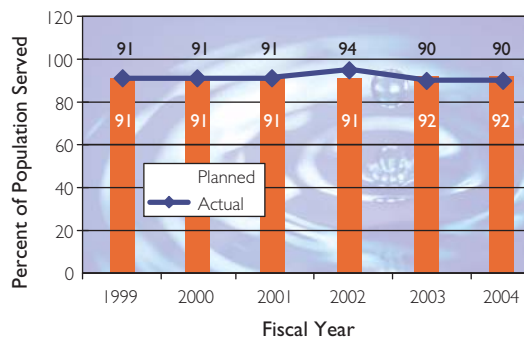
**Data Quality:** A description of the data used to measure EPA’s performance can be found in Appendix C, pages C-17–C-19.

## CHALLENGES

Data for APGs 2.1 and 2.2 can fluctuate significantly year-to-year if a single large population system has even a short-term violation. Violation frequency, duration, and other exposure and risk factors (e.g., extent of distribution system affected, acute versus chronic contaminants, exceedence levels) are not reflected in this measure. Despite the limitations, these are widely recognized measures that reflect program progress.

Newer standards are generally based on tailored approaches that allow for different circumstances among localities rather than “one-size-fits-all.” It takes time at the outset to determine the needs of each particular system to be in compliance with the rule. In addition, new standards are very complex to implement and are a challenging workload for states and systems.

Population Served by Community Water Systems Will Receive Drinking Water Meeting All Health-Based Standards, Up from 83% in 1994



Source: US EPA Safe Drinking Water Information System (SDWIS)

**PERFORMANCE**

APG 2.4 and 2.5, water system-based goals, provide an important counter-balance to the population-based measures, which are highly sensitive to changes in compliance for large population centers, but are less reflective of small communities. For FY 2007, the Agency will be reporting on a measure which combines the current APGs 2.4 and 2.5. It measures the percent of community water systems in compliance with all drinking water standards. This measure arose from the Drinking Water State Revolving Fund PART.

These APGs are weighted more towards small communities. Although most of the U.S. population lives in large cities, most CWSs serve fewer than 10,000 people. Measuring only the percent of the population served by CWSs that meet all applicable health standards does not give a full picture of public health protection through safe drinking water. Approximately 8,000 medium and large systems (those serving no fewer than 3,301 people up to more than 100,000) provide drinking water to more than 246 million people, and the remaining 44,800 small systems (those serving 3,300 or less people) supply drinking water to about 27 million people.

APG 2.4 measures the percent of CWSs that are providing drinking water that meets health-based standards with a compliance date before January 2002. APG 2.5 tracks the percent of CWSs that are providing drinking water that meets newer health-based stan-

**APG 2.4 Safe Drinking Water Meeting Existing Standards—Systems**

DATA AVAILABLE FY 2006	FY 2005: 94% of community water systems will provide drinking water that meets health-based standards with which systems need to comply as of December 2001. (PART) (NEW IN FY05)		
<i>(Performance measure is included in the annual goal above.)</i>		<b>Planned</b> 94%	<b>Actual</b> Data avail 2006

**APG 2.5 Safe Drinking Water Meeting New Standards—Systems**

DATA AVAILABLE FY 2006	FY 2005: 75% of community water systems will provide drinking water that meets health-based standards with a compliance date of January 2002 or later. (NEW IN FY05)		
<i>(Performance measure is included in the annual goal above.)</i>		<b>Planned</b> 75%	<b>Actual</b> Data avail 2006

**APG 2.6 Safe Drinking Water—Tribal Communities**

DATA AVAILABLE FY 2006	FY 2005: 90% of the population served by community water systems in Indian country will receive drinking water that meets all applicable health-based drinking water standards. (NEW IN FY05)		
<i>(Performance measure is included in the annual goal above.)</i>		<b>Planned</b> 90%	<b>Actual</b> Data avail 2006

Data Source(s): Primacy agency (tribes and EPA regions) data supplied through the Safe Drinking Water Information System (SDWIS). Also see [www.epa.gov/safewater](http://www.epa.gov/safewater).

dards with a compliance date of January 2002 or later. APG 2.6 covers all health-based standards for tribal communities.

The FY 2005 data for these APGs will be available in January 2006. It is not possible to calculate it before then because it is based on a cumulative, annual count of water systems reporting at least one health-based violation during the year. Primacy agencies historically report more than a third of all such violations between October and the end of December 2005 (regulations allow primacy agencies 90 days for reporting data). In addition,

primacy agencies are required to update water systems information annually, by the end of December.

APG 2.4 is based on a baseline of 92 percent of the community water systems in FY 2002 that supplied drinking water in compliance with all applicable health-based standards issued before January 2002.

APG 2.6 is based on a baseline of 91 percent of the population in Indian country in FY 2002 that received drinking water from CWSs in compliance with all applicable health-based standards.



### Program Assessment Rating Tool (PART)

OMB assessed the Public Water System Supervision Grant program and reassessed the Drinking Water State Revolving Fund program related to these APGs in the 2004 PART process. Both programs received adequate ratings.

#### Program Evaluations

Inspector General report: “Progress Report on Drinking Water Protection Efforts” (Report No. 2005-P-00021). Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-7.

Government Accountability Office report: “District of Columbia’s Drinking Water: Agencies Have Improved Coordination, but Key Challenges Remain in Protecting the Public from Elevated Lead Levels.” (GAO-05-344)

#### Grants Supporting the Achievement of This APG

Public Water System Supervision Grant Program and Drinking Water State Revolving Fund.

**Data Quality:** A description of the data used to measure EPA’s performance can be found in Appendix C, pages C-17–C-19.

#### CHALLENGES

Small drinking water systems, including those supplying drinking water to Indian tribes, often do not have the resources to obtain needed infrastructure improvement and capacity to meet

existing standards and they face an even larger obstacle in meeting the new standards. Specific challenges include the following:

- Smaller customer base means fewer opportunities for scale economies.
- Competing priorities, such as historic under-pricing versus affordable service, which means establishing rates at an

appropriate level to allow systems to fully recover their total cost. The total cost of business for water utilities includes not only ongoing operations and management expenses and debt service but also estimates of future infrastructure needs and investment.

- Rising costs of drinking water infrastructure.
- Difficulty in gaining outside access to capital.

To strengthen and enhance technical, managerial, and financial capacities of small water systems, EPA and the states are implementing the capacity development program, which provides a wide range of tools to help owners and operators of small water systems to understand Safe Drinking Water Act (SDWA) regulatory requirements. States and water systems played major roles in shaping this program, widely recognized as a model for cooperative and collaborative efforts under SDWA.

