

Environmental Protection Agency

FY 2002 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 public health, enhance water quality, reduce flooding, and provide habitat for wildlife.

Resource Summary

(Dollars in thousands)

		FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Goal 02	Clean and Safe Water	\$3,426,134.3	\$3,625,054.8	\$3,675,947.8	\$3,213,402.5
Obj. 01	Safe Drinking Water, Fish and Recreational Waters	\$1,089,314.2	\$1,228,123.8	\$1,223,716.1	\$1,096,096.6
Obj. 02	Protect Watersheds and Aquatic Communities	\$355,463.0	\$377,216.8	\$457,289.8	\$406,121.4
Obj. 03	Reduce Loadings and Air Deposition	\$1,981,357.1	\$2,019,714.2	\$1,994,941.9	\$1,711,184.5
	Total Workyears	2,627.1	2,391.7	2,715.0	2,694.1

*For proper comparison with the FY 2002 request, the historic data has been converted to be consistent with the new 2000 Strategic Plan structure. Goal and Objective resources for FY 1999, FY 2000, and FY 2001 may therefore differ from the resources reported in the FY 2001 Annual Plan and Budget and the FY 2000 Annual Report.

Background and Context

Safe and clean water is needed for drinking, recreation, fishing, maintaining ecosystem integrity, and commercial uses such as agricultural and industrial production. Our health, economy, and quality of life depend on reliable sources of clean and safe water. Waterfowl, fish, and other aquatic life that live in and on the water, as well as plants, animals, and other life forms in terrestrial ecosystems are dependent on clean water.

Contaminated water can cause illness and even death. Furthermore, exposure to contaminated drinking water poses a special risk to such populations as children, the elderly, and people with compromised immune systems. In 1994, 17 percent of those served by community water systems were supplied drinking water that violated health standards at least once during the year. EPA efforts in subsequent years are targeted to reducing this percentage.

While the Nation has made considerable progress over the past 25 years, serious water pollution problems remain. The 1998 National Water Quality Inventory Report to Congress indicates that 12 percent of assessed rivers and streams and 41 percent of assessed lake acres are not safe for fish consumption; 24 percent of assessed rivers and streams and 20 percent of lake acres are not safe for recreational activities (e.g, swimming); and 9 percent of assessed rivers and streams and 14 percent of lake acres are not meeting drinking water uses. Many of the remaining challenges require a different approach to environmental protection because they are not amenable to traditional end-of-pipe pollution controls. These problems derive from the activities of people in general. The challenge for EPA is to encourage people to consider how their day-to-day decisions can affect the quality of their rivers, streams, lakes, wetlands, and estuaries.

Means and Strategy

To achieve the nation's clean and safe water goals, EPA will operate under the overarching watershed approach in carrying out its statutory authorities under both the Safe Drinking Water Act Amendments (SDWA) of 1996 and the Clean Water Act (CWA). Protecting watersheds involves participation by a wide variety of stakeholders, a comprehensive assessment of the condition of the watershed, and implementation of solutions based on the assessment of conditions and stakeholder input. Full involvement of stakeholders at all levels of government, the regulated community, and the public is fundamental to the watershed approach. The watershed approach helps EPA, its Federal partners, states, tribes, local governments, and other stakeholders to implement tailored solutions and maximize the benefits gained from the use of increasingly scarce resources.

EPA will continue to implement the SDWA Amendments of 1996 that chart a new and challenging course for EPA, states, tribes, and water suppliers. The central provisions of the Amendments include 1) improving the way that EPA sets drinking water safety standards and develops regulations that are based on good science and data, prioritization of effort, sound risk assessment, and effective risk management; 2) establishing new prevention approaches, including provisions for operator certification, capacity development, and source water protection; 3) providing better information to consumers, including consumer confidence reports; and 4) capitalizing and managing the Drinking Water State Revolving Fund (DWSRF) program to assist public water systems in meeting drinking water standards.

EPA has increased efforts to provide states and tribes tools and information to assist them in protecting their residents from health risks associated with contaminated recreational waters and noncommercially-caught fish. These tools will help reduce health risks, including risks to sensitive populations such as children and subsistence and recreational anglers. EPA activities include development of criteria, enhanced fish tissue monitoring, risk assessment, and development of fish and shellfish consumption advisories. For beaches, EPA's three-part 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. These efforts were strengthened by passage of the Beaches Environmental Assessment

and Coastal Health (BEACH) Act of 2000 and its emphasis on development of strong monitoring and notification programs.

Key to the watershed approach is continuation of EPA-developed scientifically-based water quality standards and criteria under the CWA. Where water quality standards are not being met, EPA will work with states and tribes to improve implementation of Total Maximum Daily Load (TMDL) programs that establish the analytical basis for watershed-based decisions on needed pollution reductions. 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 streamline the National Pollutant Discharge Elimination System (NPDES) permit program to achieve progress toward attainment of water quality standards and support implementation of TMDLs in impaired water bodies. The Agency will continue to work on reducing the NPDES permit backlog, in partnership with states, by targeting permitting activities toward those facilities posing the greatest risk to the environment. In addition, the Agency will continue to expand its training and electronic information activities to improve the efficiency and effectiveness of the NPDES program. These strategies and activities are particularly important as the NPDES program faces significant new demands with the implementation of the phase II storm water rule, and increased focus on concentrated animal feeding operations (CAFOs), combined sewer overflows (CSOs), and sanitary sewer overflows (SSOs).

The CWSRF is a significant financial tool for achieving clean and safe water and for helping to meet the significant needs for wastewater infrastructure over the next 20 years. This budget request includes \$850 million for the CWSRF. This investment keeps EPA on track with our commitment to meet the goal for the CWSRF to provide \$2 billion average in annual financial assistance over the long-term even after Federal assistance ends. Total SRF funds available for loans since 1987, reflecting loan repayments, state match dollars, and other sources of funding, are approximately \$34 billion, of which \$30 billion has been provided to communities as financial assistance. As of June 2000, \$3.4 billion remained available for loans. For FY 2002, the Agency requests that state flexibility to address their most critical demands be continued by extending their authority for limited funds transfers between the CWSRF and DWSRF.

Core NPDES programs face significant new demands as the Agency continues to emphasize control of wet weather sources of pollution, particularly from CSOs and SSOs, to reduce water quality impairments and achieve designated uses. For FY 2002, the Agency is requesting \$450 million for a new state sewer overflow control grant program to address CSOs and SSOs as authorized by the Consolidated Appropriations Act of 2000. Municipal point sources, including sewer overflows, result in thousands of discharges of raw sewage each year and are a leading source of water quality impairment generally.

EPA is assisting states and tribes to characterize risks, rank priorities, and implement a mix of voluntary and regulatory approaches through improved state nonpoint source (NPS) management programs. Working with EPA, states and tribes are strengthening their NPS to ensure that needed nonpoint source controls are implemented to achieve and maintain beneficial uses of water. States will continue to implement coastal NPS approved by EPA and the National Oceanic and Atmospheric

Administration under the Coastal Zone Act Reauthorization Amendments, and to work with the U.S. Department of Agriculture to promote implementation of Farm Bill programs consistent with state nonpoint source management needs and priorities. EPA will also provide tools to states to assess and strengthen controls on air deposition sources of nitrogen, mercury, and other toxics.

With respect to wetlands, EPA will work with Federal, state, tribal, local, and private sector partners on protection and community-based restoration of wetlands, and with its Federal partners to avoid, minimize, and compensate for wetland losses through the CWA Section 404 and Farm Bill programs.

The dramatic progress made in improving the quality of wastewater treatment since the 1970s is a national success. In 1972, only 84 million people were served by secondary or advanced wastewater treatment facilities. Today 99 percent of community wastewater treatment plants, serving 181 million people, use secondary treatment or better.

EPA will work with states, tribes, municipalities, and the regulated community to ensure that the Phase II rules for the stormwater program are implemented to solve problems caused by sediment and other pollutants in our waters. EPA will also establish criteria for nutrients (i.e., nitrogen and phosphorus) so that more states can develop water quality standards that protect waters from harmful algal blooms such as *parabotrydium*, dead zones, and fish kills, which develop as a result of an excess of these nutrients. EPA will work with states to fund priority watershed projects through the CWSRF to reduce nonpoint and estuary pollution. The Agency will also work to reduce pollution from failing septic systems.

Research

EPA's research efforts will continue to strengthen the scientific basis for drinking water standards through the use of improved methods and new data to better evaluate the risks associated with exposure to chemical and microbial contaminants in drinking water. To support the Safe Drinking Water Act (SDWA) and its 1996 Amendments, the Agency's drinking water research will develop dose-response information on disinfection by-products (DBPs), waterborne pathogens, arsenic and other drinking water contaminants for characterization of potential health risks from consuming tap water, with a focus on filling key data gaps and developing analytical detection methods for measuring the occurrence of chemicals and microbial contaminants on the Contaminant Candidate List (CCL). The Agency will develop and evaluate cost-effective treatment technologies for removing pathogens from water supplies while minimizing DBP formation, and for maintaining the quality of treated water in the distribution system and preventing the intrusion of microbial contamination. By reducing uncertainties and improving methods associated with the assessment and control of risks posed by exposure to microbial contaminants in drinking water, EPA is providing the scientific basis necessary to protect human health and ensure that by 2005, 95 percent of the

population served by community water systems will receive water that meets health-based drinking water standards.

The research to support the development of ecological criteria includes understanding the structure and function and characteristics of aquatic systems, and evaluating exposures and effects of stressors on those systems. Research to develop biological and landscape indicators of ecosystem condition, sources of impairment, and stressor response/fate and transport models are being developed to improve risk assessment methods to develop aquatic life, sediment, habitat, and wildlife criteria, and risk management strategies. 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. This research will facilitate the assessment of ecological health of the nation's waters, providing water resource managers with a tool for determining whether their aquatic resources support healthy aquatic communities. The Agency also will develop cost-effective technologies for managing suspended solids and sediments with an emphasis on identifying innovative in situ solutions.

EPA will continue to develop diagnostic tools to evaluate human and ecological exposures to toxic constituents of wet weather flows (combined-sewer overflows (CSOs), sanitary-sewer overflows (SSOs) and stormwater). 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, especially when they are and toxic. These strategies and tools include: (1) new and improved indicator methods to describe the toxic inputs to watersheds from WWFs; (2) methods to use condition and diagnostic ecological indicators to evaluate wet weather flow management strategies in preventing degradation of water and sediments quality by contaminated runoff; (3) methods for diagnosing multiple stressors in watershed ecosystems; (4) evaluation of low cost watershed best management practices to evaluate risks associated with various control technologies for wet weather flows. This research will also develop effective beach evaluation tools necessary to make timely and informed decisions on beach advisories and closures.

Strategic Objectives and FY2002 Annual Performance Goals

Objective 01: Ensure Safe Drinking Water and Recreational Waters

- C Reduce exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.
- C Produce 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.

- C 91 percent 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.
- C 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in 1998.

Objective 02: Protect Watersheds and Aquatic Communities

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

Objective 03: Reduce Loadings and Air Deposition

- C Industrial discharges of pollutants to the nation's waters will be significantly reduced through implementation of effluent guidelines.
- C Current NPDES permits reduce or eliminate 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.
- C 700 projects funded by the Clean Water SRF will initiate operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 7,900 projects will have initiated operations since program inception.

Highlights

So that all Americans have water that is safe to drink, EPA will work to ensure that 91 percent of the population will continue to receive drinking water from systems meeting all health-based standards in effect as of 1994. The Agency will continue to work with the states in implementing rules required by the 1996 amendments to the SDWA to control for microbial contaminants especially *Cryptosporidium*,

disinfectants and their byproducts, arsenic, radon, radionuclides, and other contaminants. By the end of FY 2002, EPA will have promulgated or proposed regulations on all the contaminants specifically identified in the 1996 SDWA amendments. Consequently, primary attention in FY 2002 will be focused on setting standards or issuing guidance/health advisories for any of the up to five unregulated microbes and chemicals that have been determined through the FY 2001 Contaminant Candidate List (CCL) process to warrant regulation. The CCL process, a new provision in the 1996 SDWA amendments, makes risk prioritization the dominant factor in selecting contaminants to regulate. EPA, in partnership with the states, water systems, environmental and public health groups, the scientific community, and the public, must use three criteria to determine whether or not to regulate a contaminant, i.e., 1) the contaminant adversely affects human health; 2) it is known or substantially likely to occur in public water systems with a frequency and at levels of public health concern; and 3) regulation of the contaminant presents a significant opportunity for health risk reduction. In addition, the Agency is continuing to: identify potential high-risk drinking water contaminants, conduct the necessary scientific analyses and health risk assessments, collect occurrence data, increase monitoring, and involve the public in the development of the second Drinking Water CCL that, based on the requirements of the 1996 SDWA amendments, must be issued in 2003.

EPA, in concert with our many partners, is pursuing a comprehensive strategy for assessing and restoring the Nation's most impaired watersheds. Fundamental to the Agency's efforts to conserve and enhance the Nation's waters 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. States may continue to develop and implement integrated watershed plans, such as strategies for watershed restoration, in those waters identified by the states as most in need of restoration. Starting in FY 2000, incremental CWA section 319 funds are only available to states with approved upgraded section 319 programs. EPA will also encourage, using a watershed approach, the establishment of additional planning groups or partnerships to develop local comprehensive plans for managing dredged material in an environmentally sound manner (including beneficial use). EPA will be an active participant in the development of these plans.

By 2002, with EPA's support, the National Estuary Program will have restored and protected an additional 50,000 acres of habitat, including sea grass and shellfish beds. In 2002, EPA will continue implementing the national assessments regarding the causes of, and appropriate management responses to, harmful algal blooms and other marine pests and diseases (including implementation of the National Invasive Species Management Plan), and hypoxia. EPA will also continue working on an agency-specific action plan to implement the Invasive Species Executive Order. Finally, EPA will continue its assessment of cruise ship discharges and ballast water discharges, their impacts on the environment, and management options for addressing these discharges.

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 and nonpoint sources. The NPDES program (which includes NPDES permits, urban wet weather, large animal feeding operations, mining, the pretreatment

program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls) establishes controls on pollutants discharged from point sources into waters of the United States. Key annual performance goals for FY 2002 are to reduce industrial discharges of toxic pollutants, nonconventional pollutants, and conventional pollutants. For FY 2002, the Agency is requesting \$450 million to fund a state grant program to address CSO and SSO problems as authorized by the Consolidated Appropriations Act of 2000. The Consolidated Appropriations Act of 2000 provides the Agency the ability to better target funds to the states and communities with the greatest CSO and SSO needs, and to give priority to financially-distressed communities. To ensure that all point sources are covered by current permits, EPA has developed a backlog reduction strategy under which 90 percent of major permittees and 73 percent of minor permittees will have current permits in place by the close of FY 2002. EPA will also continue evaluating data received from monitoring sites under the National Marine Debris Monitoring Program. This program monitors marine debris in an effort to determine sources of the debris, much of which enters coastal waters through stormwater runoff.

States report that pollution from nonpoint sources (NPS) is the largest cause of water pollution, with agriculture as a leading cause of impairment in 20 percent of the river miles assessed. In order to restore and maintain water quality, significant loading reductions from nonpoint sources must be achieved. State NPS programs are critical to protecting and restoring the Nation's water resources. To achieve reductions in NPS loadings, it is essential for EPA to work with states to expeditiously implement the nine key program elements in their strengthened state NPS programs. In addition, EPA will continue to encourage states to make use of CWSRF and other Federal resources to finance projects that address polluted runoff. As of mid-2000, states had invested nearly \$1.2 billion in nonpoint source pollution controls through the CWSRF.

Research

In FY 2002, EPA's drinking water research program will conduct research to reduce uncertainties and improve methods associated with the assessment and control of risks posed by exposure to microbial contaminants in drinking water, with a focus on emerging pathogens listed on the Contaminant Candidate List (CCL). As required by the SDWA amendments, the first CCL was published in 1998 and included 9 microbial contaminants in its Research Priorities Category that require more data before a regulatory determination can be made. There are significant data gaps with regard to understanding the occurrence of these 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. The development of this crucial information will provide the scientific basis necessary to protect human health and ensure that 95 percent of the population served by community water systems will receive water that meets drinking water standards.

Although suspended solids and sediment (non-contaminated) are a natural part of aquatic ecosystems critical to the energy cycle of the water body as well as the provision of microhabitats, they

have become a stressor associated with human activity that adversely affects aquatic habitats. In a 1998 EPA Water Quality Inventory, Report to Congress, suspended solids and sediments were identified among the leading causes of water quality impairment for streams and rivers. As part of EPA's efforts in FY 2002 to conserve and enhance the nation's waters, the aquatic stressors research program will initiate a suspended solids and sediments research program that will focus on developing tools which allow for the determination of background levels of sediments and suspended solids inherent to a region.

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 sources and non-point sources. In FY 2002, the beaches research program will continue to develop monitoring and risk communication alternatives in order to provide water quality managers with tools to make timely and informed decisions on beach advisories

External Factors

Drinking Water and Source Water

The SDWA Amendments of 1996 is one of the first environmental statutes to modify the Agency's traditional regulatory approach by encouraging a consensus- building process that includes EPA, the states, and all other drinking water stakeholders as partners in the development and implementation of regulations. To date, this extensive collaborative and consensus approach has improved the Agency's efforts to implement the 1996 SDWA amendments. The complexity of identifying appropriate treatment technologies for the contaminants specifically identified in the amendments and determining which contaminants on the CCL to regulate pose a continuing challenge in implementing the 1996 SDWA amendments.

The adoption of health-based and other programmatic regulations by the states is another critical factor. Since almost all states have primary enforcement authority (primacy) for drinking water regulations, the states must have sufficient staff and resources to work with public water systems to ensure that systems implement, and comply with, new regulations. To help states with these efforts, EPA has increased Public Water Systems Supervision grant funding by approximately 60 percent since FY 1993. In addition, the use of state set-asides authorized in the enabling legislation for the DWSRF combined with required matching funds from the states is another significant source of funding for state drinking water implementation activities. Nevertheless, the need to preserve DWSRF funding for infrastructure purposes coupled with state hiring restrictions could have a significant impact on implementation efforts.

The cost of providing safe drinking water -- finding a water supply, treating the water, delivering the water, and maintaining the system -- will continue to be a challenge. EPA's 2001 Drinking Water Needs Survey Report to Congress estimates that drinking water systems will need to invest \$150.9 billion over a 20 year period to ensure the continued provision of safe drinking water.

Full implementation of the Underground Injection Control (UIC) program, including the Class V rules, depends on state and local participation. Because of the sheer number of the particular Class V wells (over 600,000), mostly of two types of shallow injection wells (large capacity cesspools and motor vehicle waste disposal wells) and the threat they pose to ground water sources of drinking water, implementation of the overall UIC program could be affected by resource constraints at the state level. 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 Agency's success in protecting human health from consumption of contaminated fish or exposure to contaminated recreational waters could be impacted by several major constraints, including lack of regulatory authority, inability to measure behavior, and lack of state and local resources.

