Environmental Protection Agency
2004 Annual Performance Plan and Congressional Justification
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Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Strategic Goal: All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve human health, enhance water quality, reduce flooding, and provide habitat for wildlife.

Resource Summary
(Dollars in thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Clean and Safe Water	**$3,870,039.5**	**$3,214,674.2**	**$2,952,472.9**	**($262,201.3)**
Safe Drinking Water, Fish and Recreational Waters	$1,355,114.4	$1,148,425.1	$1,198,942.3	$50,517.2
Protect Watersheds and Aquatic Communities	$474,725.2	$435,814.7	$479,787.4	$43,972.7
Reduce Loadings and Air Deposition	$2,040,199.9	$1,630,434.4	$1,273,743.2	($356,691.2)
Total Workyears	2,681.8	2,742.8	2,776.4	33.6

Background and Context

Over the almost thirty years since enactment of the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA), government, citizens, and the private sector have worked together to make dramatic improvements in the quality of surface waters and drinking water supplies. Cleaner, safer water has lead to a rebirth of recreational, ecological, and economic values in communities across the Nation. Despite tangible improvements in the quality of the Nation's waters, water pollution and drinking water problems remain. States and tribes are in the middle of the complex process of adopting and implementing statewide watershed approaches that in turn require strong standards, monitoring, Total Maximum Daily Loads (TMDLs), and implementation (e.g. National Pollutant Discharge Elimination System (NPDES) permit) programs. EPA and states are facing backlogs, court challenges, and petitions to withdraw state program authorization. In recognition of these challenges, the FY 2004 President's Budget provides additional resources to help address these issues and continue the water quality improvements of the past 30 years.

Means and Strategy

To achieve the Nation's clean and safe water goals, EPA will operate under an overarching watershed approach in carrying out its statutory authorities under both the SDWA Amendments of 1996 and the CWA. In FY 2004, the Agency will place particular emphasis on the core water programs – monitoring and assessment, standard setting, watershed planning, and implementation (i.e., NPDES and drinking water). Requested resources will help address serious challenges now facing these core programs. Moreover, the overall effect of individual core program improvements will be a stronger, better coordinated water management framework to help ensure timely local and national decision making, improved program implementation, and better information sharing. From setting goals to protect health and the environment in water quality standards and criteria to measuring success and identifying problems through water quality monitoring and assessment, and from watershed planning and load allocations to implementing pollution control measures, each program element relies on the others to ensure the achievement of the Clean and Safe Water goal.

The core programs are fundamental underpinnings of the watershed approach. Without a strong core program, states, tribes, local and other Federal partners would not be able to join in the protection of our waters at the watershed level. At the watershed level, local managers can better understand the cumulative impact of their activities, determine the most critical problems, better allocate limited financial and human resources, engage stakeholders, win public support, and make real improvements in the environment. EPA continues to encourage watershed approaches not only for core water programs but also as a way to integrate efforts of sister agencies, states, tribes, local governments, industry and nonprofit organizations. In addition, EPA is encouraging a number of important program innovations that focus on managing water resources at the watershed level, including trading, watershed permitting, and watershed based TMDLs. On January 13, 2003, EPA released a new Water Quality Trading Policy to cut industrial, municipal and agricultural discharges into the nation's waterways. The trading policy seeks to support and encourage states and tribes in developing and putting into place water quality trading programs that implement the requirements of the Clean Water and Federal regulations in more flexible ways and reduce the cost of improving and maintaining the quality of the nation's waters. The policy will help increase the pace and success of cleaning up impaired rivers, streams and lakes throughout the country.

As part of core programs, EPA will continue to implement the SDWA, as amended in 1996. The central provisions of the Amendments include: 1) improving the way that EPA sets drinking water safety standards and develops regulations based on good science, prioritization of effort, sound risk assessment, and effective risk management; 2) providing flexibility to the states in monitoring for certain contaminants and in setting time frames for compliance with regulations, and providing funding for improvements to drinking water infrastructure through the Drinking Water State Revolving Fund (DWSRF); 3) establishing new prevention approaches, including provisions for operator certification, capacity development, and source water protection; and 4) providing better information to consumers, including consumer confidence reports.

EPA will continue efforts to provide states and tribes with tools and information to assist them in protecting their residents from health risks associated with contaminated recreational

waters and fish caught through noncommercial means. EPA activities include development of water quality criteria, enhanced fish tissue monitoring, development of fish and shellfish consumption advisories, and risk assessment activities. For beaches, EPA's strategy is to strengthen beach standards and testing, improve the scientific basis for beach assessment, and develop methods to inform the public about beach conditions. Beach water quality monitoring and public notification will be improved by providing grants to state and local governments under CWA Section 406.

Key to the watershed approach is continued development of scientifically based water quality standards and criteria under the CWA and better consolidated identification of waters not meeting these goals under CWA Sections 303(d) and 305(b). Where water quality standards are not being met, EPA will work with states and tribes to improve implementation of a TMDL program that establishes the analytical basis for watershed-based decisions on needed pollutant reductions. To support states and tribes in their standards adoption and TMDL programs, EPA will continue to provide scientifically sound criteria and guidance for toxic chemicals, nutrients, biological integrity, microbial, and physical stressors. In particular, the focus will be on updating the aquatic life guidelines to incorporate new and emerging science, integrating aquatic life, biological, and nutrient criteria to better address state uses, helping build state and Tribal technical capacity, and addressing sedimentation.

EPA will work with Federal, state, Tribal, local and private sector partners to protect wetlands. In coordination with the Corps of Engineers, EPA will improve the CWA Section 404 program to achieve no net loss of wetlands by avoiding, minimizing and compensating for losses. With an emphasis on community-based restoration, EPA will contribute to the goal of an annual net increase of wetlands of 100,000 acres by FY 2005. EPA will increase assistance to states and tribes to protect all waters, including those that are not regulated by the CWA, and to improve monitoring of wetlands. EPA will be part of coordinated Federal agency efforts to support conservation of fauna, including the North American Bird Conservation Initiative and Partners for Amphibians and Reptile Conservation.

EPA will continue to develop and revise national effluent guideline limitations and standards, capitalize and manage the Clean Water State Revolving Fund (CWSRF) program and other funding mechanisms, and target the NPDES permit program to achieve progress toward attainment of water quality standards and support implementation of TMDLs in impaired water bodies.

EPA is assisting states and tribes to characterize risks, rank priorities, and implement an effective mix of voluntary and regulatory approaches through improved state nonpoint source (NPS) management programs. Working with EPA, states and tribes are strengthening their NPS programs to ensure that needed NPS controls are implemented to achieve and maintain beneficial uses of water. In particular, EPA and the states are working together to better use the CWA Section 319 framework and funds to develop and implement TMDLs to restore waters impaired by NPS pollution. States will continue to implement coastal NPS programs approved by EPA and the National Oceanic and Atmospheric Administration under the Coastal Zone Act Reauthorization Amendments (CZARA).

The new Farm Bill, with its significantly increased funds to address agricultural sources of NPS pollution, affords EPA and the states an enhanced opportunity to significantly accelerate national efforts to control NPS pollution. EPA and state water quality agencies will work closely and cooperatively with the United States Department of Agriculture (USDA), conservation districts, and others in the agricultural community, to combine our strengths. Using CWA Section 319 dollars, states will both address their priority watershed restoration needs and focus more of their efforts on providing the monitoring and watershed-planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. States will also increasingly focus their existing efforts on filling gaps remaining in USDA programs, especially demonstrating the effectiveness of promising emerging technologies.

States will use their enhanced watershed planning efforts to ensure that their watershed protection and remediation efforts holistically address all significant pollution sources in the watershed in a comprehensive manner. To do so, states will also increase their focus upon NPS categories and activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, and abandoned mines), while continuing to work with the agriculture community to solve problems on a watershed basis. Furthermore, states will continue to use a variety of program tools to foster an ethic of pollution prevention in their NPS watershed programs, such as low impact development techniques, source prevention, and public education, to assure that water quality improvement and protection become a permanent outcome of the program.

The Administration's evaluation of Nonpoint Source Grant, Drinking Water State Revolving Fund and Tribal GAP Grant (See Goal 4 Overview) programs in the PART process were completed in FY 2003.

The Administration’s PART assessment conducted for the Drinking Water SRF program found that the program has clear purpose, effective design and strong management practices. However, EPA has been unable to demonstrate the degree to which the program’s drinking water infrastructure investments protect public health, a primary purpose of the program. A challenge facing the Drinking Water SRF program is to develop measurable long-term and annual performance goals that link the program to its public health mission. The PART results support the Administration’s decision to extend Federal capitalization of the Drinking Water SRF program and to strengthen its focus on accountability. In response to the PART findings, EPA will develop new outcome-based performance measures that better demonstrate the impact of the program.

The Administration’s PART assessment conducted for the Nonpoint Source Grant program found that the purpose is clear but the program has not collected sufficient performance information to determine whether it has had a significant effect on pollution. The programs greatest weaknesses are strategic planning and a lack of measurable program results. Therefore, the program lacks adequate long term annual and efficiency measures. However, new performance measures are being developed that focus on outcomes and efficiency. Significant improvements have been made to program management over the past years, which will improve the Agency’s ability to develop new performance measures. In addition, as a result of the Farm Bill, the Agency is working with USDA to coordinate NPS efforts in agricultural in a complementary manner.

Research

EPA's water research program supports the Agency's Clean and Safe Water Goal by providing the scientific basis necessary to protect human health and the environment. Implementation of the research provisions in the 1996 Safe Drinking Water Act (SDWA) amendments and the Clean Water Act will provide improved tools (e.g., methods, models, risk assessments, management strategies, and new data) to better evaluate the risks posed by chemical and microbial contaminants that persist in the environment and threaten wildlife and, potentially, human health.

The focus of the drinking water research program will be on filling key data gaps and developing analytical detection methods for measuring the occurrence of chemical and microbial contaminants on the Contaminant Candidate List (CCL) and developing and evaluating cost-effective treatment technologies for removing pathogens from water supplies while minimizing disinfection by-product (DBP) formation. Water quality research will improve risk assessment methods to develop aquatic life, sediment, habitat, and wildlife criteria, as well as risk management strategies, and will help EPA and other Federal, state, and local agencies develop better baseline assessments of water quality. The Agency will also develop diagnostic tools to evaluate human and ecological exposures to toxic constituents of wet weather flows such as combined-sewer overflows, sanitary-sewer overflows, and storm water.

Several mechanisms are in place to ensure a high-quality research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independently chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an in-depth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. EPA's scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2nd Edition) codifies procedures and guidance for conducting peer review.

Highlights

Core Water Programs

Water Quality Monitoring

Current water quality monitoring efforts yield insufficient data for states and others to make watershed-based decisions, to develop necessary standards and TMDLs, and to accurately and consistently portray conditions and trends. A key component in FY 2004 is the support of enhanced monitoring and assessment, by working with the states with a particular emphasis on

the probabilistic approach and providing additional support to encourage the establishment of state-level monitoring councils and local watershed monitoring consortiums.

Water Quality Standards

Water quality standards establish the environmental baseline used to measure success in implementing Clean Water programs. In FY 2004, EPA will increase funding to work with state and Tribal partners to ensure that water quality standards are effective and appropriate for use in developing TMDLs. The National Research Council's 2001 assessment of the TMDL program found that the designated uses and criteria in existing standards often need more detail and refinement before they can be used as a firm basis for requiring load reductions through TMDLs. To address this concern, EPA in FY 2004 will provide technical guidance and training that will help states and tribes conduct their own use attainability analyses, and to help refine and interpret standards to ensure they are adequate for use in developing load reduction targets. In addition, EPA conducted a customer-focused review of the National Standards program and developed a draft long-term strategy that calls for improvements and streamlining in EPA's program. EPA will implement the high priorities in the strategy. EPA will also accelerate the technical reviews necessary for EPA to approve new or revised state/Tribal standards on a timely basis for use in TMDLs.

TMDLs

The Agency will continue to work with states and tribes to carry out their TMDL programs focused more, in FY 2004, on a watershed basis to identify those waters not meeting clean water goals. The Agency will also continue to help restore impaired watersheds, and to meet the many court-supervised deadlines for completing TMDLs. While increasing the pace of TMDL development remains important, EPA must work with states to help assure implementation of already-approved TMDLs, including targeting CWA Section 319 NPS funding and marshaling Farm Bill conservation programs. EPA will assist states in revising their continuing planning processes under CWA Section 303(e) to place more emphasis on assuring needed watershed implementation.

NPDES

In recent years the authorized state NPDES programs have been the object of an increasing number of withdrawal petitions, citizen lawsuits, and independent reviews indicating potential noncompliance with Federal CWA requirements. A substantial number of states are experiencing difficulty with the timely issuance of NPDES permits. Recently completed permit quality reviews (PQRs) indicate that permits lack comprehensiveness and the requirements necessary to achieve water quality standards. In FY 2004, EPA, in partnership with the states, will ensure that facilities required to have permits are covered by current permits that are effective and include all conditions needed to ensure water quality protection.

Drinking Water Implementation

The proposed increase for the drinking water program will strengthen EPA's ability to meet states' and systems' increasingly complex implementation assistance needs. This

assistance is critical for the national program to meet its long-term objective of providing drinking water that meets all priority regulations, within five years of the effective date of each standard, to at least 95 percent of the population served by community water systems. The increased resources in this request are targeted toward developing more effective state programs and increasing the technical and managerial capacity of drinking water systems to comply with drinking water regulations, especially the arsenic and microbial, disinfectant and disinfection byproducts rules. In addition, EPA will focus increased resources on the Area-Wide Optimization Program (AWOP), which is designed to reduce consumers' exposure to microbial contaminants by improving the performance of small systems' filtering technology.

Oceans and Coastal Protection

To strengthen protection of the nation's ocean resources, EPA proposes to address significant gaps in ocean and coastal protection in specific high priority issues. Recent legislation regarding cruise ships in Alaskan waters and Government Accounting Office and other reports has demonstrated the need to enhance cruise ship regulation and address continuing violations of existing standards. In response, EPA will enhance its regulation of discharges of pollution from vessels, including sewage discharges, cruise ship discharges, and operational discharges from vessels of the Armed Forces - Uniform National Discharge Standards – taking into consideration the concerns of the Armed Forces. In addition, EPA will place a strong emphasis on developing ballast water standards for aquatic nuisance species. EPA will also bolster its Marine Protection, Research, and Sanctuaries Act (MPRSA) responsibilities regarding site evaluation, designation and monitoring, and permit review and concurrence. In particular, EPA will work to expeditiously refine the site designation and management of the Historic Area Remediation Site (HARS) off the New Jersey coast.

Other Priorities

Homeland Security

Protecting critical water infrastructure (drinking water and wastewater utilities) from terrorist and other intentional acts will continue to be a high priority in FY 2004. EPA is the primary Federal agency responsible for protecting public health and ensuring the safety of critical water infrastructure from terrorist or other intentional acts. Currently, there are approximately 54,000 community drinking water systems and almost 16,000 wastewater utilities nationwide. Both types of water utilities serve approximately 264 million people. EPA's principal goal related to critical water infrastructure is to work with the states, tribes, drinking water and wastewater utilities, and other partners to assess the security of these water utilities as soon as possible and develop appropriate emergency response plans.

Water Infrastructure

In Puerto Rico, inadequate drinking water infrastructure has created a significant daily health risk to consumers. Less than 20 percent of the population receives drinking water that meets all health-based standards. Puerto Rico's compliance problem is a major challenge in the national effort to ensure that 95 percent of the population served by community water systems receives drinking water that meets all health-based standards. As a first step toward improved

public health protection in Puerto Rico, the Agency requests additional grant funds to design the necessary infrastructure improvements. When all upgrades are complete, EPA estimates that about 1.4 million people will benefit from safer, cleaner drinking water. In addition, the Agency estimates that 200 to 300 excess cases of cancer will be avoided, and risks of gastroenteritis and other waterborne diseases will be greatly reduced.

Wetlands

In 2001 the Supreme Court determined that some isolated waters and wetlands are not regulated under the CWA. Many waters with important aquatic values are no longer covered by CWA Section 404 protections. EPA is proposing an increase in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also providing grant funding for states and tribes to assume more decision-making authority in waters that remain subject to the CWA.

Research

In FY 2004, EPA's drinking water research program will continue to conduct research to reduce the uncertainties of risk associated with exposure to microbial contaminants in drinking water and improve analytical methods and risk assessments to control risks posed by drinking water contamination. As required by the SDWA amendments, the first Contaminant Candidate List (CCL) was published in 1998 and included nine microbial contaminants in its Research Priorities Category that require more data before a regulatory determination could be made. The drinking water research program will continue to focus on chemical and microbial contaminants on current and future CCLs. Significant data gaps still exist on the occurrence of harmful microbes in source and distribution system water, linkages between water exposure and infection, and the effectiveness of candidate treatment technologies to remove and inactivate these contaminants. Research efforts will also continue to support arsenic-specific research and development of more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. This work will include strategies for the acceptable control of water treatment residuals enriched with arsenic.

Research to support the protection and enhancement of aquatic ecosystems and their biotic components includes understanding the structure, function, and characteristics of aquatic systems, and evaluating exposures and effects of stressors on those systems. EPA is also working to develop biological and landscape indicators of ecosystem condition, sources of impairment, stressor response/fate and transport models and options for managing stressors and their sources. Through the development of a framework for diagnosing adverse effects of chemical pollutants in surface waters, EPA will be able to evaluate the risks posed by chemicals that persist in the environment and accumulate in the food chain, threatening wildlife and potentially human health. The Agency will also develop and evaluate more cost-effective technologies and approaches for managing sediments, and evaluate management options for watershed restoration of TMDLs for other significant stressors (e.g., nutrients, pathogens and toxic compounds). Finally, research to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers is emerging as an area of renewed importance for the Agency.

Another area of research will focus on growing evidence of the risk of infectious diseases resulting from exposure to microbes in recreational waters. Exposure to these diseases is of particular concern after major rainfall events that cause discharges from both point and non-point sources. These events pose significant risks to human and ecological health through the uncontrolled release of pathogenic bacteria, protozoans, and viruses, as well as a number of potentially toxic, bioaccumulative contaminants. EPA will develop and validate effective watershed management strategies and tools for controlling wet weather flows (WWFs), including: 1) new and improved indicator methods to describe the toxic inputs to watersheds from WWFs; 2) methods to utilize condition and diagnostic ecological indicators in evaluating wet weather flow management strategies in preventing degradation of water and sediment quality by contaminated runoff; 3) methods for diagnosing multiple stressors in watershed ecosystems; and 4) evaluation of low cost watershed best management practices to evaluate risks associated with various control technologies for wet weather flows. This will enable EPA to provide states with consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health.

External Factors

Drinking Water and Source Water

The adoption of health-based and other programmatic regulations by drinking water agencies is an important external factor. The 53 states and territories that have primary enforcement authority (primacy) for drinking water regulations must have sufficient staff and resources to help public water systems implement, and comply with, drinking water regulations. As authorized in the enabling legislation for the DWSRF, states may use funds set-aside from the DWSRF for state drinking water implementation activities. However, for many states the need to preserve DWSRF funding to close the infrastructure gap is more important. A related challenge is the cost of providing safe drinking water: The 2001 Drinking Water Needs Survey (DWNS) estimates drinking water infrastructure needs at $150.9 billion over the next 20 years.

Although the 1996 SDWA expanded source water protection to include surface as well as ground water sources of drinking water, the implementation of source water protection programs is not mandated under SDWA. In FY 2004 and beyond, as the statutorily mandated source water assessments are completed, and more states and communities take voluntary measures to implement contamination prevention programs, the Agency will become increasingly dependent on its partnerships with states, tribes and communities to achieve national source water protection goals.

Full implementation of the Underground Injection Control (UIC) program, including 1999 regulations for two types of shallow injection wells, depends on effective state and local participation. Because of the sheer number of shallow injection wells - - approximately 700,000 nationwide - - that must be inventoried and managed, implementation of the overall UIC program could be affected by continuing resource constraints at the state and Federal levels. In addition, the Agency has full or partial direct implementation responsibility for 17 states, the District of Columbia and all tribes.

Fish and Recreational Waters

The CWA does not require that states or tribes operate fish advisory or beach protection programs. The Agency's role is primarily to support them through guidance, scientific information, and technical assistance. EPA cannot take regulatory action to assure that states and tribes conform to fish consumption advisory guidance; therefore, success depends on voluntary state/Tribal/local commitment to achieving these goals. The Agency will continue to develop scientifically sound water quality criteria to protect human health in order to reduce the number of fish advisories and beach advisories or closures necessary in the future.

The Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000 authorizes Federal funds for states and tribes to monitor pathogens at coastal and Great Lakes beaches and notify the public of advisories or closures. However, the states and tribes are not required to operate a program if they do not accept Federal funds. The Agency expects that all 35 eligible states or territories will continue operating a Federally funded program in FY 2004.

One way of determining whether we have reduced the consumption of contaminated fish and shellfish is to find out if people eat the fish they catch from waters where fish advisories have been issued. In order to determine whether we have reduced exposure to contaminated recreational waters, we also need to know if people comply with beach closure notices when they are issued. Acquiring statistical evidence for such determinations is difficult. For the fish advisory program, this information has been collected by some states, and is being reviewed to provide insight to state and Tribal advisory programs on how they can improve their programs. For the beach programs, this information will be collected for those states or tribes, which have applied for BEACH Act grants. However, this information will only reflect coastal and Great Lakes beaches in those states and tribes that have received grants.

Without comprehensive, consistent monitoring of all the Nation's waters, we do not know how many waters should be under advisory or how many beaches should be closed. The resource demands of implementing a comprehensive monitoring program pose a significant challenge for the states and could be a mitigating factor for success in this area.

Watersheds and Wetlands

EPA's efforts to meet our watershed protection objective are predicated on strengthening and broadening our relationships with our Federal, state, Tribal, and local partners. Because of the vast geographic scope of water quality and wetlands impairments and the large number of partners upon whose efforts we depend, EPA must continue to build lasting, working relationships with all stakeholders including communities, individuals, business, state and local governments and tribes. EPA's ability to meet this objective will depend on the success of state and local regulatory and non-regulatory programs and nationwide efforts to provide and use a broad range of policy, planning, and scientific tools to establish local goals and assess progress.

Given the interrelations of the Federal government's environmental protection and stewardship agency and programs, Federal agencies must work together with states and tribes to maximize achievements. Without continued government-wide coordination and commitment, we will not meet our water quality objectives. For example, marshaling Farm Bill conservation

programs to tackle state water quality priorities is crucial, particularly to enhancement of state NPS management programs. Following our FY 2003 CWA Section 319 grant guidance, states are developing watershed plans for priority impaired bodies of water that delineate the specific technical and financial resources required to enable implementation. The states will also need to continue efforts to overcome historical institutional barriers to achieve full implementation of their coastal NPS control programs as required under the CZARA.

States and tribes, with increased EPA grant support, will assume more responsibility for comprehensive protection of wetlands and other waters, including those the Supreme Court has determined are not subject to CWA protections. Responding to the National Academy of Sciences finding that the CWA Section 404 program fails to achieve no net loss, EPA and the Corps of Engineers, with other agencies and stakeholders, will improve the program's compensatory mitigation features. EPA will develop methods and provide technical assistance and grant support for monitoring and reporting on the condition of wetlands.

EPA will continue to improve our understanding of the environmental baseline and our ability to track progress against goals, which also depends on external parties. While current state CWA Section 305(b) reporting provides some assessment of water quality, we must continue to provide support to our partners and stakeholders in their efforts to work with state water quality agencies to improve measurement tools and data-sharing capabilities, including facilitating consolidation of CWA Section 305(b) reports and CWA Section 303(d) lists. EPA is working with states to improve our tracking and measurement of NPS load reductions from the CWA Section 319 program. Also, as states adopt TMDLs, we will have specific targets for point source and NPS load reductions needed to meet water quality standards in impaired waters.

Point Sources

Clean water goals associated with reduction of pollutant discharges from point sources through the NPDES permitting program rely heavily on EPA's partnership with states as 45 states and one territory are currently authorized to carry out the NPDES program. EPA will also work with the states to reduce pollution from onsite—/decentralized wastewater treatment systems, including septic systems. EPA estimates that between 10 and 30 percent of all onsite/decentralized systems nationwide are not performing as designed, treating waste inadequately, and therefore failing to protect public health and the environment.

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Safe Drinking Water, Fish and Recreational Waters

By 2005, protect public health so that 95% of the population served by community water systems will receive water that meets drinking water standards, consumption of contaminated fish and shellfish will be reduced, and exposure to microbial and other forms of contamination in waters used for recreation will be reduced.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Safe Drinking Water, Fish and Recreational Waters	**$1,355,114.4**	**$1,148,425.1**	**$1,198,942.3**	**$50,517.2**
Environmental Program & Management	$130,668.7	$110,143.9	$122,107.8	$11,963.9
Science & Technology	$135,442.5	$69,230.1	$87,734.5	$18,504.4
State and Tribal Assistance Grants	$1,089,003.2	$969,051.1	$989,100.0	$20,048.9
Total Workyears	854.8	887.4	921.9	34.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Beach Grants	$10,000.0	$10,000.0	$10,000.0	$0.0
Congressionally Mandated Projects	$143,897.2	$0.0	$0.0	$0.0
Drinking Water Implementation	$38,332.9	$38,935.0	$44,338.7	$5,403.7
Drinking Water Regulations	$28,597.4	$30,034.0	$31,434.9	$1,400.9
Facilities Infrastructure and Operations	$12,116.5	$12,372.6	$13,196.1	$823.5
Fish Contamination/Consumption	$2,764.8	$2,788.4	$2,831.2	$42.8

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Homeland Security-Critical Infrastructure Protection	$89,740.5	$21,946.5	$32,389.1	$10,442.6
Homeland Security-Preparedness, Response and Recovery	$1,317.6	$0.0	$10,768.2	$10,768.2
Legal Services	$1,206.3	$1,317.6	$1,362.4	$44.8
Management Services and Stewardship	$4,025.0	$4,240.2	$4,323.7	$83.5
Planning and Resource Management	$0.0	$0.0	$41.4	$41.4
Preventing Contamination of Drinking Water Sources	$23,470.2	$22,096.8	$23,311.9	$1,215.1
Regional Management	$357.7	$309.2	$755.1	$445.9
Safe Drinking Water Research	$45,579.5	$49,491.0	$49,231.3	($259.7)
Safe Recreational Waters	$834.4	$842.7	$858.3	$15.6
State PWSS Grants	$93,100.2	$93,100.2	$105,100.0	$11,999.8
State Underground Injection Control Grants	$10,950.9	$10,950.9	$11,000.0	$49.1
Water Infrastructure: Puerto Rico	$0.0	$0.0	$8,000.0	$8,000.0
Water Infrastructure: Drinking Water State Revolving Fund (DW-SRF)	$850,000.0	$850,000.0	$850,000.0	$0.0

FY 2004 Request

Drinking water is essential to the health of all Americans, and a reliable, affordable supply of safe drinking water contributes to the quality of life in communities nationwide. To enhance the ability of the national drinking water program to reduce health risks from contaminated water supplies, Congress passed the 1996 Safe Drinking Water Act (SDWA) Amendments. The SDWA, as amended, requires source water assessments and protection plans; development of drinking water regulations based on sound science and risk assessments; affordable financing of drinking water infrastructure improvements needed to comply with existing and new regulations; and greater consumer awareness of the importance of safe drinking water to protect human health. Collectively, these and other changes strengthened the safe drinking water program by creating a balanced, integrated framework that comprises multiple protective barriers to protect Americans from unsafe drinking water. Consistent with the 1996 SDWA Amendments, EPA, states, tribes and utilities are engaged in a wide array of complementary regulatory and non-regulatory activities designed to strengthen those barriers. These activities include: source water assessment and protection; risk-based development of scientifically sound drinking water regulations; ensuring qualified system operators; guidance, training and technical assistance to build and maintain the capacity of state and

Tribal drinking water systems to comply with drinking water standards; and informing consumers of the quality of their drinking water through annual consumer confidence reports.