## APG 2.7 Safe Drinking Water—Source Water Protection

### PERFORMANCE

APG 2.7 tracks the percentage of community water systems that have implemented source water protection plans. The SDWA source water protection program focuses federal, state, and local resources on protecting CWSs by encouraging the substantial implementation of source water protection plans. Each of the 52,800 CWSs has completed an initial assessment consisting of

DATA AVAILABLE FY 2006	FY 2005: 20% of source water for community water systems will achieve minimized risk to public health. (PART) (NEW IN FY05)	
	Planned	Actual
(Performance measure is included in the annual goal above.)	20%	Data avail 2006

Data Source(s): State data supplied from EPA regions through the Underground Injection Control (UIC) Well Inventory Reporting System. Also see [www.epa.gov/safewater](http://www.epa.gov/safewater).

delineating the water supply, inventorying actual and potential sources of contamination, determining susceptibility, and informing the public. EPA is working with states, water sys-

tems, associations, and nonprofit organizations to improve these protection strategies for drinking water sources through supporting development and implementation of source water protection plans.

### Program Assessment Rating Tool (PART)

OMB reassessed the UIC Grant program related to this APG in the 2004 PART process. The program received an adequate rating.

### Program Evaluations

Inspector General report: "Source Water Assessment and Protection Programs Show Initial Promise, But Obstacles Remain" (Report No. 2005-P-00013). Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-8.

### Grants Supporting the Achievement of This APG

Underground Injection Control (UIC) Grant Program and Drinking Water State Revolving Fund.

The goal of a protection plan is to prevent contamination of sources of drinking water and to achieve minimized risk to public health.

A critical component of safeguarding the health of the American public is protecting drinking water resources. Preventing contaminants from getting into surface and ground waters that are used, or could be used, as drinking water supplies requires a broad, integrated prevention approach that relies on participation at the federal, state, and local levels. When implemented, this approach minimizes the risk of exposure to contaminants in drinking water. An additional benefit of a contamination prevention approach is that provides opportunities to lower the cost of drinking water treatment at the local level.

The SDWA also established the Underground Injection Control (UIC) Program to protect

current and future ground water-based drinking water resources from unsafe injection practices. This regulatory program is designed to ensure that none of the more than 800,000 injection wells impact these drinking water resources. The UIC Program has identified source water areas as a critical focus of implementation efforts, particularly for shallow injection wells. Source water areas are targeted for identifying, inspecting, permitting, and closing of injection wells. Protection of drinking water resources requires a comprehensive, coordinated effort across numerous EPA and other federal programs. EPA's drinking water program is working actively to integrate with other federal programs to enhance source water protection at the local level.

APG 2.7 is based on a baseline of 5 percent of source water for community water systems in FY 2002 achieving minimized risk to public health.

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, page C-20.

### CHALLENGES

Since protection activities are voluntary, and consistent funding at the state and local level is uncertain, states have expressed concern that meeting the national goal of 20 percent will be particularly challenging.

The UIC Program is also facing challenges. Deep well injection technology is being expanded to new uses such as disposal of drinking water treatment residuals and geologic sequestration of carbon dioxide to mitigate the effects of climate change. These new needs for injection wells are putting intense pressure on state programs that already safely manage more than 800,000 injection wells. In addition, states are also increasing their inventories of shallow injection wells through inspection and compliance assistance efforts. Increases in the number of deep injection wells and newly identified shallow wells will require UIC Programs to issue more permits, conduct additional well testing, and ensure compliance with the requirements to protect underground sources of drinking water. These actions have significant new costs; however, funding for the program has not increased in more than 15 years.

## APG 2.8 Improve Water Quality to Support Increased Fish Consumption

### PERFORMANCE

This measure tracks changes in fish consumption advisories in the universe of waters that had such advisories in 2002. Improvements in water quality are expected to reduce the levels of contaminants in fish, leading to higher safe fish consumption levels. Data are collected on a calendar year (CY) basis and reported on in the next fiscal year. For example, CY 2004 data are reported in FY 2005.

In CY 2002, 32.9 percent of lake-acres (13,413,763 lake-acres/94,715 individual lakes), and 15.3 percent of river-miles (544,036 river-miles) were under fish advisories. This is the baseline against which progress for this APG is being measured. In CY 2004, there was no significant change at the national level in the percentage of waters under fish consumption advisories.

**Goal Not Met:** This is a new APG, and the Agency misjudged its ability to meet the target. Many variables are involved in evaluating mercury deposition in fish, such as the sources of mercury and the bioaccumulative nature of mer-

<b>X</b> GOAL NOT MET	<b>FY 2005:</b> At least 1% of the water miles/acres identified by states or tribes as having a fish consumption advisory in 2002 will have improved water and sediment quality so that increased consumption of fish and shellfish is allowed. (NEW IN FY05)				
	<i>(Performance measure is included in the annual goal above.)</i>	<table border="1"> <thead> <tr> <th style="background-color: #5e738b; color: white;">Planned</th> <th style="background-color: #5e738b; color: white;">Actual</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1%</td> <td style="text-align: center;">0% <b>X</b></td> </tr> </tbody> </table>	Planned	Actual	1%
Planned	Actual				
1%	0% <b>X</b>				

Data Source(s): 2004 National Listing of Fish Advisories, September 2005. Also see [www.epa.gov/waterscience/fish](http://www.epa.gov/waterscience/fish).

cury, which impacts the time that it takes for fish to rid mercury from their bodies. These factors resulted in the Agency overestimating its ability to meet the target. EPA is assessing the information received to date to determine a more realistic future target.

In FY 2005, the Agency improved the database to account for changes in recommended meal frequencies in state and tribal advisories. This system documents instances where advisories are modified to allow increased fish consumption. Recording modifications to advisories, as opposed to only the initial advisories, may lead to an increase in fish consumption, which should demonstrate progress. This is the first year EPA has collected this information, and it will provide a baseline for measuring changes in future years.

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, page C-21.

### CHALLENGES

Improving water and sediment quality to allow for increased fish consumption has been difficult to achieve. Most fish consumption advisories are attributable to mercury and/or polychlorinated biphenyls (PCBs), both of which are bioaccumulative toxins. This situation means that even after the source of the mercury or PCBs has been lessened or eliminated, the fish continue to retain the contaminants in their systems for years. Consequently, even though EPA has taken actions to reduce mercury air emissions—the primary cause of mercury in fish—it will take several more years before the results of these actions will be seen.

