

Environmental Protection Agency

FY 2003 Annual Performance Plan and Congressional Justification

Clean and Safe Water

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

Resource Summary

(Dollars in thousands)

	FY 2001 Actuals	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Clean and Safe Water	\$3,627,441.4	\$3,827,784.3	\$3,214,674.2	(\$613,110.1)
Safe Drinking Water, Fish and Recreational Waters	\$1,171,900.7	\$1,356,291.1	\$1,148,425.1	(\$207,866.0)
Protect Watersheds and Aquatic Communities	\$448,020.6	\$463,061.1	\$435,814.7	(\$27,246.4)
Reduce Loadings and Air Deposition	\$2,007,520.1	\$2,008,432.1	\$1,630,434.4	(\$377,997.7)
Total Workyears	2,628.1	2,747.3	2,742.8	-4.5

Means and Strategy

To achieve the Nation's clean and safe water goals, EPA will operate under an overarching watershed approach in carrying out its statutory authorities under both the 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 sound science 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 based on good science, prioritization of effort, sound risk assessment, and effective risk management; 2) providing flexibility to the states in monitoring for certain contaminants and in setting time frames for compliance with regulations, and providing funding for improvements to drinking water infrastructure through the Drinking Water State Revolving

Fund (DWSRF); 3) establishing new prevention approaches, including provisions for operator certification, capacity development, and source water protection; and 4) providing better information to consumers, including consumer confidence reports.

EPA has a significant role in protecting public health from terrorist attacks on the nations critical water infrastructure. Through Presidential Decision Directive (PDD) 63, EPA is working through a public-private partnership to safeguard water supplies and wastewater treatment from terrorist acts. Using FY 02 base and supplemental funds, EPA and its partners, especially the American Water Works Association (AWWA) and the Association of Metropolitan Water Agencies (AMWA), fulfill this responsibility by providing technical and financial assistance to utilities to assess vulnerabilities of water supplies and to take appropriate actions to protect water systems.

EPA will continue 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 water quality criteria (including aquatic life, human health, biological, nutrient, and pathogen criteria), enhanced fish tissue monitoring, development of fish and shellfish consumption advisories, and risk assessment activities. 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. Beach water quality monitoring and public notification will be improved by providing grants to state and local governments as authorized under Section 406 of the Clean Water Act. These efforts help implement the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000 with its emphasis on developing strong monitoring and notification programs.

Key to the watershed approach is continued development of scientifically-based water quality standards and criteria under the CWA and better consolidated identification of waters not meeting these goals under Sections 303(d) and 305(b). Where water quality standards are not being met, EPA will work with states and tribes to improve implementation of a Total Maximum Daily Load (TMDL) program that establishes the analytical basis for watershed-based decisions on needed pollution reductions. To support states and tribes in their standards adoption and TMDL programs, EPA will continue to provide scientifically sound criteria and guidance for toxic chemicals, nutrients, biological integrity, microbial, and physical stressors. 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, strengthen the focus of state nonpoint source programs on protecting and restoring waterbodies, and target 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 with states to reduce the NPDES permit backlog and to expand data management/electronic information activities to include permit information on storm water, combined sewer overflows (CSOs), sanitary sewer overflows (SSOs), concentrated animal feeding operations (CAFOs), indirect discharges, and other emerging areas. Annual performance goals to reduce discharges

and to prevent pass through to the Nation's waters will identify these sources and model their loading reductions. With concrete information on the NPDES universe, including sufficient data to model loading reductions from all classes of discharges and integration of that information with other water quality data, EPA will be better able to describe the environmental improvements from approximately 550,000 point sources covered by NPDES permits.

EPA has moved forward to provide guidance and regulations to cover the expanding universe of NPDES facilities. The phase II storm water rule's permitting requirements become effective in FY 2003, and the CAFO rule will be issued in December 2002. Work to address CSOs and SSOs is also proceeding. EPA is completing guidance and data collection for reports to Congress as required by the Wet Weather Water Quality Act of 2000. Strategies are being developed for other emerging areas, such as pesticide discharges and invasive species, as well as expedited permitting of energy facilities.

The Clean Water SRF is an important tool for achieving clean and safe water by helping communities meet their significant needs for wastewater infrastructure over the next 20 years and providing increased support to address nonpoint source problems. The budget request includes \$1.212 billion for the CWSRF. This investment continues EPA's for the CWSRF to provide \$2 billion in average annual financial assistance over the long-term even after Federal assistance ends. Total SRF funds available for loans as of July 2001, reflecting loan repayments, state match dollars, and other sources of funding, are approximately \$37.7 billion, of which \$34.3 billion has been provided to communities as financial assistance. The Agency again 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 for one year.

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 programs to ensure that needed nonpoint source controls are implemented to achieve and maintain beneficial uses of water. In particular, EPA and the states are working together to better use the Clean Water Act Section 319 framework and funds to develop and implement nonpoint source TMDLs. States will continue to implement coastal NPS programs approved by EPA and the National Oceanic and Atmospheric Administration under the Coastal Zone Act Reauthorization Amendments, 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. In particular, the agency will focus its efforts on developing appropriate tools to assess wetlands extent and condition, increasing the success of wetlands restoration projects, and protecting vulnerable wetlands. EPA will be part of coordinated Federal

agency efforts to support conservation of fauna, including the North American Bird Conservation Initiative and Partners for Amphibians and Reptile Conservation.

EPA will work with states, tribes, municipalities, and the regulated community to ensure that the Phase II rules for the storm water program are implemented to address 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 *pfisteria*, and prevent dead zones and fish kills which can 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. Finally, EPA will have a coordinated strategy for protecting drinking water sources that includes microbial pathogen, chemical, and nutrient criteria.

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 research provisions of the 1996 Safe Drinking Water Act (SDWA) 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. The focus will be on filling key data gaps and developing analytical detection methods for measuring the occurrence of chemical and microbial contaminants on the Contaminant Candidate List (CCL). The Agency will develop and evaluate cost-effective treatment technologies for removing pathogens from water supplies while minimizing DBP formation, for maintaining the quality of treated water in the distribution system and for 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.

Research to support the protection and enhancement of aquatic ecosystems and their biotic components includes understanding the structure, function, and characteristics of aquatic systems, and evaluating exposures and effects of stressors on those systems. EPA is also working to develop biological and landscape indicators of ecosystem condition, sources of impairment, and stressor response/fate and transport models. The results of these efforts will improve risk assessment methods to develop aquatic life, sediment, habitat, and wildlife criteria, as well as risk management strategies and will help EPA and other Federal, state, and local agencies develop better baseline assessments of water quality. 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

ecological health assessment of the nation's waters, providing water resource managers with tools 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.

Research in this goal will also provide the scientific basis and technical support for program, regional and state efforts to protect and inform recreational water users. A sound scientific foundation connecting water quality indicators and human disease will be established. This research will also 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 (WWFs), including: (1) new and improved indicator methods to describe the toxic inputs to watersheds from WWFs; (2) methods to utilize condition and diagnostic ecological indicators in evaluating wet weather flow management strategies in preventing degradation of water and sediment quality by contaminated runoff; (3) methods for diagnosing multiple stressors in watershed ecosystems; and (4) evaluation of low cost watershed best management practices to evaluate risks associated with various control technologies for wet weather flows.

Strategic Objectives and FY2003 Annual Performance Goals

Safe Drinking Water, Fish and Recreational Waters

- 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.
- Reduce human exposure to contaminated recreation waters by increasing the information available to the public and decision-makers.

Protect Watersheds and Aquatic Communities

- 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.
- 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.

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

Reduce Loadings and Air Deposition

- Current NPDES permits reduce or eliminate loadings into the nation's waters of (1) inadequately treated discharges from municipal and industrial facilities (direct and indirect dischargers); and (2) pollutants from urban storm water, CSOs, and CAFOs.
- 900 projects funded by the Clean Water SRF will initiate operations, including 515 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 8,800 projects will have initiated operations since program inception.

Highlights

So that all Americans have water that is safe to drink, EPA will work to increase the percentage of the population that will 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.

In FY 2003, EPA will be completing final regulatory action on all contaminants specifically identified in the 1996 SDWA Amendments. Consequently, primary attention in FY 2003 will be focused on contaminants from the Contaminant Candidate List (CCL) and any potential revisions stemming from the statutorily mandated six year review of existing regulations. 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: 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. EPA is required to publish the second CCL in the *Federal Register* in August 2003. Also in 2003, the Agency will be revising, if necessary, existing national primary drinking water regulations that were reviewed in FYs 2001 and 2002 using the best available, peer-reviewed data on occurrence and associated health risks, analytical methods, and treatment technologies. Approaches to preventing contamination will continue to be emphasized and implemented in 2003 as EPA assists its partners and stakeholders in effectively implementing all available tools to protect vulnerable sources of drinking water supplies.

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.

The Targeted Watersheds Project is a new \$21 million program to provide grants to watershed stakeholders ready to implement comprehensive restoration actions. Targeted watersheds will be chosen based on criteria established in consultation with our state, local and other stakeholder partners, with emphases on value of the resource, likelihood of positive environmental outcomes, evidence of strong state/local government support, ability to leverage Agency resources, and readiness to proceed based on existing problem identification.

By FY 2003, with EPA's support, the National Estuary Program will have restored and protected an additional 25,000 acres of habitat, including sea grass and shellfish beds. In FY 2003, EPA will continue implementing appropriate management responses to harmful algal blooms and other marine pests and diseases. EPA will also implement the Agency-specific action plan in response to the Invasive Species Executive Order. Finally, EPA will implement management options resulting from its assessment of cruise ship and ballast water 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 covering municipal and industrial discharges, urban wet weather, large animal feeding operations, mining, the pretreatment program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls) establishes controls on pollutants discharged from point sources into waters of the United States. Key annual performance goals for FY 2003 are to reduce loadings of toxic pollutants, nonconventional pollutants, and conventional pollutants from all categories of NPDES permitted facilities. To ensure that all point sources are covered by current permits, EPA developed a backlog reduction strategy under which 90 percent of major permittees and 84 percent of minor permittees would have current permits in place by the close of FY 2003. In support of that effort, EPA is developing a permit prioritization strategy to expedite reissuance of permits of low significance with respect to revisions needed to protect water quality. 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 60 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-2001, states had invested nearly \$1.4 billion in nonpoint source pollution controls through the CWSRF.

Research

In FY 2003, EPA's drinking water research program will continue to conduct research to reduce the uncertainties of risk associated with exposure to microbial contaminants in drinking water and improve analytical methods and risk assessments to control risks posed by drinking water contamination. As required by the SDWA amendments, the first Contaminant Candidate List (CCL) was published in 1998 and included nine microbial contaminants in its Research Priorities Category that require more data before a regulatory determination could be made. The drinking water research program will continue to focus on microbial contaminants on future CCLs. Significant data gaps still exist on 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. Research efforts will also continue to support arsenic-specific research and development of more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. This work will include strategies for the acceptable control of water treatment residuals enriched with arsenic. The development of this crucial information will provide the scientific basis necessary to protect human health and ensure 95 percent of the population served by community water systems will receive water that meets health-based drinking water standards.