The provision of safe drinking water remains a significant challenge, however, as EPA and its partners continue to work together to provide safe, affordable drinking water while reducing the public health risks to Americans' drinking water supplies. These risks include contamination of source water from point and nonpoint sources of pollution, unregulated contaminants of public health concern, and the aging of treatment plants, storage facilities, and distribution systems. To protect consumers from these risks to public health, EPA and other Federal agencies, states, tribes, utilities and stakeholders work together to implement the national safe drinking water program. In FY 2004, the Agency is proposing an increase to strengthen its ability to meet states' and systems' complex implementation assistance needs. By the end of FY 2004, the Agency and its partners will protect public health so that 1) not less than 92 percent of the population served by community water systems continues to receive drinking water meeting all 1994-or-earlier health-based standards, up from 83 percent in 1994, and 2) not less than 85 percent of the population served by community water systems continues to receive drinking water meeting all health-based standards promulgated in 1998 or later.

Preventing Contamination of Drinking Water Sources

To reduce or eliminate the amounts of contaminants entering water supplies, the 1996 SDWA expanded source water protection to include surface as well as ground water sources of drinking water. Source water protection is a common-sense way to provide safe drinking water at less cost: it reduces the amount of contaminants in water supplies, lowering treatment costs, and these cost savings can then be passed on to consumers. Such cost savings are particularly important for small systems and tribes, which may have less technical, financial and managerial capacity to operate a drinking water system. As such, source water protection is an effective complement to treatment technology in protecting public health. For the approximately 140 million Americans who get their drinking water from ground water sources, source water protection is often the only barrier against contamination.

Under the 1996 SDWA, states must develop EPA-approved source water programs, and complete source water assessments by: delineating the drinking water source area; conducting inventories of known and potential sources of contamination within these areas; determining the susceptibility of the water supply system to contamination; and notifying the public about identified threats. Although some states have requested an extension to complete up to 39,000 source water assessments for community water systems in FY 2003, by the end of FY 2004, the Agency expects that EPA-approved state programs will have completed high quality baseline assessments for 47,000 community water systems nationwide. So that the public and all Federal agencies will have access to the completed assessments, the Agency will work with states and tribes to place the data on GIS databases to facilitate effective contamination prevention activities focused on high-priority source water areas.

Because the completed assessments are precursors to actual protection of source water, states and local governments also are developing and implementing contamination prevention programs. In FY 2004 EPA will provide training and technical assistance to states and communities that are taking voluntary measures to prevent, reduce, or eliminate contamination threats to source

water, and developing contingency plans. The training and assistance will focus on statewide contamination prevention strategies for coordinating local activities across jurisdictions. By the end of FY 2004, EPA's source water protection program anticipates meeting its 2004 goal of having 7,500 community water systems with source water protection programs in place, protecting 25 percent of the population served by community water systems.

Ensuring safe underground injection is a fundamental component of a comprehensive source water protection program, and under the SDWA, any injection activity that may endanger an underground source of drinking water is prohibited. EPA works with states and communities to ensure the proper underground injection of approximately 9 billion gallons of hazardous waste every year, over 2 billion gallons of brine from oil and gas operations every day, and significant amounts of automotive, industrial, sanitary and other wastes that are injected into shallow wells. Management or closure of the approximately 700,000 shallow (Class V) wells nationwide remains a top priority for the Agency's Underground Injection Control (UIC) program. In December 1999, EPA issued UIC Class V regulations requiring additional protective measures for managing risks from two types of shallow wells: motor vehicle waste disposal wells and large capacity cesspools. In June 2002, after extensive analysis and stakeholder involvement, EPA issued a *Federal Register* determination, based on current data on the contamination risks from Class V wells, not to establish additional regulatory requirements for more than two-dozen other types of shallow wells. In lieu of new regulations, in FY 2004 EPA will continue to provide support for UIC primacy states in the implementation of a comprehensive Class V management strategy initiated in FY 2003 to prevent improper disposal or injection into other Class V wells. As a result, EPA and states will have inventoried and taken preventive action on tens of thousands of shallow wells by the end of FY 2004.

EPA and primacy states also will continue to: educate and assist well operators; work with industry and other stakeholders to collect and evaluate data on Class V wells; and explore non-regulatory best management practices that effectively protect underground sources of drinking water. For the other classes of injection wells, such as hazardous and non-hazardous waste wells, and oil and gas production wells, the Agency will continue to provide states and tribes with the technical assistance they request to implement UIC regulations. Finally, EPA will continue to implement, in full or in part, the UIC program for 17 states, the District of Columbia, and all Federally recognized tribes.

An important step in the maturing EPA-state partnership to protect source water is the ongoing, joint implementation of a national database and performance measures for contamination prevention activities. In FY 2004, EPA will work with states to gather baseline data on the health risk reduction in communities that have taken measures to protect source water.

Homeland Security

Legislation and national policy strategies are the principal drivers for critical water infrastructure protection activities. For instance, Presidential Decision Directive 63 designated EPA as the lead Federal agency for the water sector and assigned it to work with this sector to identify vulnerabilities of infrastructure to terrorist and criminal attacks. In September 1998, the Agency established a public/private partnership with water-related organizations and subsequently appointed the Executive Director of the Association of Metropolitan Water

Agencies (AMWA), as the water sector liaison to the Federal government on critical water infrastructure issues. AMWA assumed primary responsibility for establishing a computer-based, world wide web-driven system to insure appropriate, timely, and secure distribution of information to drinking water and wastewater utilities on threats. This activity evolved into an Information Sharing and Analysis Center (ISAC), which will become fully operational in FY 2003. FY 2004 resources will help support the ongoing operations and management of the ISAC.

In FY 2004, requirements set forth in the Public Health Security and Bioterrorism Emergency and Response Act of 2002 (hereafter referred to as the Bioterrorism Act of 2002) apply to about 90 percent of the community water systems subject to this statute. The Bioterrorism Act of 2002 directed drinking water systems that provide water to more than 3,300 people to assess their vulnerability to terrorist or other intentional attacks, certify the completion of such vulnerability assessments, and submit copies of final vulnerability assessments to EPA for secure and confidential storage. In addition, these same systems must prepare or revise their emergency response plans based on the findings of their vulnerability assessments and certify, again to EPA, that this requirement has been completed. Statutory deadlines for both vulnerability assessments and emergency response plans were set according to the population served by community water systems. The specific populations and the due dates are as follows (the current number of systems serving the population cited is shown in parentheses):

Research

Research in the area of water security will focus on developing, testing and communicating/implementing enhanced methods for detection, treatment, and containment of biological and chemical warfare agents and bulk industrial chemicals intentionally introduced into drinking water systems. Work in FY 2004 will focus on:

- Detection of Contaminants--Testing/verification of existing detection devices; development of new devices or methods for rapid response; and design of a detection network. Emphasis will be placed on: characterizing contaminants that pose threats, developing standard field screening and laboratory analysis methodologies and approaches, validating sensor technologies for detecting contaminants and monitoring water quality, developing and evaluating biological monitoring, and verifying the performance of commercially-ready detection and monitoring techniques and technologies.

- Containment of Contaminants--Development, evaluation and testing of methods and procedures for preventing the spread of contaminants in drinking water sources and distribution systems. Emphasis will be placed on: developing, testing, and verifying the performance of containment techniques and technologies and then transferring these techniques and technologies to water managers and public health officials.

- Decontamination of Contaminated Drinking Water--Development, evaluation, and testing of methods, technologies, and procedures for decontaminating drinking water, with consideration of efficacy, utility, safety, and cost. Emphasis will be placed on: developing point-of-use and point-of-entry technology for removing contaminants,

developing and deploying new analytical, neutralizing, and remedial techniques to assist in decontamination, characterizing and treating by-products that result from contaminants, and verifying the performance of commercially-ready decontamination technologies.

- Scientific and Technical Support--Providing support to agency regulatory program within EPA for understanding and managing events. Emphasis will be placed on: developing a database of contaminant characters for first responders, refining detection, containment, and decontamination techniques and technologies based on vulnerability assessments, improving approaches for coordination of water managers and public health officials in event response, and enhancing physical security of water systems through new design and security techniques and facility hardening practices.

- Risk Communication-Transfer of Improved Methods to Users--Providing guidance and technical support on improved detection, containment and decontamination methods for utility managers and emergency responders. Emphasis will be placed on: instituting monitoring approaches and networks to help public health officials identify and control disease outbreaks, and transferring techniques and technologies to utility managers and first responders.

Systems	**Vulnerability Assessments Deadlines**	**Emergency Response Plans Deadlines**
100,000 or more (~425)	3/31/03	9/30/03
>50,000 -<99,999 (~ 460)	12/31/03	6/30/04
>3,300 - < 49,999 (~7,500)	6/30/04	12/31/04

EPA will focus its efforts and resources to assist the approximately 8,000 community water systems that serve water to more than 3,300 but less than 100,000 people. These systems will be in various stages of conducting vulnerability assessments and preparing/revising emergency response plans in FY 2004. Vulnerability assessment models and self assessment tools already developed and used by large and very large drinking water systems in FYs 2002 and 2003, will be adapted where appropriate to accommodate the needs of these systems. While not subject to the Bioterrorism Act of 2002, wastewater systems, especially the some 6,000 systems that serve more than 10,000 but fewer than 150,000 people, will also be conducting vulnerability assessments and developing or revising emergency response plans. It is anticipated that the approximately 8,000 drinking water and ~6,000 wastewater systems will rely heavily on EPA's and the states' staff knowledge and expertise in the range of vulnerabilities to be considered and assessed. Unlike systems that serve 100,000 or more, medium and small systems may not have sufficient technical capacity on hand to carry out the many activities related to vulnerability assessments and emergency response plans. Consequently, EPA, in collaboration with the states and stakeholders, will support the full menu of technical assistance and training approaches to ensure that a comprehensive vulnerability assessment and a robust emergency response plan have been achieved by all of these systems.

Scientific and technical analyses, especially on methods and technologies, which will improve the overall capacity to protect critical water infrastructure are also important components of the Bioterrorism Act of 2002. Much work is needed in identifying and assessing contaminants and analyzing their effects on public health if introduced into water and wastewater systems. In addition, attention must be directed to potential bioagents and other contaminants that could be deleterious to human health through exposure to water. Examples of activities to be conducted in these important areas include: 1) identifying and addressing gaps in analytical methodology for existing technology, 2) developing methods' protocols for screening drinking water contaminated with an unknown substance, 3) evaluating current analytical capacities of laboratories to assure preparedness, and 4) developing additional laboratory capacity and capability as necessary. Testing technologies that can detect that bioagents/contaminants deliberately added to drinking water supplies as well as treatment techniques for water and wastewater collection, storage, and treatment systems will also be a major focus in FY 2004. Verification of existing technology applicable to water resources as well as continuing emphasis on and support of new technologies are critical activities in the Agency's effort to safeguard public health. EPA's Offices of Water and Research and Development will be conducting and supporting these activities through a coordinated plan that was developed in FY 2003.

In addition to these water security-specific actions, EPA must be an effective partner in homeland security efforts within the Executive Branch. EPA will continue to coordinate with other Federal agencies, especially the newly-established Department of Homeland Security as well as the Centers for Disease Control and Prevention, the Food and Drug Administration, and the Department of Defense on biological, chemical, and radiological contaminants, and how to respond to their presence in drinking water and wastewater systems. A close linkage with the FBI, particularly with respect to ensuring the effectiveness of the ISAC, will be continued. The Agency will strengthen its working relationships with the American Water Works Association Research Foundation, the Water Environment Research Federation and other research institutions to increase our knowledge on technologies to detect contaminants, monitoring protocols and techniques, and treatment effectiveness.

Setting Drinking Water Standards

One of EPA's fundamental responsibilities under the SDWA is to promulgate legal limits, called maximum contaminant levels (MCLs) or treatment techniques, for potentially unhealthy levels of chemicals, radioactive elements, and microorganisms that may be found in our drinking water. EPA fulfills this important responsibility by developing National Primary Drinking Water Regulations (NPDWRs) that establish maximum allowable levels of these contaminants. Systems' treatment of drinking water to comply with NPDWRs serves as another barrier that protects public health from unsafe drinking water. To maximize the effectiveness of drinking water regulations, the SDWA requires that standards be based on sound science and risk assessments, and that regulatory priorities reflect relative risk and health effects data. In addition, SDWA requires EPA to evaluate periodically a range of scientific data relating to existing standards to ensure that they provide the maximum level of public health protection.

Microbial contaminants, such as bacteria, viruses and protozoa, create a particularly difficult risk management challenge for the drinking water program. Some microbes, such as *Cryptosporidium*, are widespread parasites that are highly resistant to chlorine and other

disinfectants. In addition, disinfection itself can create human health risks, because chemical disinfectants are unsafe at certain concentrations, and can react with naturally-occurring substances in water to form unintended disinfection byproducts (DBPs). The SDWA therefore requires the Agency to develop a set of regulations for microbes, disinfectants, and disinfection byproducts - called the M/DBP regulations - that balances reducing the health risks from microbes with limiting consumers' exposure to DBPs.

Currently the drinking water standards program is engaged in a long-term effort to complete the three remaining M/DBP regulations: the Long-Term 2 Enhanced Surface Water Treatment rule (LT2), the Ground Water Rule (GWR), and the final Stage 2 Disinfection/Disinfection Byproducts rule (Stage 2). Although the Agency had initially scheduled the promulgation of these rules in FY 2003, in FYs 2001 and 2002 the drinking water program was required to focus its regulatory efforts on the scientific and economic underpinnings of regulations for other SDWA priority contaminants. In addition, stakeholder input has prompted EPA to do additional analyses of treatment effectiveness of alternative control strategies, and the underlying costs and benefits, for these M/DBP rules. As a result, the Agency expects to promulgate the three remaining M/DBP rules in FY 2004. When fully implemented, LT2 will prevent up to an estimated 54,000 cases of cryptosporidiosis annually, resulting in a reduction of 10 to 104 deaths associated with this disease. EPA also expects that LT2 will reduce the public's exposure to other pathogens that are associated with *Cryptosporidium*, such as *Giardia*. The proposed GWR establishes several mechanisms to protect ground water sources of drinking water from microbial contamination, and includes a targeted strategy to identify ground water-based systems at high risk for fecal contamination. Stage 2 will reduce the incidence of cancer, as well as potential reproductive developmental health effects from exposure to peak levels of DBPs occurring in water distribution systems. Consistent with the SDWA requirement that drinking water standards balance the risks from exposure to pathogens with the risks from exposure to DBPs, the Agency will promulgate LT2 and Stage 2 concurrently.

As part of the September 2000 Federal Advisory Committee Act (FACA) Agreement in Principle on LT2 and Stage2, the Agency also will complete development of risk-based monitoring programs for both regulations to target only vulnerable facilities that require additional treatment. The LT2 monitoring program will be designed to help the drinking water program identify the most cost-effective treatment technologies for particular treatment facilities with high levels of *Cryptosporidium* in their source water. The Stage 2 monitoring program will be designed to help drinking water systems determine where peak levels of DBPs occur within distribution systems. Based on the results of these monitoring programs, EPA and states should be able to focus their technical assistance resources on individual, high-risk systems and develop site-specific requirements necessary to manage those risks. Also in accordance with this Agreement in Principle, in FY 2004 EPA will complete preliminary steps to develop a Distribution System rule, an activity stemming from its six-year review of the Total Coliform Rule (discussed below). The Agency is revising this rule to reduce health risks from exposure to microbes resulting from cross connections and backflow, biofilms, and main breaks in aging distribution systems.

As EPA completes the remaining mandated NPDWRs, in FY 2004 the drinking water standards program also will increase its focus on the potential health risks from currently unregulated drinking water contaminants of public health concern, and on possible revisions to existing standards based on its six-year review of drinking water regulations. Under the SDWA, every five years the Agency's drinking water program must develop a Contaminant Candidate List

(CCL) to set regulatory priorities, and within two years of publishing the CCL must determine whether to propose regulations for CCL priority contaminants. Under recommendations from the National Research Council (NRC) and National Drinking Water Advisory Council (NDWAC), EPA published the first CCL (CCL1) in 1998. The CCL1 divided contaminants into three categories: 1) regulatory priorities; 2) those for which additional occurrence data are needed; and 3) those that require additional research into health effects, treatment technologies, or analytical detection methods. For CCL priority contaminants, EPA evaluates the sufficiency of data on current analytical and treatment methods; the best available peer-reviewed health affects studies; and analytical records of contaminant occurrence in drinking water systems. If there are adequate data for a contaminant in each of these areas, EPA is able to determine whether a risk-based drinking water standard is necessary. In June 2002 EPA published a preliminary determination that regulations are not warranted for the nine CCL1 priority contaminants for which there were sufficient data. In FY 2004, however, the Agency will continue to conduct research and collect data on the remaining CCL1 contaminants. As a result of these ongoing analyses, the Agency will be prepared to make additional "off cycle" determinations for CCL1 contaminants, consistent with the SDWA's risk-based approach to setting drinking water standards. In addition to ongoing evaluation of CCL1 contaminants, in FY 2004 EPA will conduct formal risk assessments; gather occurrence data; identify potential treatment technologies and analytical methods; and develop supporting documentation to make its next round of regulatory determinations for contaminants based on the second CCL (CCL2) published in February 2003. As part of this effort, the standards program will evaluate and implement the comprehensive 2001 National Research Council (NRC) recommendations for screening and evaluating over 100,000 potential chemical and microbial contaminants. This effort will require intensive stakeholder participation and expert input.

The SDWA also requires EPA to review and, if appropriate, revise each NPDWR no less frequently than once every six years to ensure that existing regulations maintain or increase public health protection. In accordance with the six-year review protocol developed in consultation with NDWAC and other stakeholders, the Agency has evaluated relevant data on health effects, analytical method improvements, treatment technology, occurrence, exposure, and costs. Based on this review, in April 2002 the Agency announced its preliminary decision not to revise 68 existing chemical standards, and to revise the existing Total Coliform Rule (TCR). EPA also noted, however, that for 36 of these chemicals it is still conducting risk assessments, many of which it expects to complete in FY 2004. Depending on the results of these assessments and ongoing evaluation of occurrence, methods (measurement and detection) and treatment data, the Agency may revise other existing NPDWRs stemming from this six-year review.

Implementing Drinking Water Standards

To protect public health from unsafe drinking water, the Agency also supports states, tribes and systems in the implementation of drinking water programs and regulations. The requested increase to the Agency's core drinking water implementation program is critical to maintain effective state and Tribal programs, and to achieve the enhanced level of public health protection established in 1998-or-later drinking water rules. To enable primacy agencies to act as efficient and effective partners, EPA provides guidance, training and technical assistance. EPA also works closely with states and tribes to: ensure proper certification of water system operators; promote consumer awareness of the safety of drinking water supplies; maintain the national drinking water database; and target technical assistance to small and disadvantaged systems to establish and

maintain their technical, financial and managerial capacity to comply with regulations and meet increasing public demand for safe drinking water. For states and tribes that do not have primacy for implementing drinking water regulations, the Agency directly implements the drinking water program.[1]

Since the 1996 SDWA Amendments were passed, EPA's support to states and systems in implementing drinking water standards has grown. To ensure that all communities benefit from the public health protection that drinking water regulations provide, smaller public water systems, and systems using ground water, now must meet drinking water standards and requirements previously applicable only to large systems. This growth in the number of systems that must implement drinking water standards increases the need for implementation support. Also, because drinking water regulations now may be adapted to the needs of individual systems to avoid "one size fits all" approaches, monitoring and reporting requirements also have increased, generating new demands on state agencies responsible for implementing drinking water standards. EPA provides implementation support not only for specific rules, but also to manage complex issues related to rule implementation, such as risk monitoring programs for future M/DBP regulations, simultaneous compliance challenges, and waste disposal.

In FY 2004 the Agency will conduct additional training sessions and follow-up technical support for states in the implementation of the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR) and Stage 1 Disinfectants/Disinfection Byproducts (Stage 1) rules, and the 2002 Long Term Enhanced Surface Water Treatment Rule (LT1). Along with the requested increase in state and Tribal Public Water System Supervision (PWSS) assistance grants, the national drinking water program will: enhance the management capacity of state and Tribal drinking water programs, leading to more effective implementation of high-priority drinking water standards; improve data quality through better management of drinking water data systems; and achieve safer, more efficient operation of drinking water systems. As a result, by the end of FY 2004 the Agency estimates that at least 25 primacy agencies will have updated primacy for the arsenic in drinking water and radionuclides rules, all 53 primacy agencies will have updated primacy for the IESWTR and Stage 1 rules, and at least 11 will have updated primacy for LT1.

Approximately 46,000 small water systems (those serving fewer than 3,300 persons) face greater financial, technical and managerial difficulties in their efforts to provide safe and affordable drinking water, but all systems must be able to meet safe drinking water goals. As a result, small systems will continue to need ongoing training and technical assistance to implement with the 2001 arsenic in drinking water rule, as well as existing and future M/DBP rules. Consistent with the Agency's small systems strategy, the requested increase for FY 2004 will support additional training sessions and follow-up technical support for the arsenic in drinking water and radionuclides rules, including the use of cost-effective treatment technologies, proper waste disposal, and simultaneous compliance issues. EPA also will conduct additional Comprehensive Performance Evaluation (CPE) workshops for state personnel, which states have requested so they can better assist public water systems in the optimization of treatment plant performance to meet microbial standards.

[1] As of 2002, only Wyoming and the District of Columbia do not have primacy.

The Safe Drinking Water Information System (SDWIS) serves as the primary source of national information on compliance with all SDWA requirements, and is a critical database for program management and the development of regulations, trends analyses, and public information. Drinking water systems therefore must supply data on drinking water quality and on compliance activities to states and EPA through SDWIS. In FY 2004 approximately 40 states will be utilizing SDWIS-State, the counterpart to EPA's Federal drinking water information system, SDWIS-Fed. The information in SDWIS-State meets the Agency's minimum data requirements and can easily be reported to EPA, thereby improving data quality and accuracy. To facilitate the use of SDWIS-State, in FY 2004 EPA will work to ensure that all applicable drinking water regulatory requirements are incorporated into this new data system to help states manage their drinking water programs, and will conduct additional workshops for state agency staff working with SDWIS-State. Finally, several states using SDWIS-State will adopt the source water protection module completed in FY 2003 to report source water assessments. The integration of this module with SDWIS will provide EPA and states with a more comprehensive data set to characterize the quality of the nation's drinking water.

EPA also will continue to: 1) train states in data entry, error correction, and fulfilling regulatory reporting requirements; 2) conduct data analyses; 3) provide quality assurance guidance to assist Regions and states to identify missing, incomplete or conflicting data under the jointly developed Data Reliability Action Plan. The Data Reliability Action Plan, which EPA has implemented since FY 2001, already has improved the completeness, accuracy, timeliness and consistency of the data in SDWIS-Fed. Consistent with the Administration's efforts to ensure results-oriented government, in FY 2004 the Agency will implement pilot projects with states designed to streamline data exchange between SDWIS-State and SDWIS-Fed. Finally, data verifications conducted under the Data Reliability Action Plan will play a greater role in the Agency's efforts to ensure the accuracy and completeness of SDWIS data and in FY 2004 the Agency will conduct additional data verifications reported electronically to improve use of results.

To provide safe, reliable and adequate water supplies to consumers, the Nation's 54,000 community water systems must continually upgrade or replace their infrastructure. EPA administers the Drinking Water State Revolving Fund (DWSRF) to help systems make infrastructure improvements to maintain their technical capacity to implement regulations. The DWSRF provides financial assistance to public water systems through revolving loan funds for water systems to upgrade their drinking water infrastructure. In addition, the DWSRF provides additional financial support to small and disadvantaged communities through low or zero-interest loans. In addition, every state that administers DWSRF funds must provide a minimum of 15 percent of available funds for loans to small communities, and has the option of providing up to 30 percent of available funds to state-defined disadvantaged communities. By the end of FY 2004, states and public water systems will have used DWSRF funds to establish a total of 3,600 assistance agreements, and will have completed infrastructure upgrades and replacements in 1,900 drinking water systems.

In Puerto Rico, inadequate drinking water infrastructure has created a significant daily health risk to consumers. Puerto Rico's compliance problems with health-based standards are a major challenge in the national effort to ensure that 95 percent of the population served by community water systems receives drinking water that meets all health-based standards. Despite significant EPA compliance assistance efforts over the past several years, Metropolitano, Puerto

Rico's largest public water system serving 1.4 million consumers, has been persistently in noncompliance with Coliform bacteria and trihalomethane (a disinfection byproduct) standards, and turbidity requirements. The challenge of providing adequate, safe, and affordable drinking water in Puerto Rico will be more difficult to overcome as compliance dates for more protective microbial, disinfectant and disinfection byproducts standards arrive.

Metropolitano is unable to afford critical drinking water infrastructure improvements without Federal support: Nearly 60 percent of the population lives in poverty, and compared to the national average for the 50 states, Puerto Ricans spend twice as much of their median income on drinking water. Under these economic conditions, Puerto Rico cannot easily finance the infrastructure upgrades and replacements needed to reduce public health risks without increases in support. According to the Agency's 2001 Drinking Water Needs Survey, Puerto Rico's current infrastructure needs total $139 million, including $70 million for treatment technology. As a first step toward improved public health protection in Puerto Rico, in FY 2004 the Agency requests $8 million to design the necessary infrastructure improvements to Metropolitano. Once these infrastructure improvements eventually are completed, the Agency estimates that, over the operational life of the Metropolitano system, 200 to 300 excess cases of cancer will be avoided, and risks of gastroenteritis and other waterborne diseases will be greatly reduced. This will allow the Agency to meet its objective of providing drinking water that meets all 1998 or later health-based standards, within five years of the effective date of each standard, to 95 percent of the population served by community water systems.