## APG 2.9 Improved Water Quality to Support Increased Shellfish Consumption

### PERFORMANCE

Data to support this APG comes from past surveys of states that are members of the Interstate Shellfish Sanitation Conference (ISSC). Surveys are conducted at 5-year intervals with periodic

<b>DATA UNAVAILABLE</b>	<b>FY 2005:</b> 80% of the shellfish growing acres monitored by states are approved or conditionally approved for use. (NEW IN FY05)				
	<i>(Performance measure is included in the annual goal above.)</i>	<table border="1"> <thead> <tr> <th style="background-color: #5e738b; color: white;">Planned</th> <th style="background-color: #5e738b; color: white;">Actual</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">80%</td> <td style="text-align: center;">Data Unavailable</td> </tr> </tbody> </table>	Planned	Actual	80%
Planned	Actual				
80%	Data Unavailable				

Data Source(s): Analysis of Classified Shellfish Waters 1985-2003; June 2004; Interstate Shellfish Sanitation Conference. Also see [www.epa.gov/waterscience/shellfish](http://www.epa.gov/waterscience/shellfish).



updates requested from the ISSC. The most recent survey containing 2003 data was released in 2004. However, the ISSC recently decided to stop conducting 5-year surveys because the agency is in the process of developing a centralized database system, called the Shellfish Information Management System (SIMS). This will allow shellfish-producing states to directly enter their shellfish data into the system. Thirteen of the 22 shellfish-producing states have entered or begun entering their shellfish information into the system.

The data for APG 2.9 are unavailable due to the cessation of the ISSC surveys. Consequently, EPA cannot determine if the target

was achieved due to a lack of data. It is uncertain whether the surveys will be resumed and whether a determination will be able to be made as to the achievement status of the APG. The Agency is reviewing the APG to determine the appropriateness of retaining, changing, or deleting it.

APG 2.9 is tracked with baseline data from the ISSC surveys. According to the ISSC report, there were a total of 15,273 estuarine shellfish-growing acres, of which 11,268 acres (73.8 percent) were approved or conditionally approved for use in 1995. Data indicate that the percentage of monitored waters open for use increased to 91 percent in 2003.

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, page C-22.

**CHALLENGES**

Because a high percentage (91 percent) of shellfish-growing acres are currently approved or conditionally approved for use, it will be difficult to show progress in future years. In addition, states' participation in SIMS is voluntary, and due to state fiscal constraints, some states may delay or decide not to enter data into SIMS. If this occurs, the Agency will not have a complete picture of shellfish conditions.

**APG 2.10 Improve Water Quality to Allow Increased Safe Swimming**

**PERFORMANCE**

APG 2.10 tracks the percentage of improvement in waters used for swimming via the Assessment Data Base (ADB), which incorporates water quality data reported by states every 2 years. In 2002, EPA summarized data submitted for individual water bodies to compile national statistics that could be tied back to the individual waters.

The 2002 water body-specific state data have been posted at [www.epa.gov/waters/305b/index.html](http://www.epa.gov/waters/305b/index.html).

**Grants Supporting the Achievement of This APG**  
Clean Water Act Section 106 state program grants.

<p><b>DATA AVAILABLE FY 2006</b></p>	<p><b>FY 2005:</b> Restore water quality to allow swimming in not less than 2% of the stream-miles and lake-acres identified by states in 2000 as having water quality unsafe for swimming. (NEW IN FY05)</p>	
	<p><i>(Performance measure is included in the annual goal above.)</i></p>	<p><b>Planned</b> 2%</p>

Data Source(s): Section 305b Report/Assessment Data Base (ADB). Also see [www.epa.gov/waters/305b/index.html](http://www.epa.gov/waters/305b/index.html).

A national summary of that data, the National Water Quality Inventory 2002 Report to Congress, will be available in early 2006. The summary of the 2004 state assessments will be available in late 2006 at the earliest.

The 2005 target of 2 percent restoration is based on state data from 2000, which showed that 90,000 stream-miles and 2.6 million lake-acres had water quality unsafe for swimming.

**Data Quality:** A description of the data used to measure EPA's

performance can be found in Appendix C, pages C-23–C-24.

**CHALLENGES**

State assessments of water quality conditions are due to EPA every 2 years. Because some states are late in submitting their assessment findings, there can be a significant gap between the time water monitoring occurs and when states report on water quality.

**APG 2.11 Increase Beach Safety****PERFORMANCE**

APG 2.11 tracks the percentage of days during the beach season that coastal and Great Lake beaches are open and safe for swimming. As water quality improves, beaches will be closed fewer days. Data are collected on a calendar year basis and reported on in the next fiscal year. For example, CY 2004 data are reported in FY 2005.

Data trends are difficult to establish due to the new reporting requirements that began in 2003. From 1997 to 2002, beach monitoring data were collected and submitted to EPA on a voluntary basis and included coastal, Great Lakes, and some inland waters. Beginning in 2003, reporting became mandatory, and inland waters were no longer part of the

 <b>GOAL MET</b>	<b>FY 2005:</b> Coastal and Great Lakes beaches monitored by state beach safety programs will be open and safe for swimming in over 94% of the days of the beach season. (NEW IN FY05)		
	<i>(Performance measure is included in the annual goal above.)</i>	<b>Planned</b> 94%	<b>Actual</b> 96% 

Data Source(s): U.S. EPA, Office of Water: "EPA's Beach Program: 2004 Swimming Season Update." EPA-823-F-05-006. Washington, DC, July 2005. Available at [www.epa.gov/waterscience/beaches/2004fs.html](http://www.epa.gov/waterscience/beaches/2004fs.html). Also see [www.epa.gov/waterscience/beaches](http://www.epa.gov/waterscience/beaches).

data set. As a result, the 2003 and 2004 data cannot easily be compared to data compiled from 1997 to 2002.

Baseline information for APG 2.11 indicates that monitored beaches were opened 94 percent of the days during the beach season in 2001 and 95 percent in 2002. Data for the 2003 beach season are under quality review and are not currently available.

**Data Quality:** A description of the data used to measure EPA's

performance can be found in Appendix C, pages C-23–C-24.

**CHALLENGES**

Past experience with other programs has shown that improved monitoring usually results in the identification of more problems. Consequently, the Agency expects that more comprehensive monitoring of recreational waters could result in more beach closures, which will make it difficult to show progress for this measure. The risk of exposure to disease-causing bacteria at recreational beaches will be reduced, however.

In addition, states use different monitoring methods, making comparisons and tracking difficult. EPA will encourage more consistent monitoring by working with its national network of state partners.

**Grants Supporting the Achievement of This APG**

Over the past 5 years, EPA has provided a total of almost \$42 million in grants to 35 coastal and Great Lakes states and territories. These funds support state and local government beach monitoring and notification programs that provide the public with information on whether the water is safe to swim in. In CY 2004, 3,574 beaches were monitored.



## Strategic Objective 2—Protect Water Quality

Protect the quality of rivers, lakes, and streams on a watershed basis, and protect coastal and ocean waters.