EPA is also conducting research on suspended solids and sediments (non-contaminated). 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 stressors associated with human activity that adversely affects aquatic habitats. Suspended solids and sediments have been identified among the leading causes of water quality impairment for streams and rivers. As part of EPA's efforts in FY 2003 to conserve and enhance the nation's waters, the suspended solids and sediments research program will continue to develop tools to determine background sediment levels 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 and non-point sources. In FY 2003, EPA is investing resources to complete a suite of epidemiological studies needed to establish a stronger, more defensible link between water quality indicators and disease. These epidemiological studies will provide reliable information about the relationship between recreational water quality and swimming-associated health effects. This will enable EPA to provide states with consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health.

External Factors

Drinking Water and Source Water

The 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. However, the need to preserve DWSRF funding for infrastructure purposes coupled with state hiring restrictions may have some 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 shallow injection wells of which two types are regulated through a rule promulgated in 1999, depends on state and local participation. Because of the sheer number of shallow injection wells - - over 600,000 nationwide - - 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 fish consumption advisory guidance; therefore, success depends on voluntary state/Tribal/local commitment to achieving these goals. The Agency will continue to develop scientifically sound water quality criteria to protect human health in order to reduce the number of fish advisories and beach advisories or closures necessary in the future.

The Beaches Environmental Assessment Act and Coastal Health (BEACH) Act of 2000 provides Federal funds for states and tribes to monitor pathogens at coastal and Great Lakes beaches and notify the public of advisories or closures; however, the states and tribes are not required to operate a program if they do not accept Federal funds. The Agency expects that all 35 eligible states or territories will begin to operate a federally funded program by FY 2003.

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

Without comprehensive, consistent monitoring of all the Nation's waters, we do not know how many waters should be under advisory or how many beaches should be closed. The resource demands of implementing a comprehensive monitoring program pose a significant challenge for the states and may be a limiting 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 agency and programs, Federal resource and protection agencies must work together with states and tribes to maximize achievements. Without continued government-wide coordination and commitment, we may not meet our water quality objectives. For example, coordination with and utilization of Farm Bill conservation programs are crucial, particularly to 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. Recent court rulings (and related future rulings) will also have a significant impact on efforts to achieve environmental objectives in the wetlands program.

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 including state consolidation of Section 305(b) reports and Section 303(d) lists. EPA is working with states to improve our tracking and measurement of NPS load reductions from the CWA Section 319 program. Also, as states adopt TMDLs, we will have specific targets for point source and NPS load reductions needed to meet water quality standards in impaired waters.

Point Sources

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 and 1 territory are currently authorized to carry out the NPDES program. EPA will also work with the states to reduce pollution from onsite- decentralized wastewater treatment systems, including septic systems. Surveys estimate that, nationally, about 10 percent of onsite-decentralized systems are malfunctioning. EPA is developing guidance to help states and local governments improve the way on-site decentralized systems are designed, sited, installed and managed to reduce water-related impacts.

Environmental Protection Agency

FY 2003 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Safe Drinking Water, Fish and Recreational Waters

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

Resource Summary (Dollars in Thousands)

	FY 2001 Actuals	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Safe Drinking Water, Fish and Recreational Waters	\$1,171,900.7	\$1,356,291.1	\$1,148,425.1	(\$207,866.0)
Environmental Program & Management	\$128,789.7	\$128,346.7	\$110,143.9	(\$18,202.8)
Science & Technology	\$52,429.6	\$144,126.2	\$69,230.1	(\$74,896.1)
State and Tribal Assistance Grants	\$990,681.4	\$1,083,818.2	\$969,051.1	(\$114,767.1)
Total Workyears	835.2	897.6	887.4	-10.2

Key Program (Dollars in Thousands)

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Administrative Services	\$783.6	\$0.0	\$0.0	\$0.0
Beach Grants	\$0.0	\$10,000.0	\$10,000.0	\$0.0
Congressionally Mandated Projects	\$129,188.8	\$143,897.2	\$0.0	(\$143,897.2)
Drinking Water Implementation	\$35,058.0	\$38,332.9	\$38,935.0	\$602.1
Drinking Water Regulations	\$36,181.1	\$28,597.4	\$30,034.0	\$1,436.6
EMPACT	\$793.9	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$12,624.6	\$12,116.5	\$12,372.6	\$256.1
Fish Contamination/Consumption	\$3,188.4	\$2,764.8	\$2,788.4	\$23.6
Homeland Security	\$1,963.2	\$86,058.1	\$16,946.5	(\$69,111.6)
Legal Services	\$1,135.4	\$1,206.3	\$1,317.6	\$111.3
Management Services and Stewardship	\$2,789.0	\$4,025.0	\$4,240.2	\$215.2
PWSS - Homeland Security	\$0.0	\$5,000.0	\$5,000.0	\$0.0
Preventing Contamination of Drinking Water Sources	\$22,424.7	\$23,470.2	\$22,096.8	(\$1,373.4)

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Regional Management	\$253.7	\$357.7	\$309.2	(\$48.5)
Safe Drinking Water Research	\$47,784.7	\$45,579.5	\$49,491.0	\$3,911.5
Safe Recreational Waters	\$917.9	\$834.4	\$842.7	\$8.3
State PWSS Grants	\$93,100.2	\$93,100.2	\$93,100.2	\$0.0
State Pollution Control Grants (Section 106)	\$1,995.6	\$0.0	\$0.0	\$0.0
State Underground Injection Control Grants	\$10,950.9	\$10,950.9	\$10,950.9	\$0.0
Water Infrastructure:Drinking Water State Revolving Fund (DW-SRF)	\$823,185.0	\$850,000.0	\$850,000.0	\$0.0

FY 2003 Request

The Safe Drinking Water Act (SDWA) was enacted to protect the health of all Americans served by public water systems. In 1996 Congress amended the SDWA (the Amendments) in four key areas to strengthen the ability of EPA, states, and drinking water utilities to provide safe, adequate, and reliable drinking water supplies. First, the Amendments require that EPA develop drinking water regulations based on the best available science and data, sound risk assessment, and cost/benefit considerations. Special attention is also focused on the health effects of contaminants on sensitive subpopulations, such as children, the elderly, and immuno-compromised individuals. Second, the Amendments provide flexibility to the states in monitoring for certain contaminants and in setting time frames for compliance with regulations, and provides funding for improvements to drinking water infrastructure through the Drinking Water State Revolving Fund (DWSRF). This component is aimed at improving the abilities of states and utilities to implement drinking water regulations. Third, the Amendments focus on preventing contamination of drinking water sources, providing greater support for small drinking water systems and requiring operator certification programs. Fourth, the Amendments call for increased consumer awareness of safe drinking water by requiring drinking water utilities to provide annual reports to their customers on the quality of their drinking water supplies and to notify the public during drinking water emergencies.

In FY 2003, EPA, states, Tribes and utilities will continue to be engaged in a vast array of activities to provide safe and reliable drinking water, from protecting sources to ensuring consumers' confidence in the safety of their tap water. By the end of 2003, 92 percent of the population served by community water systems will receive drinking water meeting all health-based standards, up from 83 percent in 1994.

Preventing Contamination of Drinking Water Sources

Preventing contamination of drinking water sources, or source water protection, is a high priority for the national drinking water program. Source water protection is a common-sense, cost-effective way to protect public health. By reducing or preventing contamination before water reaches utilities, treatment costs to utilities, and therefore consumer utility bills, are lower. Such cost savings are particularly important for small systems and Tribes, which tend to have less technical, financial and managerial capacity to operate a drinking water system. And for the approximately 140 million Americans who get their drinking water from ground water sources,

source water protection is often the only barrier against contamination. EPA and its partners are working together to protect source water by conducting source water assessments, protecting wellhead areas and sole source aquifers, and ensuring proper disposal of waste through underground injection. Nonetheless, a variety of factors increasingly threaten the safety of drinking water, including the effects of population growth, chemical use, and animal wastes, among others.

Effective source water protection starts with a comprehensive assessment of threats to drinking water sources based on sound data, and a deliberate strategy to prevent contamination. By the end of FY 2003, almost all states are expected to have completed baseline source water assessments for over 54,000 community water systems nationwide, and to have made this information available to communities. For FY 2003, EPA's and the states' preliminary target for completed assessments in FY 2003 is 39,000 community water systems that serve approximately 196 million or 75 percent of the U.S. population. While this target falls short of the deadline established in the 1996 SDWA Amendments, both EPA and the states believe that their efforts are consistent with a time frame that ensures a thorough and comprehensive assessment of community water systems. Based on a review of some of the assessments completed so far, states indicate that significant amounts of data are being collected on the actual and potential sources of contamination in source water assessment areas and the susceptibility of the water supply to those contamination sources. These assessments are being shared with community leaders and the general public within those source water assessment areas and serve as a framework for states, Tribes, local government, community water suppliers, and public health and environmental organizations to implement a source water protection program. In FY 2003, EPA will assist its partners and stakeholders in effectively implementing all available tools and approaches to protect the vulnerable sources of drinking water supplies and expect that 2,600 community water systems will have source water protection programs in place. Two critical components of a source water protection program will be emphasized, i.e., the identification of relevant state and Federal programs to support local efforts to protect source water, and the development of community-level actions tailored to local conditions that will increase the capacity of the public to protect its water supplies. With effective source water protection programs in place, small systems' treatment costs are lower because the water is cleaner before treatment - leading to lower utility bills for consumers served by small systems.

Linking underground injection control and source water protection is a critical step toward a comprehensive contamination prevention program. EPA works with states and communities to ensure the proper underground injection of approximately 9 billion gallons of hazardous waste every year, over 2 billion gallons of brine from oil and gas operations every day, and significant amounts of automotive, industrial, sanitary and other wastes that are injected into shallow wells. While regulations have been in place for deep well injection of hazardous waste and oil and gas operations for a number of years, EPA and the states are in the early stages of addressing potential contamination of drinking water supplies from shallow well injection practices. Protecting source water from contamination from nonhazardous wastes injected into shallow wells, which are categorized as Class V injection wells, is the principal focus of a rule promulgated in 1999. This regulation concentrates on two types of shallow underground injection wells: large capacity cesspools and motor vehicle waste disposal wells for which there are an estimated 200,000 nationwide. By the end of FY 2002, 28 states and territories with primacy for the underground injection control (UIC) program are expected to have adopted the Class V rule. In 2003, the

Agency will work closely with 10 states and territories that are preparing or in various stages of adopting the rule. By the end of FY 2003, all states and territories that intend to have primary enforcement authority for this regulation will attain primacy.

EPA will implement a management strategy (including guidance, outreach, training and technical assistance) to protect source water from other types of Class V wells in FY 2003. There are 23 categories of the more than 686,000 Class V shallow injection wells in the U.S. They range from the such categories as large-capacity septic systems (approximately 353,000) to geothermal direct heat wells for which there are only 100 or less nationwide. This management strategy encourages states to employ a variety of management tools and best management practices to prevent contamination of ground water resources that serve as drinking water supplies.

The Agency will continue to provide states and Tribes with the technical assistance and support they need to implement regulations for the other classes of injection wells, such as hazardous and nonhazardous waste wells, and oil and gas production wells. EPA also will continue to implement, in full or in part, the UIC program for 17 states, the District of Columbia, and all federally recognized Tribes.