Since FY 1997 EPA, 13 states and hundreds of drinking water systems have successfully piloted the voluntary Area-Wide Optimization Program (AWOP). Under AWOP, systems conduct comprehensive performance evaluations (CPEs) to assess the performance of their filtration technology. By optimizing their use of filtration technology, systems can go beyond compliance to significantly reduce the human health risks associated with turbidity (clouds of tiny particles) in finished drinking water. These particles may contain harmful microorganisms, pesticides or herbicides, all of which can cause nausea, cramping, diarrhea, and associated headaches, and potentially more severe effects in the elderly, children and immune-compromised consumers. EPA currently provides optimization support for 500 (6 percent) of small public water systems that use surface water sources. The majority of these systems already are able to achieve turbidity levels that consistently meet the turbidity standard in the January 2002 Long-Term 1 Enhanced Surface Water Treatment Rule (LT1), a substantial performance improvement. Further, many small systems with at least 5 years experience in AWOP are now are capable of exceeding the LT1 standard. To provide optimization support to 250 more systems, EPA requests additional FY 2004 resources so that more small communities can benefit from this highly successful program. Broader application of AWOP or their components will enhance the ability of small systems to meet the existing and future microbial rule requirements, and will be critical to meeting one of the Agency's long term Government Performance Results Act objective of increasing the percentage of the population served by community water systems meeting standards issued in 1998 or later. A critical component of AWOP's success is the work of state engineers to determine whether a drinking water system is operating properly. The proposed increase in FY 2004 resources would support additional CPE workshops for these engineers, which states have requested so they can better assist drinking water systems in optimization efforts.

Safe Consumption of Fish and Shellfish and Recreational Waters

Reducing exposure to contaminants in fish and shellfish and through contact in primary and secondary recreational waters is a top priority for the National Water Program. In 2004, the Agency will continue to work with its state partners to ensure that they adopt and maintain scientifically based criteria and consistent assessment and notification programs to protect recreation, fish consumption, drinking water, and aquatic life uses.

About 75 percent of the Nation's population lives, works, or plays on or near our coastal waters. Studies indicate that susceptible populations (e.g., children) are the most likely to develop illnesses or infections after swimming in polluted water. To protect human health, the Agency strives to establish improved safety guidelines and pollution indicators so that local authorities can monitor their recreational waters in a cost-effective way, close them to public use when necessary, and effectively communicate risks to the public. For beaches, our three-part goal is to strengthen beach standards and testing, improve the scientific basis for beach assessment, including accurately determining causes of beach closures, and develop methods to inform the public about beach conditions. The Agency will achieve these goals for coastal and Great Lakes beaches through implementation of the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH). Implementing the BEACH Act includes awarding grants to state, local, and Tribal governments to implement programs for stratified monitoring and public notification of beach closures when bacterial contamination poses a risk to swimmers; the Agency has published performance criteria for use in state and Tribal beach programs as a condition for receiving these grants. The Agency will provide technical assistance and training to tribes and states to help them meet the required performance criteria. The Agency will also continue a process to work with other Federal agencies to assist them in developing a beach program consistent with the BEACH Act. Also, the BEACH Act requires that protective water quality standards for bacteria must be in place for coastal and Great Lakes waters by 2004; the Agency will continue the process of publishing water quality standards for coastal states and tribes that have not yet adopted standards based on EPA's 1986 criteria for pathogens.

Monitoring used by states in their fish and shellfish advisory programs vary widely. In support of this effort, the Agency will continue a nationwide survey of toxic residues in fish and complete epidemiological studies in the Great Lakes, in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR), on the health effects of exposure to selected bioaccumulative toxics. The nationwide survey of toxic residues in fish is a top priority project needed to identify the most prevalent contaminants in fish throughout the United States. The Agency will support monitoring/modeling pilot programs that improve states' ability to predict and address contamination events at beaches. The Agency will support epidemiological studies needed to develop and apply better indicators of pathogens in recreational waters. The Agency will also evaluate the health risks in seafood harvested from the Gulf of Mexico and continue to work on alternative risk-based indicators and methods for skin, respiratory, eye, ear, throat, and gastrointestinal diseases most commonly resulting from exposure to contaminants at beaches. EPA will also evaluate up to three human health criteria for bioaccumulative pollutants. In addition, the Agency will continue to work with stakeholders, encouraging full involvement at all levels of government, to expand the total proportion of surface waters assessed for possible fish and beach contamination, and to implement fish consumption and beach advisory programs that are consistent with published national guidance.

To assure that the public has timely information on the quality of local beaches and fishing areas, the Agency will continue to expand an Internet-based Federal information source called Beach Watch on beach advisories and closings across the United States and the National Listing of Fish and Wildlife Advisories on fish advisories. Working with states, tribes, and local governments, EPA will continue to expand the Beach Watch database to include information on high-use fresh water beaches, including the location of nearby Combined Sewer Overflow (CSO) outfalls, and fishing areas. We will also add digitized maps of coastal and inland high-use beaches to the Internet database. The Agency will also work with state and local governments to develop and operate a database of pollution occurrences at beaches to conform to the requirements of the BEACH Act of 2000, and continue the process of developing a list of discreet coastal recreation waters adjacent to beaches or similar points of access. The Agency will develop data transfer protocols to obtain this information from state and local governments. Also working with states and tribes, EPA will continue to expand the National Listing of Fish and Wildlife Advisories to include the fish tissue information that states and tribes used to issue the advisories.

Research

Considerable progress has been made over the past 20 years in providing a sound scientific foundation for Federal regulations to protect the safety of the nation's water supply. In FY 2004, drinking water research will remain a high priority for the Agency in recognition of the need to further strengthen our ability to characterize and manage risks to human health posed by exposure to waterborne pathogens and chemicals. There is a critical need for new data, improved tools and cost-effective technologies for addressing both known and emerging threats to the general population as well as to sensitive subpopulations. A particularly important area of research is the development of more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. The research provisions of the 1996 Safe Drinking Water Act (SDWA) amendments highlight the importance of this research for providing a sound scientific basis for regulatory decision-making.

To address these needs, EPA has established an integrated, multi-disciplinary research program in the areas of exposure, health effects, risk assessment, and risk management. This program directly supports SDWA priorities, including: 1) research on sensitive subpopulations, adverse reproductive outcomes and other potential health effects of drinking water contaminants; 2) studies on disinfection by-products (DBPs), arsenic, complex mixtures, and the occurrence of waterborne disease in the United States; and 3) development of methods to improve water treatment and maintain water quality in the distribution system. FY 2004 research will focus on: 1) chemicals and microbes on the Contaminant Candidate List (CCL), a list of over 60 unregulated chemicals and microbes, from which contaminants are selected for future regulatory determinations; and 2) the development of more cost-effective treatment technologies to help small systems meet the new arsenic standard.

EPA has developed research plans for Microbial Pathogens and DBPs in Drinking Water, Arsenic in Drinking Water, and has developed a draft research plan for drinking water contaminants on the Contaminant Candidate List (CCL). These plans are subject to rigorous peer review and address those problems deemed most pressing in the area of drinking water quality. In addition, the draft Drinking Water Research Multi-Year Plan (MYP) provides a framework for integrating research throughout EPA's Office of Research and Development in

the context of annual performance goals and measures under the Government Performance and Results Act (GPRA). The MYP articulates the long-term goals, purpose, and priorities of the program, and includes a scheduled timeline of research activities and expected products of the research program. To ensure quality, all scientific and technical work products undergo either internal or external peer review, with major or significant products requiring external peer review.

EPA's drinking water health effects research program in FY 2004 will continue to focus on laboratory, clinical, and field studies of contaminants on the CCL, selected high priority DBPs, and arsenic. Studies of chemical contaminants on the CCL will seek to provide either screening level or more detailed information to support CCL regulatory determinations. Laboratory research on selected DBPs will emphasize potential adverse reproductive outcomes. Studies will also examine potential carcinogenicity of DBPs, as well as other toxic endpoints (e.g., neurotoxicity, immunotoxicity) of possible concern. EPA will continue to evaluate the influence of source water quality, treatment technology, and demographic characteristics on waterborne disease in selected communities in the United States. Research will also include studies to establish dose-response relationships for priority contaminants, characterize pathogen virulence and the range of outcomes related to exposure and infection, evaluate the impact of host factors (e.g., immune status) on infection and disease, and identify the causative agents responsible for waterborne diseases.

In FY 2004, exposure research will continue to focus on the development of improved analytical detection methods for measuring the occurrence of chemicals and microbes on the CCL. Field-testing of new methods will be conducted to gain performance information and preliminary occurrence data. To evaluate the effectiveness of regulations and policies regarding human exposure, improved methods to detect and measure human exposure to microbes will be developed and applied in human population exposure studies. Results of these studies will help:

- reduce uncertainty regarding multi-route and multi-source exposure;
- determine whether microbes are viable and infective;
- identify pathogens of public health concern; and
- characterize exposure conditions that are associated with adverse health effects, particularly for highly sensitive sub-populations (children, the elderly, and the immunocompromised).

In FY 2004, exposure research will also focus on identifying new DBPs resulting from various disinfection processes and develop improved analytical methods to detect and measure both DBPs and CCL-listed chemicals. Finally, to help in designing and interpreting animal toxicity and human epidemiology studies, arsenic exposure research will improve methods for measuring different forms of arsenic in foods and will establish a preliminary database of levels of arsenic species in target foods.

Risk assessment research utilizes exposure and health effects information to characterize the magnitude and severity of risks associated with exposures to drinking water contaminants. In

FY 2004, this research will continue to improve dose-response modeling for cancer and non-cancer risk associated with exposures to individual contaminants on the CCL and DBPs (both single chemicals and complex mixtures). In addition, EPA will quantitatively assess the risk from pathogenic microorganisms that are transmitted through drinking water using health effects and exposure information to address factors such as occurrence, infectious dose, host immunity, and morbidity and mortality rates. Particular emphasis will be placed on the development of disease transmission models for human disease occurrence following exposure to pathogens in drinking water in both endemic and epidemic situations. These models will provide a quantitative description of an infectious disease process and will contribute to the analysis of the human risk of infection and illness due to waterborne pathogens in drinking water.

Creating multiple barriers that prevent human exposure to contaminated waters is a major consideration in developing a successful drinking water management program. Protective barriers include: source water protection, effective water treatment and safe drinking water distribution. EPA research addresses how these barriers can be applied to the most significant chemical and pathogen contamination problems described above. Source water protection research addresses the identification and control of significant sources of surface and ground water contamination, as well as monitoring source water contaminants. Treatment research addresses conventional and improved cost-effective means to produce safe drinking water. This includes adapting conventional systems to new contaminants, developing innovative technologies and optimizing treatment systems to account for such complex issues as minimization of the risks from DBPs while controlling microbial pathogens. Distribution system research will target improving the control of distribution system conditions to minimize infiltration, and formation and release of pathogens and undesirable chemicals into drinking water. In addition to addressing regulated contaminants, drinking water management research plays an important role in assessing the feasibility of controlling new contaminants under the CCL program.

In FY 2004, drinking water management researchers will study the characterization and fate of DBPs in distribution systems. Source water protection research will continue its focus on wet whether flow and non-point source impacts on water quality, real-time monitoring source water chemical and microbial contamination and the development of techniques for improved source water quality and source load allocation. Treatment research will continue to address contaminants on the CCL to support decisions on whether new contaminants should be regulated and, if so, to identify cost-effective control techniques. Continuing efforts will also address the special needs of small systems for the removal of arsenic and the control of pathogens. The goal of these studies is to develop and demonstrate small-scale, cost-effective treatment technologies that are easily installed and automated.

FY 2004 Change from FY 2003 Request

<u>EPM</u>

- (+$2,606,800, +1 FTE) This increase funds the development of a system to analyze vulnerability assessment summary data from the 9,000 community water systems required to conduct such assessments and to support the ongoing operation of the Information Sharing and Analysis Center (ISAC).

- (+$5,403,700, +6 FTE) The requested increase to the Agency's core drinking water implementation program will help maintain effective state and Tribal programs, and achieve the enhanced level of public health protection established in 1998-or-later drinking water rules. In FY 2004 the Agency will conduct additional training sessions and follow-up technical support for states and public water systems in the implementation of the 1998 Interim Enhanced Surface Water Treatment Rule (IESWTR) and Stage 1 Disinfectants/Disinfection Byproducts (Stage 1) rules, the 2002 Long Term Enhanced Surface Water Treatment Rule (LT1), and the radionuclides rule. EPA will also conduct additional Comprehensive Performance Evaluation (CPE) workshops, which states have requested so they can better assist public water systems in the optimization of treatment plant performance to meet microbial standards. This increase also reflects efficiencies achieved in Information Technology projects and systems.

- (+$1,240,800) This increase supports additional small system assessment and optimization of filtration performance to significantly reduce public health risks from microbial contaminants.

- (+$906,600, +0.2 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +$1,417,000, utilities: +$2,374,800, Security: +$3,425,000 and 75 FTE, Human Resources: +$870,400 and +5.4 FTE, Contracts: +$642,400 and -18.5 FTE, Grants: +$3,015,500 and +19.7 FTE)*

- (+$445,900, +4.1 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.

- There are additional increases for payroll, cost of living, and enrichment for new and existing FTE.

S&T

- (+$7,835,800, +15 FTE) This increase supports a wide range of activities, including technical assistance, training, scientific/technical analyses that address the requirements of the Public Health Security and Bioterrorism Emergency and Response Act of 2002.

STAG

- (+$11,999,800) This increase to PWSS grants enhances state and Tribal capacity to assist drinking water systems in the implementation of high-priority drinking water regulations, and to meet public health goals.

- (+$8,000,000) As a first step toward improved public health protection in Puerto Rico, the Agency requests grant funds to design the necessary drinking water infrastructure improvements to Metropolitano, Puerto Rico.

Research

S&T

- (+$10,341,300 and +10.7 FTE) This represents-research that will be initiated in FY 2004 focusing on water security. Work will include research, development, testing, and communication/implementation of enhanced methods for detection, treatment, and containment of biological and chemical warfare agents and bulk industrial chemicals intentionally introduced into drinking water systems. Redirection of workforce from within Drinking Water research will provide support for the water security research requirement under Homeland Security to develop rapid detection methods. These methods will help assess the presence and state of Bacillus spores, as well as field test and validate sensor technologies and/or biomonitoring systems that hold promise as viable early-warning systems for treatment plants, or as field test kits for emergency responders.

- (+$426,900) This increase represents increased support to the Agency's Homeland Security Strategic Plan in the area of rapid risk assessment research related to drinking water. In FY 2004, emphasis will be placed on: methods and means for utility personnel to communicate risk to local communities with respect to threats and safeguards; gaining a better understanding of contaminant exposure routes and the health effects from contaminants in water supplies and systems; and the development of a methodology or procedure for relating contamination levels and residual risks to individuals exposed to decontaminated water supplies and systems.

- (+$302,400, and +3.0 FTE) This increase reflects the Agency's effort to enhance its scientific workforce by attracting quality postdoctoral scientists and engineers into its research program.

- (-$390,000) This reduction represents a shift from lower priority drinking water research on DBPs to address critical research to support the Food Quality Protection Act (FQPA) (Goal 3) focusing on longitudinal activity and dietary consumption data on subpopulations (e.g., children, elderly). This reduction will result in the elimination of research to address the attenuation of viruses in watersheds and the management of N-nitrosodimethylamine (NDMA), a by-product of chloramination in the treatment of drinking water.

- (-$401,620, and -4.3 FTE) FTE are being redirected in support of the Agency's enhancement to the IRIS program. This reduction will result in the elimination of research to address the attenuation of viruses in watersheds and the management of N-nitrosodimethylamine (NDMA), a by-product of chloramination in the treatment of drinking water.

- (-$332,640, and -3.3 FTE) This redirection of workforce from lower priority drinking water research on pathogenic fungi and protozoa will support the Agency's Homeland Security efforts in the area of water security. This reduction will delay research on potential pathogens for future CCL-listing.

- (-$158,780, and -1.7 FTE) This reduction represents a shift from drinking water research on biofilms in drinking water distribution systems to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers (objective 2.2).

- There are additional increases for payroll and cost of living for new and existing FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: SAFE DRINKING WATER, FISH AND RECREATIONAL WATERS

Annual Performance Goals and Measures

Safe Drinking Water

In 2004 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.

In 2004 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.

In 2003 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.

In 2003 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.

In 2002 91% of the population served by community water systems received drinking water meeting all health-based standards in effect as of 1994.

In 2002 Final FY 02 numbers will not be available until mid-January. SDWIS reports quarter behind.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of population served by community drinking water systems with no violations during the year of any Federally enforceable health-based standards that were in place by 1994.	91	92	92	% Population
Population served by community water systems providing drinking water meeting health-based standards promulgated in or after 1998.	N/A	85	85	% Population

Baseline: In 1998, 85% of the population that was served by community water systems and 96% of the population served by non-community, non-transient drinking water systems received drinking water for which no violations of Federally enforceable health standards had occurred during the year.

Drinking Water Systems Operations

In 2004 Enhance homeland security by securing the nation's critical drinking water infrastructure.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people have certified the			100/~460	% pop/# CWSs

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
completion of their vulnerability assessment and submitted a copy to EPA.				
Percent of population and number of CWSs-serving more than 50,000 but less than 100,000 people have certified the completion of the preparation or revision of their emergency response plan.			100/~460	% pop/# CWSs
Percent of population and number of CWSs-serving more than 3,300 but less than 50,000 people have certified the completion of their vulnerability assessment and submitted a copy to EPA.			100/~7,475	% pop/# CWSs

Baseline: These measures covering medium-sized community water systems will be reported for the first time in FY 2004, which will establish the baselines.

River/Lake Assessments for Fish Consumption

In 2004 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.

In 2003 Reduce consumption of contaminated fish by increasing the information available to States, Tribes, local governments, citizens, and decision-makers.

In 2002 14% of the nation's river miles and 28% of nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies. (cumulative)	28	29	32	% lake acres
River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies. (cumulative)	14 %	15%	16%	River miles

Baseline: In 1999, 7% of the Nation's rivers and 15% of the Nation's lakes were assessed to determine if they contained fish that should not be eaten or should be eaten in only limited quantities. In September 1999, 25 states/tribes are monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories. In the 2000 Report to Congress on the National Water Quality Inventory, 69% of assessed river and stream miles; 63% of assessed lake, reservoir, and pond acres; and 53% of assessed estuary square miles supported their designated use for fish consumption. For shell fish consumption, 77% of assessed estuary square miles met this designated use.

Increase Information on Beaches

In 2004 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

In 2003 Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

In 2002 Reduced exposure to contaminated recreation waters by providing monitoring and closure data on 2,455 beaches to the public and decision-makers.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Beaches for which monitoring and closure data is available to the public at http://www.epa.gov/waterscience/beaches/. (cumulative)	2,445	2,550	2,650	Beaches

Baseline: By the end of FY1999, 33 states had responded to EPA's first annual survey on state and local beach monitoring and closure practices and EPA made available to the public via the Internet information on conditions at 1,403 specific beaches. In the 2000 Report to Congress on the National Water Quality Inventory, 72% of assessed river and stream miles; 77% of assessed lake, reservoir, and pond acres; and 85% of assessed estuary square miles met their designated uses for recreation (primary contact).

Source Water Protection

In 2004 Advance States' efforts with community water systems to protect their surface and ground water resources that are sources of drinking water supplies.

In 2003 39,000 community water systems (representing 75% of the nation's service population) will have completed source water assessments and 2,600 of these (representing 10% of the nation's service population) will be implementing source water protection programs.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of community water systems and percent of population served by those CWSs that are implementing source water protection programs.		10%/2,600	25% / 7,500	% pop/systems

Baseline: EPA has defined implementation as undertaking 4 or more of 5 stages of source water protection. About 268 million people are estimated to be served by CWSs in 2002.

Research

Drinking Water Research

In 2004 Provide final reports on the performance of arsenic treatment technologies and/or engineering approaches to the Office of Water and water supply utilities to aid in the implementation of the arsenic rule and the protection of human health.

In 2002 EPA produced scientific reports to support the development of the next Contaminant Candidate List of chemicals and pathogens for potential regulatory action and research. These reports will help ensure that future regulations address the contaminants of greatest public health concern.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Provide method(s) for CCL related pathogens in drinking water for use in the Unregulated Contaminant Monitoring Rule.	1			journal article
Final reports of full-scale demonstrations of arsenic treatment technologies.			09/30/04	reports

Baseline: On October 31, 2001 EPA announced that the final standard for arsenic in drinking water of ten parts per billion (10 ppb) would become effective on February 22, 2002. Nearly 97 percent of the water systems affected by this rule are small systems that serve less than 10,000 people each. These small systems have limited resources and need more cost-effective technologies to meet the new standard. A total of $20 million has been allocated or planned in FY02 and FY03 for research and development of more cost-effective technologies, as well as technical assistance and training to operators of small systems to reduce their compliance costs. In FY 2004 EPA will provide final reports of full-scale demonstrations of arsenic treatment technologies to aid in the implementation of the arsenic rule and the protection of human health.

Homeland Security - Water Security Research

In 2004 Verify two point-of-use drinking water technologies that treat intentionally introduced contaminants in drinking water supplies for application by commercial and residential users, water supply utilities, and public officials.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Verify two treatment technologies for application in buildings by commercial and residential users, utilities, and public officials to treat contaminants in drinking water supplies.			2	verifications

Baseline: These technology verifications are being conducted in support of EPA's Draft Strategic Plan for Homeland Security and are focused on the water security tactic in the strategy. Evaluations of point-of-use drinking water treatment technologies have been ongoing for years and technologies are commercially available to remove disagreeable tastes and odors, and capture or neutralize contaminants. These point-of-use treatment technologies are now being considered as an additional means of treating water that may have been exposed to biological or chemical contaminants through terrorist attacks. What makes this undertaking unique is that the Environmental Technology Verification (ETV) program will formally verify such technologies using a standard protocol developed by a group of stakeholders, who are considered experts on such verifications. This additional line of defense can help reassure home and building owners and users, water supply utilities, and public officials that the drinking water supply in a residential or commercial building can be treated one more times once it enters the water distribution system of a building.

Program Assessment Rating Tool

Drinking Water State Revolving Fund (SRF)

As part of the Administration's overall evaluation of effectiveness of Government programs, the Drinking Water State Revolving Fund (SRF) program was evaluated with the following specific findings:

1. The program purpose is clear and it is designed to have a significant impact on a well identified need, although, there are other Federal, state and private resources available to address the problem.

2. Evaluation of public health impacts from infrastructure improvements is difficult, in part because states provide only aggregate data.

In response to these findings, the Administration will:

1. Continue capitalization of the Drinking Water SRF at the 2003 President's Budget level because, although target revolving levels for the fund have been reached, continued Federal support will close the recently identified gap in funding capital infrastructure needs for the next twenty years. The extended commitment proposed in the President's 2004 Budget is expected to provide $45 billion for loans and assistance through the State Drinking Water SRFs, which will support over 21,000 new projects.

2. Develop new performance measures to be included in EPA's 2004 GPRA plan to better demonstrate the impact of the program.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Population served by community water systems with no violations during the year of any Federally-enforceable health-based standards that were in place by 1994 and Population served by community water systems that receive drinking water meeting health-based standards promulgated in 1998.

Performance Database: Safe Drinking Water Information System- Federal Version (SDWIS or SDWIS-FED)

Data Source: Agencies with Primacy for the Public Water Supply Supervision (PWSS) Program including States, EPA Regional Offices with Direct Implementation (DI) responsibility for states and Indian tribes, and the Navajo Nation Indian Tribe (the Navajo is expected to begin reporting directly to EPA in FY 2003). Primacy Agencies (States) collect the data from the regulated water systems, determine compliance, and report a subset of the data to EPA (primarily inventory and violations). EPA is the secondary user of this data. Water quality data from other collectors of data (third parties) related to drinking water, such as source water or wastewater discharge, is not used in PWSS program measures.

Methods, Assumptions and Suitability: The analytical methods that drinking water systems use to collect violations data are specified in the technical guidance associated with each drinking water regulation. Laboratories must be certified by the Primacy Agency (State) to analyze drinking water samples and are subject to periodic performance audits by the State. The performance measures are based on data reported by individual systems to states, which supply the information to EPA through SDWIS. EPA then verifies and validates the data for 10 to 12 states per year, according to the PWSS Data Verification Protocol (Version 9.0, 1999).[2] To measure program performance, EPA aggregates the SDWIS data into a national statistic on overall compliance with health-based drinking water standards. This statistic compares the total population served by community water systems meeting all health-based standards to the total population served by all public water systems (which includes non-community water systems).

EPA's Office of Ground Water and Drinking Water (OGWDW) is currently conducting an assessment of information needs to determine what additional data would be valuable to manage the national drinking water program. For example, parametric data (data on the quality of water supplies) in combination with violations data would improve the current measures, but also would increase primacy states' reporting requirements. As a result, the value of collecting new parametric and monitoring data must be weighed against the additional reporting burden on primacy states. OGWDW is conducting a data reliability analysis to determine the impact of data quality on the annual performance measures. At this time, considering the limitations of SDWIS and comprehensive activities to improve the quality and completeness of the SDWIS data, OGWDW believes that SDWIS data are suitable for year-to-year comparisons of program performance using the selected performance measures.

QA/QC Procedures: SDWIS-FED has numerous edit checks built into the software to reject erroneous data. There are quality assurance manuals for states and Regions to follow to ensure data quality. The manuals provide standard operating procedures for conducting routine assessments of the quality of the data, communication and follow-up actions to be conducted with the state to achieve timely corrective action(s). EPA offers training to states on reporting requirements, data entry, data retrieval, and error correction. User and system documentation is produced with each software release and is maintained on EPA's web site. SDWIS-FED documentation includes data entry instructions, data element dictionary application, Entity Relationship Diagrams, a user's manual, and regulation-specific reporting requirements documents. System, user, and reporting requirements documents can be found online atwww.epa.gov/safewater. System and user documents are accessed via the database link and specific rule reporting requirements documents are accessed via the regulations, guidance, and policy documents link. In addition, EPA provides specific error correction and reconciliation support through a troubleshooter's guide, a system-generated summary with detailed reports documenting the results of each data submission, and an error code database for states to use when they have questions on how to enter or correct data. A user support hotline is available 5 days a week to answer questions and provide technical assistance. At least one EPA staff person in each EPA regional office serves as the SDWIS-FED Regional Data Management Coordinator to provide technical assistance and training to the states on all aspects of information

[2] Enyeart, R. (revised June 1999). EPA protocol for participation in a PWSS program data verification (Version 9.0). Washington, DC: U.S. Environmental Protection Agency. Internal document in perpetual draft referred to as the PWSS Data Verification Protocol.

management and required reporting to EPA. State primacy agencies' information systems are audited on an average schedule of once every 3 years.