### APG 2.12 Watershed Protection

#### PERFORMANCE

EPA works with states to implement pollution prevention and restoration approaches to increase the number of watersheds where water quality standards are met in at least 80 percent of the assessed water segments. Achievement of this goal is largely dependent on the efforts of states to implement “core” CWA programs, including development of water quality standards, monitoring, development of total maximum daily loads (TMDLs), issuance of permits for discharges, and implementation of nonpoint source control programs. EPA is working on detailed strategies to target and implement core programs with local watershed protection efforts that will result in increased and more efficient restoration of waters.

**Goal Not Met:** In FY 2005, the cumulative goal of meeting standards in 462 watersheds was not met. Although several EPA regions did increase their watershed numbers, many other regions showed either zero or negative change in water quality, resulting in an FY 2005 national total of only 450 watersheds meeting water quality standards. This regression and zero change can be attributed to new data that more accurately reflect watershed

<b>X</b> GOAL NOT MET	<b>FY2005:</b> 462 of the nation’s watersheds have water quality standards met in at least 80% of the assessed water segments.		
<b>X</b> GOAL NOT MET FOR FY 2004	<b>FY 2004:</b> By 2005, water quality will improve on a watershed basis such that 500 of the nation’s 2,262 watersheds will have greater than 80% of assessed waters meeting all water quality standards.		
<b>X</b> GOAL NOT MET	(Performance measure is included in the annual goal above.)	<b>Planned</b> 462	<b>Actual</b> 450 <b>X</b>
<b>X</b> GOAL NOT MET FOR FY 2004	(Performance measure is included in the annual goal above.)	<b>Planned</b> 500	<b>Actual</b> 450 <b>X</b>

Data Source(s): Watershed Assessment, Tracking, and Environmental Results (WATERS) and Assessment Data Base (ADB). Also see National Program Guidance for the Office of Water [www.epa.gov/ow/waterplan/documents/FY06NPGNarrative.pdf](http://www.epa.gov/ow/waterplan/documents/FY06NPGNarrative.pdf) (pages 20-35 are particularly relevant to this APG).

condition, including adjustments for fish consumption advisories and increased environmental stresses on watersheds that not only impair waters that were once clean, but also further degrade waters already impaired.

In 2002 state reports, 453 watersheds met the criteria that

greater than 80 percent of assessed waters met all water quality standards. For a watershed to be counted toward this goal, at least 25 percent of the segments in the watershed must be assessed within the past 4 years consistent with assessment guidelines developed pursuant to section 305(b) of the

#### Program Assessment Rating Tool (PART)

OMB is assessing the Surface Water Protection and State Pollution Control Grants (106) programs related to this APG in the 2005 PART process. Results will be included in the FY 2007 President’s Budget.

#### Grants Supporting the Achievement of This APG

APG 2.12 is supported by Clear Water Act (CWA) Section 106 grants, which fund the full gamut of state water quality programs. CWA Section 319 grants also support APG 2.12 by reserving \$100 million for developing and implementing comprehensive watershed plans that function to restore impaired waters on a watershed basis while protecting healthy waters. Additionally, the Targeted Watershed Grants (TWG) Program encourages collaborative, community-driven approaches to meet clean water goals.



Clean Water Act. The projection for 2005 was lowered from 500 to 462 watersheds following work with states to develop realistic 2005 targets based on actual workplans. This more detailed analysis resulted in the estimate that an additional nine watersheds would attain the “80 percent” goal.

**Data Quality:** A description of the data used to measure EPA’s performance can be found in Appendix C, pages C-24–C-27.

### CHALLENGES

Showing progress toward attainment of the environmental improvements described above is

challenging because it often requires many years before implementation of specific program activities (e.g. re-issuing permits, approving TMDLs) can reduce pollutant discharges, leading to improved water quality. Further, there is a lag in reporting data that can show progress in meeting this goal.

## APG 2.13 Watershed Protection—Waterbodies

### PERFORMANCE

In 2000, states identified some 21,632 total waterbodies in the United States as impaired (i.e., not attaining state water quality standards). APG 2.13 intends to track the percentage of those waterbodies that are restored (i.e., meet state water quality standards) at the close of FY 2005. Nationally, EPA has adopted a strategic target of restoring 25 percent of those 21,632 waterbodies by 2012. APG 2.13 is the single most revealing indicator of the fundamental goal of the Office of Water’s CWA implementation, including ensuring waters are fishable, swimmable, and drinkable. Interim goals include restoration of 5 percent of these waters (i.e., 1,082 waterbodies) by the end of FY 2006 and 2 percent (i.e., 432 waterbodies) by the end of FY 2005.

In FY 2005, we significantly exceeded our 2 percent national goal by restoring 8 percent of impaired waterbodies. This success is partly due to our efforts in improving water quality assessments. We anticipate that in future years this success rate may not be as high as reported in FY 2005.

 <b>GOAL MET</b>	<b>FY 2005:</b> Water Quality standards are fully attained in over 25% of miles/ acres of waters by 2012, with an interim milestone of restoring 2% of these waters—identified in 2000 as not attaining standards by 2005. (PART) (NEW IN FY05)	
	<i>(Performance measure is included in the annual goal above.)</i>	<b>Planned</b> 2%

Data Source(s): National TMDL Tracking System (NTTS) and Assessment Data Base (ADB) within Watershed Assessment, Tracking and Environmental Results (WATERS). Also see National Program Guidance for the Office of Water [www.epa.gov/ow/waterplan/documents/FY06NPGNarrative.pdf](http://www.epa.gov/ow/waterplan/documents/FY06NPGNarrative.pdf) (pages 20-35 are particularly relevant to this APG).

**Data Quality:** A description of the data used to measure EPA’s performance can be found in Appendix C, pages C-27–C-28.

### CHALLENGES

Although 2005 data indicate that the waterbodies listed in 2000 are being quickly removed from the list of impaired waters, we expect waterbodies that are more easily restored to be removed from the list first. Also,

as part of the process of developing a TMDL, regions and states examine the conditions of waters more closely than at the time of initial assessment and listing. In some cases regions and states find, upon reviewing more complete data, that waters listed as impaired based on the best data available in 2000 are in fact meeting standards and can be removed from the list of impaired waters without lengthy cleanup actions. We

### Program Assessment Rating Tool (PART)

OMB is assessing the Surface Water Protection and State Pollution Control Grant (106) programs related to this APG under the 2005 PART process. Results will be included in the FY 2007 President’s Budget.

### Grants Supporting the Achievement of This APG

This goal is supported by CWA Section 106 grants, which fund the full range of state water quality programs. CWA Section 319 Program also support APG 2.13 by reserving \$100 million for developing and implementing comprehensive watershed plans that function to restore impaired waters on a watershed basis while protecting healthy waters. Additionally the TWG Program encourages collaborative, community-driven approaches to meet clean water goals.

anticipate that delistings due to the availability of better quality data will soon decline, as will delistings of waters with problems that are relatively easy to address.