EPA has a significant role in protecting public health from terrorist attacks on the nation's critical water infrastructure. Through Presidential Decision Directive (PDD) 63, EPA is working through a public-private partnership to safeguard water supplies and wastewater treatment facilities from terrorist acts. Using FY 02 base and supplemental funds, EPA and its partners, especially the American Water Works Association (AWWA) and the Association of Metropolitan Water Agencies (AMWA), fulfill this responsibility by providing technical and financial assistance to utilities to assess vulnerabilities of water supplies and to take appropriate actions to protect drinking water and wastewater systems. By the end of FY 2002, EPA and its partners will have strengthened the coordination of several critical counter-terrorism activities across the public and private sectors. First, AMWA, with financial support from EPA, will have made significant progress in developing an Information Sharing and Analysis Center (ISAC), which uses a secure web-enabled system that allows utilities to share threat information with the FBI and other utilities. The ISAC is scheduled for completion in May 2003. Second, EPA and its partners will have disseminated effective guidance for remedial plans in the case of a terrorist act. Third, education and awareness programs will continue so that water systems personnel are fully knowledgeable of approaches to vulnerability assessments and appropriate remedial actions. Finally, financial and technical assistance will have been provided to the 360 largest drinking water systems to identify and correct vulnerabilities to potential terrorist attacks; most will have completed their assessments and begun taking remedial action and enhancing their emergency response plans.

Resources support development of tools and training materials to assist drinking water and wastewater utilities in conducting vulnerability assessments and developing emergency operating plans. Resources also support vulnerability assessments by drinking water utilities, and where such assessments have been completed, support other security planning and measures. Resources support State counterterrorism coordination to work with drinking water utilities on infrastructure security measures. Finally, resources support determining appropriate technologies to identify threats and remediate consequences of attacks.

Setting Drinking Water Standards

One of the Agency's fundamental responsibilities is to establish standards that protect public health from contaminants in drinking water. Consistent with both the authority and direction included in the SDWA, EPA fulfills this important responsibility by setting national primary drinking water standards. The 1996 SDWA Amendments included the requirements that drinking water regulations be based on sound science and health risk assessments, and that priorities be developed based on relative risks and health effects data. In addition, the Amendments require EPA to periodically evaluate the effectiveness of existing health-based standards in protecting public health.

The 1996 Amendments acknowledge the significant risk management challenge posed by microbial contaminants (i.e., bacteria, viruses and protozoa) in drinking water. This challenge remains despite widespread disinfection practices and major public health advances of the 20th century. Some pathogens, such as *Cryptosporidium*, are highly resistant to standard disinfection practices. In addition, disinfection itself poses human health risks, because disinfectants are unsafe at certain concentrations, and can react with naturally-occurring elements in water to form unintended "disinfectant byproducts" or DBPs. The 1996 SDWA Amendments require EPA to develop a set of regulations, called the Microbial- Disinfection Byproducts (M/DBP) rule cluster, that balance reducing the health risks from pathogens with limiting exposure to DBPs.

In FY 2003, EPA will complete its efforts related to the M/DBP rule cluster through the promulgation of the Long-Term 2 Enhanced Surface Water Treatment (LT2) rule, the Ground Water Rule (GWR), and the final Stage 2 Disinfection/Disinfection Byproducts (Stage 2) rule. These rules will expand human health protection against DBPs and microbial pathogens. LT2 requires public water systems at greater risk of microbial contamination to install additional treatment for *Cryptosporidium*, a pathogen which causes the gastrointestinal illness cryptosporidiosis. It is estimated that LT2 will prevent 53,000 to 542,000 cases of cryptosporidiosis annually, resulting in an estimated reduction of 10 to 104 cryptosporidiosis associated deaths. EPA expects that LT2 also will reduce pathogens that co-occur with *Cryptosporidium*, such as *Giardia*. The GWR establishes multiple barriers to protect ground water sources of drinking water against contamination by bacteria and viruses, and includes a targeted strategy to identify ground water-based systems at high risk for fecal contamination. Stage 2 will further mitigate potential health risks of cancer, developmental and reproductive effects from exposure to DBPs. Consistent with the 1996 Amendments, EPA will promulgate LT2 and Stage 2 together to ensure that drinking water systems are able to protect consumers from pathogens and DBPs concurrently. With the issuance of the Ground Water and LT2/Stage2 regulations, the Agency will have completed nearly all rules - both microbial and chemical - that were specifically identified in the 1996 Amendments. The TCR/Distribution rule, under the statutorily mandated six-year review process discussed below, will be proposed in 2003 and promulgated in 2004.

While regulatory development for specific contaminants cited in the 1996 SDWA Amendments will be phasing out, the Agency will be involved in implementing the unique provisions of the Amendments that make risk prioritization the basis on which the selection of

contaminants to regulate is made. Pursuant to the SDWA Amendments, the Agency must develop a Contaminant Candidate List (CCL) to aid in regulatory priority-setting for the national drinking water program. In establishing the CCL, EPA divided contaminants into three categories: 1) those that are priorities for additional research into health effects, treatment technology, or analytical detection methods; 2) those which need additional occurrence data, and; 3) those which require a regulatory determination. To support its efforts to set regulatory priorities, EPA is engaged in ongoing evaluation and analyses of the occurrence of chemical and microbiological contaminants in source water; outbreaks of disease/illness for microbiological occurrence; dose-response relationships for 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 specified contaminants. On the basis of these analyses, the Agency determines whether to regulate at least five contaminants on the CCL every five years. EPA is required to publish the second CCL (CCL2) in the Federal Register in August 2003. In support of the development of the CCL2, the Agency called upon the National Research Council (NRC) of the National Academy of Sciences to recommend a better methodology for screening and classifying contaminants being considered for future CCLs. EPA is evaluating the feasibility of adopting the NRC's recommendations as it proceeds to develop the CCL2. Among the areas the Agency is considering for improvement are: 1) involving stakeholders and encouraging public participation in CCL2 development, 2) determining how contaminants from the CCL1 will be reflected on the CCL2, 3) choosing the appropriate criteria for screening and classifying contaminants, and 4) increasing the identification and analysis of ongoing and emerging research to address occurrence issues, health effects, treatment technologies, and other issues that are central to implementing the new regulatory development approach set forth in the 1996 SDWA Amendments. In conjunction with rule making activities, EPA is working on identifying and developing methods for evaluating the health benefits associated with drinking water regulations. One or more CCL chemicals will be used as a prototype for methods development.

EPA is adopting a strategy for future actions to integrate and extend its current programs to reduce adverse impacts of microbiological contaminants in water. Specific goals of the strategy include identification of ongoing activities and enhancing our involvement in several areas: using mandates of the CWA and SDWA to provide an integrated approach to public health protection; developing analytic tools to identify and monitor for known and emerging pathogens; identification and control of pollutant sources so that waters will meet protective use criteria; coordination of regulatory and research activities, and; participation of public agencies and stakeholders.

The 1996 SDWA Amendments also require EPA to review and, if appropriate, revise all existing primary drinking water regulations no less frequently than once every six years. Any revisions to existing drinking water regulations must maintain or increase the level of public health protection provided. EPA may, however, identify changes that reduce existing regulatory requirements without lessening the level of public health protection. As a part of this effort, EPA has developed an overall protocol for the six-year review process. This protocol requires the use of the best available, peer-reviewed data on occurrence and associated health risks, state-of-the-art analytical methods, and review of the best available treatment technologies. By August 2002, EPA will have completed its review of 67 National Primary Drinking Water Regulations (NPDWRs) for inorganic, synthetic organic, and volatile organic chemicals regulated prior to 1996, at which time it

will publish a *Federal Register* notice that lists which contaminants will be subject to revision, and their regulatory schedule. In FY 2003, EPA will begin to revise NPDWRs listed in August 2002. In revising the regulations, the Agency will examine the best available scientific data, conduct sound risk assessments, and weigh the costs and benefits of proposed changes to ensure that the NPDWRs continue to provide the most feasible level of health protection for Americans served by public water systems.

In addition to completing the six-year review for 67 NPDWRs for chemical contaminants, the Agency will conduct separate reviews of the total coliform and atrazine regulations. In FY 2003, EPA anticipates developing a proposed Total Coliform Rule (TCR)/Distribution System regulation as agreed to in the September 2000 Federal Advisory Committee Act (FACA) Agreement in Principle. The FACA Committee, convened to advise the Agency in the development of the LT2/Stage 2 regulations, recognized the significant health risks from exposure from contaminants as a result of cross connections and backflow in aging distribution systems. Given these health risks, the FACA recommended that EPA begin a separate review of the TCR in January 2001 that will conclude in FY 2002. EPA anticipates that revisions to the TCR will streamline the monitoring and reporting requirements for drinking water systems, and the Distribution System part of the rule will protect consumers from health risks associated with the contamination of finished water.

As part of the six-year review process, and in response to the Children's Health Advisory Committee's (CHAC) recommendations, EPA has committed to a review of the atrazine rule in FY 2003. The CHAC recommended a review of the atrazine regulation given new information on the hormonal and developmental effects in children exposed to this pesticide. The review schedule for atrazine is on a separate track from the other NPDWRs to accommodate the risk assessment being done by the Agency's Office of Pesticide Programs.

The Agency recognizes that voluntary initiatives are effective complements to regulatory approaches to protecting public health. In FY 2003, the Agency will continue its work with states and systems in both the *Partnership for Safe Water* and the Area-Wide Optimization Program to improve the ability of systems to implement the M/DBP regulations. Although these two initiatives share a common goal, to optimize the performance of drinking water treatment through effective filtering processes, they have very different approaches. Under the *Partnership for Safe Drinking Water*, EPA directed its efforts on providing tools to large/very large systems to help these systems lower turbidity levels in their drinking water and thereby reduce human health risk from microbial contamination. In its five years of operation, the *Partnership* has been very successful. Over 200 of the nation's 360 very large public water systems (serving over 100,000 people) that provide water to over 58 percent of the U.S. population are members and are carrying out various phases of the *Partnership for Safe Water* activities. We expect that this number will increase as more large systems join this collaborative effort.

In contrast to the *Partnership*, EPA has designed the Area-Wide Optimization program, or AWOP, as an initiative with states to identify and work with drinking water systems that need to improve their treatment performance. The Agency has developed a comprehensive performance evaluation (CPE) that assesses systems' capacity to address and apply appropriate treatment

methods to address human health risks associated with their drinking water supplies. In FY 2001, this initiative was tested in selected states in two EPA Regions. EPA staff worked directly with drinking water staff of the “pilot” states in both conducting CPEs of the drinking water systems within the state and prioritizing technical assistance to these systems based on health risk. The pilot has demonstrated the potential effectiveness of this initiative, which will be expanded in both FYs 2002 and 2003. By the end of FY 2003 we expect that the AWOP will be implemented in the states within at least five Regions.