Data Quality Review: Management System Reviews (MSRs) of the Office of Ground Water and Drinking Water's Quality Management Plan (QMP), which includes quality assurance/quality control (QA/QC) for SDWIS, are carried out every three years. The Quality Assurance Division coordinates this effort. EPA last completed an MSR in July 1999 and will repeat the review in FY 2002. The 1999 MSR findings related to SDWIS/FED were all positive. EPA also completed a data reliability assessment (QA audit) of the 1996–1998 SDWIS-FED data in FY 2000. The Data Reliability Action Plan (DRAP, described below), completed in FY 2000, was developed to address deficiencies identified in the 1999 data reliability assessment.[3] The action plan was implemented in 2001 and continues to be implemented and revised as appropriate. The most recent revision was made in October 2002.

EPA, states, and stakeholders have expanded on the DRAP through the development of a more comprehensive OGWDW Information Strategy that tackles additional data quality problems.[4] Components of the OGWDW Information Strategy include (1) simplifying and/or standardizing regulatory reporting requirements where possible; (2) reevaluating EPA's philosophy of system edits; and (3) continuing to improve tools and processes for creating and transferring data to EPA, such as incorporating newer technologies, and adapting the Agency's Enterprise Architecture Plan, to integrate data and the flow of data from reporting entities to EPA via a central data exchange (CDX) environment. The Information Strategy could be considered Phase II of the DRAP, and it sets the direction for a comprehensive modernization of SDWIS over the next 3 to 5 years.

Finally, individual data quality reviews are conducted by EPA and its contracted auditors on state primacy agencies' information systems. These audits are conducted between every 2 to 4 years depending on the resources available and programmatic need in the region. Each state's overall information system is evaluated with special emphasis on its compliance determinations (interpretation and application of regulatory requirements, which includes designation of violations) and data flow (primacy agency's compliance with record-keeping and reporting requirements to EPA). Continuous data quality reviews include data quality estimates based on the results of data verifications, timeliness and completeness of violation reporting, completeness of various required inventory data elements, and completeness of reporting for specific rules.

Data Limitations: Currently SDWIS-FED is an Aexceptions database that focuses exclusively on public water systems' noncompliance with drinking water regulations (health-based and program). Primacy states implement drinking water regulations with the support of the Public Water System Supervision (PWSS) grant program and determine whether public water systems have violated: maximum contaminant levels (MCL); treatment technique requirements; consumer notification requirements; or monitoring-and-reporting requirements. Primacy agencies report those violations through SDWIS.

[3] Haertel, F. (October 2002). Data Reliability Action Plan. U.S. Environmental Protection Agency. Office of Groundwater and Drinking Water internal work plan document.

[4] U.S. EPA. Office of Groundwater and Drinking Water Information Strategy (under revision). See Options for OGWDW Information Strategy (Working Draft) EPA 816-O-01-001 February 2001 at the following web site http://epa.gov/safewater at the information strategy link.

Recent state data verification and other quality assurance analyses indicate that the most significant data quality problem is under-reporting to EPA of monitoring and health-based standards violations and inventory characteristics, such as water sources and/or latitude/longitude for all sources. The most significant under-reporting occurs in monitoring violations. Even though those are not covered in the health based violation category, which is covered by the performance measure, failures to monitor could mask treatment technique and MCL violations. Such under-reporting of violations limits EPA's ability to: 1) accurately quantify the number of sources and treatments applied, 2) undertake geo-spatial analysis, and 3) integrate and share data with other data systems. The under-reporting limits EPA's ability to precisely quantify the population served by systems, which are meeting the health-based standards. Currently, the program office is assessing the percentage of unreported health-based violations and calculating adjustments to the performance data that might be required for future reports. The population data has been determined to be of high quality.

The DRAP and the Information Strategy Plan address many of the underlying factors contributing to the data limitations. Additional options under consideration include:

1. increasing the focus on state compliance determinations and reporting of complete, accurate and timely violations data;

2. developing incentives to improve the accuracy, completeness, and timeliness of state reporting;

3. Continuing analyses of data quality; and

4. Requiring the report of parametric data (analytical results used to evaluate compliance with monitoring regulations and compliance with treatment techniques and maximum contaminant levels), monitoring schedules, and waiver information assigned to water systems by the state primacy agency. This information would allow compliance determinations to be made by EPA for quality assurance or state oversight purposes. Potential violation under reporting could be identified through the availability of this information and appropriate corrective actions implemented.

Error Estimate: Analyses are under way to determine the impact of data quality on the performance measures and are scheduled for completion by the end of FY 2002. The analysis will include data from an additional round of audits to provide a more accurate error estimate compared to the results of earlier baseline audits.

New/Improved Data or Systems: With a newly developed information strategy developed by EPA in partnership with the states and major stakeholders, several improvements to SDWIS are underway. The DRAP is an integral part of the Information Strategy Plan, currently under development.

First, EPA will continue to work with states to implement the Data Reliability Action Plan (previously referenced), a multi-step approach to improve the quality and reliability of data in SDWIS-FED. The DRAP already has improved the completeness, accuracy, timeliness, and

consistency of the data in SDWIS-FED through: 1) training courses for SDWIS-FED data entry, error correction, and regulation specific compliance determination and reporting requirements, 2) specific DRAP analyses, follow-up activities and state-specific technical assistance, 3) increased number of data verifications conducted each year, and 4) creation of various quality assurance reports to assist regions and states in the identification and reconciliation of missing, incomplete, or conflicting data.

Second, more states will use SDWIS-STATE, a software information system jointly designed by states and EPA, to support states as they implement the drinking water program. SDWIS-STATE is the counterpart to EPA's Federal drinking water information system, SDWIS-FED, and employs many of the same edit criteria and enforces many of the mandatory data elements.[5] If the SDWIS-STATE system is fully utilized by a state, the information it holds would meet EPA's minimum data requirements. SDWIS-STATE contains a utility that creates the necessary output to report to SDWIS-FED, which aids in easing the states' reporting burden to EPA, and in the process minimizes data conversion errors and improves data quality and accuracy. In addition, a Web-enabled version of SDWIS-STATE and a data migration application that can be used by all states to process data for upload to SDWIS-FED are being developed. EPA estimates that 40 states will be using SDWIS-STATE for data collections by FY 2004.

Third, EPA is modifying SDWIS-FED to (1) streamline its table structure, which simplifies updates and retrievals, (2) minimize data entry options that result in complex software and prevent meaningful edit criteria, and (3) enforce compliance with permitted values and Agency data standards through software edits, all of which will improve the accuracy of the data.

Fourth, EPA has developed a data warehouse system that is optimized for analysis, data retrieval, and data integration from other data sources like information from data verifications, sample data, source water quality data (e.g., United States Geological Survey [USGS] data), and indicators from inspections conducted at the water systems. It will improve the program's ability to use information to make decisions and effectively manage the program.

Finally, EPA, in partnership with the states, is developing information modules on other drinking water programs: the Source Water Protection Program, the Underground Injection Control Program, and the Drinking Water State Revolving Fund. These modules will be integrated with SDWIS to provide a more comprehensive data set with which to assess the nation's drinking water supplies, a key component of the goal.

References:

Plans

- SDWIS-FED does not have a Quality Assurance Project Plan - it is a legacy system which

[5] SDWIS/STATE (Version 8.1) is an optional Oracle data base application available for use by states and EPA regions to support implementation of their drinking water programs. See U.S. Environmental Protection Agency. (July 2002). Data & Databases. Drinking Water Data & Databases. Information available on the Internet: http://www.epa.gov/safewater/databases.html

has "evolved" since the early 80s prior to the requirement for a Plan. The SDWIS-FED equivalent is the Data Reliability Action Plan.

- Information Strategy Plan - SDWIS-FED
- Quality Management Plan
- Enterprise Architecture Plan

Reports

- 1999 SDWIS/FED Data Reliability Report
- 2003 SDWIS/FED Data Reliability Report - contains the Data Reliability Action Plan and status report
- PWSS Management Report (quarterly)
- 1999 Management Plan Review Report

Guidance Manuals, and Tools

- PWSS SDWIS/FED Quality Assurance Manual
- Various SDWIS-FED User and System Guidance Manuals (includes data entry instructions, data On-line Data Element Dictionary-a database application, Error Code Data Base (ECDB) - a database application, users guide, release notes, etc. All are located on the OGWDW web site listed below)
- Regulation Specific Reporting Requirements Guidance

Web site addresses

- OGWDW Internet Site www.epa.gov/safewater/data.html contains access to the information systems and various guidance, manuals, tools, and reports.
- Sites of particular interest are: www.epa.gov/safewater/data/getdata.html contains information for users to better analyze the data, and www.epa.gove/safewater/sdwis_fed/index.html contains reporting guidance, system and user documentation and reporting tools for the SDWIS-FED system.

FY 2004 Performance Measure: Number of community water systems and percent of population served by those CWS that are implementing source water protection programs.

Performance Database: Under Section 1453 of the Safe Drinking water Act (SDWA), EPA's 1997 National Guidance on Source Water Assessment and Protection Programs requires states to

report to EPA on four of the six elements of a source water protection program for each public water system (PWS). The four elements are: 1) delineation of the source water area, 2) inventory of actual and potential sources of contamination, 3) susceptibility of the water supply to contamination, and 4) release of the assessment data to the public. EPA's Regional Offices also track, based on an agreement with states, the final two elements of a source water protection program: 1) whether each public water system with the first four elements completed also is taking measures to prevent, reduce, or eliminate contamination threats to source water, and 2) whether the public water system is developing contingency plans should contamination occur. The Agency currently develops a national summary of data on the progress of state source water protection programs using these six data elements. A drinking water system that reports all six elements is considered to be implementing a source water protection program.

EPA now holds one year of data (for FY 2001) for each state and Puerto Rico in an Excel database. Starting in FY 2004 primacy states with approved source water programs will begin using a SDWIS-based source water protection module that will be operational by the end of FY 2003 to submit all assessment and contamination prevention data to the Agency. [Not publicly available. Contact the Drinking Water Protection Division at 202-564-3797.]

Data Source: Each state reports to EPA's Regional Offices the total number of public water systems that have completed each of the six elements.

Methods, Assumptions and Suitability: The source water assessment components of this measure (delineation, source inventory, susceptibility analysis, and availability to public) are defined in EPA's 1997 guidance. However, the states collect the data in different ways. Some states collect the data by communicating directly with drinking water system operators. Others use statistical sampling or best professional judgment. EPA therefore assumes that the statistics on percentage of the population served by each PWS are either: 1) directly related to specific community water systems in a data base; 2) directly related to the community water systems which are sampled in a statewide statistical sample; or 3) estimated using best professional judgment. EPA also assumes that these data may be aggregated to report a national measure of performance and are suitable for year-to-year comparisons of progress. The data are reliable to the extent that each state is accurately tracking the number of completed elements for each PWS.

QA/QC Procedures: There is currently no QA/QC procedure for the collection of source water data. EPA continues to work with states to obtain a description of their methods of collecting and verifying information.

Data Quality Reviews: As primacy states increase their use of the source water module in FY 2004 and beyond, the source water assessment data will be included in the data quality analyses conducted under the SDWIS Data Reliability Action Plan (DRAP) (previously referenced) and the drinking water program's Information Strategy (previously referenced). Under the umbrella of these analyses, the EPA Regions can conduct data quality reviews of the state data and work with the states to resolve any data exceptions. As a result, EPA expects the quality of data on assessments and contamination prevention activities to improve over time.

Data Limitations: There is no standard methodology or protocol for collecting, verifying and validating the data, which are based on system-level information contained in state databases. In

addition, the SDWA only requires source water assessments, not protection activities, so EPA guidance is limited to the first four data elements, and states provide data on source water protection activities and contingency plans on a voluntary basis. In the absence of an established methodology, states may use different data collection protocols, and may apply different analytical methods to evaluate the data. For example, some states may require each public water system (PWS) to report data, while others may institute a voluntary process. Further, those states that use statistical surveys may choose samples differently. This variability may lead to inaccuracies or incomplete data.

Error Estimate: There is no basis for making an error estimate for this performance measure given the data limitations described above.

New/Improved Data or Systems: EPA is developing a new source water module (repository) for data on source water assessments and protection activities it receives from the States through data exchange agreements. This module should be operational by the end of FY 2003, and states will begin reporting source water information to EPA through this module in FY 2004, which will be compatible with PWS-level inventory data already housed in SDWIS/Fed. EPA and states also are developing internal measures and data elements to characterize the aggregated results of the source water assessments. Finally, EPA and states are jointly developing performance measures and data elements to estimate the risk reduction achieved by communities that implement source water protection programs.

References: N/A.

FY 2004 Performance Measure: Cumulative lake acres assessed for the need for fish advisories and compilation of state/Tribal-issued fish consumption advisory methodologies; Cumulative River miles assessed for the need for fish consumption advisories and compilation of state/Tribal-issued fish consumption advisory methodologies; states/tribes monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories.

Performance Database: National Listing of Fish and Wildlife Advisories. The database includes fields identifying the waters for which fish consumption advisories have been issued. The EPA Total Waters database is used to calculate the spatial extent of the fish advisory. This information is updated continually as states and tribes issue or revise advisories. Metadata are also available describing methodologies used by states and tribes for establishing advisories.

Data Source: State and Tribal governments.

Methods, Assumptions and Suitability: The percentage of lake acres and river miles assessed is the ratio of the surface area of lakes and/or rivers for which states submit data to the National Listing of Fish & Wildlife Advisories database and the total water surface area in the United States. It is a simple mathematical calculation.

QA/QC Procedures: A standard survey has been approved by OMB, which is available on the Internet for electronic submission. A password is issued to ensure the appropriate party is completing the survey. EPA has national guidance for states and tribes on developing and

implementing quality assurance practices for the collection of environmental information related to fish advisories. This guidance helps assure data quality.

Data Quality Review: EPA reviews advisory entries and responses to the survey to ensure the information is complete, then follows-up with the state or local government to obtain additional information where needed. However, the Agency cannot verify the accuracy of the voluntary information state and local governments provide.

Data Limitations: Participation in this survey and collection of data is voluntary. While the voluntary response rate has been high, it does not capture the complete universe of advisories.

Error Estimate: Because submitting data to the National Listing of Fish & Wildlife Advisories database is voluntary, the Agency cannot be certain that the database contains information on 100% of the assessed waters in the United States. Therefore, we may be understating the total amount of waters assessed, the magnitude of which is not known.

New/Improved Data or Systems: A proposed enhancement to the system is the use of a GIS procedure to calculate the spatial extent of geo-referenced advisories based on the National Hydrography Dataset (NHD). This procedure will provide size information for the vast majority of waterbody-specific advisories. In cases where the state has already provided information, the state's sizes will be retained rather than replaced with results from the NHD calculations.

References: The National Listing of Fish & Wildlife Advisories database is on the Internet at http://map1.epa.gov/.

FY 2004 Performance Measure: Cumulative number of beaches for which monitoring and closure data is available to the public at http://www.epa.gov/waterscience/beaches/.

Performance Database: National Health Protection Survey of Beaches Information Management System. The database includes fields identifying the beaches for which monitoring and notification information is available. The database also identifies those states that have received a BEACH (Beaches Environmental Assessment and Coastal Health) Act [P.L. 106-284] grant. This information is updated annually.

Data Source: Data are obtained from National Health Protection Survey of Beaches, which is a voluntary collection of beach data along the coastal and Great Lake states and territories. State and local governments voluntarily provide the information. The survey began in 1997 with information on 1,021 beaches, and now includes records on 2,445 beaches. The database includes fields identifying the beaches for which monitoring and notification information is available.

Methods, Assumptions and Suitability: Performance is tracked using a simple count of the number of beaches responding to the survey.

QA/QC Procedures: A standard survey form, approved by OMB, is distributed by mail to coastal states, Great Lakes states, and county environmental and public health beach program officials. The form is also available on the Internet for electronic submission. In 2001, survey

respondents comprised; 42% county, 31% city, 12% state, 6% district, 4% region, 2% National park, 2% state park, 1% other. When data are entered over the Internet by a state or local official, a password is issued to ensure the appropriate party is completing the survey. EPA reviews the survey responses to ensure the information is complete, then follows up with the state or local government to obtain additional information where needed. However, because the data are submitted voluntarily by state and local officials, the Agency cannot verify the accuracy of the information provided.

Participation in this survey and collection of data is voluntary and information has not been collected on the universe of beaches. The voluntary response rate was 88% in 2001(237 out of 269 contacted agencies responded). The number of beaches for which information was collected increased from 1,021 in 1997 to 2,445 in 2001. Participation in the survey will become a mandatory condition for grants awarded under the BEACH Act program (described below); however, state and local governments are not required to apply for a grant. Those states receiving a BEACH Act grant are subject to the Agency's grant regulations under 40CFR 31.45 which require states and tribes to develop and implement quality assurance practices for the collection of environmental information; these procedures will help assure data quality.

Data Quality Review: EPA reviews the survey responses to ensure the information is complete, then follows up with the state or local government to obtain additional information where needed. However, the Agency cannot verify the accuracy of the voluntary information state and local governments provide.

Data Limitations: Participation in this survey and collection of data is mostly voluntary. While the voluntary response rate has been high, it does not capture the complete universe of beaches. Participation in the survey will become a mandatory condition of grants awarded under the BEACH Act program (described below); however, state and local governments are not required to apply for a grant. Currently the Agency has data standards but procedures, methods, indicators, and thresholds can vary between jurisdictions because, to date, this has been a voluntary program. The Agency expects the limitations to diminish as more states apply for BEACH Act grants.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: With the passage of the BEACH Act of 2000, the Agency is authorized to award grants to states to develop and implement monitoring and notification programs consistent with Federal requirements. As the Agency awards these implementation grants, it will require standard program procedures, sampling and assessment methods, and data elements for reporting. To the extent that state governments apply for and receive these grants, the amount, quality, and consistency of available data will improve. In addition, the BEACH Act requires the Agency to maintain a database of national coastal recreation water pollution occurrences. The Agency will fulfill this requirement by revising the current database to include this new information. In revising the database, the Agency will be investigating modes for electronic exchange of information and reducing the number of reporting requirements.

References: http://www.epa.gov/waterscience/beaches/.

FY 2004 Performance Measure: Final reports of full-scale demonstrations of arsenic treatment technologies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews: Reports

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

FY 2004 Performance Measure: Deliver verifications of two treatment technologies for application in buildings by commercial and residential users, utilities, and public officials to treat contaminants in drinking water supplies.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: Verifications consist of the following steps:

1. Based on generic verification protocols if available, the specific test/QA plan for each product is developed and agreed to by EPA, the testing partner, and the vendors;

2. the product is tested using the procedures outlined in the test/QA plan;

3. audits of the test event are conducted by EPA and the partners, and rigorous QA evaluations of the resulting test data are performed;

4. after testing and analysis, the partner drafts the verification statements and reports which are reviewed by EPA, the participating vendors, and peer reviewers; and

5. after addressing review comments and receiving approval from EPA management, EPA and the partner sign the verification statements.

Data Quality Reviews: Verifications

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

Coordination with Other Agencies

The 1996 SDWA amendments include a provision that mandates a joint EPA and Center for Disease Control (CDC) study of waterborne diseases and occurrence studies in public water supplies. CDC is involved in assisting EPA in training health care providers (doctors, nurses, public health officials, etc.) on public health issues related to drinking water contamination and there is close CDC/EPA coordination on research on microbial contaminants in drinking water. EPA has in place a Memorandum of Understanding (MOU) and Interagency Agreement (IAG) with the CDC in the Department of Health and Human Services (DHHS) to implement this provision.

In implementing its source water assessment and protection efforts, the Agency coordinates many of its activities with other Federal agencies. There are three major areas of relationships with other agencies concerning source water assessments and protection.

Public Water Systems (PWSs). Some Federal agencies, i.e., USDA (Forest Service), DOD, Department of Energy, DOI (National Park Service), and USPS, own and operate public water systems. EPA's coordination with these agencies focuses primarily on ensuring that they cooperate with the states in which their systems are located, and that they are accounted for in the states' source water assessment programs as mandated in the 1996 amendments to the SDWA.

Data Availability, Outreach and Technical Assistance. EPA coordinates with USGS (US Geological Survey), USDA (Forest Service, Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service (CSREES), Rural Utilities Service); DOT, DOD, DOE, DOI (National Park Service and Bureaus of Indian Affairs, Land Management, and Reclamation); DHHS (Indian Health Service) and the Tennessee Valley Authority.

Collaboration with USGS. EPA and USGS have identified the need to engage in joint, collaborative field activities, research and testing, data exchange, and analyses, in areas such as the occurrence of unregulated contaminants, the environmental relationships affecting contaminant occurrence, evaluation of currently regulated contaminants, improved protection area delineation methods, laboratory methods, and test methods evaluation. EPA has an IAG with USGS to accomplish such activities. This collaborative effort has improved the quality of information to support risk management decision-making at all levels of government, generated valuable new data, and eliminated potential redundancies.

Research

While EPA is the Federal agency mandated to ensure safe drinking water, other Federal and non-Federal entities are conducting research that complements EPA's research program on priority contaminants in drinking water. For example, health effects and exposure research is being conducted by the Centers for Disease Control and Prevention (CDC) and the National Institute of Environmental Health Sciences (NIEHS). The Food and Drug Administration (FDA) are also conducting research on children's risk. Many of these research activities are being conducted in collaboration with EPA scientists. The private sector, particularly the water treatment industry, is conducting research in such areas as analytical methods, treatment technologies, and the development and maintenance of water resources.

A Microbial/Disinfection By-Product Research Council was established in 1995 with the American Water Works Association Research Foundation (AWWARF) and other stakeholder groups to coordinate research on microbial pathogens and DBPs. EPA is also working with the United States Geological Survey (USGS) to evaluate the performance of newly developed methods for measuring microbes in potential drinking water sources.

Interactions with external stakeholder groups have been initiated that will help determine EPA's future regulatory priorities and research needs for drinking water. Interactions with the Science Advisory Board's Drinking Water Committee and the National Drinking Water Advisory Committee will also help EPA to refine its drinking water research agenda.

Statutory Authorities

Safe Drinking Water Act

Clean Water Act

Toxic Substances Control Act

Research

Safe Drinking Water Act

Clean Water Act

Toxic Substances Control Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification
Clean and Safe Water

Objective: Protect Watersheds and Aquatic Communities

By 2005, increase by 175 the number of watersheds where 80 percent or more of assessed waters meet water quality standards, including standards that support healthy aquatic communities. (The 1998 baseline is 501 watersheds out of a national total of 2,262.)

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Protect Watersheds and Aquatic Communities	**$474,725.2**	**$435,814.7**	**$479,787.4**	**$43,972.7**
Environmental Program & Management	$198,157.5	$162,894.0	$179,114.8	$16,220.8
Hazardous Substance Superfund	$0.0	$25.7	$2.6	($23.1)
Science & Technology	$41,203.5	$38,592.9	$41,270.0	$2,677.1
State and Tribal Assistance Grants	$235,364.2	$234,302.1	$259,400.0	$25,097.9
Total Workyears	1,000.5	988.8	989.3	0.5

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Chesapeake Bay	$20,551.8	$20,650.8	$20,777.7	$126.9
Congressionally Mandated Projects	$33,107.4	$0.0	$0.0	$0.0
Ecosystems Condition, Protection and Restoration Research	$37,785.0	$38,592.9	$41,270.0	$2,677.1
Facilities Infrastructure and Operations	$5,673.6	$13,851.3	$13,870.8	$19.5

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Great Lakes	$2,671.0	$2,684.7	$2,712.2	$27.5
Gulf of Mexico	$4,261.6	$4,327.4	$4,431.7	$104.3
Lake Champlain	$2,500.0	$954.8	$954.8	$0.0
Legal Services	$3,462.8	$3,755.0	$3,889.5	$134.5
Long Island Sound	$2,500.0	$477.4	$477.4	$0.0
Management Services and Stewardship	$11,763.0	$4,571.2	$3,062.3	($1,508.9)
Marine Pollution	$7,994.8	$8,170.7	$12,630.1	$4,459.4
National Estuaries Program/Coastal Watersheds	$24,521.3	$19,246.2	$19,094.2	($152.0)
Pacific Northwest	$1,003.8	$1,028.5	$1,072.5	$44.0
Planning and Resource Management	$0.0	$0.0	$574.1	$574.1
Regional Management	$429.0	$450.5	$952.0	$501.5
South Florida/Everglades	$2,648.3	$2,665.5	$2,690.0	$24.5
State Pollution Control Grants (Section 106)	$192,476.9	$180,376.9	$200,400.0	$20,023.1
State Water Quality Cooperative Agreements	$18,958.2	$38,958.2	$19,000.0	($19,958.2)
State Wetlands Program Grants	$14,967.0	$14,967.0	$20,000.0	$5,033.0
TMDLs	$21,232.1	$21,433.2	$25,083.7	$3,650.5
Targeted Watershed Grants	$0.0	$0.0	$20,000.0	$20,000.0
Water Quality Criteria and Standards	$18,782.4	$19,127.2	$24,076.8	$4,949.6
Water Quality Monitoring and Assessment	$11,665.1	$11,967.7	$14,072.1	$2,104.4
Watershed Assistance	$7,821.6	$9,479.1	$9,395.6	($83.5)
Wetlands	$17,829.8	$18,381.9	$19,299.9	$918.0

FY 2004 Request

EPA, in concert with other Federal natural resource agencies, continues to pursue a comprehensive strategy for assessing and restoring the Nation's most impaired watersheds to achieve healthy aquatic communities and attain clean water and public health goals. Fundamental to the Agency's efforts to meet this objective is the management of water quality resources on a watershed basis, with the full involvement of all stakeholders, including

communities, individuals, businesses, state and local governments, and tribes. EPA's ability to meet this objective depends on the success of regulatory and non-regulatory programs, primarily at the state and local level, and nationwide efforts to implement a broad range of policy, planning, and scientific tools to establish local goals and assess progress.

Water Quality Monitoring

Current water quality monitoring efforts yield insufficient data for states and others to make watershed-based decisions, to develop necessary standards and Total Maximum Daily Loads (TMDLs), and to accurately and consistently portray conditions and trends. Enhanced monitoring and assessment support to begin filling these gaps will be a key component in FY 2004. This will include working with the states to enhance their monitoring and assessment programs, with a particular emphasis on the probabilistic approach, to support water quality decision-making, and will provide additional support to encourage the establishment of state-level monitoring councils and local watershed monitoring consortiums.