The Clean Water Act 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 guidance; therefore, success depends on state/tribal/local commitment to achieving these goals.

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.

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 the continuation and improvement of 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, we must continue to build strong and lasting 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 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 agencies and programs, Federal resource and protection agencies must work together to maximize achievements. Without continued government-wide coordination and commitment, we may not meet our water quality objectives. This is particularly true for successful enhancement of State nonpoint source management programs. Starting in FY 2000, as an incentive for states to upgrade these programs, the incremental Section 319 grant funds over \$100 million in base funding have gone only to states with approved upgraded 319 programs. The States will also need to continue efforts to overcome historical institutional barriers to achieve full implementation of their coastal nonpoint pollution control programs as required under the Coastal Zone Act Reauthorization Amendments.

Success in meeting our wetlands objectives is particularly dependent on the continuing and enhanced cooperation with the Army Corps of Engineers, who has lead responsibility for wetland permitting, Fish and Wildlife Service, National Marine Fisheries Service, Federal Emergency Management Agency, and the Natural Resources Conservation Service.

In addition, we must continue to improve our understanding of the environmental baseline and our ability to track progress against goals, which also depends on external parties. While the Index of Watershed Indicators and State 305(b) reporting provide some assessments of water quality, we will continue to depend upon and provide support to our partners and stakeholders in their efforts to improve measurement tools and capabilities. 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 and Nonpoint Sources

States and localities are assumed to be able to continue to raise sufficient funds for construction of necessary wastewater treatment and control facilities to accompany Federal financial assistance. In addition states must be able to maintain sufficient programmatic funds to continue to effectively manage point source programs.

Clean water goals associated with reduction of pollutant discharges from point sources through the National Pollutant Discharge Elimination System (NPDES) permitting program rely heavily on EPA's partnership with states as 44 States are currently authorized to carry out the NPDES program. EPA will also work with the states to reduce pollution from onsite wastewater treatment systems (OWTS), including septic systems. Surveys estimate that about 10 percent of OWTS nationally are malfunctioning. EPA is developing guidance to help States and local governments design, site, install and manage OWTS to reduce water-related impacts.

Environmental Protection Agency

FY 2002 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective #1: Ensure Safe Drinking Water and Recreational Waters

By 2005, protect human health so that 95 percent of the population served by community water systems will receive water that meets health-based 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Safe Drinking Water, Fish and Recreational Waters	\$1,089,314.2	\$1,228,123.8	\$1,223,716.1	\$1,096,096.6
Environmental Program & Management	\$108,751.2	\$121,143.8	\$137,235.4	\$115,251.6
Science & Technology	\$47,853.5	\$49,591.8	\$56,234.9	\$51,613.3
State and Tribal Assistance Grants	\$932,709.5	\$1,057,388.2	\$1,030,245.8	\$929,231.7
Total Workyears	860.0	755.0	887.6	874.4

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Drinking Water Regulations	\$33,926.7	\$33,230.5	\$34,321.4	\$30,398.6
Drinking Water Implementation	\$28,134.2	\$29,668.5	\$32,149.1	\$35,200.6
UIC Program	\$9,412.2	\$9,594.9	\$10,836.9	\$11,199.2

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Rural Water Technical Assistance	\$9,955.0	\$10,401.3	\$11,265.0	\$221.5
State PWSS Grants	\$93,780.5	\$93,305.5	\$93,100.2	\$93,100.2
State Underground Injection Control Grants	\$10,500.0	\$10,975.0	\$10,950.9	\$10,950.9
Source Water Protection	\$10,741.3	\$10,302.3	\$10,689.8	\$10,337.2
Drinking Water Consumer Awareness	\$1,622.9	\$1,537.2	\$1,462.6	\$2,463.2
State Pollution Control Grants (Section 106)	\$0.0	\$0.0	\$1,995.6	\$0.0
Water Infrastructure:Drinking Water State Revolving Fund (DW-SRF)	\$775,000.0	\$820,000.0	\$823,185.0	\$823,185.0
Safe Drinking Water Research	\$45,734.6	\$47,367.6	\$51,501.6	\$46,994.7
EMPACT	\$1,345.6	\$0.0	\$793.9	\$0.0
Project XL	\$390.5	\$0.0	\$0.0	\$0.0
Civil Enforcement	\$1.3	\$0.0	\$0.0	\$0.0
BEACH Grants	\$0.0	\$0.0	\$0.0	\$2,000.0
Rent, Utilities and Security	\$0.0	\$12,229.7	\$12,624.6	\$15,813.4
Administrative Services	\$281.2	\$2,285.6	\$2,528.9	\$2,314.9
Regional Management	\$0.0	\$981.0	\$1,265.6	\$1,215.0

FY 2002 Request

The Safe Drinking Water Act (SDWA) is one of the key environmental statutes that protects public health for all Americans. The four major areas of emphasis in the 1996 SDWA Amendments are: 1) improving the way that EPA sets drinking water safety standards and develops regulations based on sound science and data, prioritization of effort, identification of sensitive subpopulations, sound risk assessment, and effective risk management; 2) establishing new prevention approaches, including provisions for operator certification, capacity development, and source water protection; 3) providing better information to consumers, including consumer confidence reports; and, 4) providing funding for

infrastructure investments for communities through the Drinking Water State Revolving Fund (DWSRF). In addition, the 1996 Amendments increase the states' flexibility to focus on public health-based priorities and to make better use of resources; recognize the problems facing small systems and establish appropriate cost-effective approaches for such systems; and emphasize the role of stakeholders and partnerships as a key aspect of an effective national drinking water program.

In 2002, EPA, states/tribes, and water suppliers will continue to implement the 1996 SDWA Amendments with the principal purpose of improving and maintaining drinking water safety for the 264 million Americans who get their drinking water from public water systems. Under SDWA, EPA and the states/tribes are responsible for ensuring that consistently safe drinking water is provided to all persons served by public water systems. EPA meets that responsibility by setting drinking water safety standards and providing technical assistance and other support to states that have primary enforcement authority (primacy) of drinking water regulations.

The drinking water regulations issued to date in accordance with requirements in the 1996 SDWA amendments offer significant opportunities to improve the quality of the nation's drinking water. The Stage 1 Disinfectant/ Disinfection Byproducts (D/DBP) and Interim Enhanced Surface Water Treatment (IESWT) Rules, promulgated in late 1998, address the greatest risk reduction efforts for drinking water protection by regulating microbiological contaminants, such as *Cryptosporidium*, and controlling byproducts from disinfectants. These rules also present local water utilities, states, and EPA with the challenge of successfully adopting and implementing these new rules in a timely fashion to achieve public health benefits. Because of the crucial state role in drinking water protection, EPA and the Association of State Drinking Water Administrators (ASDWA), on behalf of all states' drinking water program managers, began discussions in 2000 to identify the priority issues that facilitate or impede the states' ability to exercise primacy for drinking water regulations. In 2001, an assessment of each state's capacity and progress in meeting its responsibilities for the new drinking water regulations was conducted. Both general and state-specific actions were designed and will be implemented in 2002 to advance program progress and address barriers that are interfering with each state's ability to fully meet SDWA goals. Resources have been redirected to support training, technical assistance and other measures related to this effort to help assist states/tribes in adopting and implementing both Stage 1 D/DBP and IESWT rules as well as the Consumer Confidence Report (CCR) rule, the Public Notification rule, revisions to the Lead and Copper rule, and other rules expected to be promulgated in 2001.

Consumers' knowledge about the quality of their drinking water is a key provision of the 1996 SDWA amendments. Promulgated in 1998, the CCR rule, which is implemented by the 54,000+ community water systems (CWSs) nation wide, gives customers of drinking water systems the information they need to make their own health decisions. In 2002, the Agency expects all CWSs will continue to issue annual reports to the 264 million Americans they serve. In addition, resources have been redirected to assist the public in taking an active role in preventing contamination of drinking water. EPA will establish a national data layer of delineated source water protection areas and mechanisms for the public to access this important information.

The Agency will continue to directly implement rules in those states and on Indian lands that do not have primacy for some or all drinking water regulations. The State of Wyoming, the District of Columbia and all Indian tribes fall into this category. The Agency will also be carrying out activities related to the Unregulated Contaminant Monitoring Rule.¹

The Safe Drinking Water Information System (SDWIS) serves as the central repository for data on both the states' implementation of, and compliance with, existing and new drinking water regulations. SDWIS is the primary source of national information on all SDWA requirements and provides the critical database for the development of regulations, trends analyses, and public information. In 2001, EPA focused extensive attention on SDWIS to bring it into alignment with the expanding needs of its partners, the states, and its internal and external stakeholders. Beyond cost-savings benefits, quality data support states and local communities in exercising the flexibility designed into the latest round of drinking water standards. In addition, achievable steps in the intermediate and longer terms that recognize evolving information needs and technology have been defined. The Agency redirected \$2.4 million in 2002 to support upgrading SDWIS-FED (EPA's federal drinking water information system) and bring together the architecture of SDWIS-FED and SDWIS-STATE to reduce problems of data entry. The Agency will also be implementing a web-enabled version of SDWIS-STATE. The combination of the enhancement of SDWIS-FED/SDWIS-STATE and the "online" feature will attract more States to adopt SDWIS-STATE. By the end of 2002, 40 states will be using SDWIS-STATE for data collection, management, and reporting. Redirected resources also provide the necessary support for information modules on other drinking water programs, such as source water protection, to be integrated with SDWIS in 2002 to provide a more comprehensive data set with which to characterize the quality of the nation's drinking water supplies.

States will be implementing the guidelines for operator certification² and recertification to ensure that owners and operators of public water systems are fully implementing existing and new SDWA requirements. Also, States will continue to implement their capacity development strategies, focused on assisting existing water systems, to develop their technical, financial, and managerial capacity. By September 30, 2001, each State must report to the EPA Administrator on the success of their efforts to help systems that have a history of significant noncompliance build their capacity. States will be targeting special attention to this subset of systems in 2002. EPA support for the states' implementation of these programs directly affects public health outcomes as these activities provide a framework to help systems comply with drinking water standards.

The DWSRF was established to provide assistance to public water systems primarily for financing the cost of infrastructure improvements to facilitate compliance. The FY 2002 request of \$823 million

¹ In 1998-2001 and continuing in 2002, the Agency has set aside \$2,000,000 from the Drinking Water State Revolving Fund (DWSRF) for the purpose of reimbursing small systems for monitoring under the Unregulated Contaminants Monitoring Rule (UCMR).

² As was the case in 1999 (\$15M) 2000 and 2001 (\$30M, respectively), the Agency will set aside resources from the DWSRF in 2002 (\$30M) for grants to states to be used for reimbursing small system operators for the costs of training and certification, as authorized in section 1419(d)(4) of SDWA.

keeps EPA on track with our commitment to meet the goal for the DWSRF to provide an average of \$500 million in annual financial assistance, even after the federal capitalization ends. All states will continue to administer their DWSRF in 2002. At least 2,400 community and non-community drinking water systems will have entered into DWSRF loans since the inception of the program in 1997. With loans from the DWSRF, as many as 850 drinking water systems will have completed work to improve and upgrade their pipes, treatment plants, and other components of their drinking water infrastructure. Through FY 2001, Congress appropriated \$4.4 billion for the DWSRF program. Through June 30, 2000 States had received \$2.7 billion in capitalization grants, which when combined with State match, bond proceeds and other funds provided \$3.7 billion in total cumulative funds available for loans. Through June 30, 2000, States had made close to 1,200 loans totaling \$2.3 billion and \$1.4 billion remained available for loans.

In 2002, EPA has reduced resources to reflect completion of the 2001 Drinking Water Infrastructure Needs Survey Report, required by the 1996 SDWA amendments, that was published and sent to the Congress in February 2001. In the FY 2002 the DWSRF allocation will be based on the results of the Drinking Water Infrastructure Needs Survey. The Agency will begin work on the next report in 2003.

Through FY 2001, Congress has appropriated \$4.4 billion for the DWSRF program. EPA has reserved \$83 million for monitoring of unregulated contaminants and operator certification reimbursement grants. Through June 30, 2000 States had received \$2.7 billion in capitalization grants which when combined with state match, bond proceeds and other funds provided \$3.7 billion in total cumulative funds available for loans. Through June 30, 2000, States had made close to 1,200 loans totaling \$2.3 billion and \$1.4 billion remained available for loans. Approximately 74% of the agreements (38% of dollars) were provided to small water systems that frequently have more difficult time obtaining affordable financing. States also reserved a total of approximately \$420 million of SRF capitalization grants for other activities that support the drinking water program. The Agency's goal is for the DWSRFs to provide an average of \$500 million in annual financial assistance even after the Federal capitalization grant ends

The Agency requests continuation of authority provided in the 1996 SDWA Amendments, which allows states to transfer an amount equal up to 33 percent of their 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. Unless extended, the transfer provision expires September 30, 2001.

In 2002, the Agency will be involved in many interrelated standard-setting and regulatory development efforts. The Agency will complete the final three rules of the Microbial Disinfection Byproducts (M/DBP) rule cluster, as specified in the 1996 SDWA Amendments. The Ground Water Rule, which is scheduled to be promulgated in November 2001, establishes multiple barriers to protect against bacteria and viruses in drinking water from ground water sources and will establish a targeted strategy to identify ground water systems at high risk for fecal contamination. Also in November 2001, EPA is scheduled to propose a Long-Term 2 Enhanced Surface Water Treatment (LT2ESWT) rule and a final Stage 2 Disinfection/Disinfection Byproducts (Stage 2 D/DBP). Both of these rules will strengthen and expand the human health protections against DBPs and emerging microbial pathogens such as *Cryptosporidium*. Disinfection of drinking water to protect from microbial contamination is one of the

major public health advances in the 20th century. However, we now know that the disinfectants themselves can react with naturally-occurring materials in the water to form unintended byproducts that may pose health risks, including bladder cancer, and may also cause reproductive and developmental damage. The optimal balance will adequately control risks from pathogens, simultaneously control DBPs to acceptable levels, and ensure that costs of water treatment are commensurate with public health benefits.

Second, the Agency will be establishing maximum contaminant levels (MCLs), developing guidances, or conducting risk assessments for any of the five unregulated contaminants identified from the Contaminant Candidate List (CCL) published in 1998 that EPA determines require further regulation. The SDWA Amendments of 1996 require that EPA determine whether or not to regulate at least five contaminants on the CCL every 5 years starting in 2001. The SDWA requires three statutory tests must all be met, i.e., 1) the contaminant may have an adverse effect on the health of persons; 2) the contaminant is known to occur or there is a substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and 3) in the sole judgment of the Administrator, regulation of the contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems. These three statutory tests are addressed through research and analyses on such issues as: source water occurrence of chemical and microbiological contaminants; outbreaks of disease/illnesses for microbiological occurrence; dose-response relationships for these contaminants of concern, including projected impacts on sensitive subpopulations; efficacy of various treatment technologies for removing contaminants of concern; and, analytical methods to ascertain the presence (at levels of interest) of these contaminants. EPA is then mandated to develop MCLs for those contaminants that it has determined warrant further regulation. Implementation of the CCL process is a major priority for the drinking water program and will set the foundation for all future drinking water standards.

Another activity underway in 2002 is the development of a second CCL that must be issued in 2003, pursuant to the 1996 SDWA amendments. In support of this process, EPA called upon the National Research Council (NRC) of the National Academy of Sciences to recommend an optional method for selecting contaminants for inclusion on the second as well as future CCLs. The Agency will be implementing the NRC's recommendations in 2002 and will encourage rigorous review by the scientific community as it proceeds to develop the CCL2. Funds have been redirected to support analytical analyses and methods, the collection and review of occurrence data, the assessments of available treatment technologies and the identification of new types of treatment, and other related tools necessary for this effort.

Also, as agreed to in the Federal Advisory Committee Act Agreement in Principle (September 2000), EPA is considering development of a combined Total Coliform Rule/Distribution System regulation to address health risks associated with drinking water distribution systems. The purpose of the Total Coliform Rule (TCR) revision is to amend the TCR (promulgated in 1989) based on the outcome of the latest 6-year review of the TCR, and is intended to reduce system burden and enhance the existing TCR

requirements. The purpose of the Distribution System portion of the rule is to protect consumers from health risks associated with the degradation of finished water, which may occur in the distribution system.

The 1996 SDWA amendments require EPA to review and revise, if appropriate, all existing NPDWRs no less frequently than once every six years. Under SDWA, any revisions of drinking water regulations must maintain or increase the level of public health protection provided; however, EPA may identify regulatory changes that will streamline or reduce existing requirements without lessening the level of public health protection. As a part of this effort, EPA has developed an overall protocol for conducting each six year review; and particularly for the current review of 66 NPDWRs for inorganic, synthetic organic, and volatile organic chemicals regulated prior to 1996. In 2001, the Agency will publish a "Notice of Intent" to explain the process (or protocol) the Agency plans to apply to the periodic review of existing NPDWRs and to provide the preliminary results of the Agency's review of the 66 chemicals considered for this review cycle. By the last quarter of 2002, a notice with the final list of chemical contaminants that will be subject to revision and their regulatory schedule will be issued.

Effective drinking water protection has to start with an understanding of the threats to our Nation's drinking water sources and a deliberate strategy to prevent their contamination in the first place. Preventing contamination of source water is a vital aspect of comprehensive protection of public health and a high priority activity authorized and enhanced in the 1996 SDWA Amendments. In 2002, not only will all 50 states, the District of Columbia, and Puerto Rico be conducting source water assessments based on their EPA-approved source water assessment plans, but also at least 6,000 CWSs will have completed their source water assessments. Data from these assessments will help determine the vulnerability to contamination of each state's sources of drinking water and the consequent risk to human health. Resources have been redirected to the consumer right-to-know activity to support the dissemination of information to the public that will facilitate or strengthen local source water protection action. Source water protection efforts under SDWA will continue to be integrated with activities authorized by the CWA to support drinking water protection efforts.

Protecting source water is the principal focus of a promulgated rule to regulate two types of shallow, underground injection wells, i.e., large capacity cesspools and motor vehicle waste disposal wells. EPA will provide technical assistance to the states as they adopt these rules. Through a multi-partnered effort, the Agency will work with local government managers of source water protection programs to identify and ensure that large capacity cesspools are immediately closed in delineated source water protection areas and that motor vehicle disposal waste wells are either closed or permitted in these same areas. Given that the known inventory of shallow injection wells is over 600,000 nationwide, EPA and its stakeholders will have examined, by the end of 2001, additional subsets of shallow injection wells for which protective measures will need to be developed. Publication of guidances, best management practices and other informative materials will be under development in 2002 for particular subsets of shallow injection wells that are at substantial risk of endangering sources of drinking water. The Agency also will continue to provide the states with the technical assistance and support they need to maintain primacy for other classes of injection wells, e.g, hazardous and nonhazardous waste, oil and gas

production. Furthermore, EPA will also continue to implement, in full or in part, the UIC program for 17 states, the District of Columbia, and all Tribes.