Implementing Drinking Water Regulations

Under the SDWA, EPA is responsible for assisting states and drinking water systems in the implementation of drinking water programs to ensure the provision of safe, reliable and adequate drinking water supplies. The Agency provides technical assistance and training to state agencies to maintain and enhance state capacity to implement drinking water programs. EPA also works closely with states to: ensure proper certification of water system operators; promote consumer awareness of the safety of drinking water supplies; maintain a national database for program management and the development of regulations, trends analyses, and public information, and; target technical assistance to small and disadvantaged systems to maintain their capacity to comply with regulations. For states and Tribes that do not have primary enforcement responsibility (primacy) for implementing drinking water regulations, the Agency also directly implements the drinking water program.¹

To ensure the long-term viability of the national safe drinking water program, the 1996 Amendments require states to develop capacity development strategies to help drinking water systems improve their financial base, management practices, infrastructure, and operations. EPA support of states’ capacity development strategies directly affects public health outcomes, as these strategies provide a comprehensive framework for ensuring that systems maintain and enhance their ability to comply with drinking water standards. States use these strategies to determine how best to target limited resources to drinking water systems, especially small systems, that are in need of technical, financial or managerial support. For example, states may help systems prepare business plans in anticipation of future growth, train system operators on how to detect leaks in distribution systems, and establish water rates that recover the costs of providing safe drinking water at a reasonable expense to consumers. By the end of FY 2002, states will have had two years of experience implementing their capacity development strategies. In FY 2003, EPA will work with states to review progress in implementing their strategies, consider mid-course corrections, and jointly evaluate lessons learned. The Agency also will continue to work closely with primacy states to ensure that they adopt recently promulgated regulations and implement them effectively. By the end of FY 2003, 53 states/territories will have adopted the Microbial and Disinfection Byproducts rules as well as the Consumer Confidence Report rule, all of which were promulgated in 1998. Twenty-eight states/territories will have adopted the Public Notification rule, and 15 states will have adopted the Lead and Copper rule revisions.

¹ As of 2001, only Wyoming and the District of Columbia do not have primacy.

In the 1996 SDWA Amendments, Congress recognized that in comparison to larger systems, small water systems (those serving fewer than 3,300 persons) face greater financial, technical and managerial barriers to providing safe and affordable drinking water. To address these barriers, the Amendments include a number of statutory provisions that direct EPA and states to help small communities comply with drinking water standards. These provisions are designed to ensure that every public water system has the sustainable capacity to carry out its public health responsibilities. States, EPA and local utilities have made good progress toward this objective, but small systems continue to have difficulty meeting new regulatory requirements. And in the near future, small systems will face additional challenges in implementing drinking water standards for microbial contaminants, arsenic and radon. These challenges include addressing high treatment costs, implementing complex treatment technology, and increasing their capacity to monitor and improve performance.

In FY 2003, the Agency will implement a two-part approach to assisting small systems. First, the Agency will expand and accelerate current efforts to assist small systems in enhancing their technical, financial, and managerial capacity. This expansion includes both improving states' ability to help small systems, as well as EPA's direct assistance to small systems. Under this approach, EPA will give higher priority to those states in which a disproportionate number of small systems are affected by any given rule. The Agency will continue efforts begun in 2002 to assist states and small systems in the implementation of the new arsenic in drinking water standard. In FY 2003, EPA will provide guidance to small systems in the use of effective, practical and affordable treatment technologies. In addition, the Agency will provide compliance manuals, capacity development tool kits and other useful training materials to improve states' ability to ensure that small systems have the technical, financial and managerial capacity to comply with the new arsenic standard.

Second, the Agency will expand the AWOPs described above, with a special emphasis on small systems to improve their performance in meeting drinking water standards. Currently, in the individual systems where AWOPs or individual components of AWOPs have been tested, systems have achieved performance levels sufficient to meet the tighter turbidity requirements of the Long-Term Enhanced Surface Water Treatment Rule (LT1ESWTR). Based on this success, widespread application of AWOPs or their components is expected to enhance significantly the ability of small systems to meet the requirements of future microbial regulations, e.g., LT2 and Stage 2 D/DBP.

Safe drinking water regulations protect public health only if systems are able to implement them properly. The operator certification program is one tool in ensuring effective implementation. In FY 2003, all 50 states and Puerto Rico will have approved operator certification programs in place and between 25-30 states/territories will have received EPA's approval to receive their Operator Certification Expense Reimbursement Grants.² These grants reimburse states for the cost of training and certifying operators of community and non-community water systems serving 3,300 or fewer persons. The Agency also will continue to work closely with Tribes in 2003 to assist them

² As was the case in 2001 and 2002 (\$30M, respectively), the Agency will set aside resources from the DWSRF in 2003 (\$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.

in training and certifying water operators of systems providing drinking water to Tribal communities.

The nation's over 54,000 community water systems also must continually upgrade their infrastructure to maintain their capacity to provide safe, reliable and adequate water supplies to the public. Many systems, however, cannot afford infrastructure improvements without significant public financing. The 1996 Amendments require EPA to administer the Drinking Water State Revolving Fund (DWSRF) to ensure that states and Tribes make infrastructure improvements, and maintain their capacity to implement regulations. The DWSRF provides financial assistance to public water systems through revolving loan funds for water systems to upgrade their drinking water infrastructure. In addition, the DWSRF provisions target financial support to small and disadvantaged communities in two ways. First, interest rates for loans to small and disadvantaged communities may be as low as 0 percent over a repayment period of 20 years for small communities, and up to 30 years for disadvantaged communities. In addition, each state must provide a minimum of 15 percent of available funds for loans to small communities, and has the option of providing up to 30 percent of available funds to state-defined disadvantaged communities.

By the end of FY 2003, states and water systems will have established 3,000 assistance agreements and initiated infrastructure improvements in 1,200 systems. In spite of the ongoing and successful efforts of EPA and states to ensure that systems continually upgrade their drinking water infrastructure, current levels of Federal infrastructure financing fall far short of national needs. According to the Agency's 2001 Drinking Water Infrastructure Needs Survey, the total 20-year national infrastructure need is \$150.9 billion, \$31.2 billion of which is needed to ensure the provision of safe drinking water under existing and recently proposed regulations. This need is even more pressing in the face of the projected increases in population growth and the subsequent increase in demand for safe drinking water over the next several decades.

Maintaining Tribal drinking water infrastructure remains a significant implementation challenge. Fifty percent of all Alaska Native villages do not have drinking water systems, and 40 percent of Navajo households are not connected to drinking water distribution systems and must collect water by hand. Tribal drinking water infrastructure needs are estimated at \$2.2 billion over the next 20 years. In FY 2003, the Agency will continue to work closely with federally recognized Tribes to build and improve Tribal drinking water infrastructure.

Water systems also must supply data on drinking water quality and compliance activities to states and EPA through the Safe Drinking Water Information System (SDWIS), the central repository for data on compliance with drinking water regulations. SDWIS serves as the primary source of national information on all SDWA requirements, and is a critical database for program management and the development of regulations, trends analyses, and public information. In FY 2003 EPA will further improve SDWIS to help meet states' evolving information needs. First, EPA will continue to work with states to implement the jointly developed Data Reliability Action Plan (DRAP), a multi-step approach to improve the quality and reliability of data in SDWIS. Two specific activities that will be emphasized in FY 2003 are training courses for SDWIS data entry, error correction, and regulation-specific compliance determination and reporting requirements and making SDWIS-state web-enabled to allow broader public access to state-level drinking water

information, and to simplify data entry for states. Many states are converting from their existing drinking water data information system and are adopting and/or using SDWIS-STATE. SDWIS-STATE is the counterpart to EPA's Federal drinking water information system, SDWIS-FED. When SDWIS-STATE is fully utilized by a state, the information it holds meets the Agency's minimum data requirements and can easily be reported to EPA, thereby improving data quality and accuracy. In 2003, the Agency expects that most states will be using SDWIS-STATE.

EPA, in partnership with the states, will continue its work to develop and refine information modules for drinking water program activities not currently in SDWIS. By the end of FY2003, EPA and members of the drinking water community will have established improved linkages among states and EPA databases, increasing national capacity for data transfer between Federal and state level-information systems. EPA and its partners also will have completed a SDWIS-module for the Source Water Protection and UIC programs. In FY 2003, states will begin to adopt this module for use with SDWIS-STATE. Once integrated with SDWIS, the modules will provide a more comprehensive data set with which to characterize the quality of the nation's drinking water supplies.

Finally, in FY 2003 EPA will begin to implement recommendations provided through an extensive stakeholder assessment of information system enhancements that would better support the management and operations of the national drinking water program. The long-term (2004) goals of this strategy are to better align information systems with currently unmet information needs created by the SDWA Amendments. These include CCL-driven regulatory development processes, 6-year regulatory reviews and subsequent revisions, expanded source water assessment and protection efforts, and emphasis on consumer awareness of drinking water quality.

In addition to compliance information, drinking water systems must also provide their customers with annual reports on the quality of the drinking water they provide. These yearly reports were a new requirement of the SDWA, as amended in 1996, and the Agency promulgated the Consumer Confidence Report rule in 1998. Community water systems compliance with this rule has been noteworthy; with very few exceptions, all systems have issued reports since 2000 and with the small systems efforts described above, we expect that those very small systems that have not issued a report will by the end of FY 2003. Systems are also adopting and implementing the requirements related to the Public Notification rule, i.e., notifying customers faster when drinking water emergencies occur.

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; individuals undergoing development - both in utero and through adolescence 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.

Safe Consumption of Fish and Shellfish and Recreational Waters

Reducing exposure to contaminants in fish and shellfish and through contact in primary and secondary recreational waters is a top priority for the National Water Program. In 2003, the Agency will continue to work with its state partners to ensure that they adopt and maintain scientifically-based criteria and consistent assessment and notification programs to protect recreation, fish consumption, drinking water, and aquatic life uses.

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

Monitoring used by states in their fish and shellfish advisory programs vary widely. In support of this effort, the Agency will continue a nationwide survey of toxic residues in fish and complete epidemiological studies in the Great Lakes, in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR), on the health effects of exposure to selected bioaccumulative toxics. The nationwide survey of toxic residues in fish is a top priority project needed to identify the most prevalent contaminants in fish throughout the U.S. The Agency will support monitoring/modeling pilot programs that improve states' ability to predict and address contamination events at beaches. 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 advisory programs that are consistent with published national guidance.

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

Research

Considerable progress has been made over the past 20 years in providing a sound scientific foundation for Federal regulations to protect the safety of the nation's water supply. In FY 2003, drinking water research will remain a high priority for the Agency in recognition of the need for new data, improved tools and cost-effective technologies for addressing both known and emerging threats. Specifically, EPA has committed to focus research and development efforts on more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. Arsenic work in this objective will be conducted in concert with related research and development efforts in Goal 5 and Goal 8. Research on chemicals and on microbial pathogens found in drinking water remains a high priority for EPA because of the critical need to improve our ability to assess and manage risks to the general population as well as to sensitive subpopulations. The research provisions of the 1996 Safe Drinking Water Act (SDWA) amendments highlight the importance of this research for providing a sound scientific basis for regulatory decision making.

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

In FY 2003, exposure research will continue to focus on the development of improved analytical detection methods for measuring the occurrence of chemicals and microbes on the CCL. Improved methods to detect and measure human exposure to microbes will be developed and applied in human population exposure studies. Results of these studies will help: 1) reduce the uncertainty regarding multi-route and multi-source exposure; 2) determine whether microbes that may be the cause of waterborne disease are viable and infective; 3) evaluate the effectiveness of

current regulations and treatment practices; and 4) characterize the exposure conditions that are associated with adverse health effects, particularly for highly sensitive sub-populations (children, the elderly, and the immuno-compromised).