The Agency will continue to work with its state and Tribal partners to establish and maintain water quality standards and monitoring and assessment programs appropriate to their identified goals and needs, including addressing the elements outlined in EPA's monitoring and assessment guidance and Clean Water Act (CWA) Sections 303(d) and 106 requirements. Specifically, EPA will be helping states in FY 2004 implement their improved monitoring strategies developed in FY 2003 to build towards more robust state monitoring programs covering the ten basic elements outlined in EPA guidance. Additional resources will be particularly focused on helping states improve their basic water quality monitoring programs with a goal of 15 states with comprehensive monitoring strategies.

EPA will assemble and report state water quality assessments and will continue to help states consolidate their water quality reporting under CWA Sections 303(d) and 305(b). EPA is integrating its programs for characterizing, assessing and monitoring the condition of the Nation's waters. EPA ensures that states and tribes are entering relevant water quality and related data into EPA's modernized national data Storage and Retrieval System (STORET); we will also work with other Federal agencies to increase their use of STORET. An important use of state comprehensive water quality assessment programs and other data is making that data available not only to decision-makers, but also to the public.

One part of this effort is a highly detailed map of waters of the United States contained within the National Hydrography Database. Geographic layers of data, interacting with up-to-date databases, are being developed for a variety of areas including 303(d) listed waters, water quality standards, and National Pollutant Discharge Elimination System (NPDES) discharges. STORET data will also be accessible on a watershed-basis. The new Watershed Assessment, Tracking and Environmental Results System (WATERS) unifies key water quality information, including water quality standards and status of impaired waters, and allows users to map the results for specific geographic areas.

Water Quality Standards

Critical to improving water quality is our refinement of scientifically sound water quality standards. The Agency will continue to support states and tribes in incorporating risk analyses, priority setting, and risk management decisions, and in state/Tribal adoption and implementation of water quality standards based on revised criteria. The Agency will continue to enhance Better Assessment Science Integrating Point and Nonpoint Sources (BASINS), a geographic information system which links projected nonpoint source (NPS) runoff with point source discharges, to access information on the Internet and thus enable TMDL developers and NPDES permit writers to use the most current information to better address site-specific conditions. The Agency will also provide training to state and EPA staff to utilize BASINS in establishing TMDLs and issuing NPDES permits.

EPA will work with its state partners to ensure that they adopt up-to-date criteria to protect designated uses. In FY 2004, the Agency will begin to update its aquatic life methodology to incorporate new and emerging science to ensure it continues to develop and publish scientifically defensible criteria for a broad range of stressors. EPA will continue to assist states and tribes in adopting these criteria to protect public health, attain and maintain aquatic life and other designated uses, and improve the chemical, physical, and biological integrity of the Nation's waters. EPA will accelerate the adoption of biological criteria, designed to help control nutrients, toxic chemicals and other watershed stressors, into state and Tribal water quality standards by developing needed guidance materials and supporting state/Tribal program implementation. EPA will determine how to best integrate or align its criteria to support designated uses. The Agency will continue to develop and expand web sites to provide public access to contents of water quality standards. The Agency will also continue to develop and enhance PC-based modeling software to support implementation of water quality standards.

In July 1997, the United States District Court issued a ruling whereby state water quality standards do not go into effect under the CWA until approved by EPA. The Agency is devoting significant effort to reduce the backlog of approval actions waiting to be taken on states' proposed water quality standards. In FY 2004, EPA will continue to implement strategies necessary to take action on state water quality standards within the statutory deadlines. In support of this effort, the Agency will continue to make available and expand on the Internet a comprehensive repository and geographic database containing state water quality standards that will help ensure nationwide consistency in state programs and support timely action on states' proposed water quality standards.

In FY 2004, EPA will increase funding to work with state and Tribal partners to ensure that water quality standards are effective and appropriate for use in developing TMDLs. The National Research Council's 2001 assessment of the TMDL program found that the designated uses and criteria in existing standards often need more detail and refinement before they can be used as a firm basis for requiring load reductions through TMDLs. Standards also may not protect drinking water sources adequately, and may not reflect biological assessments and criteria. To address these concerns and to implement the strategy, EPA will provide technical guidance and training that will help states and tribes conduct their own use attainability analyses, and to help refine and interpret standards to ensure they are adequate for use in developing load

reduction targets. In addition, EPA conducted a customer-focused review of the National Water Quality Standards program and developed a draft long-term strategy that calls for improvements and streamlining in EPA's program. EPA will continue to implement the higher prioritized elements of the strategy. EPA will also accelerate the technical reviews necessary for EPA to approve new or revised state/Tribal standards on a timely basis for use in TMDLs, including the biological evaluations of whether these standards provide adequate protection to endangered species.

The Agency will continue to implement its Nutrient Strategy in partnership with states and tribes. EPA will assist states and tribes in using EPA's criteria and guidance to address implementation issues related to controlling nutrient levels. Nutrients can lead to eutrophication and are associated with harmful algal blooms and other public health concerns. The Agency will continue to publish eco-regional guidance documents for nutrient indicator variables (e.g., total nitrogen, total phosphorus, chlorophyll-a, and clarity) and help states and tribes develop and implement plans for adopting nutrient criteria for their waterbody types and geographical regions. EPA will award grants to states, local governments, and tribes to help them implement nutrient criteria and biological criteria.

In watersheds where sediment contamination is determined to be widespread, especially in the Great Lakes Region, the Agency will continue to help states and tribes evaluate sediment quality, make decisions about appropriate control measures, and implement new methodologies that address a wider range of pollutants. The Agency will also continue to maintain the National Sediment Inventory for the purposes of preparing the next biennial report to Congress on contaminated sediments.

TMDLs

The Agency will continue to work with states and tribes to carry out their TMDL programs focused more in FY 2004 on a watershed basis to identify those waters not meeting clean water goals, help restore impaired watersheds, and to meet the many court-supervised deadlines for completing TMDLs. Additional resources will support increased TMDL development and approval, including fostering innovations such as trading and watershed-based permitting. The pace of TMDL development is projected to reach approximately 3,500+/year. This represents a fourfold increase in the annual number of TMDLs developed since 1999. Currently, there are consent decrees in 22 states which directly obligate EPA to "backstop" state listing decision and establishment of TMDLs.

While increasing the pace of TMDL development remains important, EPA must work with states to help assure implementation of already-approved TMDLs, including targeting CWA Section 319 NPS funding and marshaling Farm Bill conservation programs. EPA will assist states in revising their continuing planning processes under CWA Section 303(e) to place more emphasis on assuring needed watershed implementation. EPA will also advance and disseminate a better understanding of the ability of NPS control measures to result in true load reductions, assist states in designing site specific solutions that will achieve clean water at the least cost, and develop guidance and technical documents to help states address complex TMDLs.

Oceans and Coastal Protection

EPA will support the National Estuary Program (NEP) as all 28 estuaries continue to implement their Comprehensive Conservation and Management Plans (CCMPs). This will include development and application of environmental indicators to assess status and trends in the NEPs, as well as measuring the success of implementation of priority action plans in CCMPs, including the addition of 25,000 acres of protected or restored habitat. EPA will emphasize and support coastal partnerships to assist local decision-makers in developing and implementing protection programs for coastal watersheds, including assisting local governments in developing and implementing principles to reduce the impacts of development and growth on water quality.

Following consultation with the armed forces, EPA will enhance its regulation of discharges of pollution from vessels, in particular: sewage discharges (CWA Section 312 program); cruise ship discharges; and operational discharges from vessels of the Armed Forces (CWA Section 312(n) - Uniform National Discharge Standards), as well as its development of ballast water standards for aquatic nuisance species. This increased level of activity will enable EPA to more quickly address national and international issues regarding vessel discharges, including those from cruise ships. This investment responds to legislation regarding cruise ships in Alaskan waters, GAO and other reports on the need to enhance cruise ship regulation, and continuing violations of existing standards.

The Agency will manage pollution sources subject to the Marine Protection, Research, and Sanctuaries Act (MPRSA); the CWA; the Marine Plastic Pollution Research and Control Act, and other related programs to further protect and enhance our Nation's coastal and ocean waters. EPA will focus additional resources on bolstering implementation of its statutory responsibilities under the MPRSA regarding site evaluation, designation and monitoring, and permit review and concurrence. In particular, EPA will work to expeditiously refine the site designation and management of the Historic Area Remediation Site (HARS) off the New Jersey coast. Efforts will continue to develop bioaccumulation risk guidance to enable EPA Regions and Corps of Engineers districts to reach decisions on the suitability of dredged material for open water disposal, development of a guidance document on implementation of cost effective beneficial use projects in the context of watershed planning, designation of dredged material disposal sites, and implementation of site management and monitoring plans. Progress in these areas will depend on sound science derived from improved research and monitoring efforts in coastal and marine waters.

For coastal ports and harbors, EPA will work with Federal and state partners (e.g. the National Dredging Team) and other stakeholders to establish and promote Regional Dredging Teams and local planning groups to help ensure that comprehensive dredged material management plans, including provisions for the beneficial re-use of dredged material, are developed and implemented to maintain, restore, and improve the health of coastal ecosystems.

Tribes

In support of the Agency's Tribal partnership efforts, the Agency will continue to help train tribes on basic water programs, including NPS, watershed management, water quality

monitoring, and water quality standards and criteria. The Agency will continue distribution of a National Tribal Watershed Assessment Framework to support defensible, reproducible Tribal assessments of the conditions of their watersheds and the sources of watershed impairments.

State and Tribal Grants

CWA Section 106 grants to states, tribes, and interstate agencies help fund key programs for the prevention, reduction, and elimination of surface and ground water pollution from point and NPSs and for enhancing the ecological health of the Nation's waters. Within this objective $200,400,000 is requested for this grant program, a $20,023,100 increase over the FY 2003 President's Budget request. Activities within the CWA Section 106 program include NPDES permitting, water quality planning and standard setting, pollution control studies, assessment and monitoring, and training and public information. State efforts funded by CWA Section 106 grants will include activities related to the restoration of impaired watersheds (TMDLs) including all facets of this program, i.e., pre TMDL needs such as monitoring and assessment and standards development, development of TMDLs and post-TMDL implementation and restoration; implementing integrated wet weather strategies in coordination with NPS programs; and developing source water protection programs. Tribes will continue to conduct watershed assessments and will maintain and improve their capacity to implement water quality programs through monitoring, assessments, planning, and standards development.

The increase for CWA Section 106 grants, when coupled with the EPM increases, will help states and tribes fill critical gaps in fulfilling their basic CWA responsibilities. Additional funds will support a mixture of activities, depending on individual states' needs, including water quality monitoring and assessment, standards development, TMDL development, and NPDES permitting.

The Agency is requesting $19,000,000 for Water Quality Cooperative Agreements (WQCA). These resources will provide continued support in the creation of unique and innovative approaches to address requirements of the NPDES program, with special emphasis on wet weather activities, (i.e., storm water, combined sewer overflows, sanitary sewer overflows and animal feeding operations). In addition, these grants have long supported other programmatic activities such as systems asset management, environmental management systems for water pollution control, and various other program innovations.

Geographic Initiatives

EPA will continue to support targeted geographic watershed initiatives of national importance, including the NEP, the Chesapeake Bay Program, Gulf of Mexico Program (GMP), South Florida/Everglades, and the Pacific Northwest Forest Plan. Special emphasis on these varied Regions provides the opportunity not only to have necessary heightened Federal involvement in critical watersheds, but also to develop and implement water quality control practices and other management tools whose successes can be transferred to other watersheds nationwide. EPA is also committed to supporting the Interior Columbia Basin Ecosystem Management Project, the Long Island Sound Office, the Lake Champlain Management Conference and Lake Pontchartrain requirements in the Estuaries and Clean Waters Act of 2000.

Through the Targeted Watershed Grants program, the Agency will continue to provide direct grants to watershed stakeholders ready to undertake immediate action, and support local communities in their efforts to expand and improve existing watershed protection measures with tools, training and technical assistance. Modeled after successful existing programs such as the efforts to restore the Charles River, targeted inland and coastal watersheds will be chosen based on criteria established in consultation with state, local and other stakeholder partners, with emphases on achieving environmental results, evidence of strong, diverse stakeholder support, especially at the state and local levels, and readiness to proceed based on existing problem identification. Expected benefits include: additional places and times that waters could be used for boating, fishing, and swimming; restoration, protection, or creation of terrestrial and aquatic habitat; economic benefit (e.g., re-opening shellfish beds, improved public access to waterfronts and other highly valued resource areas); protection of groundwater aquifers; protection and increase in number of acres of open space; and enhanced flood protection.

In addition, EPA will focus a portion of the Targeted Watershed Grants to enhance its support for implementing *The Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico.* The Mississippi River and its tributaries sustain a vital link in the ecology and economy of our country, but serious stresses are challenging the integrity of the ecosystem. In recognition of one of these stresses, hypoxia, public and private partners created *The Action Plan* to promote nutrient reductions in the Mississippi Basin. EPA is strongly committed to helping implement this plan using a variety of tools and approaches, including the Targeted Watershed Grants.

Gulf of Mexico

The Gulf of Mexico Program (GMP) is a consortium of organizations working together to initiate cooperative actions by public and private organizations to restore, protect, and maintain the Gulf of Mexico ecosystem in ways consistent with the economic well being of the region.

The GMP works closely with the five Gulf States, Gulf coastal communities, citizens, non-government organizations, and Federal agencies to achieve specific environmental results. These include, by FY 2009, assisting the states in restoring over 70 impaired coastal water bodies in 12 priority coastal areas and restoring or protecting 20,000 acres of important coastal and marine habitats.

The GMP provides direct technical and financial assistance to the Gulf States, local governments, and non-profit organizations. In FY 2004, the GMP will focus its efforts on implementing priority projects, as identified by the Gulf States that will contribute to watershed-based efforts to improve 14 water bodies currently identified as impaired, and to protect, enhance, or restore 2,400 acres of important coastal and marine habitats that are essential for sustaining the Gulf's fisheries. The GMP will also continue support for Gulf-wide initiatives that have a broad, regional, large ecosystem or multiple Gulf States perspective (i.e., hypoxia, harmful algal blooms, monitoring and assessment).

Chesapeake Bay

The Chesapeake Bay Program, formed in 1983, is a unique regional partnership in leading and directing the restoration and protection of the Chesapeake Bay and its tributaries. The Bay Program partners include the states of Maryland, Pennsylvania, and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; and the United States Environmental Protection Agency (EPA) which represents the Federal government.

In June 2000, the Chesapeake Bay Program adopted the Chesapeake 2000 agreement which contains 104 commitments aimed at restoring the Bay. The Chesapeake 2000 agreement has five sections outlining commitments to protect and restore living resources, vital habitats, and water quality; promote sound land use; and to encourage stewardship and community engagement. The primary goal of the new agreement is to remove nutrient and sediment impairments sufficiently to sustain the living resources of the Chesapeake Bay and its tidal tributaries and to maintain that water quality into the future. The partnership is working towards publication of new criteria and designated uses by EPA for the Bay, adoption of new water quality standards in the tidal waters by the states, and agreement on increased reduction goals for nutrients and a new reduction goal for sediment.

Wetlands

In October 2002, a Presidential Proclamation stated that, "Recent studies show that we are close to achieving our goal of halting overall wetlands loss, and we are hopeful that in the near future we will begin increasing the overall function and value of our wetlands." EPA will continue to work toward reversing historic trends of wetland losses and restoring some of the 54 percent of the Nation's wetlands already drained or filled. EPA will contribute to this wetlands quantity goal by helping to improve compensatory mitigation success, supporting wetlands restoration efforts, and building state and Tribal capacities to monitor and protect wetland resources.

Working with other Federal agencies, EPA and the Corps of Engineers will implement CWA Section 404 to protect wetlands, free-flowing streams, and shallow waters in a fair, flexible, and effective manner. Program improvements will be implemented to ensure program activities are effectively and consistently applied under the CWA. EPA and the Corps, working with other agencies and stakeholders, will advance the regulatory program goal of halting overall wetlands loss by improving the policy, science, and technical assistance associated with compensatory mitigation to offset unavoidable losses of wetlands. Consistent with the recommendations of the 2001 National Academy of Sciences and GAO evaluations of compensatory mitigation under CWA Section 404, EPA will lead the development of mitigation criteria and coordinate a program with states and tribes to improve the success of compensatory mitigation. EPA will also provide assistance for evaluating the cumulative effects of CWA Section 404 discharges and other stressors on wetland ecosystems.

EPA will also take steps to advance the national goal of an increase in the quality of wetlands. Many remaining wetlands are degraded by stressors, including polluted run-off,

changes in hydrology, invasive species, and habitat fragmentation. Information on the health of wetlands is important to set priorities and to identify corrective actions. Building upon a growing number of successful projects, EPA will help states and tribes develop programs to monitor the extent and condition of their wetlands. Wetland class, landscape condition, reference sites, and biological indicators will be used to evaluate the relative health of wetlands. The information collected will be reported to give a better understanding of the condition of our wetlands and to guide management decisions to evaluate restoration success and to improve the quality of wetlands.

As a component of its watershed program, EPA will provide support and assistance for community level partnerships to restore wetlands and streams. This includes Five Star Restoration and Education Grants, restoration training, technical guidance, a comprehensive restoration web site, and a restoration newsletter.

A total of $20,000,000 from the State and Tribal Assistance Grants (STAG) appropriation is requested to enable states, tribes and local governments to develop and strengthen their programs to conserve, manage and restore wetlands. This will support regulatory approaches as well as incentive-based programs, training, and monitoring. In 2001 the Supreme Court determined that some isolated waters and wetlands are not regulated under the CWA. Many waters with important aquatic values are no longer covered by CWA Section 404 protections. EPA is proposing an increase in grants to states and tribes to help them protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also providing grant funding for states and tribes to assume more decision-making authority in waters that remain subject to the CWA.

Research

While it is known that the health and sustainability of aquatic ecosystems and their ecological components are affected by various types of chemical, biological, and physical stressors, there is significant scientific uncertainty associated with what effect these stressors have on the resiliency of aquatic ecosystems and their biotic components. Research in this objective, as outlined in the draft Water Quality Multi-Year Plan (MYP) for water quality, will demonstrate integrated and stakeholder driven approaches to achieving water quality goals, as well as focus on the development of watershed diagnostic methods, on understanding the importance of critical habitats, and on the impacts of habitat alteration on aquatic communities. Research to support the development of ecological criteria includes evaluating the exposures and effects of nutrients, suspended and bedded sediments, pathogens, toxic chemicals, and habitat alteration stressors on aquatic systems and understanding the structure and function of aquatic systems. This research provides the scientific foundation to support Total Maximum Daily Loads (TMDLs). To provide focus to its research on the effects of stressors on ecosystems, habitat alteration, diagnostic methods, and landscape modeling, EPA developed the Ecological Research Strategy. This strategy was subject to rigorous external peer review and addresses those problems that pose the greatest risks to the environment. In addition, the draft Water Quality MYP provides a framework for integrating research across laboratories and centers and across GPRA goals. To ensure quality, all scientific and technical work products undergo either

internal or external peer review, with major or significant products requiring external peer review.

Research to understand the association between nutrient loading and hypoxia, algal blooms, and eutrophication will continue in FY 2004. An area of approximately 7,000 square miles in the Gulf of Mexico is hypoxic, and the incidence of algal blooms is increasing in coastal waters worldwide. These stresses threaten ecosystem integrity, sustained use, and productivity. EPA is developing stressor response models to understand and predict the relationship between stressors such as nutrients, eutrophication, and hypoxia on aquatic ecosystems including wetlands, riparian zones, sediments, and freshwater and marine ecosystems. EPA is also developing an ecological risk assessment for nutrients, initially focusing on nitrogen, as part of its program to develop common methodologies for integrating ecological and human health assessments. Research on the ecology and oceanography of harmful algal blooms (HABs) is underway as part of a joint effort with other Federal agencies including the National Oceanic and Atmospheric Administration (NOAA) and the National Science Foundation (NSF). In FY 2004 a protocol to classify eutrophication models for nutrient load allocation in coastal systems as well as a classification scheme for predicting sensitivity of coastal receiving waters to effects of nutrients on submerged aquatic vegetation and food webs will be completed.

In FY 2004 the Agency will increase resources to address uncertainties associated with managing and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers. Approximately 3.4 million dry tons of biosolids are applied to thousands of acres annually in the United States. The technical basis for current regulations was largely developed in the mid-1970s to early 1980s, while composition of biosolids has changed markedly since then and technical advances allow for better characterization, assessment and management of sewage sludge. Of concern are the potential health impacts on exposed population. Pathogen and chemical contaminant impacts are of especially high concern for high risk groups in the general public living near application sites, including children and pregnant women, the elderly, and others with immune deficiencies. This research program will address data gaps as well as issues in management practices that were identified in the recent National Academy of Science (NAS) report on this topic. Research will focus on exposure and health risk assessments, techniques to measure and characterize contaminants in raw and treated sewage sludge, the effectiveness of current sewage sludge treatment processes, and the development of improved and more cost-effective approaches to address changing sewage sludge composition. In FY 2004 the focus will be principally on exposure assessment and characterization methodology development.

Also in FY 2004 research on suspended and bedded sediments will continue. Although suspended and bedded sediments are a natural part of aquatic ecosystems critical to the energy cycle of the water body and the provision of microhabitats, they have become stressors associated with human activity that adversely affect aquatic habitats. In the 1998 EPA Report to Congress, *Water Quality Inventory*, suspended solids and sediments were identified among the leading causes of water quality impairment for streams and rivers. To maintain natural background levels of suspended and bedded sediments, water resource managers need scientific tools that are currently not available. In FY 2004, this research program will continue to develop tools to determine background sediment levels inherent to a region. The Agency's research

program will also focus on understanding the stressor response relationships between sediment imbalances and impacts to aquatic communities. Risk management strategies will be developed to help reduce the impact of human activities on sedimentation and to maintain sediments at background levels.

Chemical stressors also impact aquatic life, the benthic community, wildlife, and human health. Research in this area focuses on developing scientifically defensible methods to better describe the risks of toxic chemicals to aquatic and aquatic-dependent populations and communities. Specific goals are to: 1) demonstrate methods for water quality criteria for bioaccumulative and non-bioaccumulative chemicals based on more complete and accurate risk characterization of toxic chemicals to aquatic organisms; 2) provide methods for water quality criteria based on population-level risk characterization of toxic chemicals to aquatic life and aquatic-dependent wildlife; 3) provide methods for extrapolating chemical toxicity data across exposure conditions and across endpoints, life stages, and species that can support assessment of risks to aquatic life and aquatic-dependent wildlife for chemicals with limited data; and 4) provide approaches for evaluating the relative and cumulative risks from toxic chemicals on populations of aquatic life and aquatic-dependent wildlife at local and regional scales. In FY 2004 a report evaluating selected PBT (persistent, bioaccumulative toxicant) dose-response relationships in aquatic wildlife will be published.

The main focus of habitat alteration research is to provide the scientific basis for assessing the role of essential habitat in maintaining healthy populations of fish, shellfish, and wildlife. This research will identify the relationships between habitat alteration and biological response and extrapolation schemes needed to develop broad-scale habitat criteria for streams and coastal systems. The results of this research, combined with biocriteria and monitoring research conducted under Goal 8 (Sound Science) can be used to determine biocriteria, evaluate combined effects of habitat alteration and other stressors (such as chemicals), and will facilitate ecosystem restoration decisions. In FY 2004 EPA will provide sample stressor-response relationships linking loss and alteration of habitat to selected fish, shellfish, and wildlife effects.

In FY 2004 EPA research on diagnostic methods will focus on the causes of biological and aquatic ecosystem impairment. This work will be useful in deriving criteria to protect and strengthen the biological basis for designated uses in state and Tribal water quality standards, improving the scientific foundation for addressing point and non-point source water quality impairment, and determining appropriate and effective watershed management alternatives. Specifically, this research will provide: 1) the scientific foundation and information management scheme for the 303(d) listing process, including a classification framework for surface waters, watersheds, and regions to guide problem formulation; 2) first generation diagnostics methods to distinguish among major classes of individual aquatic stressors and/or suggest causal mechanisms that contribute to impairment of marine and freshwater systems; and 3) diagnostic methods and technical support documents for determining the relative significance of multiple stressors in 303(d) listed waters. Technical guidance and assistance will also be provided to states to promote the establishment of scientifically sound bioassessments and biologically-based water quality criteria for rivers and streams.

Modeling and landscape characterization research will provide the tools to restore and protect aquatic systems and to forecast the ecological, economic, and human health outcomes of alternative management solutions. This research will address uncertainties of the sources of pollutants and the effectiveness of management options (e.g. best management practices) to control nutrients, suspended solids, sediments, pathogens, toxic chemicals and flow variations. The goal is to develop decision support tools to assist watershed managers in analyzing problems associated with these stressors and identifying cost effective solutions with a focus on mixed land-use watersheds and watersheds in transition from development pressures. This research effort will be directed toward a comprehensive understanding of the relationships between human activities and associated ecosystem stresses altered sediment loads and altered stream power as it relates to in-stream re-working.

FY 2004 Change from FY 2003 Request

EPM

- (+$2,104,400, + 4 FTE) These additional resources will enable EPA to help states enhance their monitoring and assessment programs and use a probabilistic approach to support water quality decision-making; support state monitoring councils to bring monitoring partners and stakeholders in the state together to plan and share data; and, facilitate establishment of local watershed monitoring consortiums to plan and implement monitoring activities within a watershed.

- (+$3,650,500, + 4 FTE) An increase in the TMDL program will help EPA approve/disapprove TMDLs in a timely manner; advance and disseminate a better understanding of the ability of NPS control measures to result in true load reductions; assist states in designing site specific solutions; develop guidance and technical documents to help states address complex TMDLs; assist states in revising their Continuing Planning Processes to provide a context for all CWA activities within the state; and, enhance the ability of WATERS (Watershed Assessment, Tracking & Environmental Results) to tie water quality status to management actions, including standards, TMDLs, and implementation actions.

- (+$4,949,500) This increase will help reduce standards backlogs (i.e., approval/disapproval decisions, unresolved outstanding disapprovals, and uncompleted ESA consultations); support additional peer-reviewed water quality criteria and development of bioaccumulation factors for highly-bioaccumulative pollutants; enable the development of clear guidance and provide for ongoing support for state and Tribal programs to adopt the highest attainable uses; help states and tribes link standards to watershed approaches and TMDLs; and, complete the water quality standards database and make it fully accessible on the Internet.