Through partnerships with the American Metropolitan Water Agencies (AMWA) and the American Water Works Association (AWWA), EPA will continue to support activities with water utilities to ensure that measures are either in place or being developed to safeguard water supplies from terrorist and seditious acts. This is part of a coordinated government-wide effort to combat terrorism and is consistent with Presidential Decision Directive 63 issued in May of 1998. Agency funds will support the modification of a vulnerability assessment methodology, will provide seed money for the establishment of an Information Sharing and Analysis Center, and will lead to the development of guidance on remedial plans.

The Agency will continue to participate in a multi-media effort to identify contaminants that may disrupt endocrine functions in fish, wildlife, and humans. The endocrine system plays an essential role in human differentiation and growth - developing fetuses and children may be the most sensitive populations at risk for endocrine disruption. The Food Quality Protection Act (FQPA) and SDWA direct the Administrator to conduct studies to examine whether and to what degree people might be likely to experience elevated health risks associated with drinking water source contaminants that have endocrine disrupting potential. EPA will continue to investigate the impacts of potential endocrine disruptors on human health and the effect of water treatment on hormones.

Reducing exposure to contaminants in fish and shellfish and through contact in recreational waters is a top priority for the National Water Program. In 2002, 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% 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 BEACH Act of 2000. Implementing the BEACH Act will include awarding grants to state, local, and Tribal governments to develop programs for stratified monitoring and public notification.

Monitoring and risk assessment procedures used by states in their fish and shellfish and beach contamination 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 Agency will support monitoring/modeling pilot programs that improve states' ability to predict and address contamination events at beaches. In 2002, we will work with states, tribes, and other stakeholders to develop a stratified monitoring strategy to enable states to use statistical sampling methods to assess fish contamination and 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 issue 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 contamination advisory programs that are consistent with published national guidance.

To assure that the public has timely information on the quality of local beaches, the Agency will continue to expand an Internet-based Federal information source called Beach Watch on beach advisories and closings across the United States. Working with states, tribes, and local governments, EPA will continue to expand the database to include information on high-use fresh water beaches and on the location of CSO outfalls near beaches. We will also add digitized maps of coastal and inland high-use beaches to the Internet database. The Agency will publish model water quality standards for beaches that states and tribes can incorporate into their own water quality standards programs and will conduct workshops on monitoring techniques for states and tribes.

Research

Considerable progress has been made over the past 20 years in providing a sound scientific foundation for federal regulations to ensure the public health safety of the nation's water supply. However, research on chemicals and microbial pathogens found in drinking water remains a high priority for EPA because of the critical need to improve our ability to both assess and manage risks to the general population as well as to sensitive subpopulations. The research provisions in the Safe Drinking Water Act Amendments (SDWA) of 1996 highlight the importance of this research for providing a sound scientific basis for regulatory decision making. The continued occurrence of waterborne disease outbreaks demonstrates that contamination of drinking water with pathogenic bacteria, viruses, and parasites still poses a public health risk when treatment is inadequate or when contamination occurs in the distribution system. There is also concern over the potential contamination of drinking water with a variety of man-made (e.g., disinfection by-products, pesticides) and naturally occurring (e.g., arsenic) chemicals.

To address these needs, EPA has established an integrated, multi-disciplinary research program in the areas of exposure, health effects, assessment, and risk management. This program directly supports SDWA priorities, emphasizing research on sensitive subpopulations, adverse reproductive outcomes and other potential health effects of drinking water contaminants, studies of disinfection by-products (DBPs),

arsenic, and occurrence of waterborne disease in the U.S., and the development of improved methods for water treatment and for maintaining water quality in the distribution system. An increased emphasis is being placed on the chemicals and microbes on the Contaminant Candidate List (CCL), a list of over 60 unregulated chemicals and microbes, a number of which will be selected for future regulatory determinations.

In FY 2002, exposure research will continue to focus on developing analytical detection methods for measuring the occurrence of chemicals and microbes on the CCL. EPA will also apply and evaluate newly developed measurement methods in the occurrence and /or exposure studies for arsenic species, DBPs formed from alternative disinfections, and pathogenic microbes

In addition to drinking water exposure research, EPA's health effects research program in FY 2002 will continue to focus on laboratory, clinical, and field studies of selected high priority DBPs, arsenic, and contaminants on the CCL. Studies of priority chemical contaminants on the CCL will seek to provide either screening level or more detailed information to support CCL determinations. Research on DBPs will focus on adverse reproductive outcomes, cancer, and other toxic endpoints. Health effects research will also evaluate the influence of source water quality, treatment technology and demographic characteristics on waterborne disease in selected communities.

The risk assessment program utilizes exposure and health effects information to characterize the magnitude and severity of risks associated with exposures to drinking water contaminants. In FY 2002, risk assessment research will continue to improve dose-response modeling for cancer and non-cancer risk associated with exposures to both DBPs (chemicals and complex mixtures) and individual contaminants on the CCL. In addition, the risk from pathogenic microorganisms that are transmitted through drinking water will be quantitatively assessed using health effects and exposure information to address factors such as occurrence, infectious dose, host immunity, 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. The results of this work will be used to establish Maximum Contaminant Level Goals (MCLGs) and inform Agency cost-benefit analyses.

One of the challenges in providing safe drinking water lies in minimizing the risks associated with DBPs while controlling microbial pathogens. In FY 2002, researchers will continue to investigate options for optimizing the simultaneous control of microbial contaminants while minimizing DBP formation by either removing the precursor material or using alternative disinfectants.

Research will focus on the two main management options for addressing distribution system risk: 1) improving distribution system integrity to prevent contaminant intrusion, backflow and cross-connections from contaminated sources; and 2) improving control of distribution system conditions (e.g. treatment residuals, disinfectant residual, residence time, mixing, piping materials, corrosion inhibitors) to minimize formation and release of pathogens and undesirable chemicals. Research will also include assessing the impact of treatment practices on the quality of water in the distribution system network and on the network itself. In addition, a significant part of this research will focus on determining the treatability

of microbial and chemical contaminants on the CCL. EPA will also continue to investigate strategies for the acceptable control of water treatment residuals containing arsenic.

FY 2002 Change from FY 2001 Enacted

EPM

In addition to incorporating drinking water consumer information endeavors into the water goal pursuant to the Agency's 2000 Strategic Plan revisions (i.e., from Goal 7, Objective 2 to Goal 2, Objective 1), the drinking water program redirected funds from selected standard setting and regulatory development activities to three principal areas: 1) strengthening and enhancing the efforts of our partners, the states, to adopt and implement drinking water regulations, 2) improving and expanding the Safe Drinking Water Information System, and 3) conducting cost-benefit analyses and determining appropriate treatment technologies for contaminants identified on the CCL.

- C (-\$3,306,500) This change is due to reduced activity in priority microbial contaminants because of a short-term diminished workload. The Ground Water Rule is scheduled to be promulgated in November 2001, and the Long Term 2 Enhanced Surface Water Treatment Rule and Stage 2 Disinfectant Byproducts Rule are scheduled to be proposed in November 2001.
- C (+\$1,163,800) This increase was transferred from priority microbial contaminants and source water protection to strengthen and enhance states and tribes efforts to implement drinking water regulations issued before 1998 and adopting new or revised drinking water regulations promulgated in 1998 - 2001.
- C (+\$2,389,400) This increase was transferred from priority microbial contaminants for implementation of: 1) a multi-step approach to improve the quality and reliability of data in the Safe Drinking Water Information System (SDWIS); 2) a web-enabled version of SDWIS-STATE, which an estimated 40 states will be using by the end of 2002; and 3) new SDWIS modules on other drinking water-related activities such as source water protection, underground injection control, and the DWSRF.
- C (+\$313,700) This increase was transferred from priority microbial contaminants to augment resources related to Contaminant Candidate List (CCL) activities. For the CCL issued in 1998, these funds will be used to conduct cost-benefit analyses and determine appropriate treatment technologies for contaminants for which regulations, guidances, or risk assessments are to be developed in 2002. Also, these funds will support a range of activities to assist EPA, in collaboration with the scientific and public health communities, in selecting high risk contaminants for inclusion on the second CCL to be published in 2003.

- (-\$688,000) This decrease was redirected from lower priority source water protection to strengthen state and tribal implementation of drinking water regulations and to support dissemination of source water protection information.
- (+\$127,900) This increase was transferred from source water protection activities to support the dissemination of information to the public that will facilitate or strengthen local source water protection action.
- C (-\$520,000) This reduction is due to fewer resources required to implement Drinking Water State Revolving Fund activities. Reductions are possible due to the completion of the 2001 Drinking Water Infrastructure Needs Survey.
- C (+\$607,800) This increase reflects an increase in workforce costs.
- C (-10.2 FTE) This reduction EPA will decrease FTE in the areas of drinking water regulation development and technical assistance provided to states and communities implementing new drinking water and underground injection control regulations.
- C (-\$22,982,200) The FY 2002 Request is \$22,982,200 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.
- (-\$793,900; -2.1 FTE) This reduction reflects elimination of the EMPACT program since environmental data is being made available to the public through other EPA programs.

S&T

- C (+\$60,000) This increase reflects an increase in workforce costs. .

STAG

- C (-\$99,502,400) The FY 2002 Request is \$99,502,400 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

Research

S&T

- (+\$982,300) This increase reflects an increase in workforce costs.

- (-\$3,891,500) The FY 2002 Request is \$3,891,500 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.
- (-\$1,059,800, -0.8 FTE) This reduction of lower priority drinking water research, focused on the health effects of DBPs, is primarily to offset the payroll cost of living and enrichment increases in support of the overall drinking water research program.

Annual Performance Goals and Performance Measures

Safe Drinking Water

- In 2002 93 percent of the population served by non-community, non-transient drinking water systems will receive drinking water for which no violations of Federally enforceable health standards have occurred during the year, up from 88% in 1994.
- In 2002 91 percent 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 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in 1998.
- In 2001 Maintain percent of the population served by water systems that will receive drinking water meeting all health-based standards that were in effect as of 1994.
- In 2000 93% percent of the population served by non-community, non-transient drinking water systems which received drinking water for which no violations of any federally-enforceable health-based standards occurred during the year.
- In 2000 91% of the population served by community drinking water systems received drinking water meeting all health-based standards that were in effect as of 1994, up from 83% in 1994.
- In 1999 91% of the population served by community water systems received drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Population served by non-community, non-transient drinking water systems with no violations during the year of any federally enforceable health-based standards that were in place by 1994.		93	96	93	% population
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	91	91	% population

Population served by community water systems providing drinking water meeting health-based standards promulgated in 1998. 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 2002 Protect human health and ensure compliance with health-based drinking water standards through use of the Drinking Water State Revolving Fund (DWSRF).

In 2002 Enhance protection of tribal health by increasing the percentage of tribal community and non-community water systems that are run by certified operators.

In 2001 Protect human health and ensure compliance with health-based drinking water standards through use of the Drinking Water State Revolving Fund (DWSRF).

In 2001 60% of tribal community and non-transient non-community water systems will have a certified operator.

In 2000 528 eligible drinking water systems initiated operations that protect human health and ensure compliance with health-based drinking water standards through use of the Drinking Water State Revolving Fund (DWSRF).

In 1999 792 community drinking water systems received DWSRF funds that helped ensure that these systems provide drinking water that meets all health-based standards.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
DWSRF assistance agreements to community and non-community drinking water systems (cumulative).		1411	1800	2,400	agreements
Tribal community and non-transient non-community water systems with a certified operator.			60%	68%	water systems
CWSs receiving DW SRF funds to help ensure that they provide drinking water that meets all health-based standards	792				CWSs
DWSRF projects that have initiated operations (cumulative).		528	700	850	projects

Baseline: In FY99, there were 792 DWSRF assistance agreements to community and non-community drinking water systems. In FY 2000, 528 DWSRF projects initiated operations. As of 1999, 56% of tribal community and non-transient non-community water systems had certified operators.

New Drinking Water Standards Implementation

In 2002 Protect public health by implementing rules promulgated in FY 1999, FY 2000 & FY 2001 and increasing information to consumers through public notification (PN).

In 2001 Protect public health by implementing rules promulgated in FY 1999 and FY 2000 and increasing information to consumers through public notification (PN).

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
States with updated primacy for IESWTR/Stage 1 DBP.				24	
States that have adopted the IESWTR/Stage 1 DBP.			35	38	states
States that have adopted the CCR.			35	38	states
States that have adopted the PN.			25	28	states
Number of States with updated primacy for Lead & Copper Rule Revisions.				5	states
Number of States that have adopted the Lead & Copper Rule Revisions.				10	states
States with updated primacy for CCR				28	states
States with updated primacy for PN				10	states
Baseline:	Estimates for the end of 2000 are: 17 states have adopted the IESWTR/Stage 1 DBP, 17 states have adopted the CCR, and 10 states have adopted the PN.				

Drinking Water Consumer Confidence Reports

In 2002 Ensure that 100% of community water systems are complying with the Consumer Confidence Rule (CCR) by issuing annual consumer confidence reports.

In 2001 Ensure that 100% of community water systems are complying with the Consumer Confidence Rule (CCR) by issuing annual consumer confidence reports.

In 2000 53,500 community water systems issued annual consumer confidence reports, reaching a population of 252 million people, according to the rule promulgated in August 1998.

In 1999 EPA achieved its goal of partnering with the states in implementation activities to ensure that all public water systems -- large, medium and especially small -- are informed of both the requirements of the consumer confidence report regulation and implementation tools for complying with this rule.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Community water systems that will comply with the regulation to publish consumer confidence reports		53,500	55,000	54,000	CWSs
Number of states with which EPA has an agreement on the most efficient and effective methods (e.g., training, outreach) for implementing this rule in each state.	50				states
Population served by CWSs that will comply with the regulation to publish consumer confidence reports.		252.8	249 million	264 million	people
Baseline:	Community Water Systems (CWSs) began issuing annual CCRs in 2000, per the Safe Drinking Water Act Amendments of 1996.				

Rules for High-Risk Contaminants

- In 2002 Expand public health protection through: 1) promulgating or proposing new regulations; 2) reviewing existing regulations of potentially harmful contaminants; and 3) developing guidance and proposed regulations of potentially harmful contaminants.

- In 2001 Expand public health protection through: 1) promulgation of new regulations -- the Long-term 1 Enhanced Surface Water Treatment Rule, arsenic, ground water, radionuclides, filter backwash, and 2) making determinations whether or not to regulate potentially harmful contaminants from the CCL.

- In 2000 Radon & arsenic regulations were promulgated/proposed respectively, & 5 rules were implemented to ensure protection from high-risk contaminants.

- In 1999 EPA promulgated the monitoring of unregulated contaminants rule ensuring that the highest risk contaminants are identified and managed.

- In 1999 EPA issued and began implementing two protective drinking water standards for high- risk contaminants, including disease-causing micro-organisms (Stage I Disinfection/Disinfection Byproducts and Interim Enhanced Surface Water Treatment Rules).

- In 1999 EPA developed major risk analyses for microbial and chemical contaminants to support selection of contaminants to be regulated.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Risk analyses completed in support of new regulations.			4		analyses
Regulatory determinations for potentially harmful contaminants.			5		determinations

Standards and associated technical guidance documents under development for microbial/chemical contaminants identified through the CCL process by August 2001.		Up to 5	Reg / Guide
Health risk assessments under development for contaminants identified through the CCL process by August 2001.		Up to 5	assessments
Number of regulations and associated technical guidance documents promulgated.		1 / 4	Reg / Guide
Number of regulations and associated technical guidance documents proposed.		2 / 6	Reg / Guide
States, including DC and PR, that have received training and technical assistance on 4 of the rules that are being implemented.	52		States, DC, PR
States submitting primacy revisions and number with signed extension agreements for primacy.	33/30		states
Risk analyses for microbial/chemical contaminants	1		list
Regulations promulgated that establish protective levels for high-risk contaminants	2		rules
Availability of monitoring of unregulated contaminants rule.	1		regulation
Regulations promulgated/proposed.	2	5	regulations
Baseline:	By the end of 2000 5 rules were proposed.		

Underground Injection Well Management

- In 2002 Target implementation of UIC regulations to ensure low risk of contamination to source water resources.
- In 2001 Through the UIC program, EPA will contribute to the protection of ground water sources of drinking water from potential endangerment.
- In 2000 Increased protection of ground water resources by bringing 500 Class IV/V wells under specific controls through permits or closures and by plugging 3,852 underground injection wells.
- In 1999 The draft regulation for UIC Class V wells that will protect groundwater sources of drinking water from potential endangerment was completed and made available for public comment in fiscal year 1999. The final rule was published in the Federal Register on December 7, 1999.

In 1999 Data for underground injection wells tested and passed for mechanical integrity is expected to be available in March 2000.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
States that have formally adopted the Class V rule. states				34	
Class IV/V wells (by well type) brought under specific controls through permits or closures.		500	500		wells
Issue proposed Phase 2 UIC Class V regulatory action.			1		action
Percentage of Class I, II, & III wells out of compliance with a permit and/or rules authorized that are returned to compliance.				90	% Wells
Number of large capacity cesspools closed. (Class V).				125	cesspools
Number of motor vehicle disposal wells closed and/or permitted. (Class V).				325	wells
Availability of UIC Class V Regulation.	0				final reg
Underground Injection wells tested and passed for mechanical integrity	TBD				% Wells
States, including DC and PR, that have received training and technical assistance on the Class V Rule.		50			States, DC, PR
UIC wells plugged as a direct action by the UIC program or indirectly by another program working in partnership with UIC to protect ground water sources of drinking water.		3,852	1,500		wells
Baseline:	As of January 2000, no states had adopted the Class V Rule as the Rule was just finalized in December 1999.				

Source Water Protection

- In 2002 Advance States' efforts to protect their surface and ground water resources that are sources of drinking water supplies.
- In 2001 States and community water systems increase efforts and programs to protect their source water resources, including ground water.
- In 2000 49 States and 5,000 community water systems increased efforts and programs to protect their source water resources including ground water.

In 1999 11,011 community water systems are implementing programs to protect their source water.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Population served by community water systems that are implementing efforts to protect their source water resources.		30.5	36 million		people
CWSs implementing efforts to protect their source water resources.		5,000	6,500		CWSs
Number of community water systems (CWSs) that have completed their source water assessments.				6,000	CWSs
Percent of population served by community water systems (CWSs) that have completed their source water assessments.				11	% population
Number of community water systems (CWSs) that are implementing source water protection programs.				2,000	CWSs
Percent of population served by community water systems (CWSs) that are implementing source water protection programs.				4	% population
CWSs with ground or surface water protection programs in place	11,011				CWSs
States that are implementing their EPA-approved source water protection assessment programs.		49			states

Baseline: Currently, there is no baseline because the first full year of implementation of source water assessments is not until 2000. EPA has defined implementation as undertaking 4 or more of 5 stages of source water protection. Nearly 253 million people are estimated to be served by CWSs in 2000.

River/Lake Assessments for Fish Consumption

In 2002 8% of the nation's river miles and 17% of nation's lake acres will have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.

In 2001 12% of the nation's river miles and 17% of nation's lake acres will have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.

In 2000 7% of the nation's river miles and 16% of the 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.