EPA's drinking water health effects research program in FY 2003 will continue to focus on laboratory, clinical, and field studies of selected high priority DBPs, arsenic, and contaminants on the CCL. Studies of chemical contaminants on the CCL will seek to provide either screening level or more detailed information to support CCL regulatory determinations. Laboratory research on selected DBPs will also examine their potential carcinogenicity, as well as other toxic endpoints (e.g., neurotoxicity, immunotoxicity) of possible concern. Emphasis will be placed on studies to evaluate potential adverse reproductive outcomes. EPA will continue to evaluate the influence of source water quality, treatment technology, and demographic characteristics on waterborne disease in selected communities in the United States. Research will also include studies to establish dose-response relationships for priority pathogens, to characterize pathogen virulence and the range of outcomes on infection, to evaluate the impact of host factors (e.g., immune status) on infection and disease, and to identify the etiologic agents responsible for waterborne diseases.

Risk assessment research utilizes exposure and health effects information to characterize the magnitude and severity of risks associated with exposures to drinking water contaminants. In FY 2003, this research will continue to improve dose-response modeling for cancer and non-cancer risk associated with exposures to DBPs (both single chemical 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 morbidity and mortality rates. Particular emphasis will be placed on the development of disease transmission models for human disease occurrence following exposure to pathogens in drinking water in both endemic and epidemic situations. These models will provide a quantitative description of an infectious disease process and will contribute to the analysis of the human risk of infection and illness due to waterborne pathogens in drinking water.

One of the challenges in providing safe drinking water lies in minimizing the risks associated with DBPs while controlling microbial pathogens. In FY 2003, 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. Work to better understand the effectiveness of various options for controlling pathogens while minimizing DBP formation includes examining source water protection issues for pathogens (e.g., *Cryptosporidium*) and other contaminants. Continuing efforts will also address the special needs of small systems with the goal of developing and demonstrating small-scale, cost-effective treatment technologies for the removal of arsenic that are easily installed.

EPA will also focus research on determining the treatability of microbial and chemical contaminants on the CCL. Distribution system research will target two main risk management options: 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 residuals, residence time, mixing, piping materials,

corrosion inhibitors) to minimize formation and release of pathogens and undesirable chemicals. Research will also assess the impact of treatment practices on the quality of water in the distribution system network and on the network itself.

FY 2003 Change from FY 2002

EPM

- (-\$21,330,000) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.
- (+\$613,700) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes - rent: -\$3,569,400, utilities: +\$3,468,000, Security: -\$9,103,900. Nominal increases/decreases occurred in human resource operations, grants and contracts related activities.)*

S&T

- (-\$82,794,000) This reduction reflects the completion of vulnerability assessments and enhancements to emergency response plans in FY 2002 to protect critical water infrastructure for the Nation's 360 largest drinking water systems. This disinvestment also includes a reduction of 10 FTE (-\$730,200) associated with these vulnerability assessments.
- (+\$15,000,000) Work will involve vulnerability assessments for small to mid-size drinking water systems.
- (-\$2,000,000) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

STAG

- (-\$220,412,900) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

Research

S&T

- (+\$4,000,000) These redirected resources from within Goal 2, Objective 1 will address drinking water research needs in the areas of health effects, exposure, risk assessment and risk management for microbial pathogens, and contaminants listed on the current CCL or those with potential to be placed on the CCL of the future.
- (-\$4,000,000) These resources will be redirected within Goal 2, Objective 1 from arsenic specific efforts to other drinking water research needs. There will be an offsetting increase in arsenic specific research funded under Goal 8, Objective 4 as part of the National Environmental Technology Competition (NETC), which will foster the adoption of cost-effective treatment technologies for arsenic in small community drinking water systems through a competitive award process.
- (+\$1,950,000) These resources will support arsenic specific research and development efforts on more cost-effective treatment technologies for the removal of arsenic from small community drinking water systems. This work will include strategies for the acceptable control of water treatment residuals enriched with arsenic.
- (+\$1,317.6, +12.0 FTE) Resources will be redirected within the Objective to conduct work on the drinking water Contaminant Candidate List microbial agents. Planned research related to homeland security will conclude in FY 2002.
- (-\$1,317.6, -12.0 FTE) Planned research related to homeland security in the areas of Water Supply Security and the qualitative analysis of biological agents will conclude in FY 2002. Resources will be redirected to conduct work on the drinking water Contaminant Candidate List microbial agents.
- (+\$292,200, +3.2 FTE) The shift of workyears from Goal 2, Objective 3 to Goal 2, Objective 1 will assist in developing and improving methods to detect and measure microbes (e.g., CCL-related microbes) and developing analytical methods for the detection and enumeration of viral, bacterial, and protozoan pathogens associated with waterborne disease.
- (+\$62,000, +0.3 FTE) This increase in resources will be used to coordinate EPA scientific participation in regulatory development with program offices on major rules.
- (-\$7,800,100) The FY 2003 Request is \$7,800,100 below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.
- (-\$199,500) Resources in support of conducting laboratory microcosm or mesocosm studies to obtain data on the transport and survival of viruses in the subsurface using human enteric

viruses are realigned to Goal 1, Objective 2, Reduce Emissions of Air Toxics for the purpose of developing additional dose-response assessments for mobile source air toxics.

Annual Performance Goals and Measures

Safe Drinking Water

- In 2003 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in or after 1998.
- In 2003 92% of the population served by community water systems will receive drinking water meeting all health-based standards in effect as of 1994, up from 83% in 1994.
- In 2003 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 85 percent of the population served by community water systems will receive drinking water meeting health-based standards promulgated in 1998.
- In 2002 91 percent of the population served by community water systems will receive drinking water meeting all health-based standards, up from 83% in 1994.
- 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 2001 91 percent of the population served by water systems received drinking water meeting all health-based standards that were in effect as of 1994.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 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.	92	93	93	% population
Percent of population served by community drinking water systems with no violations during the year of any Federally enforceable health-based standards that were in place by 1994.	91	91	92	% Population
Population served by community water systems providing drinking water meeting health-based standards promulgated in or after 1998.		85	85	% Population

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

Drinking Water Systems Operations

- In 2003 Enhance homeland security by securing the nation's critical drinking water infrastructure.
- In 2003 Enhance protection of tribal health by increasing the percentage of tribal community and non-community water systems that are run by certified operators.
- In 2003 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 homeland security by securing the nation's critical drinking water infrastructure.
- 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 2002 Protect human health and ensure compliance with health-based drinking water standards through use of the Drinking Water State Revolving Fund (DWSRF).

In 2001 69% of tribal community and non-transient non-community water systems have a certified operator.

In 2001 Protected human health and ensured compliance with health-based drinking water standards by initiating 822 DWSRF operations and having 1,876 assistance agreements to community and non-community drinking water systems.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
DWSRF assistance agreements to community and non-community drinking water systems. (cumulative)	1876	2,400	3,000	Agreements
Tribal community and non-transient non-community water systems with a certified operator.	69%	70%	73%	Water systems
Percent of the population served by, and the number of medium-sized (10,001 - 100,000 served) community water systems that have completed or are conducting vulnerability assessments.			100%/3,416	% pop/systems
Percent of the population served by, and the number of, small (fewer than 10,000 served) community water systems that have completed or are conducting vulnerability assessments.			50%/25,100	% pop/systems
DWSRF projects that have initiated operations. (cumulative)	822	1,100	1,600	Projects

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

Rules for High-Risk Contaminants

In 2003 Ensure public health protection by identifying and studying potentially harmful contaminants in drinking water and developing, issuing, and revising regulations and/or guidance to limit exposure to contaminants found to be harmful to people.

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 Expanded public health protection through the promulgation of arsenic, radionuclides, filter backwash, and made 9 determinations whether or not to regulate potentially harmful contaminants from the CCL.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Number of health risk assessments started/completed for contaminants that are potentially harmful to people.	9			Assessments
Regulatory determinations for potentially harmful contaminants.	5			Determinations
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
Number of regulations and associated technical guidance documents proposed/promulgated.			2/1	Regs/guidances
Regulations promulgated/proposed.	3			Regulations

Baseline: By the end of 2000 an estimated 5 rules will have been promulgated.

Underground Injection Well Management

In 2003 Target implementation of UIC regulations to ensure low risk of contamination to source water resources.

In 2002 Target implementation of UIC regulations to ensure low risk of contamination to source water resources

In 2001 Through the UIC program, EPA contributed to the protection of ground water sources of drinking water from potential endangerment by bringing 11,266 Class IV/V wells under specific controls through permits or closure.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
States that have formally adopted the Class V rule.	8			States
Class IV/V wells (by well type) brought under specific controls through permits or closures.	11,266			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	400	Wells
Percentage of underground injection wells out of compliance with a permit and/or rule authorized that are returned to compliance in an appropriate and timely manner. (Classes I, II, and III only)			90	% wells
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.	2,766			Wells

Baseline: As of January 2000, no states had adopted the Class V Rule as the Rule was just finalized in December 1999.

River/Lake Assessments for Fish Consumption

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

In 2002 10% of the nation's river miles and 26% 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 9% of the nation's river miles and 23% of nation's lake acres have been assessed to determine if they contain fish and shellfish that should not be eaten or should be eaten in only limited quantities.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Lake acres assessed for the need for fish advisories and compilation of state-issued fish consumption advisory methodologies. (cumulative)	23	26	29	% lake acres
States/Tribes monitoring and conducting assessments based on the national guidance to establish nationally consistent fish advisories.	40/41	40	45	States/Tribes
River miles assessed for the need for fish consumption advisories & compilation of state-issued fish consumption advisory methodologies. (cumulative)	9	10	11%	River miles

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

Increase Information on Beaches

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

- 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 providing information on 2,354 beaches for which monitoring and closure data is available to the public and decision-makers.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Beaches for which monitoring and closure data is available to the public at http://www.epa.gov/OST/beaches/ . (cumulative)	2,354	2,354	2,450	Beaches
Number of eligible States that have started/completed development of monitoring and notification programs consistent with the BEACHES legislation.			15/5	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. In the upcoming 2000 Report to Congress on the National Water Quality Inventory, 72% of assessed river and stream miles; 77% of assessed lake, reservoir, and pond acres; and 85% of assessed estuarine square miles met their designated uses for recreation (primary contact).

Source Water Protection

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

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Population served by community water systems that are implementing efforts to protect their source water resources.				People
CWSs implementing efforts to protect their source water resources.	2,026			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
Number of community water systems and percent of population served by those CWSs that have completed their source water assessments.			75%/39,000	Percent/systems
Number of community water systems and percent of population served by those CWSs that are implementing source water protection programs.			10%/2,600	% pop/systems

Baseline: EPA has defined implementation as undertaking 4 or more of 5 stages of source water protection. Nearly 264 million people are estimated to be served by CWSs in 2001.