As regions and states work to restore the large subset of waters with significant water quality problems, we anticipate that progress towards the long-term

goal will become much more difficult to achieve. Many of these waterbodies are subject to increasing stress as a result of population growth and changing land use.

### APG 2.14 State/Tribal Water Quality Standards—Monitoring

#### PERFORMANCE

All of the monitoring stations originally included in the baseline for APG 2.14 (900) are U.S. Geological Survey (USGS) stations with USGS station identification numbers. Since the 900 sites were originally identified, additional monitoring stations on tribal lands have been located. The water quality monitoring results for the additional stations on tribal lands are recorded in the USGS National Water Information System (NWIS) and EPA's Storage and Retrieval database (STORET). Through STORET and NWIS, EPA and

#### Grants Supporting the Achievement of This APG

CWA Section 106, Tribal General Assistance Program (GAP) Grants.

DATA AVAILABLE FY 2006

**FY 2005:** Water quality in Indian country will be improved at not less than 35 monitoring stations in tribal waters for which baseline data are available (i.e. show at least a 10% improvement for each of four key parameters: total nitrogen, total phosphorus, dissolved oxygen, and fecal coliforms). (NEW IN FY05)

	Planned	Actual
(Performance measure is included in the annual goal above.)	35 Stations	Data avail 2006

Data Source(s): USGS National Water Information System (NWIS). Also see [www.epa.gov/indian](http://www.epa.gov/indian)

USGS have established standardized formats for reporting water quality data and information.

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, pages C-28–C-29.

#### CHALLENGES

Monitoring activities at the sampling stations included in APG 2.14 are not conducted or reported by tribes. Sampling is performed at these monitoring stations by a variety of entities, for a

variety of purposes and with differing frequencies. The proximity of these stations to watersheds undergoing restoration/protection activities may not be included as part of the information included in the STORET database or NWIS. The use of these monitoring stations for APG 2.14 is opportunistic, and thus sampling results may not necessarily reflect the impacts of restoration activities performed as part of the implementation of CWA programs by tribes.


### APG 2.15 State/Tribal Water Quality Standards—Sanitation Access

#### PERFORMANCE

In August, 2002, at the World Summit on Sustainable Development in Johannesburg, South Africa, the United States was a signatory to the plan of implementation. This plan established a goal of reducing by half the proportion of people in developing countries who lack access to

GOAL MET

**FY 2005:** In coordination with other federal partners reduce, by 11%, households on tribal lands lacking access to basic sanitation between 2002 and 2005. (NEW IN FY05)

	Planned	Actual
(Performance measure is included in the annual goal above.)	11%	34% 

Data Source(s): Sanitation Deficiency System (Indian Health Service); Program records for Clean Water Indian Set-Aside Program. Also see [www.epa.gov/owm/mab/indian/index.htm](http://www.epa.gov/owm/mab/indian/index.htm).

safe drinking water and basic sanitation. The target date for achieving this goal is 2015.

Access to water and wastewater services is one of the strongest barometers of public

health and environmental conditions, and represents one of the most fundamental needs for populations at risk. In the United States, the Native American population lacks access to water and wastewater services at a rate seven times higher than the population as a whole (7 percent of the tribal population vs. 1 percent of the U.S. population).<sup>12</sup> For this reason, EPA adopted in its 2003-2008 *Strategic Plan* the goal of meeting the Johannesburg commitment for the tribal segment of the U.S. population.

APG 2.15 tracks the reduction in the number of households on tribal lands that lack access to basic sanitation. The baseline of 71,000 households was established in 2002 and is based upon 2000 data. The long-term goal, with other federal partners, is to reduce the number of households on tribal lands that lack access to basic sanitation by 50 percent by 2015. The 34 percent represents EPA's cumulative accomplishments in FY 2002 through FY 2005 against the 50 percent goal.

The Agency has significantly exceeded its target because this is a new measure and the Agency did not know how many

### Program Assessment Rating Tool (PART)

OMB assessed the Alaska Native Village program related to this APG in the 2004 PART process. The program received a rating of ineffective due to the systemic management of deficiencies.

### Program Evaluations

The Office of Inspector General report: "Region 10's Grant for Alaska Village Safe Water Program Did Not Meet EPA Guidelines" (Report No. 2005-P-00015). Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-10.

### Grants Supporting the Achievement of This APG

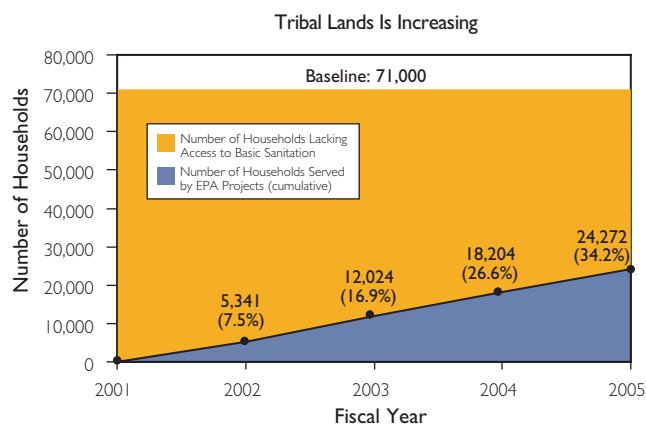
- Northern Arizona University—Tribal Wastewater Professional Training Center (builds capacity for tribes to effectively operate and maintain wastewater facilities).
- Clean Water Indian Set Aside Grant Program (1.5 percent set-aside from the CWSRF, for the purpose of planning, design and construction of wastewater facilities for tribal populations).
- Alaska Native Village and Rural Community Infrastructure Grant Program (this matching grant program supports the Alaska Village Safe Water Program, which provides grants to rural and Native villages in Alaska to plan, design and construct both drinking water and wastewater facilities).

households would qualify for assistance when it established the initial target for 2005, it proved to be a low estimate. Based on this year's results, the target will be adjusted accordingly.

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, pages C-29–C-30.

### CHALLENGES

Deficiencies in the administration and implementation of the Alaska Native Village and Rural Community Infrastructure Program were identified in an audit conducted by the Office of Inspector General last year ("EPA Oversight for the Alaska Village Safe Water Program Needs Improvement," Report No. 2004-P-00029, September 21, 2004). These deficiencies are being addressed by EPA through the implementation of a series of steps under the plan of action, which was cooperatively developed by EPA's Office of Wastewater Management and Region 10. Region 10 also anticipates executing a memorandum of understanding with Alaska in November 2005, to formalize program requirements that address the weaknesses.



Note: The baseline, established in 2000, is 71,000 and represents the number of households on tribal lands that lack access to basic sanitation.