- (+$4,459,400) These resources will support enhancement of standards and monitoring critical to protecting our ocean resources. EPA will bolster implementation of ocean disposal requirements, including refinement of the site designation and management of the Historic Area Remediation Site. Following consultation with the Armed Forces, EPA

will also enhance regulation of discharges of pollution from vessels with special attention to cruise ships, ballast water and marine sanitation devices.

- (+$501,500, + 4.2 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.

- ($1,153,700, - 16.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +$1,417,000, utilities: +$2,374,800, Security: +$3,425,000 and 75 FTE, Human Resources: +$870,400 and +5.4 FTE, Contracts: +$642,400 and -18.5 FTE, Grants: +$3,015,500 and +19.7 FTE)*

STAG

- (+$20,023,100) This increase for CWA Section 106 grants, when coupled with the EPM increases described above, will help states and tribes fill critical gaps in fulfilling their basic CWA responsibilities. Additional funds will support a mixture of activities, depending on individual states' needs, including water quality monitoring and assessment, standards development, TMDL development, and NPDES permitting.

- (+$5,033,000) This increase for Wetlands Program Grants will enhance states' efforts to protect isolated waters and wetlands. The increase will allow states and tribes to protect these waters as part of comprehensive programs that will achieve no net loss of wetlands, while also entrusting states and tribes with more decision-making authority in waters that remain subject to the CWA.

- (-$20,000,000) This reduction to the Water Quality Cooperative Agreements Program reflects establishment of a separate line item for the Targeted Watershed Grants Program.

- (+$20,000,000) This increase reflects establishing the Targeted Watershed Grants Program as an independent program, separate from the WQCA program.

Research

S&T

- (+$1,838,040 and +8.2 FTE) The purpose of this enhancement is to address the uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers as described in the recent National Academy of Science (NAS) report on this topic. Research results will include tools that enable health and environmental decision

makers to identify the major contaminants of concern found at sludge application sites, assess the risks of chemicals and pathogens to populations near sites where sludge is applied, and improved treatment techniques to make lower-risk biosolids. Resources are being redirected out of air quality (objective 1.1), drinking water research (objective 2.1), emerging risks including PPCPs (objective 8.3), and pollution prevention (objective 8.4), as well as from lower priorities within water quality, to support this effort.

- (+$504,000 and +5.0 FTE) This increase reflects the Agency's effort to enhance its scientific workforce by attracting quality postdoctoral scientists and engineers into its research program.

- (+$323,020 and +3.1 FTE) Reflects a realignment of research support workyears from ecosystems protection (objective 8.1). There are no programmatic impacts.

- (+$183,960 and +1.8 FTE) This increase reflects realignment of EPA's pharmaceuticals and personal care products (PPCPs) intramural research program. Workyear and associated workforce costs will be moved from the Goal 8 (Sound Science) to aquatic stressors research in Goal 2. This realignment was conducted since the goal of this research is to provide information to determine if human health or ecological criteria are needed and to begin to evaluate the appropriate levels for any necessary criteria. There are no impacts resulting from this realignment.

- (-$439,460 and -4.3 FTE) This redirection of workyears from sediment research and habitat alteration research will support the Agency's Regional Scientist Program. The Agency maintains sufficient research programs in sediment and habitat alteration to meet its research objectives.

- (-$367,920 and -3.6 FTE) Workyears are being redirected from habitat alteration and water quality research to support two important initiatives. Two workyears are being redirected to provide research support to the Agency's efforts to develop an annual State of the Environment Report (objective 8.3). The others are being redirected as part of the Science Advisor's senior staff to promote effective partnerships with EPA Programs and Regions, assist them in their efforts to strengthen environmental science, and provide for timely and open communication on critical science matters. The Agency maintains sufficient research programs in habitat alteration and water quality to meet its research objectives.

- (-$306,600 and -3.0 FTE) Reflects a refocusing of workyears from related concentrated animal feeding operations (CAFOs) studies within water quality research to address uncertainties associated with determining and reducing the risks to human health of the production and application of treated wastewater sludge (biosolids) to land for use as fertilizers. Impacts to the losing program are minimal due to the overlapping nature of research on biosolids and CAFOs.

- There are additional increases for payroll and cost of living for new and additional FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: PROTECT WATERSHEDS AND AQUATIC COMMUNITIES

Annual Performance Goals and Measures

Watershed Protection

In 2004 By FY 2005, Water quality will improve on a watershed basis such that 625 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.

In 2003 By FY 2003, Water quality will improve on a watershed basis such that 600 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.

In 2002 This measure reflects states' biennial reporting under CWA 305(b), and is not intended to be reported against again until the FY2003 reporting cycle.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Watersheds that have greater than 80% of assessed waters meeting all water quality standards.	510 (FY00)	600	625 (FY 05)	8-digit HUCs

Baseline: As of 1998 state reports, 500 watersheds had met the criteria for water quality improving on a watershed basis. For a watershed to be counted toward this goal, at least 25% 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 Clean Water Act. The unit of measure is 8-digit Hydrologic Unit Codes (HUCs).

State/Tribal Water Quality Standards

In 2004 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

In 2003 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

In 2002 Assure that 25 States and 22 Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.	25	20	20	States
Tribes with water quality standards adopted and approved (cumulative).	22	30	33	Tribes

Baseline: In 1999, fewer than 5% of tribes had water quality monitoring and assessment programs appropriate for their circumstances and were entering water quality data into EPA's national data systems. State water quality standards program reviews are under a 3-year cycle as mandated by the Clean Water Act under which all states maintain updated water quality programs. The performance measure of state submissions (above) thus represents a "rolling annual total" of updated standards acted upon by EPA, and so is neither cumulative nor strictly incremental. EPA must review and approve or disapprove state revisions to water quality standards within 60-90 days after receiving the state's package. As of this May EPA was overdue in approving or disapproving 38 new or revised standards from 21 states and tribes.

Protecting and Enhancing Estuaries

In 2004 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

In 2003 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

In 2002 Restored and protected over 137,000 acres of estuary habitat through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Acres of habitat restored and protected nationwide as part of the National Estuary Program. (annual)	137,710	86,000	25,000	Acres

Baseline: As of January 2000, it is estimated that 65% of priority actions initiated and 400,000 habitat acres preserved, restored, and/or created.

Gulf of Mexico

In 2004 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.

In 2003 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.

In 2002 Assisted the Gulf States in implementing restoration actions by supporting the identification of place-based projects in 137 State priority coastal river and estuary segments.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Impaired Gulf coastal river and estuary segments implementing watershed restoration actions (incremental).	137	14	14	Segments

Baseline: There are currently 95 coastal watersheds at the 8-digit hydrologic unit code (HUC) scale on the Gulf coast. The Gulf of Mexico Program has identified 12 priority coastal areas for assistance. These 12 areas include 30 of the 95 coastal watersheds. Within the 30 priority watersheds, the Gulf States have identified 354 segments that are impaired and not meeting full designated uses under the States' water quality standards. 71 or 20% is the target proposed to reinforce Gulf State efforts to implement 5-year basin rotation schedules. The target of 71 is divided by 5 to achieve the goal for assistance provided in at least 14 impaired segments each year for the next 5 years.

Chesapeake Bay Habitat

In 2004 Improve habitat in the Chesapeake Bay.

In 2003 Improve habitat in the Chesapeake Bay.

In 2002 Meeting the annual performance goal to improve habitat in the Bay requires adherence to commitments made by the Chesapeake 2000 agreement partners and monumental effort/resources from all levels of government (local, state, and a range of Federal agencies) and from private organizations/citizens.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay. (cumulative)	85,252	86,000	87,000	Acres

Baseline: In 1985, 0% of wastewater flow had been treated by Biological Nutrient Removal. In 1989, 49 miles of migratory fish habitat was reopened. In 1984, there were 37,000 acres of submerged aquatic vegetation in the Chesapeake Bay. In 1988, voluntary IPM practices had been established on 2% of the lands in the Chesapeake Bay watershed.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Watersheds that have greater than 80% of assessed waters meeting all water quality standards.

Performance Database: The Watershed Assessment Tracking Environmental Results System (WATERS) is used to summarize water quality information at the watershed level. For purposes of this national summary, "watersheds" are equivalent to 8-digit hydrologic unit codes (HUCs), of which there are 2,262 nationwide. WATERS is a geographic information system that integrates many existing data management tools including the Storage and Retrieval (STORET) database, the Assessment database as well as a new water quality standards database. State Clean Water Act (CWA) 305(b) data is submitted every two years and many states provide

annual updates. [United States EPA (latest: August 2002) National Water Quality Inventory Report to Congress (305(b) report). Washington, DC: Office of Water. (841-R-02-001). This and prior reports (from 1992) available on the Internet: http://www.epa.gov/305b/]

Data Source: State CWA Section 305(b) reporting. The data used by the states to assess water quality and prepare its CWA Section 305(b) report include ambient monitoring results from multiple sources (state, United States Geological Survey (USGS), volunteer, academic) as well as predictive tools like water quality models. States compile diverse data to support water quality assessments; EPA uses the data to present a snap-shot of water quality as reported by the states, but does not use it to report trends in water quality. EPA's Office of Water and Office of Research and Development have established a monitoring and design team that is working with states on a 3 to 5-year project to recommend a design for a national probability-based monitoring network that could be used to provide both status and trends in water quality at a state and national level. Future data will be accompanied by quality assurance plans, as part of the State's Assessment Methodology, and data submitted to the OW database, STORET, will have the necessary accompanying metadata.

Methods, Assumptions and Suitability: States employ various analytical methods of data collection, compilation, and reporting including: 1) Direct water samples of chemical, physical, and biological parameters; 2) Predictive models of water quality standards attainment; 3) Probabilistic models of pollutant sources; and 4) Compilation of data from volunteer groups, academic interests and others. EPA supported models include BASINS, QUAL2E, AQUATOX, and CORMIX. Descriptions of these models and instructions for their use can be found at www.epa.gov/OST/wqm/. The standard operating procedures and deviations from these methods for data sampling and prediction processes are stored by states in the STORET database. EPA aggregates state data by watershed (as described above) to generate the national performance measure. State provided data describe attainment of designated uses in accordance with state water quality standards and thus represent a direct measure of performance. State CWA Section 305(b) data are suitable for providing a snapshot of the ambient water quality conditions that exist across the nation; however, nationally aggregated data are currently not suitable for year-to-year comparisons. As states update their monitoring programs to include probabilistic monitoring, we will be able to do nationally aggregated, year-to year comparisons.

QA/QC Procedures: QA/QC of data provided by states pursuant to individual state assessments (under CWA Section 305(b)) is dependent on individual state procedures. Numerous system level checks are built into WATERS based upon the business rules associated with the water quality assessment information. States are then given the opportunity to review the information in WATERS to ensure it accurately reflects the data that they submitted. Detailed data exchange guidance and training are also provided to the states. Sufficiency threshold for inclusion in this measure requires that 20% of stream miles in an 8-digit HUC be assessed. The Office of Water Quality Management Plan (QMP), renewed every five years, was approved in July 2001. EPA requires that each organization prepare a document called a quality management plan (QMP) that: documents the organization's quality policy; describes its quality system; and identifies the environmental programs to which the quality system applies. This document is the quality management plan for the entire EPA Office of Water. It describes the quality system used by the Office of Water and applies to all environmental programs within the

Office of Water and to any activity within those programs that involves the collection or use of environmental data.

Data Quality Review: Numerous independent reports have cited that weaknesses in monitoring and reporting of monitoring data undermine EPA's ability to depict the condition of the Nation's waters and to support scientifically-sound water program decisions. The most recent reports include the 1998 *Report of the Federal Advisory Committee on the Total Maximum Daily Load (TMDL) Program*[1], the March 15, 2000 General Accounting Office report *Water Quality: Key Decisions Limited by Inconsistent and Incomplete Data*[1], and the 2001 National Academy of Sciences Report *Assessing the TMDL Approach to Water Quality Management.*[1]

In response to these evaluations, EPA has been working with states and other stakeholders to improve: 1) data coverage, so that state reports reflect the condition of all waters of the state; 2) data consistency to facilitate comparison and aggregation of state data to the national level; and 3) documentation so that data limitations and discrepancies are fully understood by data users. First, EPA enhanced two existing data management tools (STORET and the Assessment Database) so that they include documentation of data quality information. Second, EPA has developed a GIS tool called WATERS that integrates many databases including STORET, the Assessment database, and a new water quality standards database. These integrated databases facilitate comparison and understanding of differences among state standards, monitoring activities, and assessment results. Third, EPA and states have developed a guidance document: Consolidated Assessment and Listing Methodology - a Compendium of Best Practices[1] (released on the Web July 31, 2002 at www.epa.gov/owow/monitoring/calm.html) intended to facilitate increased consistency in monitoring program design and the data and decision criteria used to support water quality assessments.

And fourth, the Office of Water (OW) and EPA's regional offices have developed the *Elements of a State Water Monitoring and Assessment Program*, (August 2002) which is currently under review by our state partners. This guidance describes ten elements that each state water quality-monitoring program should contain and proposes time-frames for implementing all ten elements.

Data Limitations: Data are not representative of comprehensive national water quality assessments because states do not yet employ a monitoring design that characterizes all waters in each reporting cycle. States do not use a consistent suite of water quality indicators to assess attainment with water quality standards. For example, indicators of aquatic life use support range from biological community assessments to levels of dissolved oxygen to concentrations of toxic pollutants. These variations in state practices limit how the assessment reports provided by states can be used to describe water quality at the national level. States, territories and tribes collect data and information on only a portion of their waterbodies. There are differences among their programs, sampling techniques, and standards.

State assessments of water quality may include uncertainties associated with derived or modeled data. Differences in monitoring designs among and within states prevent the agency from aggregating water quality assessments at the national level with known statistical confidence. States, territories, and authorized tribes monitor to identify problems and typically lag times between data collection and reporting can vary by state.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: The Office of Water is currently working with states, tribes and other Federal agencies to improve the database that supports this management measure by addressing the underlying methods of monitoring water quality and assessing the data. Also, the Office of Water is working with partners to enhance monitoring networks to achieve comprehensive coverage of all waters, use a consistent suite of core water quality indicators (supplemented with additional indicators for specific water quality questions), and document key data elements, decision criteria and assessment methodologies in electronic data systems. The Office of Water is using a variety of mechanisms to implement these improvements including data management systems, guidance, stakeholder meetings, training and technical assistance, program reviews and negotiations.

EPA is working with states to enhance their monitoring and assessment programs, with a particular emphasis on the probabilistic approach. These enhancements, along with improving the quality and timeliness of data for making watershed-based decisions, will greatly improve the ability to use state assessments in consistently portraying national conditions and trends. Specific state refinements include developing rigorous biological criteria to measure the health of aquatic communities (and attainment with the aquatic life use) and designing probability-based monitoring designs to support statistically-valid inferences about water quality. The EPA Environmental Monitoring and Assessment Program (EMAP) design team has been instrumental in helping states design the monitoring networks and analyze the data. Initial efforts have focused on streams, lakes and coastal waters. Wetlands and large rivers will be targeted next. States are implementing these changes incrementally and in conjunction with traditional targeted monitoring. At last count 16 states have adopted probability-based monitoring designs, several more are evaluating them, and all but 10 are collaborating in an EMAP study.

References: Aggregate national maps and state and watershed specific data for this measurement are displayed numerically and graphically in the WATERS database. WATERS is publicly accessible at www.epa.gov/waters. State monitoring data is contained in the STORET system, also publicly available at www.epa.gov/storet. Links to user guides and descriptions of the databases can be found at the web sites. The Office of Water Quality Management Plan (July 2001) is available on the Intranet at http://intranet.epa.gov/ow/infopolicy.html.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: States with new or revised water quality standards that EPA has reviewed and approved or disapproved, and promulgated Federal replacement standards.

Performance Database: EPA maintains files on all approval/disapproval actions on new and revised state water quality standards and on promulgated Federal replacement standards. EPA Headquarters and regional personnel work together to maintain a manual record of state actions and EPA decisions. We also maintain in electronic format the text of state standards in a publicly-accessible Water Quality Standards Repository online at http://www.epa.gov/waterscience/standards/wqslibrary/.

There is also an Assessment Database, which tracks the water quality standard (WQS) attainment status of the Nation's surface waters (not publicly available). The Watershed Assessment Tracking Environmental Results System (WATERS) database is a GIS tool that maps this information. WATERS is used to summarize water quality information at the watershed level. For purposes of this national summary, "watersheds" are equivalent to 8-digit hydrologic unit codes (HUCs), of which there are 2,262 nationwide. WATERS is publicly accessible at www.epa.gov/waters.

Data Source: EPA Regional Offices.

Methods, Assumptions and Suitability: Information is collected manually, and the performance measure is a simple mathematical operation.

QA/QC Procedures: EPA headquarters is responsible for compiling the summary reports and querying EPA's regional offices as needed to resolve inconsistencies. EPA's regional offices are responsible for collecting any additional data needed from their client states and reporting the data to Headquarters.

Data Quality Review: EPA Headquarters and its regional offices annually review the WQS information to identify and resolve data issues.

New/Improved Data or Systems: EPA will continue to implement high priority elements of the long-term strategy for water quality standards and criteria, including efforts to improve electronic access to water quality standards information.

Data Limitations: N/A

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: N/A

References: The exact text of state and Tribal standards is available on the Internet at http://www.epa.gov/waterscience/standards/wqslibrary/.

FY 2004 Performance Measure: Cumulative number of tribes with water quality standards adopted and approved.

Performance Database: EPA headquarters maintains files on all Tribal water quality standards. EPA's regional offices submit summary reports based on these files.

Data Source: EPA's regional offices

Methods, Assumptions and Suitability: Information is collected manually, and the performance measure is a simple mathematical operation.

QA/QC Procedures: EPA headquarters is responsible for compiling the data, and querying EPA's regional offices as needed. EPA's regional offices are responsible for collecting any additional data from their client tribes and reporting the data to HQ.

Data Quality Review: EPA headquarters and its regional offices annually review the information to identify and resolve data issues.

New/Improved Data or Systems: N/A

Data Limitations: N/A

Error Estimate: No error estimate is available for this data.

References: The exact text of state and Tribal standards is available on the Internet at http://www.epa.gov/waterscience/standards/wqslibrary/.

FY 2004 Performance Measure: Acres of habitat restored and protected nationwide since 1987 as part of the National Estuary Program (NEP).

Performance Database: The Office of Wetlands Oceans and Watersheds has developed a standardized format for data reporting and compilation, defining habitat protection and restoration activities and specifying habitat categories. We have also designed a web page that highlights habitat loss/alteration in an educational fashion with graphics and images as well as the number of habitat acres protected and restored by habitat type, based on specific NEP reports. This enables EPA to provide a visual means of communicating NEP performance and habitat protection and restoration progress to a wide range of stakeholders and decision-makers.

Data Source: NEP documents such as annual work plans (which contain achievements made in the previous year) and annual progress reports are used, along with other implementation tracking materials, to document the number of acres of habitat restored and protected. EPA then aggregates the data provided by each NEP to arrive at a national total for the entire Program. EPA is confident that the data presented are as accurate as possible based on review and inspection by each NEP prior to reporting to EPA. In addition, EPA conducts regular reviews of NEP implementation to help ensure that information provided in these documents is generally accurate, and progress reported is in fact being achieved.

Methods, Assumptions and Suitability: Measuring the number of acres of habitat restored and protected may not directly correlate to improvements in the health of the habitat reported, or of the estuary overall, but it is a common substitute. We recognize that habitat acreage does not necessarily correspond one-to-one with habitat quality, nor does habitat (quantity or quality) represent the only indicator of ecosystem health. Nevertheless, habitat acreage serves as an adequate surrogate, and is a suitable measure of on-the-ground progress made toward EPA's annual performance goal on habitat protection and restoration in the NEP.

QA/QC Procedures: Primary data are prepared by the staff of the NEP based on their own reports and from data supplied by other partnering agencies/organizations (that are responsible

for implementing the action resulting in habitat protection and restoration). The NEP staff has been requested to follow guidance provided by EPA to prepare their reports and to verify the numbers. EPA then confirms that the national total accurately reflects the information submitted by each program. The Office of Water Quality Management Plan (QMP), renewed every five years, was approved in July 2001. EPA requires that each organization prepare a document called a quality management plan (QMP) that: documents the organization's quality policy; describes its quality system; and identifies the environmental programs to which the quality system applies. This document is the quality management plan for the entire EPA Office of Water. It describes the quality system used by the Office of Water and applies to all environmental programs within the Office of Water and to any activity within those programs that involves the collection or use of environmental data.

Data Quality Review: No audits or quality reviews conducted yet.

Data Limitations: It is still early to determine the full extent of data limitations. Current data limitations include: information that may be reported inconsistently (based on different interpretations of the protection and restoration definitions), acreage that may be miscalculated or misreported, and acreage that may be double counted (same parcel may also be counted by partnering/implementing agency or need to be replanted multiple years). In addition, measuring the number of acres of habitat restored and protected may not directly correlate to improvements in the health of the habitat reported (particularly in the year of reporting), but is rather a measure of on-the-ground progress made by the NEPs.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: We are examining the possibility of geo-referencing the data in a geographic information system (GIS).

References: Aggregate national and regional data for this measurement, as well as data submitted by the individual National Estuary Programs, is displayed numerically, graphically, and by habitat type in the Performance Indicators Visualization and Outreach Tool (PIVOT). PIVOT data is publicly available at http://www.epa.gov/owow/estuaries/pivot/overview/intro.htm. The Office of Water Quality Management Plan (July 2001) is available on the Intranet at http://intranet.epa.gov/ow/infopolicy.html

FY 2004 Performance Measure: Impaired Gulf of Mexico coastal river and estuary segments implementing watershed restoration actions.

Performance Database: Internal Gulf of Mexico Program Office (GMPO) Project Tracking Database containing fields for 8-digit Hydrologic Unit Code (HUC) and segment numbers for location of restoration actions. The data are based on the States' Clean Water Act (CWA) Section 303(d) List of impaired waterbodies. Data have been tracked in the GMPO database since 1993. In particular, HUCs and segment numbers for locations of restoration actions have been tracked since FY 2000, allowing for 5-year trend calculations by FY 2004.

Data Source: State Water Quality Agencies supply EPA's Office of Water lists of waters reported under CWA Section 303(d). These lists identify the locations of individual waterbodies that are impaired and do not, or are not expected, to meet water quality standards after implementation of water pollution controls. Many states also submit GIS coverages and/or maps that outline the spatial extent of their listed waters. EPA codes the spatial extent onto National Hydrography Dataset (NHD) Waterbody Reaches to create NHD Waterbody shapefiles. Reaches in the shapefiles are attributed with CWA Section 303(d) identifiers supplied by the states. There is a numeric code that uniquely identifies a reach in NHD, consisting of two parts: the first eight digits are the hydrologic unit code of the cataloging unit in which the reach is located; the last six digits are a sequentially, arbitrarily-assigned number. The waterbody shapefiles are sent to each state for review and comment. The format of the reviewed data is state dependent. In some cases, modifications are noted by the State and then corrections are made. The shapefiles also identify those impaired waterbodies, as reported in the CWA Section 303 (d) List, affected by restoration actions undertaken by the Gulf of Mexico Program and its partnership.

Methods, Assumptions and Suitability: One assumption is that cumulative watershed restoration actions in impaired segments will result in the removal of the segment from the State 303(d) List and the waterbody will no longer be listed for the identified impairment within a 10 year time frame. Another assumption is that data used to list the waterbody as impaired is sufficient and current.

QA/QC Procedures: The Gulf of Mexico Program Office cross-checks coastal river and estuary segments in its database with the States' CWA Section 303(d) list and with USGS topographic quadrangle maps. USGS maps are compiled to meet National Map Accuracy Standards.

Data Quality Reviews: States' list of impaired waters is the (CWA Section 303) (d) list. EPA is required by the CWA to review and approve or disapprove the list. If the list is not submitted to EPA, or is incomplete, EPA must develop the list for the State. The list is also subject to public review and comment. EPA believes that the data are accurate and reliable. State lists form the basis for State and EPA actions to address the impaired waters.

Data Limitations: Potential data limitations may include: (1) susceptibility to external factors that make it difficult to attribute trends in performance data to program effectiveness or (2) incomplete or missing data.

Error Estimate: By the end of FY 2004 and in coordination with updated State CWA Section 303(d) Lists, data uncertainty will be evaluated to determine the impact on the performance measure.

New/Improved Data or Systems: Based on data and information collected and recommendations from an Ad Hoc Committee Review, the Gulf of Mexico Program Office plans to more narrowly focus technical and financial assistance to identify specific impaired segments and restore them to meet water quality standards. Using a Strategic Assessment process

involving Federal, State and local representatives the process will provide direct linkage between the restoration actions funded by GMPO and improved water quality.

References:

1998 CWA Section 303(d) Lists

2000 CWA Section 303(d) Lists

Draft Strategic Management Plan for the Gulf of Mexico Program 2000-2005

FY 2004 Gulf of Mexico Program Funding Guidance

FY 2004 Performance Measure: Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay.

Performance Database: The SAV distribution data files are located at http://www.vims.edu/bio/sav/savdata.html and also at the EPA Chesapeake Bay Program Office (contact Nita Sylvester at sylvester.nita@epa.gov)

Data Source: Virginia Institute of Marine Sciences (via an EPA Chesapeake Bay Program grant to Virginia Institute of Marine Sciences)

Methods, Assumptions and Suitability: The SAV survey is a general monitoring program, conducted to optimize precision and accuracy in characterizing annually the status and trends of SAV in tidal portions of the Chesapeake Bay. The general plan is to follow fixed flight routes over shallow water areas of the Bay to comprehensively survey all tidal shallow water areas of the Bay and its tidal tributaries. Non-tidal areas are omitted from the survey. SAV beds less than 1 square meter are not included due to the limits of the photography and interpretation. Annual monitoring began in 1978 and is ongoing. Methods are described in the Quality Assurance Project Plan (QAPP) on file for the EPA grant and at the VIMS web site (www.vims.edu/bio/sav/).

QA/QC Procedures: Quality assurance project plan for the EPA grant to the Virginia Institute of Marine Sciences describes data collection, analysis, and management methods. This is on file at the EPA Chesapeake Bay Program Office. The VIMS web site at www.vims.edu/bio/sav/ provides this information as well. Federal Geographic Data Committee (refers to the Federal standards for metadata developed by this committee) (FGDC) metadata are included with the data set posted at the VIMS web site.

Data Quality Reviews: This indicator has undergone extensive technical and peer review by state, Federal and non-government organization partner members of the SAV workgroup and the Living Resources subcommittee. Data collection, data analysis and QA/QC are conducted by the principal investigators/scientists. The data are peer reviewed by scientists on the workgroup. Data selection and interpretation, the presentation of the indicator, along with all supporting information and conclusions, are arrived at via consensus by the scientists in collaboration with

the resource manager members of the workgroup. The workgroup presents the indicator to the subcommittee where extensive peer review by Bay Program managers occurs.
Data Limitations: Due to funding constraints, there were no surveys in the years 1979-1983 and 1988. Spatial gaps in 1999 occurred due to hurricane disturbance and subsequent inability to reliably photograph SAV. Spatial gaps in 2001 occurred due to post-nine-eleven flight restrictions near Washington D.C.