Research

Drinking Water Research

- In 2003 The Office of Water will have data, methods, assessments, and technology evaluations necessary to make scientifically sound risk assessment and risk management decisions on unregulated drinking water contaminants of potential public health concern.
- 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 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 EPA reduced uncertainties and improved 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.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
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
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
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
Develop methodology to identify and characterize H. pylori, Cyclospora, caliciviruses and sources of human pathogens in water.			1	method
Publish a technical report on treatability of three chemicals in the 1998 Contaminant Candidate List to provide information to the program office for use in the regulatory determination.			1	report
Report on waterborne disease in the young and elderly in Washington State community intervention study.			1	report
Provide report on hazard and risk characterization issues for potentially susceptible subpopulations for chemicals on the Contaminant Candidate List			1	report

Baseline: The Safe Drinking Water Act Amendments of 1996 establish a process and timeline for EPA to make decisions about the regulation of waterborne pathogens and chemicals for which standards have not been previously established. The ability of EPA to identify potential candidates for regulation and to make scientifically sound regulatory decisions is dependent upon the availability of adequate information concerning the assessment and control of these contaminants. The current list of unregulated microbes and chemicals, called the Contaminant Candidate List (CCL), includes over 60 contaminants. The quality

and robustness of the data base on health effects, exposure and treatability of these contaminants is highly variable. Some microorganisms on the CCL, for example, lack suitable analytical methods that are necessary for determining their viability and occurrence in drinking water samples. Basic information on the health effects of selected CCL chemicals are lacking, and the ability of conventional treatment technologies to remove or inactivate some of the contaminants has not been clearly established. Research conducted in support of this APG will provide new health effects and exposure data, analytical methods, risk assessments and technological evaluations on several high priority pathogens and chemicals. This will strengthen the scientific foundation for the next CCL and for future regulatory determinations on these contaminants.

Verification and Validation of Performance Measures

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

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

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 (QA) audits of the Office of Ground Water and Drinking Water'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 and will complete a QA audit for 1999-2001 data in FY 2002. SDWIS was identified as an Agency weakness in the Fiscal Years 1999 and 2000 Federal Managers' Financial Integrity Report. The Data Reliability Action Plan (described below), developed and implemented to address corrective actions identified in 1999, for SDWIS was completed by the end of FY 2001. However, EPA/states/stakeholders have expanded on this Plan through the development of an Information Strategy. This strategy, which could be considered Phase II of the Data Reliability Action Plan, sets the direction for a comprehensive modernization of SDWIS over the next three to five years.

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.

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, 2) specific DRAP analyses, follow-up activities and state-specific technical assistance, and 3) web-enabling SDWIS-STATE for easier data entry by the states.

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 eliminating data conversion errors and 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 2003, 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.

Performance Measure: Cumulative number of beaches for which monitoring and closure data is available to the public at <http://www.epa.gov/OST/beaches/>, and number of eligible states that have started/completed development of monitoring and notification programs consistent with the BEACH Act of 2000.

Performance Database: National Health Protection Survey of Beaches Information Management System. The database includes fields identifying the beaches for which monitoring and notification

information is available. The database also identifies those states that have received a BEACH Act grant. This information is updated annually.

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. Those states receiving a BEACH Act grant are subject to the Agency's grant regulations at 40CFR 31.45 which require states and Tribes to develop and implement quality assurance practices for the collection of environmental information; these procedures will help assure data quality.

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

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

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

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

Performance Database: National Listing of Fish and Wildlife Advisories. The database includes fields identifying the waters for which fish consumption advisories have been issued. The EPA Total Waters database is used to calculate sizes for fish advisories. This information is updated

continually as states and Tribes issue or revise advisories. Data are also available describing methodologies used by states and Tribes for establishing advisories.

Data Source: State and Tribal governments

QA/QC Procedures: A standard survey has been approved by OMB which is available on the Internet for electronic submission. A password is issued to ensure the appropriate party is completing the survey. EPA has national guidance for states and Tribes to use for develop and implement quality assurance practices for the collection of environmental information for the purposes of establishing and managing fish advisories. This guidance helps assure data quality.

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

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

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

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, Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service (CSREES), Rural Utilities Service); DOT, DOD, DOE, DOI (National Park Service and Bureaus of Indian Affairs, Land Management, and Reclamation); DHHS (Indian Health Service) and the Tennessee Valley Authority.

Collaboration with USGS. EPA and USGS have identified the need to engage in joint, collaborative field activities, research and testing, data exchange, and analyses, in areas such as the occurrence of unregulated contaminants, the environmental relationships affecting contaminant occurrence, evaluation of currently regulated contaminants, improved protection area delineation methods, laboratory methods, and test methods evaluation. EPA has an IAG with USGS to accomplish such activities.

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. EPA also cooperates with the NAS to develop a candidate list or set of appropriate and scientifically defensible indicators or approaches to source water protection.

Research

While EPA is the Federal agency mandated to assure safe drinking water, other Federal and non-Federal entities are conducting research that complements EPA's research program on priority contaminants in drinking water. For example, health effects and exposure research is being conducted by the Centers for Disease Control and Prevention (CDC) and the National Institute of Environmental Health Sciences (NIEHS). Research related to children's risk 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.

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 allows for real-time measurement of the structural condition of infrastructure. This 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 2003 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Protect Watersheds and Aquatic Communities

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

Resource Summary (Dollars in Thousands)

	FY 2001 Actuals	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Protect Watersheds and Aquatic Communities	\$448,020.6	\$463,061.1	\$435,814.7	(\$27,246.4)
Environmental Program & Management	\$193,598.5	\$189,431.4	\$162,894.0	(\$26,537.4)
Hazardous Substance Superfund	\$0.0	\$28.8	\$25.7	(\$3.1)
Science & Technology	\$36,625.8	\$41,478.8	\$38,592.9	(\$2,885.9)
State and Tribal Assistance Grants	\$217,796.3	\$232,122.1	\$234,302.1	\$2,180.0
Total Workyears	959.7	980.2	988.8	8.6

Key Program (Dollars in Thousands)

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Administrative Services	\$1,558.8	\$0.0	\$0.0	\$0.0
Chesapeake Bay	\$20,728.0	\$20,551.8	\$20,650.8	\$99.0
Congressionally Mandated Projects	\$47,558.1	\$33,107.4	\$0.0	(\$33,107.4)
Ecosystems Condition, Protection and Restoration Research	\$36,006.0	\$37,785.0	\$38,592.9	\$807.9
Facilities Infrastructure and Operations	\$15,814.9	\$13,213.9	\$13,851.3	\$637.4
Great Lakes	\$3,114.4	\$2,671.0	\$2,684.7	\$13.7
Gulf of Mexico	\$4,341.2	\$4,261.6	\$4,327.4	\$65.8
Lake Champlain	\$1,995.6	\$954.8	\$954.8	\$0.0
Legal Services	\$3,019.0	\$3,462.8	\$3,755.0	\$292.2
Long Island Sound	\$4,989.0	\$2,500.0	\$477.4	(\$2,022.6)
Management Services and Stewardship	\$3,571.1	\$4,222.7	\$4,571.2	\$348.5
Marine Pollution	\$8,198.5	\$7,994.8	\$8,170.7	\$175.9
National Estuaries Program/Coastal Watersheds	\$20,151.9	\$24,521.3	\$19,246.2	(\$5,275.1)

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Pacific Northwest	\$1,078.6	\$1,003.8	\$1,028.5	\$24.7
Regional Management	\$370.2	\$429.0	\$450.5	\$21.5
South Florida/Everglades	\$2,942.0	\$2,648.3	\$2,665.5	\$17.2
State Pollution Control Grants (Section 106)	\$169,887.7	\$192,476.9	\$180,376.9	(\$12,100.0)
State Water Quality Cooperative Agreements	\$18,958.2	\$18,958.2	\$38,958.2	\$20,000.0
State Wetlands Program Grants	\$14,967.0	\$14,967.0	\$14,967.0	\$0.0
TMDLs	\$20,594.5	\$21,232.1	\$21,433.2	\$201.1
Water Quality Criteria and Standards	\$19,515.2	\$18,782.4	\$19,127.2	\$344.8
Water Quality Monitoring and Assessment	\$11,811.0	\$11,665.1	\$11,967.7	\$302.6
Watershed Assistance	\$8,467.8	\$7,821.6	\$9,479.1	\$1,657.5
Wetlands	\$17,651.0	\$17,829.8	\$18,381.9	\$552.1

FY 2003 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 identify those waters not meeting clean water goals, 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 water quality criteria, biological criteria, nutrient criteria, and 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 and will continue to help states consolidate their water quality reporting under sections 303(d) and

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

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

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. Working through the National Water Quality Monitoring Council, EPA is analyzing state and Federal water quality monitoring and assessment programs to quantify the improvements of these restoration projects.

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

EPA will work with its state partners to ensure that they adopt into their standards of criteria to protect designated uses into their standards. In 2003, 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 accelerate the adoption of biological criteria, designed to control nutrients and disease-causing microorganisms, into state and Tribal water quality standards by developing needed guidance materials and supporting state/Tribal program implementation. The Agency will also continue to develop and enhance PC-based modeling software to support site-specific metals criteria and non-point source loadings.

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 2003, EPA will continue to implement strategies necessary to take action on state water quality standards within the statutory deadlines. In support of this effort, the Agency will continue to make available and expand on the Internet a comprehensive repository of 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 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 and other public health concerns. Since the process for assessing and controlling eutrophication is considered to be Regional in nature, the best assistance will involve the states and Tribes in choosing the tools that best fit their conditions (waterbody type-specific guidance). The Agency will publish technical ecoregional guidance documents for nutrient indicator variables (e.g., total nitrogen, total phosphorus, chlorophyll-a, and clarity) and help states and Tribes tailor their nutrient criteria to their waterbody types and geographical Regions. EPA will award grants to states, local governments, and Tribes to help them implement Regional nutrient criteria and biological criteria. The Agency will further help them develop and adopt appropriate water quality standards.

In support of the Agency's Tribal partnership efforts, the Agency will continue to help train Tribes on basic water programs, including nonpoint source, watershed management, water quality monitoring, and water quality standards and criteria. The Agency will continue distribution of a National Tribal Watershed Assessment Framework to support defensible, reproducible Tribal assessments of the conditions of their watersheds and the sources of watershed impairments.

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. Improving monitoring, standards, TMDL development of point source and nonpoint source activities will result in greater state flexibility for targeting TMDL implementation efforts, resulting in more cost-effective and efficient solutions to restore impaired waters. EPA is bound by court orders and consent decrees requiring state TMDL development, with an EPA backstop, for over 20 states in FY2003. 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.

In 2003, EPA will increase funding to work with state and Tribal partners to ensure that water quality standards are effective and appropriate for use in developing TMDLs. The National Research Council's 2001 assessment of the TMDL program found that the designated uses and criteria in existing standards often need more detail and refinement before they can be used as a firm basis for requiring load reductions through TMDLs. Standards also may not protect drinking water sources adequately, and may not reflect biological assessments and criteria. To address these concerns and to implement the strategy, EPA will provide technical guidance and training that will help states and Tribes conduct their own use attainability analyses, and to help refine and interpret standards to ensure they are adequate for use in developing load reduction targets. In addition, EPA conducted a customer-focused review of the National Water Quality Standards program and developed a long-term strategy that calls for improvements and streamlining in EPA's program. EPA will also accelerate the technical reviews necessary for EPA to approve new or revised state/Tribal standards on a timely basis for use in TMDLs, including the biological evaluations of whether these standards provide adequate protection to endangered species.