Source: US EPA Program Records for Clean Water Indian Set-Aside Program



### APG 2.16 Coastal Aquatic Conditions —Ecological Health

  
GOAL MET

**FY 2005:** Scores for overall aquatic system health of coastal waters nationally, and in each coastal region, is improved on the good/fair/poor scale of the National Coastal Condition Report by at least 0.1 point. (NEW IN FY05)

**Performance Measures**

- Score for overall aquatic system health of coastal waters nationally, and in each coastal region, is improved (cumulative).
- Maintain water clarity and dissolved oxygen in coastal waters at the national levels reported in the 2002 National Coastal Condition Report.

**Planned**

2.5 Scale score

4.3/4.5 Scale score

**Actual**

2.7

2.6/  
4.6




Data Source(s): National Coastal Condition Report 2, EPA Office of Water/Office of Research and Development, December 2004. Also see [www.epa.gov/owow/oceans/nccr2](http://www.epa.gov/owow/oceans/nccr2).

### APG 2.17 Coastal Aquatic Conditions —Use Attainment

  
GOAL MET

**FY 2005:** Improve ratings reported on the national good/fair/poor scale of the National Coastal Condition Report for: coastal wetlands loss by at least 0.1 point; contamination of sediments in coastal waters by at least 0.1 point; benthic quality by at least 0.1 point; and eutrophic condition by at least 0.1 point. (NEW IN FY05)

**Performance Measures**

- Improve ratings reported on the national "good/fair/poor" scale for the National Coastal Condition Report for coastal wetlands loss.
- Improve ratings reported on the national "good/fair/poor" scale for the National Coastal Condition Report for contamination of sediments in coastal waters.
- Improve ratings reported on the national "good/fair/poor" scale for the National Coastal Condition Report for benthic quality.
- Improve ratings reported on the national "good/fair/poor" scale for the National Coastal Condition Report for eutrophic condition.

**Planned**

1.5 Scale score

1.4 Scale score

1.5 Scale score

1.8 Scale score

**Actual**

1.7

2.1

2.0

3.0









Data Source(s): National Coastal Condition Report 2, EPA Office of Water/Office of Research and Development, December 2004. Also see [www.epa.gov/owow/oceans/nccr2](http://www.epa.gov/owow/oceans/nccr2).

#### PERFORMANCE

The National Coastal Condition Report (NCCR) provides a comprehensive, national assessment of ecological condition of 100 percent of U.S. coastal waters, exclusive of Alaska and Hawaii. NCCR I was published in 2001; NCCR II was published in 2005 and is based on data collect-

ed from 1997 through 2000. The NCCR ratings are based on comprehensive, comparable, and nationally consistent data used to evaluate various indicators of estuarine condition in each U.S. coastal region. The national rating of "fair/poor" is based on a 5-point system where 1 is poor and 5 is good. The scores are weighted to

take into account the relative number of estuaries in a region and the portion of the regions to the nation using the NCCR indicators of water clarity, dissolved oxygen, coastal wetlands loss, eutrophic conditions, sediment contamination, benthic health, and fish tissue contamination. The baseline values from the NCCR I are: 4.3 for water clarity; 4.5 for dissolved oxygen; 1.4 for coastal wetlands loss; 1.4 for contamination of sediments in coastal waters; 1.4 for benthic quality; and, 1.7 for eutrophic condition.

APG 2.16 measures the overall ecological health of U.S. coastal waters and two indicators of water quality condition, dissolved oxygen and water clarity. APG 2.17 measures the ecological health of our coastal waters for the various aquatic life that spend all or part of their life cycles in these waters. The four indicators (wetlands loss, sediment quality, benthic quality, and eutrophic condition) are used to assess aquatic life use attainment.

There was a significant decline in water clarity between the publication of the NCCR I and the NCCR II. Instead of maintaining the 4.3 rating, water clarity declined to 2.6. The causes for this decline could be episodic (e.g., floods, landslides) or catastrophic (e.g., hurricanes, tropical storms) events, or it could reflect increased pollution during the index period (1997-2000).

**Data Quality:** A description of the data used to measure EPA's performance can be found in Appendix C, pages C-30-C-32.

## CHALLENGES

The NCCR is a valuable tool providing the general public with understandable, scientifically based, quantified information about the health of our coastal and ocean waters. The broad base-line overview of coastal condition contained in the NCCR does not relate to particular federal and state ocean/coastal and broader water quality programs and their effect on the indicators measured by the NCCR, however.

In addition, the nature of the NCCR's rating scale (1 – 5, where 1 is poor and 5 is good) does not

### Program Assessment Rating Tool (PART)

OMB and EPA are currently assessing the Oceans and Coastal Protection program related to this APG in the 2005 PART process. Results will be included in the FY 2007 President's Budget.

### Grants Supporting the Achievement of This APG

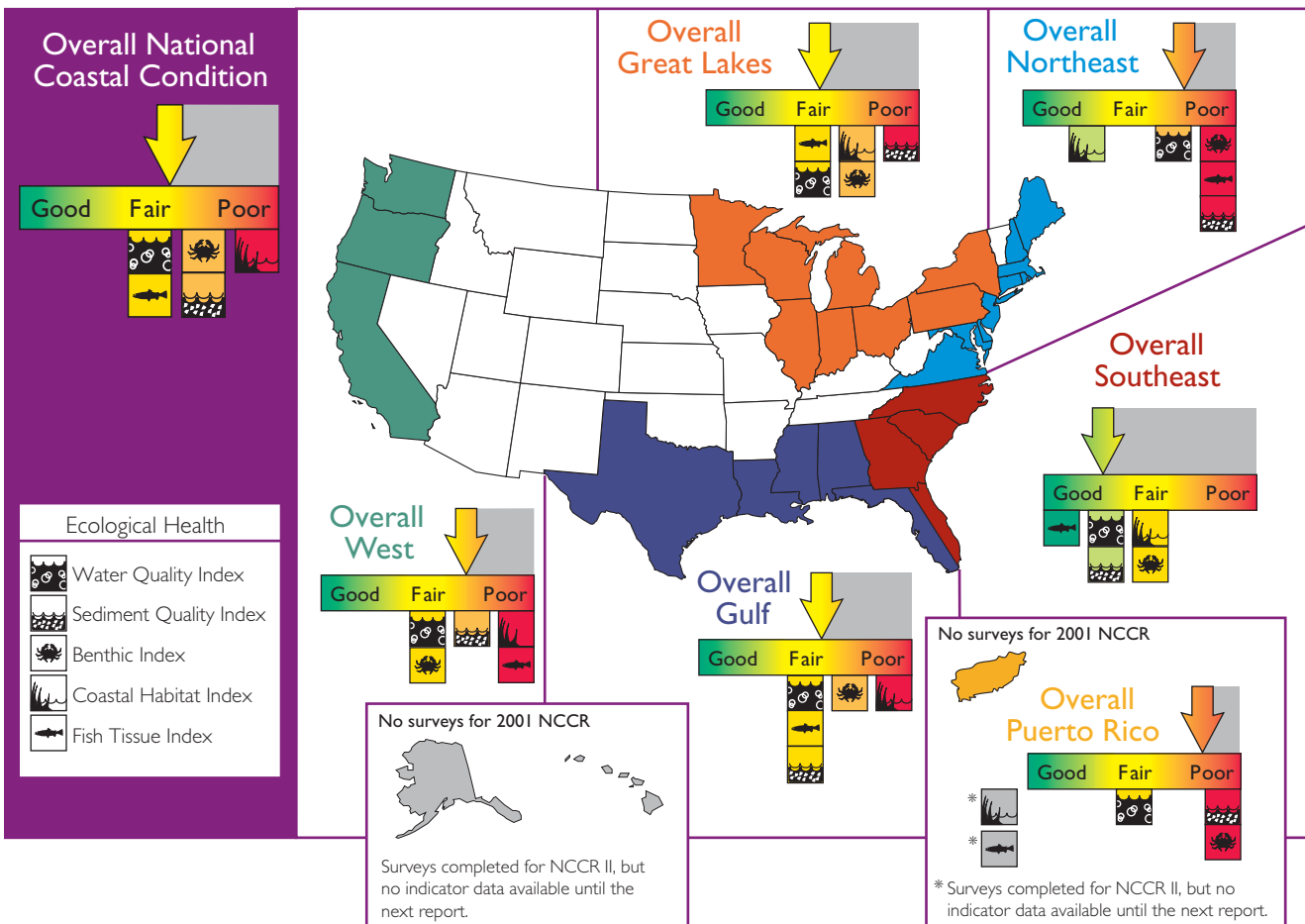
The National Estuary Grant Program (CFDA 66.456).