Error Estimate: No error estimate is available for this data.

New/Improved Data or Systems: Some technical improvements (e.g., photo interpretation tools) were made over the 22 years of the annual SAV survey in Chesapeake Bay.

References: See bibliography at www.vims.edu/bio/sav/.

Coordination with Other Agencies

Protecting and restoring watersheds will depend largely on the direct involvement of many Federal agencies and state, Tribal and local governments who manage the multitude of programs necessary to address water quality on a watershed basis. Federal agency involvement will include USDA (Natural Resources Conservation Service, Forest Service, Agriculture Research Service), Department of the Interior (Bureau of Land Management, Office of Surface Mining, United States Geological Survey (USGS), Fish and Wildlife, and the Bureau of Indian Affairs), National Oceanographic and Atmospheric Administration (NOAA), Department of Transportation, and the Department of Defense (Navy, Army Corps of Engineers). At the state level, agencies involved in watershed management typically include departments of natural resources or the environment, public health agencies, and forestry and recreation agencies. Locally, numerous agencies are involved, including Regional planning entities such as councils of governments, as well as local departments of environment, health and recreation who frequently have strong interests in watershed projects.

Effectively implementing successful comprehensive management plans for the estuaries in the NEP depends on the cooperation, involvement, and commitment of Federal and state agency partners that have some role in protecting and/or managing those estuaries.

Regarding vessel discharges, EPA will continue working closely with the Coast Guard on addressing ballast water discharges domestically, and with the interagency work group and United States delegation to Marine Environmental Protection Committee (MEPC) on international controls. EPA will continue to work closely with the Coast Guard, Alaska and other states, and the International Council of Cruise Lines regarding regulatory and non-regulatory approaches to managing wastewater discharges from cruise ships. EPA will also continue to work with the Coast Guard on updating vessel sewage discharge standards and with the Navy on developing Uniform National Discharge Standards for Armed Forces vessels. Regarding dredged material management, EPA will continue to work closely with the Corps of Engineers on standards for permit review, as well as site selection/designation and monitoring.

The Chesapeake Bay Program has a Federal Agencies Committee, chaired by EPA, which was formed in 1984 and has met regularly ever since. There are currently over 20 different Federal agencies actively involved with the Bay Program through the Federal Agencies Committee. The Federal agencies have worked together over the past decade to implement the commitments laid out in the 1994 *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay* and the 1998 *Federal Agencies Chesapeake Ecosystem Unified Plan* (*FACEUP*). In the past two years, the Federal Agencies Committee has been focusing on how its members can help to achieve the 104 commitments contained in the *Chesapeake 2000* agreement adopted by the Chesapeake Bay Program in June 2000. Through this interagency partnership Federal agencies have contributed to some major successes, such as the United States Forest Service helping to meet the year 2010 goal to restore 2,010 miles of riparian forest buffers eight years early; the National Park Service leading the effort to restore over 500 miles of water trails three years early; and the United States Fish and Wildlife Service working to try to meet our fish passage goal of reopening 1,357 miles of currently blocked river habitat by 2003. Also in 2003, through the Federal Agencies Committee, the members will be looking at their agency budgets and other programs to try to leverage maximum benefit to the state, private and Federal efforts protect and restore the Bay.

Key to the continued progress of the Gulf of Mexico Program (GMP) is the voluntary, stakeholder-driven, multi-agency approach being used. Established in 1988, the Gulf of Mexico Program is designed to assist the Gulf States and stakeholders in developing a regional, ecosystem-based framework for restoring and protecting the Gulf of Mexico. The strategic assessment framework is developed through coordinated Gulf-wide as well as priority area-specific efforts with the five Gulf States, 15 Federal agencies, non-governmental organizations, and citizens who are members of the Gulf Program's Policy Review Board, subcommittees, and workgroups. To achieve the Program's environmental objectives, the partnership must target specific Federal, state, local, and private programs, processes, and financial authorities in order to leverage the resources needed to support state and community actions.

Government-wide, Federal agencies share the goal of achieving a net increase of 100,000 acres of wetlands per year by FY 2005, increasing wetlands functions and values, and implementing a fair and flexible approach to wetlands regulations.

Research

EPA has developed joint research initiatives with the National Oceanic Atmospheric Administration (NOAA) and the United States Geological Survey (USGS) for linking monitoring data and field studies information with available toxicity data and assessment models for developing sediment criteria.

In addition, under the Endangered Species Act, EPA is required to consult with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) on actions that may affect endangered species. EPA has developed a draft strategy for research and development of criteria for endangered species that is now being reviewed. As part of implementation, EPA is coordinating its research with the Biological Research Division of the USGS.

The issue of eutrophication, hypoxia, and harmful algal blooms (HABs) is a priority with the Committee on Environment and Natural Resources (CENR). An interagency research strategy for pfiesteria and other harmful algal species was developed in 1998, and EPA is continuing to implement that strategy. EPA is working closely with NOAA on the issue of nutrients and risks posed by HABs. This CENR sub-committee is also coordinating the research efforts among Federal agencies to assess the impacts of nutrients and hypoxia in the Gulf of Mexico.

Finally, EPA is initiating collaboration with the USDA, CDC and other Agencies to develop a better understanding of the sources of pathogenic stressors and potential strategies for their control.

Statutory Authorities

Clean Water Act (CWA)

Safe Drinking Water Act (SDWA)

Marine Protection, Research and Sanctuaries Act (MPRSA)

Ocean Dumping Ban Act of 1988

Shore Protection Act of 1988

Clean Vessel Act

Water Resources Development Act (WRDA)

Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987

National Invasive Species Act of 1996

Coastal Wetlands Planning, Protection, and Restoration Act of 1990

North American Wetlands Conservation Act

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

Toxic Substances Control Act (TSCA)

Resource Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Clean Air Act Amendments (CAA)

Pollution Prevention Act (PPA)

Estuaries and Clean Waters Act of 2000

Certain Alaskan Cruise Ship Operations (PL 106-554)

Research

Clean Water Act (CWA)

Safe Drinking Water Act (SDWA)

Marine Protection, Research and Sanctuaries Act (MPRSA)

Ocean Dumping Ban Act of 1988

Shore Protection Act of 1988

Clean Vessel Act

Water Resource Development Act (WRDA)

Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987

National Invasive Species Act of 1996

Coastal Wetlands Planning, Protection, and Restoration Act of 1990

North American Wetlands Conservation Act

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
Toxic Substances Control Act (TSCA)

Endangered Species Act

Environmental Protection Agency

FY 2004 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Reduce Loadings and Air Deposition.

By 2005, reduce pollutant loadings from key point and nonpoint sources by at least 11 percent from 1992 levels. Air deposition of key pollutants will be reduced to 1990 levels.

Resource Summary
(Dollars in Thousands)

	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Reduce Loadings and Air Deposition	**$2,040,199.9**	**$1,630,434.4**	**$1,273,743.2**	**($356,691.2)**
Environmental Program & Management	$152,742.1	$134,461.0	$139,277.0	$4,816.0
Science & Technology	$5,766.0	$5,496.6	$5,966.2	$469.6
State and Tribal Assistance Grants	$1,881,691.8	$1,490,476.8	$1,128,500.0	($361,976.8)
Total Workyears	826.5	866.6	865.2	-1.4

Key Program
(Dollars in Thousands)

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Congressionally Mandated Projects	$241,582.9	$0.0	$0.0	$0.0
Disadvantaged Communities	$4,350.8	$4,481.3	$4,677.3	$196.0
Effluent Guidelines	$22,773.4	$23,010.3	$23,632.4	$622.1
Facilities Infrastructure and Operations	$11,335.7	$11,869.4	$11,267.3	($602.1)
Homeland Security-Critical Infrastructure Protection	$1,500.0	$0.0	$0.0	$0.0

	FY 2002 Enacted	FY 2003 Pres. Bud.	FY 2004 Request	FY 2004 Req. v. FY 2003 Pres Bud
Legal Services	$2,923.1	$3,170.7	$3,280.3	$109.6
Management Services and Stewardship	$5,710.6	$6,192.8	$5,282.3	($910.5)
NPDES Program	$40,991.0	$41,720.8	$44,375.7	$2,654.9
National Nonpoint Source Program Implementation	$16,488.6	$16,908.6	$17,628.0	$719.4
Planning and Resource Management	$0.0	$0.0	$641.2	$641.2
Recreational Water and Wet Weather Flows Research	$5,635.8	$5,496.6	$5,966.2	$469.6
Regional Management	$494.2	$490.7	$951.6	$460.9
State Nonpoint Source Grants	$237,476.8	$238,476.8	$238,500.0	$23.2
Wastewater Management/Tech Innovations	$8,840.1	$9,073.7	$9,485.2	$411.5
Water Infrastructure: Alaska Native Villages	$40,000.0	$40,000.0	$40,000.0	$0.0
Water Infrastructure: Clean Water State Revolving Fund (CW-SRF)	$1,350,000.0	$1,212,000.0	$850,000.0	($362,000.0)
Water Quality Infrastructure Protection	$16,783.7	$17,239.3	$18,055.7	$816.4

FY 2004 Request

NPDES

A key element of the Agency's effort to achieve its overarching goal of clean and safe water is the reduction of pollutant discharges from point sources. Under the National Pollutant Discharge Elimination System (NPDES) program (which includes NPDES permits covering municipal and industrial discharges, urban wet weather, large animal feeding operations, mining, the pretreatment program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls), specific requirements are set for pollutants discharged from point sources into waters of the United States. These requirements are designed to ensure that national technology based standards (effluent limitations and guidelines), which generally require achievable pollutant reductions, and water quality based requirements, which require greater controls in locations where water quality standards would not otherwise be met, are achieved.

In recent years the authorized state NPDES programs have been the object of an increasing number of withdrawal petitions, citizen lawsuits, and independent reviews indicating potential noncompliance with Federal Clean Water Act (CWA) requirements, as well as issues regarding compliance with other Federal authorities (e.g., Endangered Species Act (ESA)). These challenges involve nearly a third of the authorized states. In addition, a substantial number of states are experiencing difficulty with the timely issuance of NPDES permits. The national problem with permit backlogs was labeled a material weakness under Federal Managers' Financial Integrity Act (FMFIA) for the past few years; however, actions taken by EPA and states to address the backlog have resulted in it being reduced to an Agency weakness. Recently completed permit quality reviews (PQRs) have also provided clear indications that the quality of those permits that are being issued is not what it should be to ensure that permits include requirements that result in achievement of water quality standards. Failure to address these problems of timeliness and quality may lead to additional withdrawal petitions or lawsuits against state NPDES programs.

Providing states with continuing financial and technical support is essential to achieving pollutant loadings reductions and the overall goal of clean and safe water. EPA, in partnership with the states, will ensure that facilities required to have permits that are effective and include all conditions needed to ensure water quality protection through reductions in pollutant loadings are covered by current permits. For this purpose the Agency requests an additional $700,000 in FY 2004. These resources, when coupled with additional funds in CWA Section 106 grants, should result in improvements in program performance in areas such as issuance of quality permits and addressing storm water and other expanding wet weather program areas, such as combined sewer overflows/sanitary sewer overflows (CSOs/SSOs). Additional resources will also enable the program to establish baselines for improved program performance and more direct indications of the effect of the program on water quality. The Agency will continue its efforts to promote innovation in the NPDES and pretreatment programs. In addition, the Agency will continue to work with states to provide assistance when needed to the Nation's 13,000 small publicly-owned wastewater treatment plants to help them comply with their permits.

During FY 2004, the Agency will continue implementing the regulations to control storm water from municipalities, industries and construction sources, to have approximately 900 CSO communities covered by NPDES permits and implementing controls based on EPA's CSO policy and to clarify capacity, management, operation and maintenance, and reporting requirements on unauthorized SSOs discharging into United States waters.

The Agency is implementing a multi-year strategy to address how it will minimize environmental and public health impacts from animal feeding operations (AFOs) over the next decade and beyond. EPA is working with states to develop and issue permits for all large concentrated animal feeding operations (CAFOs) and has finalized its update of 25 year old regulations covering CAFO permitting. These permits are issued by EPA and the states. In addition, EPA will work with states and the United States Department of Agriculture (USDA) to assist all AFO facilities in developing comprehensive nutrient management plans.

Technical Assistance

EPA will continue efforts to deliver decision support tools and alternative, less costly wet weather flow control technologies for use by local decision makers involved in community-based watershed management. Wet weather flow discharges can pose significant risk to both human health and downstream ecosystems. Effective watershed management strategies and guidance for wet weather flow dischargers are key priority areas remaining to assure clean water and safe drinking water. To that end, the Agency will again support wet weather-related applications for grants authorized under the CWA Section 104(b) (3) (funded under objective 2) for research, investigations, training, demonstrations and studies aimed at reducing water pollution.

The Agency also provides technical assistance to support community needs. These efforts include dissemination of information on wastewater technologies, enhancement of community awareness of financing programs and assistance with program development activities. These include, with Office of Research and Development (ORD) support, the operation of Environmental Technology Verification Centers to address control technologies for wet weather flows and source water quality protection including decentralized wastewater treatment systems. The agency also provides community technical assistance through our sponsorship and work with the Rural Community Assistance Program and the National Small Flows Clearinghouse. The water efficiency program provides information on the beneficial impacts of municipal water efficiency, and helps communities and our partners (including the lodging industry, office building managers, and educational institutions) become aware of, and reduce, their rates of water use, thereby saving water, conserving energy, and reducing chemical usage.

EPA does not regulate septic, or "onsite decentralized wastewater," systems. However, poorly-sited and maintained systems pose a risk to drinking water wells and surface water, drinking water supplies, home basements, yards, shellfish beds, aquatic life and the supporting ecosystem. Properly managed septic systems are an important part of the Nation's wastewater treatment infrastructure, and the water program is addressing the challenges of effective system management through publication, in calendar year 2003, of voluntary management guidelines that states may adopt and municipalities may implement.

Effluent Guidelines

The Agency will take final action on effluent guidelines for three industrial sectors: (i) meat and poultry products, (ii) construction and development, and (iii) aquatic animal production. These guidelines will then be incorporated into NPDES permits as they are issued or reissued by the NPDES permitting authority. EPA will continue to develop the chemical criteria protective of aquatic life and human health which complement the effluent guidelines used in the NPDES program.

EPA is developing regulations under Section 316(b) of the CWA to ensure that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. These regulations are unique in that they apply to the intake of water and not the discharge. A major goal of this program is to

minimize the impingement and entrainment of fish and other aquatic organisms as they are drawn into a facility's cooling water intake. Impingement occurs when fish and other aquatic life are trapped against cooling water intake screens. Entrainment occurs when aquatic organisms, eggs and larvae are drawn into a cooling system, through the heat exchanger, and then pumped back out. In FY 2004, EPA will continue to make progress to provide this aquatic protection for a group of facilities that employ a cooling water intake structure where flow levels remain a concern for aquatic organisms (referred to as Phase 3 regulations). Phase 3 regulations could control electricity-generating facilities, chemical manufacturing facilities, pulp and paper manufacturing facilities, and petroleum product manufacturing facilities.

Financial Assistance

EPA provides financial assistance through the Clean Water State Revolving Fund (CWSRF) program for the construction of wastewater treatment facilities and implementation of nonpoint source (NPS) and estuarine management plans. For FY 2004, the Agency is requesting $850 million for the CWSRF. In addition, the Administration plans to extend Federal capitalization by providing $850 million per year through 2011. This is a significant increase over the current funding plan. Federal capitalization of the 51 state funds is critical to support point and NPS programs to reduce pollutant discharge levels. The strategic use of SRF funds and the effective and efficient operation of state programs are critical to the success of the national SRF programs.

This continuing investment in the CWSRF is expected to increase the long-term target revolving level of the CWSRF from $2 billion per year to $2.8 billion per year, a 40 percent increase. More than $19 billion has already been provided to capitalize the CWSRF, over twice the original CWA authorized level of $8.4 billion. Total CWSRF funding available for loans since 1987, reflecting loan repayments, state match dollars, and other funding sources, is approximately $42.4 billion, of which more than $38.7 billion has been provided to communities as financial assistance. As of July 2002, $3.7 billion is being readied for loans.

The CWSRF and the Drinking Water State Revolving Fund (DWSRF) are important elements of the Nation’s substantial investment in sewage treatment and drinking water systems, which provides Americans with significant benefits in the form of reduced water pollution and safe drinking water. The SRFs continue to play a key role as communities address their aging infrastructure, and new treatment needs. In a June 2000 study, EPA estimated that without improved wastewater treatment, population growth, by the year 2016, will produce effluent loading similar to those of the mid-1970s. The Agency is committed to fostering a constructive dialogue on the best approaches to assuring that critical water infrastructure is maintained and improved so that Americans can enjoy clean and safe water for many years to come. The Agency will work toward a strategic approach to funding that will maximize health and environmental benefits and support sustainable wastewater infrastructure. In support of this effort, the Agency is continuing to broaden its Clean Watersheds Needs Survey to include more location specific and NPS pollution controls information, and to support the states in making CSO and SSO project funding decisions.

More than 70,000 homes in Indian country have inadequate or nonexistent wastewater treatment. EPA and the Indian Health Service estimate Tribal wastewater infrastructure needs exceed $650 million. To improve public health and water quality in Indian Country, the Agency proposes to increase the CWSRF set-aside for tribes from ½ to 1 ½ percent.

The Agency is requesting a one-year extension of authority provided in the 1996 Safe Drinking Water Act (SDWA) Amendments, which allow states to transfer an amount equal up to 33 percent of their Drinking Water State Revolving Fund (DWSRF) grants to their CWSRF programs, or an equivalent amount from their CWSRF program to their DWSRF program. The transfer provision gives states flexibility to address the most critical demands in either program at a given time. The statutory transfer provision expired September 30, 2002.

The Agency also requests $40 million for wastewater and water infrastructure projects in Alaska Native Villages, provides grant assistance for environmental protection for Alaska Native Villages and Indian tribes, and manages grant assistance for 1,076 water and wastewater projects with total appropriations of more than $3.8 billion through FY 2002.

Nonpoint Source Pollution

According to states, pollution from NPSs remains the single largest cause of water pollution, with agriculture identified as a leading cause of impairment in 48 percent of the river miles surveyed. In order to meet this objective and restore and maintain water quality, significant loading reductions from NPSs must be achieved. Because EPA does not have direct authority to regulate NPS under the CWA, effective state NPS programs, along with consistent coordination among Federal agencies with related polluted responsibilities, are critical to our overall success. EPA will continue to encourage states to provide CWSRF funding for high priority projects that address NPS and estuary issues. As of July 2002, 30 states had invested $1.6 billion in NPS pollution controls through the CWSRF.

To reduce NPS related water quality impacts, EPA has been working with the states to strengthen their NPS management programs. All states have now completed upgrading their management programs and are in the process of implementing these programs. To facilitate this effort, EPA and the Association of State and Interstate Water Pollution Control Agencies (ASIWPCA) will continue the state/EPA NPS management partnership to help states identify and meet their technical and programmatic needs. In particular, EPA and the states will work together to better use the CWA Section 319 framework and funds to develop and implement NPS TMDLs.

The new Farm Bill, with its significantly increased funds to address agricultural sources of NPS pollution, affords EPA and the states an enhanced opportunity to significantly accelerate national efforts to control NPS pollution. EPA and state water quality agencies will work closely and cooperatively with USDA, conservation districts, and others in the agricultural community, to combine our strengths, including encouraging a common watershed planning approach. Using CWA Section 319 dollars, states will focus more of their efforts on providing the monitoring and watershed planning support needed by the agricultural community to target their work most effectively on the highest-priority water quality needs. States will also increasingly focus their

existing efforts on filling gaps remaining in USDA programs, especially demonstrating the effectiveness of promising emerging technologies.

States will use their enhanced watershed planning efforts to ensure that their watershed protection and remediation efforts holistically address all significant pollution sources in the watershed in a comprehensive manner. To do so, states will also increase their focus upon NPS categories and activities that are not funded under the Farm Bill (e.g., urban runoff, forestry, abandoned mines, and a variety of stream and stream bank restoration activities), while continuing to work with the agriculture community to solve problems on a watershed basis. Furthermore, states will continue to use a variety of program tools to foster an ethic of pollution prevention in their NPS watershed programs, such as low impact development techniques, source prevention, and public education, to assure that water quality improvement and protection become a permanent outcome of the program.

Under the Coastal Zone Act Reauthorization Amendments (CZARA) 6217(g) program, Coastal states are engaged in a similar process of completing and implementing their coastal NPS management programs. These programs were conditionally approved by EPA and the National Oceanic and Atmospheric Administration (NOAA) in 1998 and to date ten of 29 states have completed this process. EPA and NOAA are working in partnership with the coastal states to fully approve these programs before the expiration of any conditional approvals occurs. EPA and NOAA support the integration of states' NPS management programs and their coastal NPS management programs.

Tribal participation in the Nonpoint Source Control Program under CWA Section 319(h) has steadily increased. The number of tribes receiving CWA Section 319(h) grants has risen from two in 1991 to seventy in 2002. This number, covering well over two-thirds of Indian Country, is expected to increase gradually as more Federally recognized tribes with significant NPS pollution problems become eligible to participate in the 319(h) program. EPA conducts several Tribal workshops every year with the primary objectives of improving tribes' knowledge of NPS pollution, assessment techniques, program development, and implementation. Due to increasing demand for limited Tribal grant funds, EPA is proposing a one year elimination of the current statutory ceiling on the percentage of CWA Section 319 grant funds that may be awarded to tribes/Tribal consortia for NPS activities.

Air Deposition

The Agency will continue efforts to assess the risks associated with and reduce atmospheric deposition of pollutants, particularly nitrogen and mercury, using both CWA and Clean Air Act authorities. To address air deposition, the Agency has established a cross-media team to plan and implement strategies. As a result, water quality protection is considered in regulatory development under the Clean Air Act, in air research, and in the focus of partnerships with local communities. Air deposition is being addressed Agency-wide as an ecosystem problem with health, environmental, and economic impacts. EPA will continue to encourage greater air deposition monitoring, as well as continue to support state TMDLs and other tools that address impacts to water quality.

Research

Effective watershed management strategies and guidance for wet weather flow (WWF) discharges, improved recreational water quality and better risk communication programs are all necessary to ensure clean and safe water for drinking, recreation, and wildlife habitat. WWF discharges drain from urban and rural non-point sources during and after rainfalls is now one of the primary causes of water pollution. This degradation of water quality poses significant risks to human and ecological health through the uncontrolled release of pathogenic bacteria, protozoans, and viruses, as well as a number of potentially toxic, bioaccumulative contaminants. Storm-generated, high flow rates can exacerbate ecological upsets and can cause significant physical damage to streams. In addition, thousands of beach advisories and closings due to high levels of contaminants are issued at recreational rivers, lakes, and oceans every year throughout the United States. According to the Natural Resources Defense Council's twelfth annual beach report, 13,410 closings and advisories were issued in 2001. As monitoring improves and expands, as required by the Beaches Environmental Assessment and Coastal Health Act of 2000 (the Beaches Act), the number is likely to increase.

Under this research objective, EPA will continue to develop and validate effective strategies for controlling WWFs. EPA will also develop and provide effective evaluation tools necessary to make timely and informed decisions on beach advisories and closures and strengthen beach programs and water quality criteria for recreational water use. In order to provide focus to this research, EPA has developed the Risk Management Research Plan for Wet Weather Flows and the Action Plan for Beaches and Recreational Waters. These plans were subject to rigorous external peer review and address problems that pose the greatest risks to human health and the environment. In addition, the draft Water Quality Multi-Year Plan (MYP) provides a framework for integrating research across laboratories and centers and across GPRA goals. To ensure quality, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

Research on Wet Weather Flows (WWFs) falls into three categories: 1) watershed management for WWFs; 2) control technology for drainage systems; and 3) infrastructure improvement. Implementation of this work is guided by the Risk Management Research Plan for Wet Weather Flows. In FY 2004, research on WWFs will continue to focus on the development of decision support tools to evaluate and verify improved watershed management strategies. A truly holistic watershed management approach will include practical interaction with flood and erosion control, reuse and reclamation techniques, and infrastructure demands, while protecting the watershed environment, including source waters. To minimize the public health risks from swimming and other recreational water activities, research will specifically focus on both developing techniques to reduce WWF impacts and providing data to support the development of scientifically sound criteria for protecting recreational waters. This program is designed to promote "community-based" decisions by developing decision support tools and alternative WWF control technologies and strategies for use by local decision makers involved in community-based watershed management and pollution control.

Beaches research is guided by the "Action Plan for Beaches and Recreational Waters" and in FY 2004 will continue to focus on better understanding the effects of microbial pathogens

on human health. These pathogens present growing human health and environmental concerns. Significant uncertainty exists in determining the level of illness corresponding to the actual exposure (ingestion, inhalation, and skin contact) to contaminated recreational waters. A scientifically-based investigative process to determine potential health risks and eliminate their sources in recreational waters is needed to provide decision makers with the necessary tools for making defensible science-based decisions that ensure public health and safety. This will include evaluating and selecting appropriate indicators of fecal contamination and determining relationships between indicators and risk levels for disease. In FY 2004 several reports are planned which will contribute to improved public health protection. These include a report on fecal indicator monitoring protocols for different types of recreational waters, an evaluation of alternative indicators of recreational water safety for tropical regions, and an evaluation of the risk posed by exposure to pathogens in the swash zones (sand/water interface regions) of recreational beaches.

EPA is also performing a suite of epidemiological studies needed to establish a stronger, more defensible link between water quality indicators and disease. These epidemiological studies will provide reliable information about the relationship between recreational water quality and swimming-associated health effects. This will enable EPA to provide states with more consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health. Local public health officials can use the results of this research to provide the public with "real-time" information on potential exposure to pathogenic microbes and make timely beach closure decisions.

FY 2004 Change from FY 2003 Request

<u>EPM</u>

- (+$2,654,900) This increase in the NPDES program supports permit quality improvements and will allow the program to establish baselines for program performance in areas such as state program audits and permit quality reviews.

- (+460,900, 4.1 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.

- ($922,500, - 2.7 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +$1,417,000, utilities: +$2,374,800, Security: +$3,425,000 and 75 FTE, Human Resources: +$870,400 and +5.4 FTE, Contracts: +$642,400 and -18.5 FTE, Grants: +$3,015,500 and +19.7 FTE)*

STAG

- (-$362,000,000) This reduction taken against the Clean Water State Revolving Fund yields a remaining requested level of $850,000,000 in this request. Continued funding at this level through an extended date of 2011 will increase the long-term annual revolving level by $.8 billion to $2.8 billion

- There are additional increases for payroll and cost of living for new and existing FTE.