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, wetlands protection, NPDES permitting, TMDLs, and source water protection. The Agency will work closely with other Federal agencies and partners to integrate relevant programs to ensure a comprehensive approach to the protection and restoration of rivers, lakes, wetlands 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 development and application of environmental indicators to assess status and trends in the NEPs, as well as to measure success of implementation of priority action plans in CCMPs, including the addition of 25,000 acres of restored habitat. This increment, while ambitious, is lower than in previous years due to decreasing restoration opportunities following early years' successes. EPA will emphasize and support coastal partnerships to assist local decision-makers in developing and implementing protection programs for coastal watersheds, including assisting local governments in developing and implementing watersheds smart growth principles. EPA 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; management and remediation of contaminated sediments; and assessment of water quality impacts of air deposition.

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

developed and implemented to maintain, restore, and improve the health of coastal ecosystems. 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 of bioaccumulation risk guidance to enable EPA Regions and Corps of Engineers districts to reach decisions on the suitability of dredged material for open water disposal, development of a guidance document on implementation of cost effective beneficial use projects in the context of watershed planning, designation of dredged material disposal sites, and implementation of site management and monitoring plans. Progress in these areas will depend on sound science derived from improved research and monitoring efforts in coastal and marine waters.

Through our Watershed Assistance Grants, EPA will continue providing small grants to community partnerships working 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. A major focus will be to provide assistance to organizations that are developing partnerships that will 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 help fund key 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, \$180,376,900 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 activities related to the restoration of impaired watersheds (TMDLs) which will include all facets of this program, i.e., pre TMDL needs such as monitoring and assessment and standards development, development of TMDLs and post-TMDL implementation and restoration; implementing integrated wet weather strategies in coordination with 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.

The Agency is requesting \$38,958,200 (an increase of \$20,000,000) for Water Quality Cooperative Agreements (WQCA). The increased resources will support an effort to implement watershed restoration activities in a limited number of pilot watersheds (described below). Base resources will also provide for continued support in the creation of unique and innovative approaches to address requirements of the NPDES program, with special emphasis on wet weather activities, i.e., storm water, combined sewer overflows, sanitary sewer overflows and animal feeding operations. In 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.

Geographic Initiatives

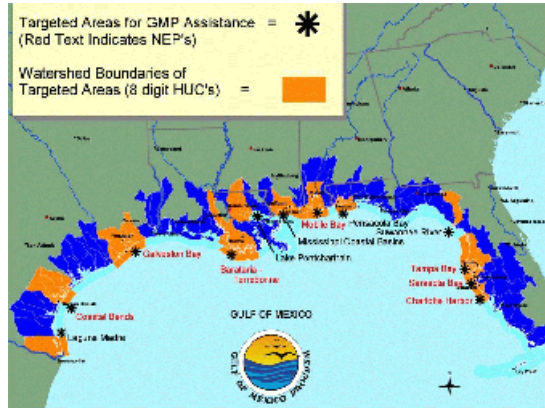
EPA will continue to support targeted geographic watershed initiatives of national importance, including the NEP, the Chesapeake Bay Program, Gulf of Mexico Program (GMP), South Florida/Everglades, and the Pacific Northwest Forest Plan. Special emphasis on these varied Regions provides the opportunity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

The new Targeted Watersheds Project will provide direct grants to watershed stakeholders ready to undertake immediate action. Modeled after successful existing programs such as the efforts to restore the Charles River, targeted inland and coastal watersheds will be chosen based on criteria established in consultation with state, local and other stakeholder partners, with emphases on value of the resource, likelihood of positive environmental outcomes, evidence of strong state/local government support, ability to leverage agency resources, and readiness to proceed based on existing problem identification. Expected benefits include: additional places and times that waters could be used for boating, fishing, and swimming; restoration, protection, or creation of terrestrial and aquatic habitat; economic benefit (e.g., re-opening shellfish beds, improved public access to waterfronts and other highly valued resource areas); protection of groundwater aquifers; protection and increase in number of acres of open space; and enhanced flood protection.

The Gulf of Mexico

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

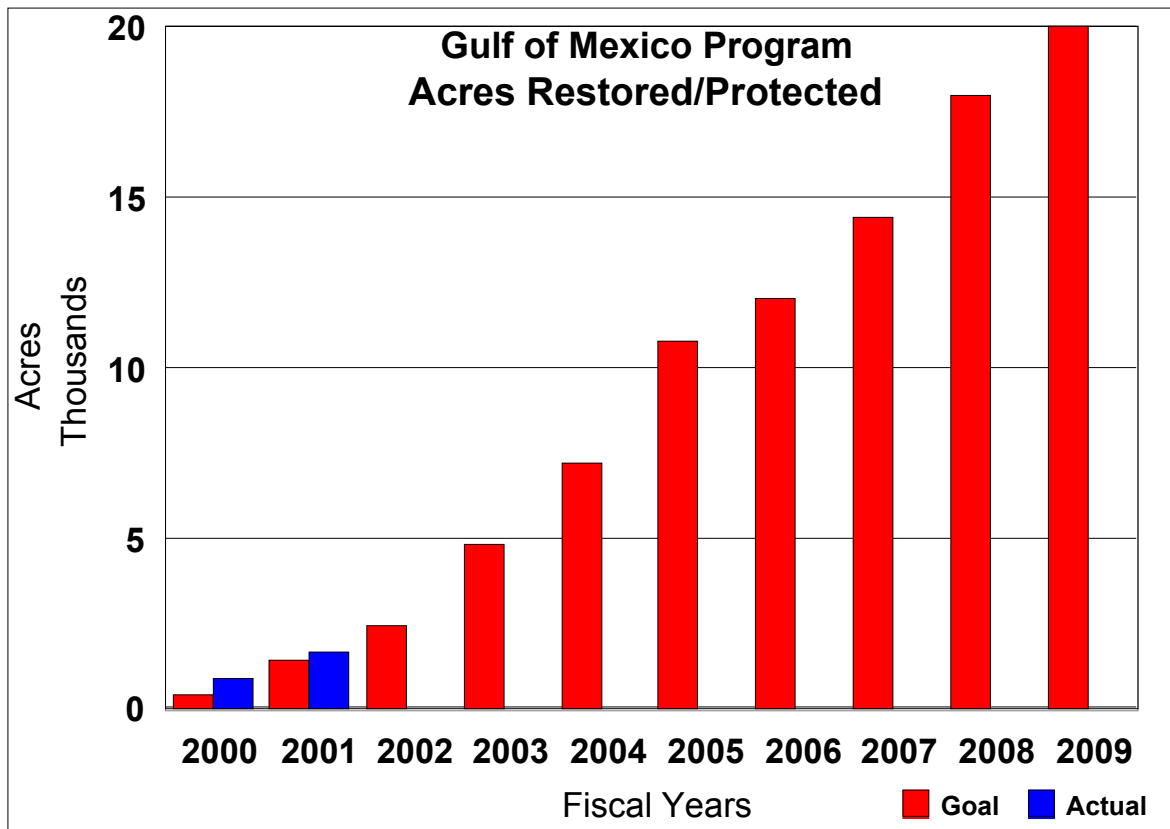
The GMP works closely with the five Gulf States, Gulf coastal communities, citizens, non-government organizations, and Federal agencies to achieve specific environmental results. These include by 2009: assisting the states in restoring over 70 impaired coastal water bodies in 12 priority coastal areas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



The GMP provides direct technical and financial assistance to the Gulf States, local governments, and non-profit organizations. In fiscal year 2003, the GMP will focus its efforts on implementing priority projects, as identified by the Gulf States, that will contribute to watershed-based efforts to improve 14 water bodies currently identified as impaired, and to protect, enhance, or restore 2,400 acres of important coastal and marine habitats that are essential for sustaining the Gulf's fisheries.

The 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, 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, and is the most comprehensive and far-reaching agreement in the Bay Program's history. The primary goal of the new agreement is to remove nutrient and sediment impairments sufficiently to sustain the living resources of the Chesapeake Bay and its tidal tributaries and to maintain that water quality into the future. 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 April 2001, President Bush endorsed regulations to protect wetlands and the Administration committed to "continue to take responsible steps to ensure that we can preserve these vital natural resources for future generations of Americans." EPA and other Federal agencies are working with partners towards the national goal of an annual net gain of wetlands of 100,000 acres by 2005. This will reverse historic trends of wetland losses and restore some of the 54 percent of the nation's wetlands already drained or filled. EPA will contribute to this wetlands quantity goal by helping to improve compensatory mitigation success, supporting wetlands restoration efforts, and building state and Tribal capacities to monitor and protect wetland resources.

Working with other Federal agencies, EPA and the Corps of Engineers will implement 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 under 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 and will be implementing recommendations from the National Academy of Sciences and GAO Reports that were released in 2001.

EPA will also take steps to advance the national goal of an increase in the quality of wetlands. Many remaining wetlands are degraded by stressors including polluted run-off, changes in hydrology, invasive species, and habitat fragmentation. Information on the health of wetlands is important to set priorities and to identify corrective actions. Building upon 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 technical assistance and training in low-cost monitoring techniques, including volunteer monitoring and remote imagery. The information collected will guide management decisions to evaluate restoration success and to improve the quality of wetlands.

A total of \$14,967,000 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. This will support regulatory approaches as well as incentive-based programs, training, and monitoring. EPA will also provide assistance for projects that restore wetlands and rivers with an emphasis on community-level education.

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 significant scientific uncertainty associated with the resiliency of aquatic ecosystems and their biotic components. Research in this objective will demonstrate integrated and stake-holder driven approaches to achieving water quality goals, as well as focus on the development of watershed diagnostic methods, on understanding the importance of critical habitats, and on the impacts of habitat alteration on aquatic communities. 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.

In FY 2003 EPA research on diagnostic methods will focus on the causes of biological and aquatic ecosystem impairment. This work will be useful in deriving criteria to protect and strengthen the biological basis for designated uses in state and Tribal water quality standards, improving the scientific foundation for addressing point and non-point source water quality impairment, and determining appropriate and effective watershed management alternatives. Specifically, this research will provide: (1) the scientific foundation and information management scheme for the 303(d) listing process, including a classification framework for surface waters, watersheds, and regions to guide problem formulation; (2) first generation diagnostics methods to distinguish among major classes of individual aquatic stressors and/or suggest causal mechanisms that contribute to impairment of marine and freshwater systems; and (3) diagnostic methods and technical support documents for determining the relative significance of multiple stressors in 303(d) listed waters. Technical guidance and assistance will also be provided to states to promote the establishment of scientifically sound bioassessments and biologically-based water quality criteria for rivers and streams.

Modeling and landscape characterization research will 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 creating "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. The current focus of this work is on the management of suspended solids and sediments and the management of stressors from Animal Feeding Operations and biosolids activities. 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. 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 sediments are a natural part of aquatic ecosystems critical to the energy cycle of the water body and the provision of microhabitats, they have become stressors associated with human activity that adversely affect aquatic habitats. In 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 suspended solids and sediments, water resource managers need scientific tools that are currently not available. In FY 2003, EPA’s suspended solids and sediments research program will continue to develop tools to determine background sediment levels inherent to a region. The Agency’s research program will also focus on understanding the stressor response relationships between sediment imbalances and impacts to aquatic communities. Risk management strategies will be developed to help reduce the impact of human activities on sedimentation and to maintain suspended solids and sediments at background levels.