provide much opportunity for incremental progress. This also contributes to the challenge of setting annual targets for the various NCCR indicators.

As stated above, episodic (e.g., floods, landslides) or catastrophic (e.g., hurricanes, tropical

storms) events or increased pollution during the index period (1997-2000) may have contributed to the decline in water clarity. Future monitoring and trend analyses will enable us to determine if this is a trend or a temporary aberration.

## Overall National Coastal Condition



Source: US EPA National Coastal Condition Report II, December 2004. More information available at <http://www.epa.gov/owow/oceas/nccr2>



### Strategic Objective 3—Enhance Science and Research


Provide and apply a sound scientific foundation to EPA’s goal of clean and safe water by conducting leading-edge research and developing a better understanding and characterization of the environmental outcomes under Goal 2.

#### APG 2.18 Water Quality Research

##### PERFORMANCE

For many of the waters listed as impaired under Section 303(d) of CWA, the impairments result from a number of stressors, including chemicals, nutrients, sediments and loss of habitat. Maintaining healthy populations of aquatic life and aquatic-dependent wildlife is the objective of water quality criteria. APG 2.18 reports on the development of a population-based approach for a data rich case study, namely loons in the Northeast. The evaluation and adoption of such an approach will ultimately be applicable to development of criteria for a wide range of aquatic systems that may be impacted by a combination of chemical and non-chemical stressors.

EPA has conducted research and developed a methodology to assess the cumulative impact of a number of stressors (e.g. loss of

 GOAL MET	<b>FY 2005:</b> By 2005 provide methods for developing water quality criteria so that, by 2008, approaches and methods are available to states and tribes for their use in developing and applying criteria for habitat alteration, nutrients, suspended and bedded sediments, pathogens, and toxic chemicals that will support designated uses for aquatic ecosystems and increase the scientific basis for listing and delisting impaired water bodies under Section 303(d) of the Clean Water Act. (NEW IN FY05)	
	(Performance measure is included in the annual goal above,)	<b>Planned</b> 9/30/05

Data Source: Aquatic Stressors Research. [www.epa.gov/nheerl/research/aquatic\\_stressors](http://www.epa.gov/nheerl/research/aquatic_stressors). Office of Water Habitat Framework: Outlines the needs for and applications of research relating habitat loss to Clean Water Act objectives for fishable waters. ORD Aquatic Stressors Framework. EPA 600/R-02/074. September 2002. 64.233.161.104/search?q=cachegPBNqLVd1\_Lj: [www.epa.gov/nheerl/publications/files/aqstrsfinal\\_121302.pdf](http://www.epa.gov/nheerl/publications/files/aqstrsfinal_121302.pdf)+ORD+Aquatic+Stressors+Framework&hl=en. USEPA. 2004. Draft Document. Use of Biological Information to Tier Designated Aquatic Life Uses in State and Tribal Water Quality Standards.

habitat and exposure to mercury through fish consumption) on loon populations in order to develop criteria supporting designated uses of waterbodies. The method includes approaches for extrapolating mercury toxicity across wildlife species, predicting population-level responses to mercury exposure and habitat alteration, and projecting risks to loon populations at spatial scales ranging from watersheds to biogeographic regions.

In FY 2005, EPA made progress toward developing water quality criteria by 2008. This work is on track to deliver a methodology in support of water quality criteria for aquatic life and aquatic-dependent wildlife. The described methodology was an element of the review of Aquatic Life Criteria Guidelines by the Science Advisory Board (September 21, 2005: [www.epa.gov/fedrgstr/EPA-SAB/2005/August/Day-30/sab17198.htm](http://www.epa.gov/fedrgstr/EPA-SAB/2005/August/Day-30/sab17198.htm)). The results will inform Office of Water’s first revision of the Aquatic Life Guidelines since 1985.

This work contributes to the long-term objectives of protecting the quality of rivers, lakes, and streams on a watershed basis and protects coastal and ocean waters.

#### Grants Supporting the Achievement of This APG

In 2001, EPA’s Science to Achieve Results (STAR) Program funded a proposal for the Wisconsin Department of Natural Resources to conduct research to improve predictions of loon population dynamics in regions impacted by multiple stressors, including habitat loss, mercury exposures, and human disturbance in the upper midwest United States (EPA Grant Number: R829085). The STAR grant was converted to a cooperative agreement to continue work on mercury and loons in New England. This work constituted databases and models for loon populations across the northern United States, ultimately strengthening the development of robust water quality criteria protective of wildlife under a range of ecological and habitat conditions. The project validated a loon mercury exposure model to calculate a dose for mercury that will be protective of loon populations subject to a range of stressors. An interim report is available at: [cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/1916/report/0.A](http://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/1916/report/0.A) final report will be posted in 2005.

## Goal 2—PART Measures Without Corresponding FY 2005 Goals

EPA and OMB established the annual and efficiency measures included on this table through PART Assessments. Although data are available to report progress toward the targets for these PART measures, the measures were not included in the FY2005 budget documents that guide the content for the performance section of the PAR. These measures have been incorporated into the FY 2007 budget documents and will be fully integrated into the performance section beginning in the FY 2007 PAR.