GOAL: CLEAN AND SAFE WATER

OBJECTIVE: REDUCE LOADINGS AND AIR DEPOSITION

Annual Performance Goals and Measures

NPDES Permit Requirements

In 2004 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.

In 2003 Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.

In 2002 Current NPDES permits reduced or eliminated discharges into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities; and (2) pollutants from urban storm water, CSOs, and CAFOs.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Major point sources are covered by current permits.	83%	90%	90%	Point Sources
Minor point sources are covered by current permits.	74%	84%	87%	Point Sources
Loading reductions (pounds per year) of toxic, non-conventional, and conventional pollutants from NPDES permitted facilities (POTWs, Industries, SIUs, CAFOs, SW, CSOs).		2,500 million	2,750 million	pounds

Baseline: As of May 1999, 72% of major point sources and 54% of minor point sources were covered by a current NPDES permit. At the end of FY99, 53 of 57 states/territories had current storm water permits for all industrial activities, and 50 of 57 had current permits for construction sites over 5 acres. In June 1999, 74% of approximately 900 CSO communities were covered by permits or other enforceable mechanisms consistent with the 1994 CSO Policy. As of December 1999, approximately 14 states had current NPDES general permits for CAFOs and at least another 13 had issued one or more individual NPDES permits for CAFOs.

Clean Water State Revolving Fund: Annual Assistance

In 2004 900 projects funded by the Clean Water SRF will initiate operations, including 629 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 10,440 projects will have initiated operations since program inception.

In 2003 900 projects funded by the Clean Water SRF will initiate operations, including 515 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 9,540 projects will have initiated operations since program inception.

In 2002 1,100 projects funded by the Clean Water SRF initiated operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 8,642 projects have initiated operations since program inception.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
CW SRF projects that have initiated operations. (cumulative)	8,642	9,540	10,440	SRF projects

Baseline: The Agency's National Information Management System (NIMS) shows, as of July 1998, 39 states/territories were conducting separate annual audits of their SRFs and utilizing fund management principles. NIMS shows, as of June 1998, 25 states were meeting the "pace of the program" measures for loan issuance, pace of construction, and use of repayments. As of September 1998, 8 states were using integrated planning and priority systems to make SFR funding decisions. NIMS shows 3,909 SRF projects initiated as of June 1998.

Wastewater Treatment Facility Compliance

In 2004 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

In 2003 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percent of the population served by, and the number of, large and medium-sized (10,001 and larger) Publicly Owned Treatment Works (POTWs) that have taken action for homeland security preparedness.		65%/5000	75%/8000	%pop/systems

Baseline: Baseline will be established in FY 2003.

Research

Wet Weather Flow Research

In 2004 Provide to states, regions and watershed managers' indicators, monitoring strategies, and guidance for determining the effectiveness of Best Management Practices (BMPs) for wet weather flows in meeting water quality goals.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Report on fecal indicator monitoring protocols for different types of recreational water.			1	report
Provide guidance on indicator selection and monitoring strategies for evaluating the effectiveness of BMPs.			9/30/04	guidance

Baseline: The costs and complexities of meeting water quality goals subject to urban stormwater permits are daunting. The role of Best Management Practices (BMP's) as both an effective and economical means to meet permit requirements remains the central regulatory and non-regulatory approach for restoring much of the Nation's degraded water quality in urban environments. The scientific literature and reviews of current design and monitoring practices show that the effectiveness of BMPs is highly variable, is often defined and reported differently, and that monitoring rarely documents biological water quality improvements. Efforts are needed to better monitor and characterize the performance of BMPs by detailed analysis of the physical, chemical and biological processes common to many diverse BMPs. Based on on-going research in this area, in FY 2004, EPA will provide comprehensive guidance for application of stormwater BMPs in highly variable urban watersheds across the U.S. This guidance will provide states, regions and watershed managers a means for determining the effectiveness of BMPs in meeting water quality goals.

Program Assessment Rating Tool

Nonpoint Source Grants

As part of the Administration's overall evaluation of effectiveness of Government programs, the Nonpoint Source Grants program was evaluated with the following specific findings:

1. The program purpose is clear and agreed upon by interested parties.

2. The program has not collected sufficient performance information to determine whether it has had a significant effect on pollution.
3. The program's greatest weaknesses are strategic planning and a lack of measurable program results. Consequently, the program lacks adequate long-term, annual, and efficiency measures. Existing annual measures, such as "Number of states reporting on progress in implementing nonpoint source programs" do not provide useful, results-based performance information. The program's previous long-term goal has been met, and the agency has not yet developed a new one.

4. The program is in the process of developing new performance measures that focus on outcomes and efficiency.

5. EPA has made significant improvements to program management over the past several years, which will assist in their efforts to develop new performance measures. For example, in 2002 EPA implemented a new grants tracking system with additional reporting requirements. Through this new system, EPA will be able to see the estimated reductions in sediment and nutrient loads associated with each project implementation, as well as project geolocation.

6. The program overlaps with others in rural areas, such as the Department of Agriculture's Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

In response to these findings, and to reduce overlap with similar Department of Agriculture programs that received significant funding increases in the Farm Bill (EQIP goes from $200 million in 2002 to $800 million in 2004), the Budget proposes to:

1. Shift the program's focus in agricultural watersheds from implementation of pollution reduction projects to planning, monitoring and assisting in the coordination and implementation of watershed-based plans in impaired and threatened waters.

2. Establish more outcome-focused measures and at least one efficiency measure.

Verification and Validation of Performance Measures

FY 2004 Performance Measure: Major Point sources are covered by current permits; Minor Point Sources are covered by current permits.

Performance Database: United States EPA. Permit Compliance System. [database]. (2002). Washington, D.C. [Office of Enforcement and Compliance Assurance].

The Permits Compliance System (PCS) will be used to determine which individual permits have not exceeded their expiration dates through fields for permit issuance and expiration dates. EPA has carried out detailed permit renewal backlog tracking with PCS data since November 1998. To better capture the universe of facilities covered under the NPDES program, beginning in fiscal year 2003, EPA will also include facilities covered under non-storm water general permits in its permit renewal backlog calculations. This change will add 64,000 facilities to the universe

from which the permit renewal backlog is calculated. Data for these facilities will be obtained from the Permit Issuance Forecasting Tool (PIFT). The PIFT has been used to track non-storm water general permit facilities since January 2001.

Data Source: EPA's regional offices and states enter data into PCS and PIFT.
Methods, Assumptions and Suitability: For individual permits, reports are generated from PCS that use permit issuance and expiration dates to aggregate, across each state, the number of major and minor permits which have not exceeded expiration dates. These data measure the number of current permits compared with the universe of individual permits. The PIFT provides the number of facilities covered by current non-storm water general permits which are not tracked in PCS. Together the PCS and PIFT data are intended to measure NPDES program coverage of facilities with up-to-date permit requirements. Data are not available at the national level on facilities covered by storm water general permits. The data are suitable for year-to-year comparisons of officially tracked permit status.

QA/QC Procedures: EPA Headquarters (HQ) reviews data submitted by states as part of the QA/QC process. The Office of Water (OW) has generated state-by-state reports, listing what appears in PCS for key data fields for facilities and discharge pipes (name, address, Standard Industrial Classification (SIC) code, latitude/longitude, Hydrologic Unit Code (HUC), reach, flow, issuance date, expiration date, application received date, effective date, etc.). These reports were distributed in January 2001 to state and regional PCS, NPDES, and Geographic Information Systems (GIS) coordinators to allow states to "see what EPA sees" when it views PCS data. These reports are available on a password protected web site maintained by an EPA contractor. In addition to actual data elements listed above, the site includes summary reports of missing and available data nationally and for every state. (United States EPA (2002). Permit Compliance System Reports. Washington, D.C.: Office of Wastewater Management. Available on the Internet [with password]: http://clients.limno.com/protected/pcscleanup

Where discrepancies exist between state and PCS data, OW is identifying such discrepancies and making corrections in PCS, where necessary. Additionally, many states have been collecting and verifying NPDES data on their own, but maintain these data in separate state-level systems (electronic and hard copy). EPA plans to populate fields in PCS that are currently blank with existing state-level data provided by states. Regions enter data into the PIFT, an Access data base maintained by the Water Permits Division, on facilities covered by non-storm water general permits. The PCS database is managed by the Office of Enforcement and Compliance. The Office of Water's Quality Management Plan was approved on September 28, 2001.

Data Quality Review: Office of Inspector General (OIG) audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. For the year 2002, PCS has been listed as an Agency-Level Weakness under the Federal Managers Financial Integrity Act. This weakness affects EPA's ability to obtain a true picture of the status of the NPDES program. OW is categorizing the form in which the data exist at the state level (e.g. whether in PCS, in a separate state database, or in paper copy only). As EPA creates a picture of national PCS data availability, staff is working with individual states and EPA's regional offices to tailor approaches to getting key data into PCS. OW is offering ongoing data upload, data entry, and, if necessary, data compilation support to states.

EPA is working to modernize PCS, to provide a system that is easier to use and maintain, as well as one that incorporates new, and evolving, NPDES program requirements. The modernization effort will:

1. provide a system which is available on the desktop via a web browser;

2. provide a powerful and easy to use, reporting and query capability;

3. provide NPDES Permit Writer Tool capability directly linked to the PCS database;

4. support new and enhanced NPDES programs such as Storm Water, Concentrated Animal Feeding Operations (CAFOs), Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs), Pretreatment, and Biosolids;

5. take advantage of new technologies making integration with other EPA systems a standard way of doing business, rather than requiring special programming;

6. address new EPA initiatives such as tracking reduced pollutant loadings, burden reduction through electronic reporting, and geo-spatial analysis in individual watersheds; and

7. offer new, and enhanced, alternatives for states to transmit data to PCS, such as the Interim Data Exchange Format (IDEF), via EPA's Central Data Exchange (CDX) and the National Environmental Information Exchange Network.

Data Limitations: There are significant data gaps for minor facilities and discrepancies between state databases and PCS. Some states have established their own data systems and have not transferred their data to EPA. The program emphasis has traditionally been on tracking major permits, so many states and EPA regional offices did not enter data for minor permits into PCS.

Error Estimate: We believe that the permit renewal backlog data for major facilities is accurate within 2 percent based on input from EPA's regional offices and states through a quarterly independent verification. For minor facilities, however, the confidence interval is much less precise and probably overestimates the permit renewal backlog for minor facilities by 5 percent based on anecdotal information from EPA's regional offices and states.

New/Improved Data or Systems: EPA headquarters is providing contractor assistance to improve the data quality of PCS. By 2004, PCS is scheduled to be modernized to make it easier to use and to ensure that it includes all needed data to manage the National Pollutant Discharge Elimination System Permit program. EPA is also looking at refining the backlog measure by tracking permits that are issued based on changed situations, e.g., new water quality requirements or effluent guidelines or changes in the facility's discharge.

References:

Region 10's National Pollutant Discharge Elimination System Permit Program - March 13, 1998 (8100076)

Kansas National Pollutant Discharge Elimination System Program - March 31, 1998 (8100089)

PCS information is publicly available at: http://www.epa.gov/compliance/planning/data/water/pcssys.html

FY 2004 Performance Measure: Loading reductions (pounds per year) of toxic and non-conventional, and conventional pollutants from NPDES permitted facilities Publicly Owned Treatment Works (POTWs), Industries, Significant Industrial Users (SIUs), Concentrated Animal Feeding Operations (CAFOs), Storm Water (SW), Combined Sewer Overflows (CSOs)).

Performance Database: This measure is calculated using a spreadsheet[1] that draws from several data sources. An average "per facility" loadings value is assigned to each permitted effluent discharger according to the industrial sector of the facility. Each EPA regional office reports the actual number of permits issued in the past year for each industrial sector, typically drawn from EPA's Permit Compliance System. Using both the average per facility value and the number of permits issued, the spreadsheet then generates the values for the total pollutants reduced. For other sources, such as POTWs, CSOs, and Storm Water, that are not included in the calculation as of calendar year 2002, new sector specific modeling is being developed in order to more fully characterize the pollutant loading reductions resulting from the entire NPDES program. In 2003, we are adding an estimate for CSOs using a model that draws information from the Clean Water Needs Survey[1]. We are also developing a model[1] to estimate pollutant reductions from POTWs, both with and without pretreatment programs. We expect that model to draw information from Discharge Monitoring Reports (DMRs) contained in PCS, as well as the annual reports from POTWs to EPA and States. In the future, we also expect to develop a model to estimate pollutant reductions from storm water.

Data Sources: For direct dischargers subject to effluent guidelines, the average per facility value for pollutant reduction is derived from the Technical Development Documents (TDDs) produced at the time of the effluent guideline (ELG) rulemaking. TDDs are available for: Pulp & Paper, Pharmaceuticals, Landfills, Industrial Waste Combustors, Centralized Waste Treatment, Transportation Equipment Cleaning, Pesticide Manufacturing, Offshore Oil & Gas, Coastal Oil & Gas, Synthetic Based Drilling Fluid, and Concentrated Animal Feeding Operations. States and EPA's regional offices enter data into PCS and the Clean Water Needs Survey.

Methods, Assumptions and Suitability: EPA plans to use the data described above to feed into models that are being developed to determine loadings. The data will be aggregated across different types of point sources to determine loading reductions at the national level. Loadings appear to be the best surrogate for determining the environmental impacts of the various point sources.

QA/QC Procedures: EPA reviews critical data submitted by states. EPA has a project underway to work with states to improve the data in PCS (See earlier narrative for "Major/Minor

Point Sources Covered by Current Permits.") Load reductions are estimated by modeling the various categories of sources. Actual data will be used to calibrate and verify the models, used in accordance with the Office of Water's Quality Management Plan, approved September 28, 2001. The PCS database is managed by the Office of Enforcement and Compliance, which provides system-specific user manuals.

Data Quality Reviews: Office of Inspector General (OIG) audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. As of mid-year 2002, PCS is listed as an Agency-Level Weakness under the Federal Managers Financial Integrity Act. This weakness affects EPA's ability to obtain a true picture of the status of the NPDES program. OW is categorizing the form in which the data exist at the state level (e.g. whether in PCS, in a separate state database, or in paper copy only). As EPA creates a picture of national PCS data availability, staff is working with individual states and EPA's regional offices to tailor approaches to getting key data into PCS. OW is offering data upload, data entry, and, if necessary, data compilation support to states and anticipates completion of the project by the end of calendar year 2002.

EPA is working to modernize PCS, to provide a system that is easier to use and maintain as well as one that incorporates new, and evolving, NPDES program requirements. The modernization effort will:

1. provide a system which is available on the desktop via a web browser;

2. provide a powerful and easy to use, reporting and query capability;

3. provide NPDES Permit Writer Tool capability directly linked to the PCS database;

4. support new and enhanced NPDES programs such as Storm Water, Concentrated Animal Feeding Operations (CAFOs), Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs), Pretreatment, and Biosolids;

5. take advantage of new technologies making integration with other EPA systems a standard way of doing business, rather than requiring special programming;

6. address new EPA initiatives such as tracking reduced pollutant loadings, burden reduction through electronic reporting, and geo-spatial analysis in individual watersheds; and
7. offer new, and enhanced, alternatives for states to transmit data to PCS, such as the Interim Data Exchange Format (IDEF), via EPA's Central Data Exchange (CDX) and the National Environmental Information Exchange Network.

Data Limitations: There are significant data gaps in PCS, including reliability issues for minor facilities, general permits, and specific categories of dischargers, such as CAFOs. Additionally, neither monitoring nor flow data are required for certain categories of general permits. The Agency, therefore, is not able to provide sufficient information to measure loadings reductions for all of the approximately 550,000 facilities that fall under the NPDES program, also making it

difficult to assess changes in water quality. The effluent guidelines loadings are estimates based the number of permits issued across an industrial sector.

Error Estimate: Because this is a new modeling exercise, it is not yet possible to estimate the error in determining projected loadings.

New/Improved Data or Systems: EPA Headquarters is providing contractor assistance to improve the data quality in PCS. By 2004, PCS is scheduled to be modernized to make it easier to use. As the modernized system is being developed, additional efforts are underway to bolster comprehensive data collection to ensure that the modernized system includes data needed to manage the National Pollutant Discharge Elimination System program.

References:

Effluent guidelines development documents are available at:
http://www.epa.gov/waterscience/guide and at http://www.epa.gov/water/soft.html

Modeling databases and software being used by the Office of Water are available at: http://www.epa.gov/water/soft.html

FY 2004 Performance Measure: Clean Water State Revolving Fund (CWSRF) projects that have initiated operations.

Performance Database: Clean Water State Revolving Fund National Information Management System (NIMS.)

Data Sources:

1. Reporting by municipal and other facility operators.

2. Entry by state regulatory agency personnel and by EPA's regional staff.

3. Collecting and reporting once yearly.

Methods, Assumptions and Suitability: Data entered into NIMS directly represent the units of performance for the performance measure. These data are suitable for year-to-year comparison and trend indication.

QA/QC Procedures: EPA's headquarters and regional offices are responsible for compiling the data and querying states as needed to assure data validity and conformance with expected trends. States receive data entry guidance from EPA headquarters in the form of annual memoranda: "Request for Annual Update of Data for the Clean Water State Revolving Fund National Information Management System, July 1, 200X through June 30, 200X."

Data Quality Reviews: EPA's headquarters and regional offices annually review the data submitted by the states. These state data are publicly available at

http://www.epa.gov/r5water/cwsrf/index.htm# in individual state reports. Headquarters addresses significant data variability issues directly with states, or through the appropriate EPA regional office. An annual EPA headquarters' "NIMS Analysis" provides detailed data categorization and comparison. This analysis is used during:

1. Annual EPA regional office and state reviews to identify potential problems with the program's pace which might affect the performance measure.

2. Biennial reviews by EPA's headquarters of regional oversight of state revolving funds.

3. Annual reviews by EPA's regional offices of their states' revolving funds operations.

State data quality is also evaluated during annual audits performed by independent auditors or by the appropriate regional office of the EPA Inspector General. These audits are incorporated into EPA headquarters' financial management system.

Data Limitations: There are no known limitations in the performance data, which states submit voluntarily. Erroneous data can be introduced into the NIMS database by typographic or definitional error. Typographic errors are controlled and corrected through data testing performed by EPA's contractor. Definitional errors due to varying interpretations of information requested for specific data fields have been virtually eliminated in the past two years as a result of EPA headquarters' clarification of definitions. These definitions are publicly available at: http://www.epa.gov/r5water/cwsrf/pdf/nimsdef.pdf. There is typically a lag of approximately two months from the date EPA asks states to enter their data into the NIMS database, and when the data are quality-checked and available for public use.

Error Estimate: Due to the rapid growth of this program, past estimates of annual performance (relative to a target), compared to actual performance data received two years later, have been accurate to an average of approximately 12 percentage points.

New/Improved Data or Systems: This system has been operative since 1996. It is updated annually, and data fields are changed or added as needed.

References:

State performance data as shown in NIMS are available by state at:
http://www.epa.gov/r5water/cwsrf.

Definitions of data requested for each data field in NIMS is available at:
http://www.epa.gov/r5water/cwsrf/pdf/nimsdef.pdf

The Office of Water Quality Management Plan, July 2001 (approved September 28, 2001) addresses the quality of data in NIMS. Not publicly available.

The "National CWSRF & DWSRF Audit Strategy," August 2002, addresses the accuracy of state data, among other things. Not publicly available

The annual "NIMS Analysis" provides information used to support the performance measure. Not publicly available.

FY 2004 Performance Measure: Provide guidance on indicator selection and monitoring strategies for evaluating the effectiveness of BMPs.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews : Guidance

Data Limitations : N/A

Error Estimate : N/A

New/Improved Data or Systems : N/A

References: N/A

FY 2004 Performance Measure: Report on fecal indicator monitoring protocols for different types of recreational water.

Performance Database: Program output; no internal tracking system

Data Source: N/A

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: N/A

Data Quality Reviews : Report

Data Limitations : N/A

Error Estimate : N/A

New/Improved Data or Systems : N/A

References: N/A

Coordination with Other Agencies

National Pollutant Discharge Elimination System Program (NPDES)

Since inception of the NPDES program under Section 402 of the CWA, EPA and the authorized states have developed expanded relationships with various Federal agencies to implement pollution controls for point sources. EPA works closely with the Fish and Wildlife Service and the National Marine Fisheries Service on consultation for protection of endangered species through a Memorandum of Agreement. EPA works with the Advisory Council on Historic Preservation on National Historic Preservation Act implementation. EPA and the states rely on monitoring data from the United States Geological Survey (USGS) to help confirm pollution control decisions. The Agency also works closely with the Small Business Administration and the Office of Management and Budget to ensure that regulatory programs are fair and reasonable. The Agency coordinates with the National Oceanic and Atmospheric Administration (NOAA) on efforts to ensure that NPDES programs support coastal and national estuary efforts; and with the Department of Interior on mining issues.

Joint Strategy for Animal Feeding Operations

The Agency is working closely with the USDA to implement the Unified National Strategy for Animal Feeding Operations finalized on March 9, 1999. The Strategy sets forth a framework of actions that USDA and EPA will take to minimize water quality and public health impacts from improperly managed animal wastes in a manner designed to preserve and enhance the long-term sustainability of livestock production. EPA's recent revisions to the CAFO Regulations (effluent guidelines and NPDES permit regulations) will be a key element of EPA and USDA's plan to address water pollution from CAFOs. EPA and USDA senior management meet routinely to ensure effective coordination across the two agencies.

Clean Water State Revolving Fund (CWSRF)

Representatives from EPA's SRF program, Housing and Urban Development's (HUD's) Community Development Block Grant program, and USDA's Rural Utility Service have signed a Memorandum of Understanding committing to assisting state or Federal implementers in: (1) coordination of the funding cycles of the three Federal agencies; (2) consolidation of plans of action (operating plans, intended use plans, strategic plans, etc.); and (3) preparation of one environmental review document, when possible, to satisfy the requirements of all participating Federal agencies. A coordination group at the Federal level has been formed to further these efforts and maintain lines of communication. In many states, coordination committees have been established with representatives from the three programs.

Clean Water SRF Indian Set Aside - Indian Health Service and Rural Utilities Service

In implementation of the Indian set-aside grant program under Title VI of the CWA, EPA works closely with the Indian Health Service to administer grant funds to the various Indian tribes, including determination of the priority ranking system for the various wastewater needs in Indian Country.

In 1998, EPA and the Rural Utilities Service of the USDA formalized a partnership between the two agencies to provide coordinated financial and technical assistance to Indian tribes.

Construction Grants Program--US Army Corps of Engineers

Throughout the history of the construction grants program under Title II of the CWA, EPA and the delegated states have made broad use of the construction expertise of the Corps of Engineers to provide varied assistance in construction oversight and administrative matters. EPA works with the Corps to provide oversight for construction of the special projects that Congress has designated. The mechanism for this expertise has been and continues to be an Interagency Agreement between the two agencies.

Nonpoint Sources

EPA will continue to work closely with its Federal partners to achieve the ambitious strategic objective of reducing pollutant discharges, including at least 20 percent from 1992 erosion levels. Most significantly, EPA will continue to work with the USDA, which has a key role in reducing sediment loadings through its continued implementation of the Environmental Quality Incentives Program, Conservation Reserve Program, and other conservation programs. USDA also plays a major role in reducing nutrient discharges through these same programs and through activities related to the AFO Strategy. EPA will also continue to work closely with the Forest Service and Bureau of Land Management, whose programs can contribute significantly to reduced pollutant loadings of sediment, especially on the vast public lands that comprise 29 percent of all land in the United States. EPA will work with these agencies, USGS, and the states to document improvements in land management and water quality.

EPA will also work with other Federal agencies to advance a watershed approach to Federal land and resource management to help ensure that Federal land management agencies serve as a model for water quality stewardship in the prevention of water pollution and the restoration of degraded water resources. Implementation of a watershed approach will require coordination among Federal agencies at a watershed scale and collaboration with states, tribes and other interested stakeholders.

Air Deposition

EPA is working with NOAA, as well as with state air and water programs and National Estuary Programs where the impacts of air deposition are of concern. EPA plans to continue to work with other Federal agencies such as USGS to address atmospheric deposition problems.

Research

Implementation of EPA's WWF work is guided by the "Risk Management Research Plan for Wet Weather Flows." This research plan was peer-reviewed by the Urban Water Resources Research Council of the American Society of Civil Engineers (ASCE) and the Water Environment Research Foundation of the Water Environment Federation. Projects under the

WWF research plan are being coordinated with projects under Section 104(b) (3) of the Clean Water Act (CWA). This plan is also being used to coordinate relevant work being conducted by others such as the Water Environment Research Foundation's Wet Weather Advisory Panel, the ASCE Urban Water Resources Research Council, the United States Department of Agriculture, the United States Centers for Disease Control and Prevention (CDC), the Army Corps of Engineers (USACE), the United States Geological Survey (USGS), the Sanitary Sewer Overflow (SSO) Advisory Committee and Urban WWF Subcommittee, and other national and international organizations that work to improve coordination and minimize duplication of WWF research.

EPA is partnering with numerous other Federal and state agencies on WWF research projects. For example, the Agency signed a three-year interagency agreement (IAG) with USACE at the Waterways Experiment Station (WES) in Vicksburg, Mississippi, to develop a numerical watershed model that will predict change in stream channels from land use change. Both organizations have an inherent interest in developing the tools to predict such geomorphologic changes. Land use changes alter storm water runoff patterns, which upset the established equilibrium between the flow, shape, and course of the streambed (stream geomorphology). Under this IAG the USACE will modify an existing river model to account for erosion in small streams.

Also, EPA is pursuing collaborative research projects with the USGS to utilize water quality data from urban areas obtained through their National Ambient Water Quality Assessment (NAWQA) program. The USGS data for urban streams show levels of pesticides that are even higher than in many agricultural area streams. These data have potential uses for identifying sources of urban pesticides. EPA will evaluate how the USGS data could be integrated into the GIS database system.

Statutory Authorities

Clean Water Act

Clean Air Act

Coastal Zone Act Reauthorization Amendments of 1990

Safe Drinking Water Act

Toxic Substances Control Act

Wet Weather Water Quality Act of 2000

Marine Protection, Research and Sanctuaries Act

Water Resources Development Act (WRDA)

Certain Alaskan Cruise Ship Operations (PL 106-554)

Research

Clean Water Act

Clean Air Act

Coastal Zone Act Reauthorization Amendments of 1990

Safe Drinking Water Act

Toxic Substances Control Act