In 1999 7% of river miles and 15% of lake acres were assessed for the need for fish advisories.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies (cumulative).	16	17	17		% lake acres
States/Tribes monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories.	25	40	40	40	states
River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies (cumulative).	7	7	12	8	% 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. As of the 1998 Report to Congress on the National Water Quality Inventory, 88% of assessed river and stream miles; 59% of assessed lake, reservoir, and pond acres; and 65% of assessed estuary square miles supported their designated use for fish consumption. For shell fish consumption, 73% of assessed estuaries met this designated use.

Increase Information on Beaches

In 2002 Reduce exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

In 2001 Reduce exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

In 2000 1,981 beaches had monitoring and closure data including 150 digitized maps, available to the public through EPA's website.

In 1999 Data entered for 26 states into the public right-to-know database on beach monitoring and closure.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Beaches for which monitoring and closure data is available at http://www.epa.gov/OST/beaches/ (cumulative).		1,891	2,200	2,300	beaches

Fish tissue samples collected (cumulative).	128	samples
---	-----	---------

States for which data is entered into the public right-to-know database on beach monitoring and closures.	26	states
---	----	--------

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. As of the 1998 Report to Congress on the National Water Quality Inventory, 72% of assessed river and stream miles; 80% of assessed lake, reservoir, and pond acres; and 91% of assessed estuary square miles met their designated uses for recreation.

Research

Safe Drinking Water Research (Microbial)

In 2002 Produce 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.

In 2001 Reduce uncertainties and improve methods associated with the assessment and control of risks posed by exposure to microbial contaminants in drinking water with a focus on the emerging pathogens on the CCL.

In 2000 EPA reduced uncertainties and improved methods associated with the evaluation and control of risks posed by exposure to microbial contaminants in drinking water by completing the products below and other research activities.

In 1999 An interim report on modeling methods for estimating the vulnerability of ground water to viral contamination is delayed until the end of FY 2001.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	Request

Interim report on modeling methods for estimating the vulnerability of ground water to viral contamination.	30-Sep-2001
---	-------------

Report on waterborne disease outbreaks in the U.S.	1	report
--	---	--------

Evaluation of Method 1622 for Cryptosporidium for use in the Information Collection Rule.	1	evaluation
---	---	------------

Describe different technologies for cost/effective control of Cryptosporidium oocysts and DBPs.	30-Sep-2002	description
---	-------------	-------------

Report on occurrence of CCL-related pathogens in source and drinking water,

such as mycobacterium and Aeromonas	1	report
Publish screening treatability studies for at least two microbes on the Candidate Contaminant List (CCL) to determine if these contaminants are effectively inactivated by conventional treatment.	2	studies
Report on the potential health risks associated with three CCL microbial pathogens.	1	report
Provide method(s) for CCL related pathogens in drinking water for use in the Unregulated Contaminant Monitoring Rule.	1	journal article

Baseline: The EPA is required by the 1996 Amendments to the Safe Drinking Water Act to develop a list of unregulated waterborne pathogens and chemicals, called the Contaminant Candidate List (CCL), every five years to aid in priority setting for future regulatory determinations. The ability of the Agency to develop future CCLs is dependent upon the availability of adequate information on occurrence, exposure, health effects and treatability for the contaminants that may pose the greatest public health risk. Critical uncertainties exist for a large number of unregulated contaminants in some or all of these areas. By the end of 2002, new information will be provided on the potential health risks and treatability of several high priority pathogens and chemicals. This will strengthen the scientific foundation for the next CCL and for future regulatory determinations on these contaminants.

Research

Safe Drinking Water Research (DBP's)

- In 2002 Produce reports on the assessment and control of risks associated with exposure to microbes and disinfection by-products (DBPs). This information will support scientifically sound regulatory decisions for microbes and DBPs, enhancing EPA's ability to protect drinking water supplies.
- In 2000 EPA completed reports that provide important information about new DBPs in drinking water, the risks that may be posed by exposures to mixtures of these contaminants, and methods for improving the interpretation of data from published DBP epidemiology studies.
- In 1999 The draft Comparative Risk Framework Methodology and Case Study was provided to the Science Advisory Board (SAB) Drinking Water Subcommittee for its review.
- In 1999 Produced data on the role of micronutrient status on the metabolism/toxicity of arsenic, as well as data on the first city study on microbial enteric disease. In addition, completed hazard identification and screening studies on reproductive/developmental effects of selected DBPs.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	Request

Data on first city study on microbial enteric disease. 30-Sep-1999

Complete hazard i.d./screening studies

on reproductive/developmental effects of selected DBPs.	30-Sep-1999		
Report assessing the feasibility of attaining/constructing refined DBP exposure information for extant epidemiologic drinking water studies.		1	report
Report on the identification of new DBPs in drinking water formed by alternative disinfectants.		1	report
Complete a peer-reviewed report on the impacts of mixtures of selected DBPs on cancer and various noncancer endpoints, including reproduction and developmental effects, from animal studies.		1	report
Add comparative Risk Framework Report.	1		report
Assess risks from caliciviruses and Cryptosporidium as a function of dose and host susceptibility. Will aid in evaluating treatment approaches to prevent disease.		2	reports
Develop process-design recommendations for control of Cryptosporidium and DBPs in ozone/chloramine treated waters.		1	report
Produce a report on waterborne disease outbreaks in the U.S. in 1999-2000, which will provide information on causative agents, health effects, water quality and treatment issues.		1	report
Report on the occurrence of chemical by-products from alternative drinking water disinfection processes in water treatment systems.		1	report
<p>Baseline: The Safe Drinking Water Act Amendments of 1996 require EPA to develop regulations that minimize public exposure to potentially harmful disinfection by-products (DBPs) in drinking water, while protecting the public against waterborne pathogens such as the parasite <i>Cryptosporidium</i>. Although considerable progress has been made over the last 20 years in our ability to assess and control the risks posed by these contaminants, a number of scientific uncertainties still remain. For example, information is needed on the occurrence of DBPs formed from the use of alternative disinfection processes, on the risks posed by selected DBPs and microbes, and on better methods to control DBPs and pathogens. Data and methods produced in 2002 will provide a better understanding of the nature and magnitude of waterborne microbial disease in the U.S., new information on the risks posed by individual</p>			

DBPs and mixtures of by-products in drinking water, and improved methods for monitoring and optimizing control of specific DBPs and pathogens.

Research

**Verification and Validation of Performance Measures -
Goal 2 Objective 1**

Performance Measure: Population served by community water systems will receive drinking water for which no violations of Federally enforceable health standards have occurred during the year, up from 83% in 1994; and Population served by community water systems will receive drinking water meeting health-based standards promulgated in 1998.

Performance Database: Safe Drinking Water Information System (SDWIS)

Data Source: States, Regions for Direct Implementation (DI) states

QA/QC Procedures: SDWIS 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. EPA offers training to states on data entry and data retrieval, and also provides a troubleshooters guide and an error code database for states to use when they have questions on how to enter or correct data.

Data Quality Review: Quality assurance audits of OGWDW's QA/QC processes, including those for SDWIS, are carried out every three years. This effort is coordinated by the QA division. EPA last completed a quality assurance audit in July 1999. SDWIS was identified as an Agency weakness in the Fiscal Years 1999 and 2000 Federal Managers' Financial Integrity Report.

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

Neither system monitoring requirements nor analytical results are maintained in SDWIS-FED. Therefore, automated determination of compliance is not possible in SDWIS-FED. Recent state data verification and other quality assurance analyses indicate that the most significant data quality problem is under-reporting to EPA of both monitoring and reporting violations and incomplete inventory characteristics. Monitoring and reporting violations are not included in the health based violation category; however, failures to monitor could mask treatment technique and MCL violations. The incomplete inventory data limit 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.

New/Improved Data or Systems: Using a newly-developed information strategy developed by EPA in partnership with the states and major stakeholders, several improvements to SDWIS are underway. First, EPA will continue to work with states to implement the Data Reliability Action Plan (DRAP), a multi-step approach to improve the quality and reliability of data in SDWIS. The DRAP already has improved the completeness, accuracy, and timeliness of the data in SDWIS through: 1) training courses for SDWIS data entry, error correction, and regulation-specific compliance determination and reporting requirements, and 2) specific DRAP analyses, follow-up activities and State-specific technical assistance.

Second, more States will be using 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 the same edit criteria and enforces the same mandatory data elements. If the SDWIS-STATE system is fully utilized by a State, the information it holds meets EPA's minimum data requirements and can easily be reported to EPA, thereby improving 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 currently being developed. By the end of 2002, EPA estimates that 40 states will be using SDWIS-STATE for data collections.

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 prevents 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.

Finally, EPA, in partnership with the States, is developing information modules on other drinking water programs, e.g., source water protection, underground injection control, and the Drinking Water State Revolving Fund. These modules will be integrated with SDWIS to provide a more comprehensive data set with which to characterize the quality of the nation's drinking water supplies.

Goal 2 Objective 1

Performance Measure: Beaches for which monitoring and closure data is available at <http://www.epa.gov/OST/beaches/>.

Performance Database: National Health Protection Survey of Beaches Information Management System

Data Source: State and local governments

QA/QC Procedures: A standard survey form has been approved by OMB which is distributed by mail in hard copy and is available on the Internet for electronic submission. Where data is entered over the internet, a password is issued to ensure the appropriate party is completing the survey.

Data Quality Review: EPA reviews the survey responses to ensure the information is complete, then follows up 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 universe of beaches. Participation in the survey will become a mandatory condition of grants awarded under the new ABEACHES@program (described below) in FY 2002; however, state and local governments are not required to apply for a grant. Data standards are available but procedures, methods, indicators, and thresholds can vary between jurisdictions because this is a voluntary program.

New/Improved Data or Systems: With the passage of amendments known as the ABeaches Environmental Assessment and Coastal Health Act of 2000" to the Water Pollution Control Act, states with coastal recreation waters are required to adopt water quality criteria and standards to improve and protect the quality of those waters. The Agency is authorized to award grants to help states develop and implement monitoring and notification programs consistent with Federal requirements. As the Agency makes these 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 and quality of available data will improve.

Research

Verification and Validation of Performance Measures

Performance Measure: Provide method(s) for CCL related pathogens in drinking water for use in the Unregulated Contaminant Monitoring Rule.

Performance Database: Not applicable. This performance measure relates to an EPA scientific or technical product which is not tracked in an environmental database.

Data Source: Agency generated material

QA/QC Procedures: N/A

Data Quality Reviews: As required by the Agency-wide formal peer review policy issued in 1993, and reaffirmed in 1994 and 1998, all major scientific and technical work products used in Agency decision making are independently peer reviewed before their use. EPA has implemented a rigorous process of peer review for both its in-house and extramural research programs. Peer review panels include scientists and engineers from academia, industry, and other federal agencies.

Data Limitations: N/A

New/Improved Data or Systems: N/A

Coordination with Other Agencies

The 1996 SDWA amendments include a provision that mandates a joint EPA/Centers 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.

Land management involves coordinating with the Department of Agriculture's (USDA's) Forest Service; the Department of Interior's (DOI) National Park Service and Bureaus of Land Management and Reclamation; the Department of Defense's (DOD's) facilities management and operations units; and the U.S. Postal Service (USPS) to address unified policy on federal land management within source water areas.

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, National Resource 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.

The Agency also has in place an "umbrella" IAG that serves as the framework for coordinating the various source water-related activities in these many federal departments and agencies.

The Agency works closely with other federal and state agencies to assure the protection of human health from contaminated fish and shellfish and contaminated recreational waters. For example, EPA is working with the Food & Drug Administration to assure the consistency of public messages about the risks of eating both commercial and non-commercial fish and shellfish that are contaminated. EPA works with the Agency for Toxic Substances and Disease Registry (ATSDR) and CDC to learn more about health effects of these types of exposure. The Agency works with ATSDR, National Academy of Sciences (NAS), National Oceanic and Atmospheric Administration, and Endocrine Disruptor Screening and Testing Advisory Committee to identify and characterize hazardous pollutants, including endocrine disruptors, and develop criteria for states to use in establishing water quality standards and developing TMDLs. EPA cooperates with the Departments of the Army, Interior, Agriculture and the National Oceanic and Atmospheric Administration to manage the risks associated with contaminated sediments, which are the major sources of contamination of fish.

Research

While EPA is the federal agency with the mandate to assure the safety of 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). Research related to children's risk and assessing exposures to children is also being conducted by the Food and Drug Administration (FDA). 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 U.S. Geological Survey (USGS) to evaluate the performance of newly developed methods for measuring microbes in potential drinking water sources.

Most recently, EPA signed a four-year IAG with the Department of Defense to evaluate and improve intelligent systems technology (e.g., sensors incorporated into structural materials, correlation of sensor output with structural integrity and residual service life) that allow for real-time measurement of the structural condition of infrastructure. This structural condition information will provide the basis for optimizing maintenance planning, thereby reducing infrastructure replacement costs and preventing infrastructure failures and their attendant health, environmental, and economic hazards.

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 formulate 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 2002 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective #2: 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Protect Watersheds and Aquatic Communities	\$355,463.0	\$377,216.8	\$457,289.8	\$406,121.4
Environmental Program & Management	\$182,080.8	\$182,021.7	\$198,930.1	\$164,385.0
Science & Technology	\$19,852.9	\$31,012.4	\$37,222.1	\$37,923.5
State and Tribal Assistance Grants	\$153,529.3	\$164,182.7	\$221,137.6	\$203,812.9
Total Workyears	904.0	1,048.2	964.4	967.7

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Water Quality Criteria and Standards	\$19,110.9	\$18,545.1	\$18,380.6	\$18,787.5
Wetlands	\$15,694.9	\$15,730.0	\$16,959.8	\$17,291.2
National Estuaries Program/Coastal Watersheds	\$16,528.3	\$18,029.2	\$18,192.5	\$17,053.2

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
South Florida/Everglades	\$2,869.3	\$2,923.0	\$2,942.0	\$2,855.0
Chesapeake Bay	\$20,361.5	\$20,308.9	\$20,728.1	\$18,818.7
Great Lakes	\$5,395.3	\$3,263.7	\$3,114.4	\$3,027.0
Gulf of Mexico	\$3,798.9	\$4,196.0	\$4,341.2	\$4,276.7
Long Island Sound	\$900.0	\$975.0	\$4,989.0	\$477.4
Pfiesteria	\$2,500.0	\$100.0	\$99.8	\$95.5
Pacific Northwest	\$1,022.5	\$1,043.2	\$1,078.6	\$1,103.8
Lake Champlain	\$2,000.0	\$2,187.3	\$1,995.6	\$954.8
State Pollution Control Grants (Section 106)	\$115,529.3	\$115,529.3	\$169,887.7	\$169,883.3
State Water Quality Cooperative Agreements	\$19,000.0	\$19,000.0	\$18,958.2	\$18,958.2
State Wetlands Program Grants	\$15,000.0	\$15,000.0	\$14,967.0	\$14,967.0
Clean Water Exposure Research	\$0.0	\$2,646.9	\$2,640.6	\$2,686.6
EMPACT	\$653.9	\$125.0	\$0.0	\$0.0
Marine Pollution	\$7,420.4	\$7,580.0	\$7,797.9	\$7,820.2
Water Quality Monitoring and Assessment	\$11,446.8	\$9,762.6	\$11,166.9	\$11,309.2
Harmful Algal Blooms (HABs) and Related Research	\$2,234.5	\$3,634.1	\$5,436.9	\$5,441.6
Rent, Utilities and Security	\$0.0	\$16,579.0	\$15,814.9	\$17,144.0
Administrative Services	\$511.4	\$2,510.7	\$3,323.8	\$3,084.8
Regional Management	\$0.0	\$1,686.9	\$2,288.2	\$2,102.6

FY 2002 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 and nationwide efforts to implement a broad range of policy, planning, and scientific tools to establish local goals and assess progress. To that end, the Agency will continue to work with states and tribes to carry out their Total Maximum Daily Load (TMDL) programs to help restore impaired watersheds and to meet the many court-supervised deadlines for completing TMDLs. EPA will provide up-to-date scientific tools (such as easy-to-use, geographically-based models), training, and technical assistance to support state and tribal TMDL programs. Section 303(d) requires that approvable lists of impaired waters be submitted in a timely manner and EPA will work to ensure that TMDLs are developed at an appropriate pace.

The Agency will continue to support comprehensive water quality assessments that establish baselines against which to gauge progress toward objectives and goals and support decision-making necessary to implement watershed restoration activities on a priority basis. This work will include working with the states to enhance their monitoring and assessment programs to support water quality decision-making. 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) Section 303(d) requirements. EPA will assemble and report state water quality assessments under CWA Section 305(b). 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). 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. Another of the tools the Agency has developed for public access is the Index of Watershed Indicators (IWI), a collaborative exercise with EPA stakeholders to clearly characterize the condition and vulnerability of all of the Nation's watersheds and coastal waters. IWI is evolving into an assessment tool to analyze and assess conditions in watersheds.

EPA, in concert with the U.S. Department of Agriculture (USDA), Department of Interior (DOI) and other Federal agencies, will work with the states, tribes and territories to implement watershed restoration projects. The Agency will continue the development of a tracking system to document the success of programs to reduce nutrient runoff to America's waters. Working through the National Water Quality Monitoring Council, EPA is cooperating in scoping comprehensive assessment of the effectiveness of nutrient reduction programs.

Critical to improving water quality is our refinement of water quality standards and sediment 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 powerful geographic information system which links projected nonpoint source runoff with point source discharges, to include more geographic and hydrological detail so that TMDL and NPDES permit writers can better address site-specific conditions.

EPA will work with its state partners to ensure that they adopt into their standards of criteria to protect designated uses. In 2002, the Agency will continue to develop and publish scientifically defensible criteria for a broad range of stressors and 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 develop guidance materials to accelerate the adoption of biological criteria into state water quality standards. The Agency will also continue to develop and enhance PC-based modeling software to support site-specific metals criteria and non-point source loadings. By providing training and workshops, EPA will expand its work with tribes to implement "Treatment in a Similar Manner as a State" provisions and help tribes adopt water quality standards. In July 1997, the U.S. 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 2002, EPA will assure that actions are taken within the statutory deadlines. In support of this effort, the Agency will make available on the Internet a comprehensive database on state water quality standards that will help ensure nationwide consistency in state programs and support timely action on states' proposed water quality standards.

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. The Agency, in cooperation with the Departments of Interior and Agriculture, will conduct place-based contaminated sediment recovery demonstration projects and help states and tribes interpret bioaccumulation data that the Agency published in 2001.

The Agency will continue to implement its Nutrient Strategy, employ states and tribes in filling data gaps, and address implementation issues related to controlling nutrient levels that can lead to eutrophication, and are associated with harmful algal blooms such as *pfisteria*. Since the process for assessing and controlling eutrophication is considered site-specific in nature, the best assistance will allow state and tribes to choose the tools that best fit their conditions (waterbody-specific guidance). The Agency will publish technical ecoregion guidance documents for nutrients (i.e., nitrogen and phosphorus) and help states and tribes tailor their nutrient criteria to their specific waterbody types and geographical regions. EPA will award grants to states and local governments to help them implement biocriteria and site-specific nutrient criteria. The Agency will further help them to develop and adopt appropriate water quality standards.