PART Program	PART Measure	FY 2005 Target	FY 2005 Result
Clean Water State Revolving Fund	Fund utilization rate for the CWSRF.	90%	95%
	CWSRF Long-Term Revolving Level (\$billion/yr).	\$3.4 Billion	\$3.4 Billion
Drinking Water State Revolving Fund	Fund utilization rate for the DWSRF.	81.9%	84.4%*
	DWSRF long-term revolving level (\$ billion per year).	\$1.2 billion	\$1.2 billion*
	Number of additional projects initiating operations.	415 projects	439 projects*
	Average funding (millions of dollars) per project initiating operations.	\$1.69 million	\$1.71 million*

\*As of early November 2005, FY 2005 Drinking Water SRF data include data from 50 DWSRF Programs, with partial data from the State of New York.

## Goal 2—PART Measures With Data Available Beyond FY 2005

EPA and OMB established the annual and efficiency measures included on this table through PART Assessments. These measures will be incorporated into EPA's budget and GPRA documents, including the PAR, as data becomes available. The column titled "Data Available" provides the most current estimate for the date EPA expects to report on each measure.

PART Program	PART Measure	Status	Data Available
Alaska Native Villages	Percent of Alaska rural and Native households with drinking water and wastewater systems.	Under Development	4th quarter, FY 2006
	Number of households served with wastewater and drinking water systems per million dollars (EPA and State).	Under Development	4th quarter, FY 2006
Clean Water State Revolving Fund	Number of waterbodies protected per million dollars of CWSRF assistance provided.	Under Development	4th quarter, FY 2007
	Number of waterbodies restored or improved per million dollars of CWSRF assistance provided.	Under Development	4th quarter, FY 2007



PART Program	PART Measure	Status	Data Available
Clean Water State Revolving Fund (continued)	Number of waterborne disease outbreaks attributable to swimming in, or other recreational contact with, the ocean, rivers, lakes, or streams measured as a five year average.	Under Development	TBD
	Percentage of all major publicly-owned treatment works (POTWs) that comply with their permitted wastewater discharge standards.	Under Development	4th Quarter, FY 2007
Drinking Water State Revolving Fund	Percent community water systems in compliance with drinking water standards.	Collecting Data	01/2006
Drinking Water State Revolving Fund & Public Water Supply System Grants	People receiving drinking water in compliance with health-based drinking water standards per million of dollars (Federal and State).	Collecting Data	01/2006
	Dollars per community water system in compliance with health-based drinking water standards.	Collecting Data	01/2006
Nonpoint Source Grants	Additional pounds (in millions) of reduction to total phosphorus loadings.	Collecting Data	01/2006
	Additional pounds (in millions) of reduction to total nitrogen loadings.	Collecting Data	01/2006
	Additional tons of reduction to total sediment loadings.	Collecting Data	01/2006
	Section 319 funds (\$million) expended per partially or fully restored waterbody.	Collecting Data	FY 2006
Public Water Supply System Grants	Percent of States conducting sanitary surveys at community water systems once every three years.	Collecting Data	01/2006
Underground Injection Control Grants	Dollars per well to move Class V wells back into compliance.	Targets are under development	12/2005
	Percentage of identified Class V motor vehicle waste disposal wells closed or permitted.	Collecting Data	12/2005
	Percentage of prohibited Class IV and high-priority, identified, potentially endangering Class V wells closed or permitted in ground water-based source water areas.	Collecting Data	12/2005
	Percentage of Class I, II, and III wells that maintain mechanical integrity without a failure that releases contaminants to underground sources of drinking water.	Collecting Data	12/2005

## NOTES

- 1 U.S. Environmental Protection Agency. List of Contaminants and Their MCLs. Available at [www.epa.gov/safewater/mcl.html#mcls](http://www.epa.gov/safewater/mcl.html#mcls).
- 2 U.S. Environmental Protection Agency. “FACTOIDS: Drinking Water and Ground Water Statistics for 2004.” EPA 816-K-05-001 Washington, D.C. May 2005. Available at [www.epa.gov/safewater/data/pdfs/data\\_factoids\\_2004.pdf](http://www.epa.gov/safewater/data/pdfs/data_factoids_2004.pdf).
- 3 U.S. Environmental Protection Agency. “FACTOIDS: Drinking Water and Ground Water Statistics for 2004.” EPA 816-K-05-001 Washington, D.C. May 2005. Available at [www.epa.gov/safewater/data/pdfs/data\\_factoids\\_2004.pdf](http://www.epa.gov/safewater/data/pdfs/data_factoids_2004.pdf).
- 4 U.S. EPA. “EPA’s Beach Program: 2004 Swimming Season Update.” EPA-823-F-05-006. Washington, DC, July 2005. Available at [www.epa.gov/waterscience/beaches/2004fs.html](http://www.epa.gov/waterscience/beaches/2004fs.html).
- 5 U.S. Environmental Protection Agency. “The Safe Drinking Water Information System (SDWIS). Available at [www.epa.gov/safewater/data/getdata.html](http://www.epa.gov/safewater/data/getdata.html).
- 6 U.S. Environmental Protection Agency. “Hurricane Response 2005: Week 2.” U.S. Environmental Protection Agency Website. Available at [www.epa.gov/katrina/activities/week2.html](http://www.epa.gov/katrina/activities/week2.html).
- 7 U.S. Environmental Protection Agency. “Hurricane Response 2005: Current Activities (October 26, 2005).” U.S. Environmental Protection Agency Website. Available at [www.epa.gov/katrina/activities.html#oct26](http://www.epa.gov/katrina/activities.html#oct26).
- 8 U.S. Environmental Protection Agency. National TMDL [total maximum daily load] Tracking System (NTTS) and Assessment Data Base (ADB) within Watershed Assessment, Tracking and Environmental Results (WATERS).
- 9 Indian Health Service Sanitation Deficiency System. U.S. Environmental Protection Agency program records for Clean Water Indian Set-Aside Program.
- 10 U.S. Environmental Protection Agency. National Coastal Condition Report II, December 2004. More information available at [www.epa.gov/owow/oceans/nccr2](http://www.epa.gov/owow/oceans/nccr2).
- 11 U.S. Environmental Protection Agency. 2000 National Water Quality Inventory Report, August 2002. More information available at [www.epa.gov/305b/2000report/toc.pdf](http://www.epa.gov/305b/2000report/toc.pdf)
- 12 U.S. Environmental Protection Agency, Office of American Indian Environmental Office. “Measures of Access to Drinking Water and Sanitation Facilities for American Indians and Alaska Natives.” 2003.