In support of the Agency's tribal partnership efforts, the Agency will continue to support the development and delivery of EPA training materials and workshops for tribes on basic water programs, including nonpoint source, watershed management, water quality monitoring, quality assurance and water quality standards and criteria. The Agency will support the 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.

EPA will continue to help states integrate their watershed assessments and plans, including strategies for watershed restoration, with their ongoing TMDL programs. With EPA assistance, states will continue to accelerate the pace of development of TMDLs for impaired waters in high priority watersheds. EPA is bound by court orders and consent decrees requiring state TMDL development, with an EPA backstop, for 19 states requiring 1,500 TMDLs in FY 2002. EPA will continue to support the Watershed Academy and its course offerings and technical transfer efforts to better train state, tribal and local agencies in addressing these watersheds.

The Agency will continue to build on successes and improvements achieved through watershed and ecological restoration projects undertaken in 2001. Based on these experiences, additional tools and technical information will be provided to states, tribes, local governments, and local watershed organizations in 2002 to address their priority water pollution and resource degradation problems. These techniques will assist in determining actions needed to solve problems and assist in setting milestones for evaluating progress toward environmental improvement.

EPA will work cooperatively with states to increase integration of basic CWA programs and activities into the watershed management approach, focusing on monitoring, water quality standards, nonpoint source controls, NPDES permitting, TMDLs, and source water protection. The Agency will build on working closely with other Federal agencies and partners to integrate relevant programs to ensure a comprehensive approach to the protection and restoration of rivers, lakes, and coastal waters.

EPA will support the National Estuary Program (NEP) as all 28 estuaries continue to implement their Comprehensive Conservation and Management Plans (CCMPs), including efforts to develop environmental indicators to assess status and trends in the NEPs, as well as measure success of implementation of priority action plans in CCMPs, including habitat restoration efforts. EPA will emphasize and support coastal partnerships to assist local decision-makers in developing and implementing protection programs for coastal watersheds, and will also support the application of biological criteria; development of research plans and monitoring programs pertaining to coastal waters, ocean dump sites, harmful algal blooms and other marine pests and diseases; coral reef and back-reef protection; vessel discharge issues; invasive species efforts; and management and remediation of contaminated sediments.

For coastal ports and harbors, EPA will work with federal and state partners (e.g. the National Dredging Team) and other stakeholders to establish 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 to maintain, restore, and improve the health of coastal

ecosystems. The Agency will manage pollution sources subject to the Marine Protection, Research, and Sanctuaries Act; CWA; the Marine Plastic Pollution Research and Control Act, and other related programs in such a way as to further protect and enhance our Nation's coastal and ocean waters. This will include development and implementation of environmental criteria for dredged material management, 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.

Through our Watershed Assistance Grants, EPA will continue providing small grants to non-profit organizations to advance watershed restoration efforts. Priority in allocation of grant assistance will be given to organizations that have the capacity to bring diverse interests together to find creative ways to restore and sustain the health of aquatic systems on a watershed basis. EPA, in concert with the USDA and the National Oceanographic and Atmospheric Administration (NOAA), will also work with other Federal agencies and states to dramatically increase the number of people involved in local organizations that have "adopted" their watersheds and to encourage new efforts where none currently exist. A major focus will be to engage students, seniors, business owners and employees and others not traditionally involved in water resource issues to participate in ongoing community watershed efforts.

Section 106 grants to states, tribes, and interstate agencies are a primary funding source for them to run programs for the prevention, reduction, and elimination of surface and ground water pollution from point and nonpoint sources and for enhancing the ecological health of the Nation's waters. Within this objective, \$169,883,400 is requested for this grant program. Activities within the section 106 program include permitting, water quality planning and standard setting, pollution control studies, assessment and monitoring, and training and public information. State efforts funded by section 106 grants will include developing TMDLs, implementing integrated wet weather strategies in coordination with nonpoint source 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. EPA will also be working with the states to upgrade their water quality monitoring programs over the coming years.

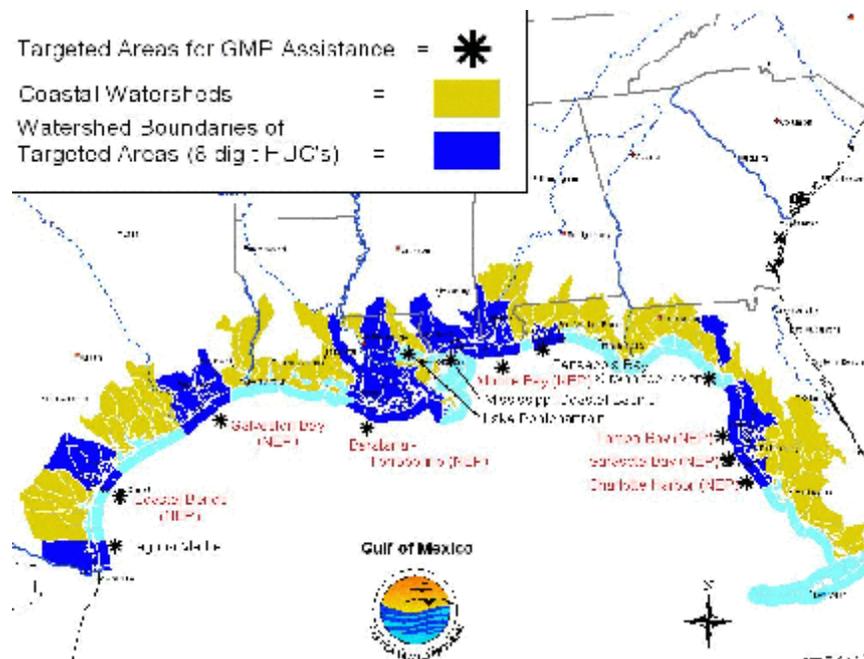
Water Quality Cooperative Agreements (WQCA) will support the creation of unique and innovative approaches to address requirements of the NPDES program, with special emphasis on wet weather activities, i.e., storm water, combined sewer overflows, sanitary sewer overflows and animal feeding operations. In the wet weather area, these grants have been invaluable in enabling demonstrations of unique technical, as well as managerial and funding techniques for addressing wet weather problems. Specifically these funds will be used to conduct special studies, demonstrations, outreach and training efforts which will enhance the ability of the regulated community to deal with pollution problems in priority watersheds. Within this objective, \$18,958,200 is requested for this program.

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 (GMPO), 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 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, and the Lake Champlain Management Conference.

The Gulf of Mexico

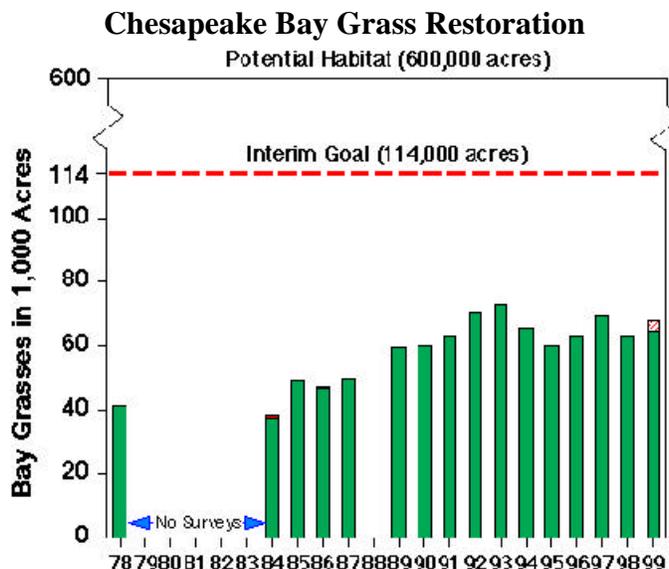
The GMPO works closely with the five Gulf States, Gulf coastal communities, non-government organizations, and Federal agencies to achieve specific environmental objectives. These include by 2009: assisting the States in restoring over 70 impaired coastal water bodies in 12 priority coastal areas, restoring



or protecting 20,000 acres of coastal wetlands and sea grass; and preventing or mitigating the impacts caused by invasive aquatic species. The GMPO provides direct technical and financial assistance to the Gulf States, local governments, and non-profit organizations. In fiscal year 2002, GMPO 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; protect or restore 1,000 acres of coastal wetlands and sea grass that are essential for sustaining the Gulf's fisheries; and assist States in mitigating the impacts or introduction of invasive aquatic species in at least three priority coastal watersheds.

The Chesapeake Bay

The Chesapeake Bay Program is a partnership between Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission (a tri-state legislative body), and the EPA, which represents the Federal government. The Bay Program was formed in 1983, and operates in a consensus fashion. The Bay Program has nine subcommittees which focus on specific issue areas (e.g., toxics, nutrients, and communications).

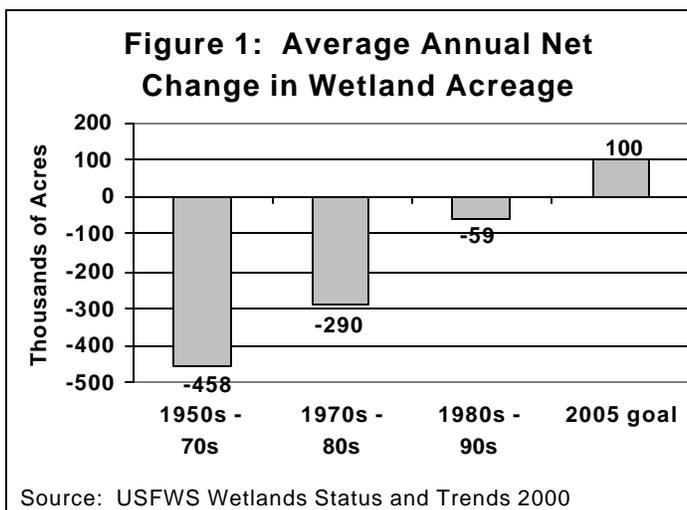


In June 2000, ‘The Chesapeake 2000 Agreement,’ which was signed by the EPA Administrator, the Governors of Maryland, Pennsylvania & Virginia, the Mayor of the District of Columbia, and the chair of the Chesapeake Bay Commission is the most comprehensive and far-reaching agreement in the Bay Program’s history. The primary goal of the new agreement is to improve water quality sufficiently to sustain the living resources of the Chesapeake Bay and its tidal tributaries and to maintain that water quality into the future. This will mean setting increased nutrient reduction goals and for the first time setting sediment reduction goals Baywide.

The agreement has five sections containing commitments to protect and restore living resources, vital habitats, and water quality through sound land use by promoting stewardship and engaging communities throughout the 64,000 square mile watershed. The agreement is designed to build on past restoration actions and will continue all Bay Program commitments outlined in previous agreements or Executive Council directives.

Wetlands

In 1989, President Bush set a national goal of no net loss of wetlands. In the mid-1990’s, with progress towards that goal underway, a longer term goal was established to achieve an annual net gain of wetlands of 100,000 acres by 2005. This will reverse historic trends of wetland losses (see Figure 1) and restore some of the 54% of the nation’s wetlands



already drained. EPA will contribute to this wetlands quantity goal through a number of programs, and will also take steps to advance the national goal of an increase in the quality of wetlands.

Working with other federal agencies, EPA and the Corps of Engineers will implement Section 404 of the CWA 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 to the extent authorized by the CWA. EPA and the Corps will advance the regulatory program goal of no overall net loss of wetlands by improving the environmental success rate of mitigation projects to offset unavoidable losses of wetlands, implementing recommendations from the National Academy of Sciences Report to be released in Spring 2001.

EPA will encourage local governments of communities with at-risk youths and students to restore wetlands and river corridors through youth education projects that bring together citizen groups, corporations, landowners and local governments with schools and youth groups.

Building upon successful projects in a number of states, EPA will help states and tribes develop programs to monitor the extent and condition of their wetlands. Biological indicators will be used to evaluate the relative health of wetlands to determine the extent and causes of disturbance. EPA will provide assistance in low-cost monitoring techniques, including volunteer monitoring and satellite imagery. The information collected will guide management decisions to evaluate restoration success and to improve the quality of wetlands, addressing stressors including polluted run-off, changes in hydrology, invasive species, and habitat fragmentation.

A total of \$14,967,000 million from the State and Tribal Assistance Grants appropriation is requested to enable states, tribes and local governments to develop and strengthen their programs to conserve, manage and restore wetlands, and to support watershed-based wetland initiatives. This will support regulatory approaches as well as incentive-based programs, training, and monitoring.

Research

The health and sustainability of aquatic ecosystems and their ecological components are affected by various types of chemical, biological, and physical stressors. There is a significant scientific uncertainty associated with the resiliency of aquatic ecosystems and their biotic components. Research in this objective will focus on the development of watershed diagnostic methods and on understanding the importance of critical habitats and the impacts of habitat alteration on aquatic communities. In addition, this research will provide the scientific foundation to support Total Maximum Daily Loads (TMDLs). The critical stressors studied under this research program correspond to the Clean Water Act (CWA) Section 101(d) listing of stressors that contribute to water quality impairment. These include: nutrients, sediments, suspended solids, pathogens, toxic chemicals, and habitat alteration.

Research on diagnostic methods will focus on determining whether an aquatic ecosystem has been impaired and the causes of that 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. Technical guidance and assistance will be provided to states and tribes to promote the establishment of scientifically sound bio-assessments and biologically-based water quality criteria for rivers and streams.

Modeling and landscape characterization research will improve the development of watershed management approaches and permits for point and non-point source discharges. Modeling research will develop, refine and evaluate draft protocols for developing watershed management tools for nutrients and sediment loadings. Landscape characterization research will develop methods to characterize watershed conditions based on landscape indicators, watershed classifications and ecological and hydrological process-modeling. This research will determine if landscape-based classification of watersheds can be used effectively to detect changes in watershed condition in response to landscape stressors. Valuable applications of landscape indicators and assessments by states, tribes and water resource managers include: prioritizing vulnerable areas (e.g., steep slopes, erodible soils) for more targeted monitoring to identify CWA "impaired" water bodies; identifying "pristine" sites for selecting reference conditions; identifying potential causes of impairment; forecasting the impacts of remediation decisions; identifying opportunities for protecting drinking water sources; and "smart-growth" development alternatives that minimize environmental impacts. Risk management research will focus on developing a better understanding of the sources of these stressors and the effectiveness of management options to control them. This information will be used to develop decision support tools to assist watershed managers in analyzing the problem(s) and identifying cost effective solutions.

Research to understand hypoxia, algal blooms, and eutrophication will also continue. 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 world-wide. These stresses may be related to increased nutrient loadings and eutrophication. They threaten ecosystem integrity, sustained use, and productivity. Research will be conducted to understand the dynamics of ecosystem response to eutrophication. EPA will develop 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 will also develop 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) will be developed as part of a joint effort with other Federal Agencies including the National Oceanic and Atmospheric Administration (NOAA), and the National Science Foundation (NSF).

Although suspended solids and sediment are a natural part of aquatic ecosystems critical to the energy cycle of the water body as well as the provision of microhabitats, they have become a stressor associated with human activity that adversely affects aquatic habitats. In a 1998 EPA *Water Quality Inventory, Report to Congress*, suspended solids and sediments were among the leading causes of water quality impairment for streams and rivers. To maintain natural background levels of sediments and suspended solids, water resource managers need scientific tools that are currently not available. In FY

2002, EPA will initiate a suspended solids and sediments research program that will focus on developing tools which allow for the determination of 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 maintain suspended solids and sediments at background levels.

Chemical stressors also impact aquatic life, the benthic community, wildlife and human health. EPA's research program will develop and apply models to predict the effects of toxic chemicals in freshwater and marine ecosystems, including wetlands, riparian areas and sediments. This research will include developing scientifically valid approaches for assessing ecological risks of organic and inorganic chemicals to aquatic life and wildlife populations. These approaches will support the development of water quality criteria and aid in the protection of threatened and endangered species. In FY 2002, EPA will provide a method for setting risk-based aquatic life criteria for toxic chemicals. In addition, critical habitats are important to maintaining biological diversity and integrity. EPA will conduct research to develop approaches to characterize and prioritize aquatic resources such as wetlands, estuaries, riparian areas, stream corridors, and headwaters for protection. This research will involve the development of models to understand and predict stressor response relationships related to aquatic habitats such as wetlands, riparian zones, sediments, and freshwater and marine ecosystems.

FY 2002 Change from FY 2001 Enacted

EPM

- (+\$735,800, +15 FTE) This increase reflects the increase in workforce costs including workforce costs to support workyears redirected for the TMDL program and grants management.
- (-\$36,761,900) The FY 2002 Request is \$36,761,900 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.
- (-13 FTE) EPA will reduce technical assistance provided to states and localities for water quality standards development, monitoring/assessment, and on-the-ground watershed restoration.

STAG

- (-\$17,324,700) The FY 2002 Request is \$17,324,700 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

Research

S&T

- (+\$1,920,300 and 12.5 FTE) Resources shifted from Goal 5, Objective 1 will result in an increase to watershed restoration research for the development of decision support tools to assist watershed managers in analyzing problems and identifying cost effective solutions. This activity will help to provide the scientific underpinning of TMDLs; will support the linkages between sources and target allocation; and will focus on development of implementation and monitoring plans. Restoration and management alternatives for controlling sources will be evaluated. This will provide information needed to implement waste-load allocations and will consider seasonal variations, future loads and margins of safety.
- (+\$999,100 and 6.3 FTE) Suspended solids and sediments (non-contaminated) are among the most frequently identified stressors causing water quality impairment. This increase is for research to develop the scientific basis supporting the development of criteria for suspended solids and sediments and to develop and evaluate more cost effective technologies and approaches for their management. This research will identify the appropriate metrics or thresholds for assessment of sediments and suspended solids; determine appropriate classification methods for high priority waters at different scales; determine the best approach for establishing reference conditions for these stressors; determine the stressor response relationship for these stressors alone and in combination with other stressors such as toxic chemicals, nutrients, metals, and altered temperature.
- (+\$988,200) This increase reflects an increase in workforce costs.
- (-\$338,700 and -0.5 FTE) This reduction reflects a redirection in resources for research on stressor response models for habitat alteration, biocriteria, nutrients, eutrophication and harmful algal blooms. Resources are being redirected to support the development of criteria for suspended solids.
- (-\$1,274,000 and -10.0 FTE) This contaminated sediments research program is shifting to Waste Research (Goal 5) in order to meet the needs of the Office of Solid Waste and Emergency Response (OSWER). EPA has a continuing need for research on contaminated sediments, however the focus for that need has shifted from OW to OSWER to address Superfund ecological risk assessment research needs. Research will focus on effects of bioaccumulative chemicals such as metals that will be used to update existing sediment guidelines, on development of the scientific basis for wildlife criteria, and on how to bring these together to establish integrated risk based criteria.
- (-\$689,900 and -7.3 FTE) This reduction is to help meet the Agency's FY 2002 FTE ceiling, and will result in a delay to lower priority research in the development of integrated water quality criteria. These criteria will incorporate sediment guidelines, aquatic life and wildlife criteria to develop an integrated risk-based approach to protecting aquatic life.

- (-\$1,216,100) The FY 2002 Request is \$1,216,100 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

EPM

- (-\$437,800) The FY 2002 Request is \$437,800 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

Annual Performance Goals and Performance Measures

Assessments of Designated Uses

- In 2002 Assess, restore and protect watersheds.
- In 2001 Restore and protect watersheds through implementation of Clean Water Action Plan (CWAP) strategies.
- In 2001 Assess river miles, lake acres, and estuary square miles that have water quality supporting designated uses, where applicable, for drinking water supply.
- In 2000 Of the 2,674 water segments previously identified and analyzed by states as being polluted, states submitted TMDLs for 2,167 water segments. EPA approved 1,276 TMDLs submitted by states, and EPA established 166 TMDLs. Due to the large number of TMDLs submitted, not all TMDLs were addressed.
- In 2000 Improved assessment of progress toward attainment of designated uses as indicated by electronic 305(b) submissions from 43 States, Tribes, and Territories.
- In 1999 29 States have electronically updated their 1998 305(b) information which reflected adequate monitoring and assessment programs (Base of 0).

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Assessed river miles/lake acres/estuary square miles that have water quality supporting designated beneficial uses, where applicable, for drinking water supply.			no target	no target	Rivers, etc.
Assessed river miles, lake acres, and estuary square miles that have water quality supporting designated beneficial uses, where applicable, for fish and shellfish consumption.			no target	no target	
Assessed river miles, lake acres, and					

estuary square miles that have water quality supporting designated beneficial uses, where applicable, for recreation.		no target	no target	
TMDLs established by EPA (cumulative).	166	631	930	TMDLs
TMDLs scheduled to be completed by the end of 2001 (cumulative).	2,674	4,100		TMDLs
Impaired, assessed river miles, lake acres, & estuary square miles that a) are covered under WRAS and b) were restored to their designated uses during the reporting period.		no target		
Assessed river miles, lake acres, and estuary square miles that have water quality supporting designated beneficial uses, where applicable, for aquatic life support.		no target	no target	
TMDLs submitted by the state (cumulative).	2,167	2,925		TMDLs
State-established TMDLs approved (cumulative).	1,276	2,900	6,000	TMDLs
States electronically submit updated 305(b)	29			States
States, Tribes, and Territories electronically submit updated 305(b).	43			states, etc.
Submission, with Nat'l Watershed Forum, of a Watershed Rest. Progress Report to the President, etc. eval. progress & recommend. Any actions needed to improve progress toward meeting clean water goals.	0			report
Baseline:	As of the 1998 Report to Congress on the National Water Quality Inventory, 69% of assessed river and stream miles; 71% of assessed lake, reservoir, and pond acres; and 65% of assessed estuary square miles have water quality supporting designated beneficial uses for aquatic life support. Likewise as of the 1998 report, 88% of assessed river and stream miles, 59% of assessed lake, reservoir and pond acres, and 65% of assessed estuary square miles have water quality supporting their designated use for fish consumption. 91% of assessed river and stream miles and 86% of lake, reservoir and pond acres support their designated use for drinking water supply.			

Restoring Watersheds

In 2002 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 2001 Water quality will improve on a watershed basis such that 550 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 2000 Environmental improvement projects are underway in 324 high priority watersheds which are resulting in real water quality improvements in impaired watersheds.
- In 1999 As part of the Clean Water Action Plan, 56 states and territories and 84 tribes are conducting or have completed unified watershed assessments, with support from EPA, which identified aquatic resources in greatest need of restoration or prevention activities.
- In 1999 23 States submitted implementation plans to EPA (either as separate plans or as part of water quality management plans or other watershed planning process) that describe the processes for implementing TMDLs developed for waters impaired solely or primarily by nonpoint sources.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Watersheds that have greater than 80% of assessed waters meeting all water quality standards.			550	600 (FY 03)	8-digit HUCs
States submitting implementation plans for TMDLs for waters impaired solely or primarily by NPS	23				states
States that are conducting or have completed unified watershed assessments	56				states
High priority watersheds in which environmental improvement projects are underway as a result of implementing activities under the CWAP.			324		watersheds

Baseline: The state submitted 1998 303(d) lists identify the TMDLs that need to be established. Thus, the baseline against these 1998 lists is zero. The baseline for waters covered under Watershed Restoration Action Strategies (WRAS) will not be available until the FY2000 reporting cycle. As of the 1998 Report to Congress on the National Water Quality Inventory, 69% of assessed river and stream miles; 71% of assessed lake, reservoir, and pond acres; and 65% of assessed estuary square miles have water quality supporting designated beneficial uses for aquatic life support. As of 1998 state reports, 500 watershed 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.

Dredged Material/Ocean Disposal

- In 2002 Encourage comprehensive planning for the management of dredged material, and assure environmentally sound disposal of dredged material.

- In 2001 Encourage comprehensive planning for the management of dredged material, and assure environmentally sound disposal of dredged material.
- In 2000 Appropriate action taken (e.g., Site designations or Site Management and Monitoring Plan development) with regard to dredged material ocean disposal site designation in two additional cases. (Cumulative total of 80)
- In 1999 Appropriate action taken with regard to dredged material ocean disposal site designation in one additional case. (Base of 77)

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Facilitate establishment of Local Planning Groups to develop comprehensive plans for dredged material management.			3	3	local plang grps
Participate in the development of local comprehensive plans for dredged material management (cumulative).			3	6	plans
Appropriate actions taken re: dredged material ocean disposal	1				action
Additional appropriate actions taken (e.g., site designation, designations, or Site Management and Monitoring Plan development).		2			actions
Baseline: As of January 2000, there are 4 existing Local Planning Groups and 4 existing local comprehensive plans for dredged material management.					

State/Tribal Water Quality Standards

- In 2002 Percent of Tribes will have water quality monitoring and assessment programs appropriate for their circumstances and will be entering water quality data into EPA's national data systems.
- In 2002 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 2001 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 2001 16% of Tribes will have water quality monitoring and assessment programs appropriate for their circumstances and will be entering water quality data into EPA's national data systems.
- In 2000 35 States and 16 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 1999 Provided to States and Tribes tools for risk characterization of and decision making regarding surface water contaminants, including PBTs and nutrients, that allow them to set and meet their own water quality standards.
- In 1999 One additional Tribe established an effective water quality standards program for a cumulative total of 15 Tribes with effective water quality standards programs. In addition, 7 more tribal submissions are currently under review.
- In 1999 EPA reviewed and approved 17 revised water quality standards for 17 states that reflect current guidance, regulation, and public input and promulgated replacement Federal standards for 1 additional state.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Tribes with monitoring and assessment programs (cumulative).			16	19	% tribes
Pilot STORET/305(b) reporting projects with Tribes.			9		pilot projects
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.			30	20	states
States and tribes with approved E. coli or enterococci criteria.				40	states
States with new or revised water quality standards that EPA has reviewed and approved or disapproved.	17				states
Models, methods, criteria developed/available for risk characterization of surface water contaminants.	1				list
Tribes with water quality standards adopted and approved (cumulative).	15	16	27	27	tribes

Baseline: As of 1999, less than 5% of tribes have water quality monitoring and assessment programs appropriate for their circumstances and are 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 are 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. In FY99, there was a backlog of 70 submissions from 32 states for which EPA had not taken the appropriate action. At the end of FY 1999, 15 tribes had adopted and approved water quality standards.

Protecting and Enhancing Estuaries

- In 2002 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2001 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2000 Completed Comprehensive Conservation and Management Plans (CCMPs) for 1 of the National Estuary Programs for a cumulative total of 22 out of 28.
- In 1999 Completed Comprehensive Conservation and Management Plans (CCMPs) for 4 of the National Estuary Programs for a cumulative total of 21 out of 28.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Priority actions or commitments initiated nationwide as part of the National Estuary Program since approval of the first CCMP in 1991 (cumulative).			82%	85%	actions
Acres of habitat, restored and/protected nationwide as part of the National Estuary Program (annual).			50,000	50,000	acres
Completed CCMPs	21	22			CCMPs
Baseline:	As of January 2000, estimated that 65% of priority actions initiated and 400,000 habitat acres preserved, restored, and/or created.				

Gulf of Mexico

- In 2002 Support projects with the goal of restoring or protecting over 1,000 acres of seagrasses and coastal wetlands per year.
- In 2002 Initiate 3 projects in priority coastal areas to prevent or reduce the impact of invasive species
- In 2002 Assist the Gulf States in implementing watershed restoration action strategies (WRAS) or their equivalent in 14 priority coastal river and estuary segments.
- In 2001 Assist the Gulf States in implementing watershed restoration action strategies (WRAS) or their equivalent in 14 priority coastal river and estuary segments.
- In 2000 Assisted the Gulf states in implementing watershed restoration action strategies (WRAS) or similar plans to restore waterbodies in 14 priority impaired coastal river and estuary segments.
- In 1999 Reduced the number of nonpoint sources contributing to the total load of fecal contamination and nutrients in Gulf waters, in three priority Gulf coastal watersheds.

In 1999 Initiated the development of marine conservation plans for Gulf Coast seagrasses in 3 Gulf States.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Impaired Gulf coastal river and estuary segments implementing WRAS or equivalent.		31	14	14	segments
TMDLs (1) scheduled to be completed; (2) submitted by Gulf States for segments in the coastal watershed; and (3) established by EPA and Gulf State established TMDLs approved.			no target	no target	TMDLs
Assessed river miles, lake acres, and estuary square miles that a) are covered under WRAS and b) were restored to their designated uses during the reporting period.			no target	no target	Miles, etc.
Gulf coastal priority areas with impairments caused by invasive aquatic species				3	projects
Increase seagrass acreage and restore or protect coastal wetlands by 20,000 acres by 2009				1,000	acres
Gulf states with marine conservation plans for seagrasses.	3				states
Gulf watersheds with State actions to reduce NPS loads to Gulf growing waters.	3				watersheds
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 2002 Improve habitat in the Chesapeake Bay.

In 2001 Improve habitat in the Chesapeake Bay.

In 2000 In the Chesapeake Bay watershed, 1,032 stream miles of migratory fish habitat was reopened through the provision of fish passages, construction and restoration of 11,000 acres of oyster habitat, and 41% of wastewater flow to the Bay was treated by Biological Nutrient Removal.

In 1999 Submerged aquatic vegetation acres increased to 63,500; 11,000 acres designated for aquatic reef habitat; 32% of wastewater flow treated by Biological Nutrient Removal; 79% of lands have voluntary integrated pest management practices; and 534 stream miles of migratory fish habitat have reopened.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Pounds reduction, from 1985 levels, of nitrogen and phosphorus loads entering Chesapeake Bay (cumulative).		71/7 mil.	74/8.4 mil.		pounds
Miles of streambank and shoreline restored with riparian forest buffers. (cumulative)			616		miles
Wastewater flow to the Chesapeake Bay treated by biological nutrient removal (cumulative).	32	41	49	53	% WW flow
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay (cumulative).	63,500	68,125	78,000	78,000	acres
Acres of aquatic reef habitat designated, with construction and restoration of oyster reef habitat to occur within those areas.	11,000	11,000			acres
Agricultural, recreational and public lands that have voluntary integrated pest management (IPM) practice established in the Chesapeake Bay watershed (cumulative).	79				% lands
Stream miles of migratory fish habitat reopened through provision of fish passages (cumulative).	524	1,032	1,172	1,243	miles

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.

Tribal Environmental Water Presence

In 2002 Percent of Tribes will have a "water program environmental presence" (i.e., one or more persons, as appropriate, with environmental capability to advise Tribal governments on developing and implementing programs).

In 2001 40% of Tribes will have a "water program environmental presence" (i.e., one or more persons, as appropriate, with environmental capability to advise Tribal governments on developing and implementing programs).

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Tribes with a water program presence (cumulative).			40	60	% tribes

Baseline: As of 1999, approximately 20% of Tribes have a "water program environmental presence."

Wetland and River Corridor Projects

In 2002 Support wetlands and stream corridor restoration and management and assessment/monitoring of overall wetland health.

In 2001 Support wetlands and stream corridor restoration and management and assessment/monitoring of overall wetland health.

In 2000 4 States/Tribes developed wetlands assessment and monitoring tools and provided financial assistance to 74 wetlands restoration (other than Five-Star) projects.

In 1999 EPA provided funding to restore wetlands and river corridors in 46 watersheds that met specific "Five Star Project" criteria relating to diverse community partnerships (for a cumulative total of 57 watersheds).

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Watershed-based wetland restoration projects to which EPA has provided financial support (other than 5-Star Projects) and/or has contributed significant technical assistance (cumulative).		74	99	165	projects
Watershed-/community-based wetlands/river corridor restoration projects funded by EPA's Five Star Program (cumulative).					projects
Watershed-/community-based wetlands/river corridor restoration projects funded by EPA's Five Star Program.	57				projects
States/tribes developing formal programs and wetlands assessment capacities, aimed					

toward measuring wetland gain, loss and/or deterioration.	4	4	states/tribes
--	---	---	---------------

Baseline: As of September 1998, EPA cooperated on and supported 11 wetland and river corridor projects through the Five Star Program. Going into FY99, 11 states/tribes had met the criteria for establishing formal assessment/monitoring programs.

Research

Scientific Rationale for Surface Water Criteria

- In 2002 Provide a method for setting risk-based aquatic life criteria for toxic chemicals which minimizes uncertainties of translating national and site-specific water quality criteria.
- In 2001 Develop the framework for diagnosing adverse chemical pollutants in surface waters.
- In 2000 EPA identified the primary life support functions of surface waters that contribute to the management of sustainability of watersheds by completing the products below and other research activities.
- In 2000 EPA developed the scientific rationale for numerical criteria for surface waters by completing the products below and other research activities.
- In 2000 EPA developed a conceptual framework for the diagnosis and assessment of water quality impairment in U.S. watersheds by completing the products below and other research activities.
- In 1999 Completed research strategy for integrating economic assessment with ecological risk assessment of aquatic stressors. Produced three publications on knowledge based approaches to watershed assessments, and a fourth on ecosystem classification and mapping.
- In 1999 Completed reports on the requirements of submerged vegetation in coastal environments, and on predicting metal toxicity in sediments. In addition, developed a research strategy on the scientific gaps in the areas of developing and implementing biocriteria.

Performance Measures:	FY 1999	FY 2000	FY 2001	FY 2002
	Actuals	Actuals	Estimate	Request

Report on the requirements of submerged aquatic vegetation in coastal environments.	30-Sep-1999
---	-------------

Develop and provide a research strategy for integrating economic assessment with ecological risk assessment of multiple aquatic stressors applied at two locations.	30-Sep-1999
---	-------------

Complete Clinch and Powell Watershed Risk Assessment.	1	assessment
---	---	------------

Develop a research strategy for development of numerical criteria

for surface waters.	30-Sep-2000	requirements
Research strategy document to determine the impact of landscape changes on wetland structure and function.	1	strategy
Complete guidance document on acquiring data for conducting watershed analyses for multiple stressors and receptors.	1	guidance doc
Complete report on an assessment of the viability of natural attenuation as an option for the risk management of contaminated sediments.	1	assessment
Complete and publish a compendium of case studies illustrating the application of the Stressor Identification Guidelines.	1	compendium
Decision-support tools and guidance for watershed scale assessments; report on risk characterization for watersheds.	30-Sep-01	
Report on Sediment Toxicity.	1	report
Final report (including model and database) comparing and analyzing the quantitative dose-response relationships of aquatic and aquatic-associated wildlife and dioxin-like PBTs.	1	report
Baseline: Currently, water quality criteria are set by national guidelines and the states and tribes adjust the many national criteria to account for a variety of local water quality conditions and species. The site-specific adjustment to national criteria includes uncertainties which slow implementation due to different interpretations from stakeholders. Toxicity models to account for the changes in bioavailability of toxic chemicals due to water chemistry and temperature are incomplete. Age-related susceptibilities of natural populations are not accounted for in the national guidelines. By 2002, a risk-based approach will be developed to incorporate the high quality toxicological data directly into an estimate of risk to aquatic life under local conditions.		

Verification and Validation of Performance Measures

Goal 2 Objective 2

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: No formal database exists.

Data Source: Regional reporting

QA/QC Procedures: Headquarters is responsible for collecting and compiling the data, and querying Regions as needed. Regions are responsible for collecting the data from their client states and reporting the data to HQ once yearly.

Data Quality Review: EPA Headquarters and Regions annually review the data submitted by states.

Data Limitations: N/A

New/Improved Data or Systems: N/A

Performance Measure: Tribes with water quality standards adopted and approved.

Performance Database: No formal database exists.

Data Source: Regional reporting

QA/QC Procedures: Headquarters is responsible for collecting and compiling the data, and querying Regions as needed. Regions are responsible for collecting the data from their client states and reporting the data to HQ once yearly.

Data Quality Review: EPA Headquarters and Regions annually review the data submitted by states.

Data Limitations: N/A

New/Improved Data or Systems: N/A

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

Performance Database: Watershed Assessment Tracking Environmental Results System (WATERS), to summarize water quality info at the watershed level. For purposes of this national summary, Watersheds are equivalent to 8-digit HUCs (hydrologic unit codes), of which there are 2,262 nationwide.

Data Source: State CWA ' 305(b) reporting

QA/QC Procedures: Data provided by states pursuant to individual state assessments (under ' 305(b)) of extent to which waters attain designated uses: QA/QC of state data dependent on individual state procedures.

Sufficiency threshold for inclusion in this measure requires that 20% of stream miles in an 8-digit HUC be assessed.

Data Quality Review: ' 305(b) data subject to individual state review procedures prior to submission to EPA. States then have opportunity to review compiled data prior to submission to Congress of the national report, and prior to incorporation of data into WATERS

Data Limitations: Data not representative of comprehensive national assessments since states do not assess all waters in each cycle. States do not have identical water quality standards or identical methods or criteria to assess their waters so data may not be consistent among states (or, given changing state programs, over time for individual states.)

New/Improved Data or Systems: Work underway to develop WATERS, incorporating a broader range of water quality information. EPA is working with states, tribes and other federal agencies to develop monitoring and assessment approaches to improve consistency. Also, working with partners to achieve comprehensive coverage of all waters, in part through annual electronic reporting of key data elements and enhancement of monitoring networks.

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

Performance Database: A tracking system is being developed to document the number of acres of habitat restored and protected through the National Estuary Program.

Data Source: Program documents on the estuaries in the National Estuary Program, such as Comprehensive Conservation and Management Plans, annual work plans, and annual progress reports, all contain information on the goals, objectives and accomplishments related to the restoration and protection of estuarine habitat. These are the source documents providing information regarding the number of acres of habitat restored and protected in each estuary. The data is then aggregated to arrive at a national total for the entire NEP.

QA/QC Procedures: Primary data is collected by the staff of the NEP using the methods discussed above; e.g. development of annual work plans and annual assessments of accomplishments. Aggregate data is compiled through a contractor review of the NEP documentation, and the NEP staff are requested to verify the numbers using their individual program documentation.

Data Quality Review: This is a new Annual Performance Measure which is still being refined. No audits or quality reviews conducted yet.

Data Limitations: As some National Estuary Programs are still reporting data, and a tracking system is under development, we are unable to know the extent of data limitations.

New/Improved Data or Systems: The Office of Water is working with the staff of the NEP to improve data acquisition and lay the groundwork to geo-reference the data in a geographic information system (GIS). Its annual program guidance recommends a standardized format for habitat data compilation.

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 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.

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

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. Other agencies routinely involved include the Corps of Engineers, NOAA, the Fish and Wildlife Service, state departments of environmental protection or natural resources, and governors' offices.

Federal agencies, Gulf states, non-governmental organizations, and private citizens serve as members of the GMPO's Federal Advisory Committee Act (FACA)-chartered Gulf of Mexico Policy Review Board, subcommittees, and workgroups to provide advice, information and recommendations on plans to improve and protect the water quality and living resources of the Gulf of Mexico. Federal partners include: EPA, USDA (Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service, the Department Of Defense (Corps of Engineers, Department of the Navy, Department of the Air Force), the Department of the Interior (USGS, Fish and Wildlife Service, National Park Service), NOAA, the Food and Drug Administration, and the Department of Transportation. Gulf State partners include: Gulf State environmental agencies, natural resource agencies, departments of health and agriculture, and marine fisheries commissions. Non-government partners include: American Farm Bureau - Gulf of Mexico Committee, Gulf of Mexico Business Coalition, Gulf Restoration Network, and 5 citizens from each Gulf State appointed by the governors.

The Chesapeake Bay Program is a partnership between Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission (a tri-state legislative body), and the EPA, which represents the Federal government. The Bay Program was formed in 1983, and operates in a consensus fashion. The Bay Program has nine subcommittees which focus on specific issue areas (e.g., toxics, nutrients, and communications).

The Chesapeake Bay Program also has a Federal Agencies Committee, 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 few years 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*. In the past year, several significant commitments have been met. These include the inclusion of the Chesapeake Bay protective language in all General Services Agency leases in the watershed, the analysis of septic system function at thousands of U.S. Postal Service facilities throughout the watershed, the creation of a guidebook for Federal landowners on conservation landscaping.

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 U.S. 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 going through the review process. As part of the implementation of this strategy, 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 committee is also coordinating the research efforts among federal agencies to assess the impacts of nutrients and hypoxia in the Gulf of Mexico.

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 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)
Resource Conservation and Recovery Act (RCRA)
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
Clean Air Act Amendments (CAA)
Pollution Prevention Act (PPA)

Research

Safe Drinking Water Act
Clean Water Act
Toxic Substances Control Act

Environmental Protection Agency

FY 2002 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective #3: 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 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Reduce Loadings and Air Deposition	\$1,981,357.1	\$2,019,714.2	\$1,994,941.9	\$1,711,184.5
Environmental Program & Management	\$124,463.6	\$136,265.7	\$150,079.4	\$132,931.8
Science & Technology	\$11,272.5	\$6,748.8	\$8,770.1	\$5,852.9
State and Tribal Assistance Grants	\$1,845,621.0	\$1,876,699.7	\$1,836,092.4	\$1,572,399.8
Total Workyears	863.1	588.5	863.0	852.0

Key Programs

(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Rural Water Technical Assistance	\$3,095.0	\$3,586.1	\$3,889.6	\$435.4
Effluent Guidelines	\$22,372.2	\$21,116.9	\$21,782.4	\$21,492.3
NPDES Program	\$30,862.6	\$36,274.9	\$39,405.2	\$40,249.6
State Nonpoint Source Grants	\$200,000.0	\$200,000.0	\$237,476.8	\$237,476.8
National Nonpoint Source Program Implementation	\$16,033.7	\$15,401.1	\$16,170.7	\$16,342.4

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Water Infrastructure: Clean Water State Revolving Fund (CW-SRF)	\$1,350,000.0	\$1,345,421.3	\$1,347,030.0	\$850,000.0
Water Infrastructure: Alaska Native Villages	\$30,000.0	\$30,000.0	\$34,923.0	\$34,923.0
Water Infrastructure: Boston Harbor	\$50,000.0	\$0.0	\$0.0	\$0.0
Water Infrastructure: Bristol County	\$2,610.0	\$2,000.0	\$1,935.7	\$0.0
Water Infrastructure: New Orleans	\$6,525.0	\$3,800.0	\$0.0	\$0.0
Watershed Research	\$10,297.5	\$7,481.8	\$7,872.1	\$5,852.9
EMPACT	\$0.0	\$0.0	\$100.1	\$0.0
Project XL	\$211.3	\$220.5	\$238.2	\$0.0
Water Infrastructure: Sewer Overflow Control Grants	\$0.0	\$0.0	\$0.0	\$450,000.0
Rent, Utilities and Security	\$0.0	\$12,038.3	\$11,354.5	\$12,115.8
Administrative Services	\$541.1	\$2,327.0	\$3,269.3	\$3,087.4
Regional Management	\$0.0	\$1,747.2	\$2,308.1	\$2,206.2

FY 2002 Request

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 and nonpoint sources. Under the National Pollutant Discharge Elimination System (NPDES) program (which includes NPDES permits, urban wet weather issues, the pretreatment program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls), specific limits are set for pollutants discharged from point sources into waters of the United States. These limits are designed to ensure that national technology based standards (effluent limitations and guidelines) and water quality based requirements are adequate to meet water quality standards throughout the country. Financial assistance to states, interstate organizations, and tribes for many of these programs is provided through the Section 106 grant program included under Objective 2 of the Clean and Safe Water Goal: Conserve and Enhance Nation's Waters. EPA also provides financial assistance through the Clean Water State Revolving Fund (CWSRF) program to states for the construction of wastewater treatment facilities, implementation of projects to manage and reduce nonpoint source pollution, and execution of other water quality management projects. The program is encouraging the use of CWSRF loans to finance

the highest priority projects on a watershed or statewide basis and continued flexibility for states to direct loan funds to their greatest infrastructure needs, whether wastewater or drinking water. Additionally, the program provides grants for Alaska Native Villages, Indian Tribes, and other communities with special needs.

These base programs have been largely responsible for the substantial progress made to date in reducing water pollution. Providing states with continuing support is essential to achieving this objective and the overall goal of clean and safe water. EPA, in partnership with the states, will continue to ensure that all facilities required to have permits will have permits that are effective and include all conditions needed to ensure water quality protection. The Agency will continue its efforts to promote innovation in the NPDES and pretreatment programs. In addition, the Agency will continue to reorient both the NPDES and CWSRF programs to a watershed focus, and 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.

The Agency will propose effluent limitations guidelines for three major industrial sectors: meat products, container and drum, and construction and development. EPA will promulgate final effluent guidelines for the coal mining and iron and steel industries. These guidelines will then be incorporated into NPDES permits as they are issued or reissued by the NPDES permitting authority. The Agency will also continue to work on effluent limitations guidelines to address the adverse environmental impacts of cooling water intake structures. In 2002, EPA will propose a rule for existing facilities and promulgate a final rule for new facilities.

The Agency continues to emphasize control of wet weather sources of pollution from combined sewer overflows CSOs, sanitary sewer overflows SSOs and storm water, and will focus greater attention on the impacts of contaminated sediment. Sewer overflows result in thousands of discharges of raw sewage annually and municipal point sources are a leading source of water quality impairment generally. Nationally, urban runoff and storm sewers are a leading cause of impairment in estuaries, lakes, and rivers surveyed by states. Implementing cost-effective wet weather programs will pose new challenges for EPA, states, cities, and industry -- both technologically and financially. To assist with the financial challenges for 2002, the Agency is requesting \$450 million for state Sewer Overflow Control Grants to address CSO and SSO problems as authorized by the Consolidated Appropriations Act of 2000. The Consolidated Appropriations Act of 2000 provides the ability to better target funds to the communities with the greatest CSO and SSO needs, and to give priority to financially distressed communities. For 2002, EPA requests authority to disburse the funds directly to states using the CWSRF allotment formula, in order to quickly address CSO and SSO problems. A new allocation formula will be developed for FY 2003. The Agency will set aside up to 1 ½ percent of these grants to address CSO and SSO problems on Tribal lands. States may allow communities to use loans from the CWSRF for required grant matching funds. States may also use the four percent set-aside authorized in the Consolidated Appropriations Act of 2000 for fiduciary management including project construction and completion oversight. The Agency plans to fund program development and administration using the one percent set-aside authorized in the Consolidated Appropriations Act of 2000.

During 2002, the Agency expects to 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 as required by the Consolidated Appropriations Act of 2000, and to issue modifications to the NPDES regulations to clarify capacity, management, operation and maintenance, and reporting requirements on unauthorized SSOs discharging into U.S. waters. The Agency will also support loadings reductions by helping states and municipalities integrate their water quality standards and CSO controls.

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 this year focus on wet weather-related applications for grants authorized under the Clean Water Act section 104(b)(3) for research, investigations, training, demonstrations and studies aimed at reducing water pollution.

The Agency is implementing a multi-year strategy to address how it will minimize environmental and public health impacts from AFOs over the next decade and beyond. EPA is working with states to develop and issue permits for all concentrated animal feeding operations (CAFOs) greater than 1,000 animal units and is working to update 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 U.S. Department of Agriculture to assist all AFO facilities in developing comprehensive nutrient management plans.

In 1998, the Office of Inspector General identified the NPDES permit backlog as a candidate for material weakness under FMFIA. The backlog in EPA-issued permits had tripled over the past 10 years; and the backlog in state-issued permits had doubled over this time. To address this issue, a multi-year backlog reduction plan has been developed and is being implemented. The plan calls for better defining the backlog, streamlining the program, and providing technical support and training to Regions and states. In 2002, EPA has established a target for the backlog of current permits for major point sources at 10 percent, which is an improvement from 28% in May 1999.

EPA provides financial assistance through the CWSRF program for the construction of wastewater treatment facilities and implementation of nonpoint source and estuarine management plans. For 2002, the Agency is requesting \$850 million for the Clean Water State Revolving Fund. Federal capitalization of the 51 state funds is critical to support point and nonpoint source programs to reduce pollutant discharge levels. The effective and efficient operation of state programs are critical to the success of the national SRF programs.

The CWSRF investment will help fulfill the Agency's commitment to capitalize the CWSRF in order for state SRFs to provide an average of \$2 billion in annual financial assistance even after Federal capitalization grants end. More than \$18 billion has already been provided to capitalize the CWSRF, over twice the original Clean Water Act 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 \$34 billion, of which more than \$30 billion has been provided to communities as financial assistance. As of June 30, 2000 \$3.4 billion remains available for loans.

The dramatic progress made in improving the quality of waste water treatment since the 1970s is a national success. In 1972, only 84 million people were served by secondary or advanced wastewater treatment facilities. Today, 99 percent of community wastewater treatment plants, serving 181 million people, use secondary treatment or better.

In addition, the Agency requests continuation of authority provided in the 1996 Safe Drinking Water Act (SDWA) Amendments which allows 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. Unless extended, the transfer provision expires September 30, 2001.

CWSRF and DWSRF funding 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, increases in population and new treatment needs. In addition, increases in population and new treatment demands are straining financial resources. 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 over 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. In addition, the Agency is continuing to broaden its Clean Watersheds Needs Survey to include more location specific and nonpoint source pollution controls information, and to support the states in making CSO and SSO project funding decisions.

On a national scale, States report that leading sources of pollution include urban runoff and storm sewers, agriculture, and municipal point sources. Other sources cause water pollution problems on a site specific basis. Point-source pollution has been so greatly reduced, that now non-point sources are the leading cause of 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, and, with the Office of Research and Development (ORD) support, the establishment of an Environmental Technology Verification Center to address control technologies for nonpoint source urban wet weather flows, and wastewater treatment systems for small communities. The agency also provides community technical assistance through our sponsorship and work with the National Environmental Training Center for Small Communities, the Rural Community Assistance Program, and the National Small Flows Clearinghouse. A water efficiency program helps communities become aware of, and reduce, their rates of water use.

To improve public health and water quality in Indian Country, the Agency proposes to continue the 1 1/2% set-aside of the CWSRF for wastewater grants to tribes as provided in the Agency's 2001 appropriation. 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.

In addition to the CWSRF program, the Agency's water program is responsible for managing Water Quality Cooperative Agreements and the Section 106 grants which directly support state and tribal efforts to reduce point source loadings. The Agency continues to manage the construction grants close-out process and expects by the end of 2002 to have achieved success in closing out all but 13 pre-1992 projects. The program also provides grant assistance for environmental protection for Alaska Rural and Native Villages and Indian Tribes, and manages grant assistance for 476 wastewater treatment projects with total appropriations of nearly \$3.5 billion.

The 2002 request includes \$34.9 million for the wastewater and water infrastructure projects in Alaska rural and Native Villages.

EPA does not regulate septic systems. However, poorly-sited and maintained systems pose a risk to drinking wells and surface water, drinking water supplies, home basements, yards, shellfish beds, aquatic life and the supporting ecosystem. Properly managed septic, or "on-site-decentralized wastewater 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 of voluntary management standards that states may adopt and municipalities may implement.

According to States, pollution from nonpoint sources remains the single largest cause of water pollution, with agriculture identified as a leading cause of impairment in 25% of the river miles surveyed. In order to meet this objective and restore and maintain water quality, significant loading reductions from nonpoint sources (NPS) must be achieved. Because EPA does not have direct authority to regulate NPS under the Clean Water Act, State NPS programs are critical to our overall success. EPA will continue to provide Section 319 non-point source grants to states for on-the-ground projects and, also, to encourage States to provide CWSRF funding for high priority projects that address nonpoint source and estuary projects.

In order to reduce nonpoint source related water quality impacts, EPA has been working with the States to strengthen their nonpoint source 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 ASIWPCA will continue the State/EPA nonpoint source management partnership to help States identify and meet their technical and programmatic needs.

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 nonpoint source management programs. These programs were conditionally approved by EPA and NOAA in 1998 and to

date, only four out 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 conditional approvals expire. EPA and NOAA support the integration of states' nonpoint source management programs and their coastal nonpoint source management programs.

EPA's nonpoint source program provides program, technical, and financial assistance to help states and tribes implement programs to control various forms of runoff. While agricultural sources are the most significant category of nonpoint source runoff, state NPS programs address all categories of NPS runoff with a mix of voluntary and state regulatory approaches. These state programs are the primary means for achieving nonpoint source load reductions called for in Total Maximum Daily Loads (TMDLs). EPA will work with states to facilitate using Clean Water Act Section 319 funds and the CWSRF to implement state TMDLs. EPA's nonpoint source program works closely with a number of other Federal agencies to help reduce runoff and encourage private sector partnerships to spur voluntary adoption of NPS controls. In 2002 and on a continuing basis, new tools, best management practices, and NPS and contaminated sediment control strategies will need to be developed in cooperation with States, tribes, other Federal agencies and the private sector.

Tribal participation in the Nonpoint Source Control Program under CWA section 319(h) has steadily increased. The number of tribes receiving 319(h) grants has risen from two in 1991 to over thirty in 2001. Sixty-five tribes have met the eligibility requirements to receive 319(h) program grants. This number is expected to increase annually as more of the 564 federally recognized tribes become eligible to participate in the 319(h) program. EPA conducts several tribal workshops every year with the primary objective of increasing the number of tribes which are program eligible. Due to increasing demand for limited tribal grant funds, EPA supports continued elimination in FY 2002 of the current statutory ceiling on the percentage of Section 319 grant funds that may be awarded to tribes/tribal consortia for nonpoint source activities.

Section 319 grants will be targeted to support implementation of States' priority NPS and watershed protection activities such as Watershed Restoration Action Strategies, including those implementation actions necessary to support NPS management and controls specified in TMDLs.

The Agency will continue efforts to assess the risks associated with and reduce atmospheric deposition of pollutants, particularly nitrogen and mercury, using both Clean Water Act 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 is one of the priority areas to ensure clean water and safe drinking water. Pollution from urban and rural non-point sources during and after rainfalls is now one of the largest 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. EPA will continue to develop and validate effective watershed management strategies for controlling WWFs, especially when they are high volume and toxic. This research will also develop and provide effective evaluation tools necessary to make timely and informed decisions on beach advisories and closures.

Due to the high cost of employing currently available technology, solutions to WWF control are difficult to implement. Research will emphasize pollution prevention strategies, primarily through the investigation of best management practices (BMPs), to avoid or minimize the generation of WWF contaminations. EPA will also conduct research to develop decision support tools to evaluate and verify improved watershed management strategies. Watershed management research will investigate techniques for reclaiming storm water and defining the conditions when secondary uses are both desirable and economically possible. This program is designed to promote “community-based” decisions by developing decision support tools and alternative WWF control technologies for use by local decision makers involved in watershed management and pollution control.

Research will also focus on the growing evidence of the risks 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 sources (e.g., sanitary sewer overflows, combined sewer overflows, and storm water) and non-point sources (e.g., animal feedlots and malfunctioning septic tanks). In FY 2002, the beaches research program will continue to develop monitoring and risk communication alternatives in order to provide water quality managers with tools to make timely and informed decisions on beach advisories and closures following wet weather flow events into public recreational water areas. Improved indicators and exposure pattern data are needed for epidemiology studies in order to establish the link between water quality indicators and the level of exposure to pathogenic disease end points.

FY 2002 Change from FY 2001 Enacted

EPM

- C (-14.0 FTE) EPA will reduce FTE in the areas of effluent guideline development, SRF management, and point source reduction efforts.
- C (+5.0 FTE) This increase will support management of existing grants programs, as well as the new sewer overflow control grants program.

- C (+\$1,656,500) This increase reflects the an increase in workforce costs including workforce costs to support grants management.
- C (-\$19,065,200) The FY 2002 request is \$19,065,200 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's request.

STAG

- C (-\$497,030,000) This change is due to shifting resources in the FY 2001 Enacted Budget from the Clean Water SRF. The request of \$850 million is consistent with achieving the long standing goal for the CWSRF to revolve at an average of \$2 billion per year after Federal capitalization grants end. To date, more than \$18 billion has been appropriated in capitalization grants. This amount, combined with state matching and leveraging, has allowed the SRFs to provide over \$30 billion in financial assistance to communities.
- C (+\$450,000,000) This increase is for new sewer overflow control grants to address Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs). Many sewer overflows result in the release of raw sewage to the nation's waters and municipal point sources are a significant source of water quality impairment generally.
- C (-\$216,855,600) The FY 2002 Request is \$216,855,600 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's request.

Research

S&T

- (-\$1,945,700) The FY 2002 Request is \$1,945,700 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request

Annual Performance Goals and Performance Measures

Biosolids and Beneficial Reuse

- In 2001 Increase the beneficial use of the approximately 7 million dry weight tons of biosolids produced each year.
- In 2000 50% of biosolids are beneficially reused.
- In 1999 50% of biosolids are beneficially reused.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
POTWs beneficially reusing all or a part of their biosolids and, where data exists, the percent of biosolids generated that are beneficially reused.	50		55	55	% biosolids

Baseline: An estimated 50% of biosolids are being beneficially reused.

Reducing Industrial Pollutant Discharge

In 2002 Industrial discharges of pollutants to the nation's waters will be significantly reduced through implementation of effluent guidelines.

In 2001 Industrial discharges of pollutants to the nation's waters will be significantly reduced through implementation of effluent guidelines.

In 2000 Industrial discharges of pollutants to the nation's waters were significantly reduced through implementation of effluent guidelines.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Reduction in loadings for toxic pollutants for facilities subject to effluent guidelines promulgated between 1992 & 2000, as predicted by model projections. (cumulative)		3.8	9.8 million	10.5 million	pounds
Reduction in loadings for conventional pollutants for facilities subject to effluent guidelines promulgated between 1992 & 2000, as predicted by model projections. (cum)		472.7	552.7 million	572 million	pounds
Reduction in loadings for non-conventional pollutants for facilities subject to effluent guidelines promulgated between 1992 and 2000, as predicted by model projections. (cum)		135.6	935.6 million	1,007 million	pounds

Baseline: Flow data is not available for some point sources in PCS. EPA will model loadings from permits issued based on effluent guidelines promulgated between 1992 and 1999.

NPDES Permit Requirements

In 2002 Current NPDES permits reduce or eliminate 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.

In 2001 Current NPDES permits reduce or eliminate 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.

- In 2000 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, combined sewer overflows (CSOs), and concentrated animal feeding operations (CAFOs).
- In 1999 Quantified the number of AFOs that were permitted by EPA and states and the extent the permits included manure management requirements.
- In 1999 It was determined that developing a national inventory of AFOs and estimates of pollutant loadings was not feasible since there are as many as 450,000 AFOs and rapid changes are occurring in a number of facilities.
- In 1999 Cannot determine # of industrial and construction stormwater sources. Can determine # of states that issue permits. For all industrial activities operating in the state, 92% of states and territories and for construction sites over 5 acres, 88% of states and territories have current permits.
- In 1999 An assessment of necessary elements of a comprehensive general permit has been developed to aid Regions and States in issuing permits to concentrated animal feeding operations.
- In 1999 830 CSO communities (92%) are covered by permits or other enforceable mechanisms consistent with the 1994 CSO policy. (Note: this result may reflect overcounting and implementation of only portions of the CSO Policy.)
- In 1999 71% of major point sources are covered by current NPDES permits.
- In 1999 513 communities implemented requirements in Stormwater Phase I permits (MS4s) and / or CSO Long Term Control Plans (LTCs) that are anticipated to contribute to improvements in their local watersheds.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Major point sources are covered by current permits.		72	89%	90%	point sources
States with current storm water permits for construction sites over 5 acres.		89	100	100	% states
States with general NPDES permits for CAFOs > 1,000 animal units or with individual NPDES permits for all CAFOs > 1,000 animal units consistent with the AFO Strategy and guidance.		48	100		% states
Comprehensive methodology developed for documenting pollutants removed through increased SSO, CSO and storm water treatment, and increased wastewater treatment to secondary or better standards.			1		methodology
Permittees (among the approximately 900 CSO communities nationwide) that are					

covered by NPDES permits or other enforceable mechanisms consistent with the 1994 CSO policy.	92	90	100	100	% permittees
States with current general NPDES permits for CAFOs or with individual NPDES permits for all CAFOs				100	% states
Comprehensive methodology tested for documenting pollutants removed through increased SSO, CSO and storm water treatment, and increased wastewater treatment to secondary or better standards.				1	methodology
Minor point sources are covered by current permits.		70	66%	73%	point sources
States with current storm water permits for all industrial activities operating in the state.		83	100%	90%	% states
Completion of AFO documents.	1				document
Inventory of Animal Feeding Operations/estimate loadings.	0				inventory
Quantity of AFOs which are permitted	1				list
Major point sources that have a current NPDES permit.	71				% maj.pt.sracs
Communities that will have local watersheds improved by controls on CSOs and stormwater	513				communities
Facilities w. a discharge requiring an indiv. permit that a) are covered by a curr. indiv. NPDES perm.; b) have expir. perm.; c) have applied but not been issued a perm.; & d) have perm. under appeal					
Storm water sources assoc. with indust. activity, construction sites over 5 acres, and desig. storm water sources (incl. municipal Phase I) that are covered by a current indiv. or gen. NPDES permit.		Not available			% SW sources

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.

Construction Grant and Special Project Closeout

- In 2002 Reduce point source loadings by expediting completion of projects funded under Clean Water Act Title II (construction grants) and special project STAG grants.
- In 2001 Reduce point source loadings by expediting completion of projects funded under Clean Water Act Title II (construction grants) and special project STAG grants.
- In 2000 Reduced point source loadings by expediting completion of projects funded under Clean Water Act Title II (construction grants) projects and special project State and Tribal Assistance Grants (STAG).
- In 1999 340 construction grants projects remain to be closed out.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Construction grants projects awarded after FY91 closed out within 7 years of grant award.			90	90	% grants
Construction grants projects awarded before FY92 remaining to be closed out.		175	45	13	projects
Construction grants projects (both those awarded before FY92 and after FY91) remaining to be closed out.	340				projects
Special project STAG grants closed out within 7 years of grant award.			90	90	% grants

Baseline: As of September 1998, 439 construction grants projects remained to be closed out, according to biannual reports from the Regions. As of September 1998, three special project STAG grants had been closed out according to biannual reports submitted by the EPA Regions to EPA Headquarters. Special project STAG grants were first established in 1994.

Effluent Guidelines

- In 2002 Take final action on 2 and propose 3 effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.
- In 2002 Take final action on 1 and propose 1 rule to reduce the damage to the aquatic environment caused by cooling water intakes.
- In 2001 Take final action on 2 and propose 2 effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.

In 2000 Took action on effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.

In 1999 Took final action on one and proposed two effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Effluent guidelines proposed or promulgated	2/1	1/4	2/2	3/2	rules
316(b) regulations proposed or promulgated				1/1	rules

Baseline: Baseline is not applicable since these are new effluent guidelines.

Pretreatment Program Audits

In 2002 Prevent pass through of pollutants to sludge and the nation's waters and protect POTW operations by auditing all approved pretreatment programs over a 5-year period to ensure that 1500 effective pretreatment programs control over 30,000 significant industrial dischargers.

In 2001 Prevent pass through of pollutants to sludge and the nation's waters and protect POTW operations by auditing all approved pretreatment programs over a 5-year period to ensure that 1500 effective pretreatment programs control over 30,000 significant industrial dischargers.

In 2000 25% of approved pretreatment programs were audited in FY 00

In 1999 20.5% of approved pretreatment programs were audited in FY99 and approximately 80% of pretreatment programs were audited over the previous 5 years.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Approved pretreatment programs audited in the reporting year. Of those, the number of audits finding significant shortcomings and the number of local programs upgraded to achieve compliance.		332	100%	100%	over 5 years

Baseline: At the end of FY99, 1,360 audits had been conducted since October 1, 1994. There are 1,369 pretreatment programs; however, some of the programs were audited more than once.

Clean Water State Revolving Fund: Annual Assistance

In 2002 Reduce point and nonpoint source loadings by managing the \$30 billion in CWSRF assets to encourage use of state funds for state high-priority projects.

In 2002 700 projects funded by the Clean Water SRF will initiate operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 7,900 projects will have initiated operations since program inception.

- In 2001 Reduce point and nonpoint source loadings by managing the \$30 billion in CWSRF assets to encourage use of state funds for state high-priority projects.
- In 2001 700 projects funded by the Clean Water SRF will initiate operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 7,200 SRF funded projects will have initiated operations since program inception.
- In 2000 Effectively implemented the Clean Water State Revolving Fund (CW SRF) program to ensure annual assistance of approximately \$2 billion.
- In 1999 41 states and Puerto Rico conducted separate annual audits of their SRFs.
- In 1999 30 states met "pace of the program" measures for loan issuance and pace of construction.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
CW SRF projects that have initiated operations (cumulative).			7,200	7,900	SRF projects
States that are using integrated planning and priority systems to make CW SRF funding decisions (cumulative).			17	18	states
States that meet or exceed "pace of the program" measures for loan issuance and construction (cumulative).	30	20	35		states
States and Puerto Rico that conduct separate annual audits of their CW SRFs	41	42	45		states
National CWSRF Federal Return on Investment, as measured by cumulative assistance disbursed divided by cumulative federal outlays. (Base of \$1.73 in 1999)				\$1.90	ratio
National CWSRF loans as a percentage of funds available, as measured by the ratio of cumulative loan agreement dollars to the cumulative funds available for loans. (base of 87.5% in 1999)				90 %	ratio
EPA will report to Congress on the pace of the Clean Water State Revolving Fund Program.		1	1		report

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 SRF funding decisions. NIMS shows 3,909 SRF projects initiated as of June 1998.

Improving Wastewater Sanitation in Indian Country

- In 2002 Increase protection of human health in Indian Country by providing adequate wastewater sanitation to more of the 71,028 homes in Indian Country with inadequate wastewater sanitation systems.
- In 2001 Increase protection of human health in Indian Country by providing adequate wastewater sanitation to more of the 71,028 homes in Indian Country with inadequate wastewater sanitation systems.
- In 2000 Reduced, by 6%, the number of homes in Indian Country with inadequate wastewater sanitation systems.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Homes in Indian Country whose residents are provided with adequate wastewater sanitation systems through funding from the CW SRF Tribal Set Aside Program (cumulative).		6	9	13	% homes

Baseline: Annual reporting established in FY 1998 by EPA and the Indian Health Service shows 71,028 homes in Indian Country without adequate treatment.

Wastewater Treatment Facility Compliance

- In 2002 Protect human health and avoid increased point source loadings by helping the approximately 17,000 small U.S. wastewater treatment systems to maintain permitted performance levels.
- In 2001 Protect human health and avoid increased point source loadings by helping the approximately 17,000 small U.S. wastewater treatment systems to maintain permitted performance levels.
- In 2000 872 Wastewater treatment facilities prevented from going into CWA non-compliance or assisted in moving toward compliance through assistance under CWA Section 104(g).

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Wastewater treatment facilities maintaining permitted performance levels through assistance under Section 104(g) of the CWA.		872	744	775	facilities

Baseline: In 1998, 890 facilities were assisted to improve, maintain, or achieve compliance.

Wastewater Treatment

- In 2002 Reduce human health risks and nonpoint source loadings from the approximately 11 million failing septic systems that pollute drinking water supplies, playgrounds and beaches, back up into homes and damage shellfish and other aquatic life.
- In 2001 Reduce human health risks and nonpoint source loadings from the approximately 11 million failing septic systems that pollute drinking water supplies, playgrounds and beaches, back up into homes and damage shellfish and other aquatic life.
- In 2000 Another two million people are receiving the benefits of secondary treatment of wastewater, for a total of 181 million people.
- In 1999 Another 3.4 million people received the benefits of secondary treatment of wastewater, for a total of 179 million.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
States which adopt the Voluntary Management Standards Program for On-site Wastewater Treatment Systems.			2	2	states
CW SRF projects that have initiated operations (cumulative).		6,519			SRF projects
Additional people who will receive the benefits of secondary or better treatment of wastewater	3.4	2.07			M People
Baseline:	The Agency's National Information Management System shows 3,909 SRF projects initiated as of June 1998.				

Wet Weather Project Grants

- In 2002 Reduce point source loadings by providing wet weather project grants authorized by the Wet Weather Water Quality Act of 2000.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Wet Weather Grants program developed and guidance including priority project criteria published.				1	guidance
Baseline:	Baseline is not applicable since these are new wet weather grant guidelines.				

Reducing Nonpoint Source Pollution

- In 2002 Reduce nonpoint source sediment and nutrient loads to rivers and streams.
- In 2001 Reduce nonpoint source sediment and nutrient loads to rivers and streams.
- In 2000 49 States upgraded their nonpoint source programs, to ensure that they are implementing dynamic and effective nonpoint source programs that are designed to achieve and maintain beneficial uses of water.
- In 1999 In support of the Clean Water Action Plan, 11 additional states have upgraded their nonpoint source programs, to ensure that they are implementing dynamic and effective nonpoint source programs that are designed to achieve and maintain beneficial uses of water.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
AFOs for which Comprehensive Nutrient Management Plans (CNMPs) are developed (cumulative).			5%	10%	AFOs
Clean Water SRF loaned for projects to prevent polluted runoff.		6	10		% CW SRF
Number of coastal States and Territories with fully approved coastal nonpoint pollution control programs under the Coastal Zone Act Reauthorization Amendments of 1990. (cumulative)				18	states/tribes
Number of States and Territories reporting data on their ongoing progress in implementing their nonpoint source programs, including geo-location of projects and load reduction estimates.				56	states/tribes
Clean Water SRF loaned for projects to prevent polluted runoff (annual)				200	M dollars
EPA approvals of state submitted upgraded nonpoint source programs (incorporating the 9 key elements outlined in national Nonpoint Source Program and Grants Guidance for FY97 and Future Years).	11	49			states

Baseline: No CNMPs have yet been developed. As of September 1998, 24 states were funding nonpoint and estuary projects with their SRFs.

Verification and Validation of Performance Measures

Goal2, Objective 3:

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

Performance Database: The Permits Compliance System (PCS) will be used to determine which permits have not exceeded their expiration dates.

Data Source: Regions and States will enter data into PCS.

QA/QC Procedures: HQ will review data submitted by States and ensure that the data are used to update PCS. 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 Code (SIC), lat/long, Hydrologic Unit Code (HUC), reach, flow, issuance date, expiration date, application received date, effective date, etc.). These reports were distributed in January to State and Regional PCS, National Pollutant Discharge Elimination System (NPDES), and Geographic Information Systems (GIS) coordinators to allow States to "see what we see" when we view PCS data. If discrepancies exist between State and PCS data, OW will identify and make 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 hardcopy). EPA hopes to populate fields in PCS that are currently blank where data exist at the State level.

Data Quality Review: OIG audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. OW will be categorizing the form in which the data exist at the State level (e.g., currently in PCS, currently in a separate State system, currently in hard copy only). As EPA creates a picture of national NPDES data availability, staff will work with individual States and Regions to tailor approaches to getting key data into PCS. OW will offer data upload, data entry, and, if necessary, data compilation support to States and anticipates completion of the project by the end of the calendar year.

Data Limitations: There are significant data gaps for minor facilities and discrepancies between State databases and PCS.

New/Improved Data or Systems: EPA Headquarters is providing contractor assistance to improve PCS data quality. By 2003, PCS is scheduled to be modernized to make it easier to use and to ensure that it includes all needed data to manage NPDES programs.

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

Performance Database: Clean Water State Revolving Fund National Information Management System

Data Source: Reporting by municipal and other facility operators. Entry by state regulatory agency personnel and EPA Regional staff. Collection and reporting once yearly.

QA/QC Procedures: Headquarters is responsible for collecting and compiling the data, and querying Regions as needed. Regions are responsible for collecting the data from their client states and reporting the data to HQ once yearly.

Data Quality Review: EPA Headquarters and Regions annually review the data submitted by states.

Data Limitations: None

New/Improved Data or Systems: This system began as of 1996. It is updated on a continuous basis, and database fields are changed or added as needed.

Performance Measure: **Reduction in Loadings for toxic pollutants, as predicted by model projections, for NPDES permitted facilities subject to effluent guidelines promulgated between 1992 & 2000; Reduction in loadings for conventional pollutants, as predicted by model projections, for NPDES permitted facilities subject to effluent guidelines promulgated between 1992 & 2000; Reduction in loadings for non-conventional pollutants, as predicted by model projections, for NPDES permitted facilities subject to effluent guidelines promulgated between 1992 & 2000.**

Performance Database: The numbers of permits issued in appropriate industrial categories are from the Permit Compliance System (PCS). These numbers are then put into the effluent guidelines model to determine the loading reductions.

Data Source: Regions will pull from PCS the numbers of permits issued based on appropriate Standard Industrial Codes (SIC).

QA/QC Procedures: Regions are responsible for determining which of the permits issued fall into the appropriate industrial effluent guideline categories. Headquarters will calculate the loadings based on the Effluent Guidelines development data.

Data Quality Review: OIG audits 8100076 (3/13/98) and 8100089 (3/31/98) mentioned the need for current data in PCS. As discussed above under point sources covered by current permits, OW has a project underway to improve PCS data quality for key data fields for facilities and discharge pipes (name, address, SIC, lat/long, HUC, reach, flow, issuance date, expiration date, application received date, effective date, etc.), which is scheduled to be completed by the end of the year.

Data Limitations: Flow data in PCS is not complete, so it must be supplemented with Effluent Guidelines development data. The effluent guidelines model provides loading assumptions based on the data collected to develop the guidelines. The numbers of facilities are multiplied by the loading per facility as predicted by the model.

New/Improved Data or Systems: EPA Headquarters is providing contractor assistance to improve PCS data quality. By 2003, PCS is scheduled to be modernized to make it easier to use and to ensure that it includes needed data.

Coordination with Other Agencies

National Pollutant Discharge Elimination System Program (NPDES)

Since inception of the NPDES program under Section 402 of the Clean Water Act, 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 U.S. 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 Department of Agriculture (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 plan to take, under existing legal and regulatory authority, 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.

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 Clean Water Act, 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 Department of Agriculture 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 Clean Water Act, 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 which 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 U.S. Department of Agriculture (USDA), which has a key role in reducing sediment loadings through its continued implementation of the Environmental Quality Incentives Program, the Conservation Reserve Program, and the Conservation Operations. USDA also plays a major role in reducing nutrient discharges through these same programs and through newer initiatives 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% 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. Finally, EPA is teaming with NOAA to institute and track a new annual performance goal regarding approval of States' coastal nonpoint source control programs.

EPA will also work with other federal agencies to implement the Unified Federal Policy for a watershed approach to federal land and resource management. This policy provides a foundation 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 the policy 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

Research on the ecosystem effects of Wet Weather Flows (WWFs) is divided 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.” 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. The WWF research plan’s projects 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 U.S. Department of Agriculture, the U.S. Centers for Disease Control (CDC), the Army Corps of Engineers (USACE), the U.S. Geological Survey (USGS), the Sanitary Sewer Overflow (SSO) Advisory Committee and Urban WWF Subcommittee, and plus numerous other national and international organizations that work to improve coordination and minimize duplication of WWF research.

EPA has numerous WWF research projects in which we partner with other federal and state agencies. For example, we have signed a four-year interagency agreement (IAG) with CDC to evaluate the feasibility of applying CDC/National Center for Infectious Diseases (NCID)-developed techniques to determine the animal source type of *Cryptosporidium* oocysts found in water supplies. This is an important facet of our source water protection research program. Once the contamination source type is determined, subsequent investigative and corrective measures that will protect source waters can be more focused and efficient.

EPA has also signed a three year 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 morphologic changes. Land use changes alter stormwater runoff patterns which upset the established equilibrium between the flow, the 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.

Finally, 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 also 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

Research

Clean Water Act
Clean Air Act
Coastal Zone Act Reauthorization Amendments of 1990
Safe Drinking Water Act
Toxic Substances Control Act