Chemical stressors also impact aquatic life, the benthic community, wildlife, and human health. The research focus in this area is to develop scientifically defensible methods to better describe the risks of toxic chemicals to aquatic and aquatic-dependent populations and communities. Specific goals are to: (1) demonstrate methods for water quality criteria for bioaccumulative and non-bioaccumulative chemicals based on more complete and accurate risk characterization of toxic chemicals to aquatic organisms; (2) provide methods for water quality criteria based on population-level risk characterization of toxic chemicals to aquatic life and aquatic-dependent wildlife; (3) provide methods for extrapolating chemical toxicity data across exposure conditions and across endpoints, life stages, and species which can support assessment of risks to aquatic life and aquatic-dependent wildlife for chemicals with limited data; and (4) provide approaches for evaluating the relative and cumulative risks from toxic chemicals on populations of aquatic life and aquatic-dependent wildlife at site-specific to regional scales.

FY 2003 Change from FY 2002

EPM

(+\$1,000,000/+10 FTE) This increase will provide internal support for the new Targeted Watersheds Project, (see STAG account, below). Additional staffing will be critical to ensuring the proper and efficient execution of this new grant program.

(+\$1,750,000) This increase will support restoration projects, scientific programs and public education activities under the Chesapeake Bay Program.

(+\$1,000,000) This increase will support restoration projects, scientific programs and public education activities relating to Lake Pontchartrain, as authorized in the Estuaries and Clean Waters Act of 2000.

(-\$32,966,200) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

(+\$1,039,000) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes - rent: - \$3,569,400, utilities: +\$3,468,000, Security: -\$9,103,900. Nominal increases/decreases occurred in human resource operations, grants and contracts related activities.)*

S & T

(-\$1,500,000) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

STAG

(-\$12,100,000) This reduction to the CWA Section 106 grant account partially removes an unrequested FY 2002 increase and results in a \$10,500,000 increase over the FY2002 President's request.

(+\$20,000,000) This increase will provide funding to the Targeted Watersheds Project, a new program to provide grants to watershed stakeholders ready to implement watershed restoration efforts in a discrete set of priority watersheds. Targeted watersheds will be chosen based on criteria established in consultation with our state, local and other stakeholder partners, but will emphasize value of the resource, likelihood of positive environmental outcomes, evidence of strong state/local government support, ability to leverage agency resources and readiness to proceed based on existing problem identification.

(-\$5,720,000) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

Research

S&T

- (+\$65,800, + 0.3 FTE) This increase in resources will be used to coordinate EPA scientific participation in regulatory development with program offices on major rules.
- (-\$2,193,800) The FY 2003 Request is \$2,193,800 below the 2002 Enacted budget due to the Congressional earmarks received during the appropriations process which are not included in the 2003 President's Request.

Annual Performance Goals and Measures

Assessments of Designated Uses

In 2003	Assess, restore and protect watersheds.
In 2002	Assess, restore and protect watersheds.
In 2001	Assessed 132.1 river miles/lake acres, and 6,057 square estuary square miles that have water quality supporting designated uses, where applicable, for drinking water supply.
In 2001	Continued to restore and protect watersheds through implementation of over 2,300 TMDLs.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request
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Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Assessed river miles/lake acres/estuary square miles that have water quality supporting designated beneficial uses, where applicable, for drinking water supply.	132K/6M	no target	no target	Mi/Acres
Assessed river miles, lake acres, and estuary square miles that have water quality supporting designated beneficial uses, where applicable, for fish and shellfish consumption.	174K/5M/7K	no target	no target	Mi/Acres/Sq Mi
Assessed river miles, lake acres, and estuary square miles that have water quality supporting designated beneficial uses, where applicable, for recreation.	269K/10M/18K	no target	no target	Mi/Acres/Sq Mi
TMDLs established by EPA. (cumulative)	870	930	1,245	TMDLs
TMDLs scheduled to be completed by the end of 2001. (cumulative)	3,826			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.				
Assessed river miles, lake acres, and estuary square miles that have water quality supporting designated beneficial uses, where applicable, for aquatic life support.	406K/9M/11K	no target	no target	Mi/Acres/Sq Mi
TMDLs submitted by the state. (cumulative)	2,882			TMDLs
State-established TMDLs approved. (cumulative)	2,872	6,000	9,200	TMDLs

Baseline: From the upcoming 2000 Report to Congress on the National Water Quality Inventory, the miles/aces quantities reported in the FY 2001 column translate into the following percentages of waters: 66% of assessed river and stream miles; 73% of assessed lake, reservoir, and pond acres; and 49% of assessed estuary square miles have water quality supporting designated beneficial uses for aquatic life support. Likewise 69% of assessed river and stream miles, 63% of assessed lake, reservoir and pond acres, and 53% of assessed estuary square miles have water quality supporting their designated use for fish consumption. 86% of assessed river and stream miles and 83% of lake, reservoir and pond acres support their designated use for drinking water supply.

Watershed Protection

- In 2003 By FY 2003, Water quality will improve on a watershed basis such that 600 of the Nation's 2,262 watersheds will have greater than 80 percent of assessed waters meeting all water quality standards, up from 500 watersheds in 1998.
- In 2002 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 improved on a watershed basis such that 510 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.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Watersheds that have greater than 80% of assessed waters meeting all water quality standards.	510	600 (FY 03)	600	8-digit HUCs

Baseline: 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.

State/Tribal Water Quality Standards

- In 2003 36 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 2003 Assure that States and Tribes have effective, up-to-date water quality standards programs adopted in accordance with the Water Quality Standards regulation and the Water Quality Standards program priorities.

- In 2002 30 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 21 States and 19 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 22% of Tribes have water quality monitoring and assessment programs appropriate for their circumstances and will be entering water quality data into EPA's national data systems

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Tribes with monitoring and assessment programs. (cumulative)	22	30	36	% Tribes
Pilot STORET/305(b) reporting projects with Tribes.	2			Pilot projects
States with new or revised water quality standards that EPA has reviewed and approved or disapproved and promulgated federal replacement standards.	21	20	20	States
States and tribes with approved E. coli or enterococci criteria.		40	55	States
Tribes with water quality standards adopted and approved (cumulative).	19	27	30	Tribes

Baseline: In 1999, less than 5% of tribes had water quality monitoring and assessment programs appropriate for their circumstances and were entering water quality data into EPA's national data systems. State water quality standards program reviews are under a 3-year cycle as mandated by the Clean Water Act under which all states maintain updated water quality programs. The performance measure of state submissions (above) thus represents a "rolling annual total" of updated standards acted upon by EPA, and so 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. As of this May EPA was overdue in approving or disapproving 38 new or revised standards from 21 states and tribes.

Protecting and Enhancing Estuaries

- In 2003 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2002 Restore and protect estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).
- In 2001 Restored and protected 70,000 acres of estuaries through the implementation of Comprehensive Conservation and Management Plans (CCMPs).

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Priority actions or commitments initiated nationwide as part of the National Estuary Program since approval of the first CCMP in 1991. (cumulative)	83			Actions
Acres of habitat restored and protected nationwide as part of the National Estuary Program. (annual)	70,000	50,000	25,000	Acres

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

Gulf of Mexico

- In 2003 Assist the Gulf States in implementing watershed restoration actions in 14 priority impaired coastal river and estuary segments.
- In 2003 Support projects with the goal of creating, restoring, or protecting 2400 acres of important coastal and marine habitats per year (incremental).
- In 2002 Assist the Gulf States in implementing watershed restoration action strategies (WRAS) or their equivalent in 37 priority coastal river and estuary segments.

In 2002 Support projects with the goal of creating, restoring, or protecting over 2,400 acres of important coastal and marine habitats per year.

In 2001 Assisted the Gulf States in implementing watershed restoration action strategies (WRAS) or their equivalent in 37 priority coastal river and estuary segments.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Impaired Gulf coastal river and estuary segments implementing watershed restoration actions (incremental).	37	37	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; (4) Gulf State established TMDLs approved.	79 / 851 / 32			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.				Miles, etc.
Increase acreage and restore or protect coastal and marine habitats by 2009 (incremental).	2,400		2,400	Acres

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.

Wetland and River Corridor Projects

In 2003 Support wetlands and stream corridor restoration and management and assessment/monitoring of overall wetland health.

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

In 2001 Supported 108 wetlands and stream corridor restoration and management projects and continued our efforts assessment/monitoring of overall wetland health.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 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)	108			Projects
States/tribes developing formal programs and wetlands assessment capacities, aimed toward measuring wetland gain, loss and/or deterioration.	0	4		States/Tribes
Watershed-based wetlands restoration projects to which EPA has provided financial assistance (including 5-Star projects) and/or has contributed significant technical assistance. (cumulative)			550	Projects

Baseline: Going into FY99, 11 states/tribes had met the criteria for establishing formal assessment/monitoring programs.

Chesapeake Bay Habitat

In 2003 Improve habitat in the Chesapeake Bay.

In 2002 Improve habitat in the Chesapeake Bay.

In 2001 Improved habitat in the Chesapeake Bay by reducing 48.1 million pounds of nitrogen, 6.84 million pounds of phosphorous and restored over 69,000 acres of submerged aquatic vegetation.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Pounds reduction, from 1985 levels, of nitrogen and phosphorus loads entering Chesapeake Bay. (cumulative)	48.1 / 6.84 M	77/8.4 million		Pounds
Miles of streambank and shoreline restored with riparian forest buffers. (cumulative)	711		896	Miles
Wastewater flow to the Chesapeake Bay treated by biological nutrient removal. (cumulative)	47	53	58	% WW flow
Percent shallow waters that meet water clarity requirements for submerged aquatic vegetation.			15	% waters
Acres of submerged aquatic vegetation (SAV) present in the Chesapeake Bay. (cumulative)	69,126	78,000	80,000	Acres
Stream miles of migratory fish habitat reopened through provision of fish passages. (cumulative)	816	1,243	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 2003 70 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 2002 60 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 47% of Tribes 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 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Tribes with a water program presence. (cumulative)	47	60	70	% Tribes

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

Research

Scientific Rationale for Surface Water Criteria

- In 2003 Provide the science and data management scheme for the 303(d) listing process to include classification systems for surface waters, watersheds, and regions so that states will have an improved and reliable means of identifying impaired water bodies.
- In 2003 Provide updated models for stormwater management, and for allocating suspended solids and sediment loads, and related uncertainties for mixed land use watersheds so that state and local resource managers can make improved scientifically-based decisions that protect aquatic resources and human health
- 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 Developed (and published jointly as part of Office of Water guidance) the framework for diagnosing adverse chemical pollutants in surface waters.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Complete Clinch and Powell Watershed Risk Assessment.	0			assessment
Complete and publish a compendium of case studies illustrating the application of the Stressor Identification Guidelines.	1			compendium

Performance Measures:	FY 2001 Actual 30-Sep-2001	FY 2002 Enacted	FY 2003 Request
Decision-support tools and guidance for watershed scale assessments; report on risk characterization for watersheds.			
Report on Sediment Toxicity.	0		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
Classification frameworks for geographic regions and at the watershed, water body, and habitat scale.			1 report
Prepare a document for use by states to assist in modeling risk management options and restoration measures in waterbodies impaired due to suspended solids and sediment.			1 document
Complete report on selected methods for integrating ecological risk assessment and economics to support watershed decision-making.			1 report

Baseline: The State and EPA implementation of processes to identify impaired waters and restore them via a wide array of programs, including the TMDL process, requires assessment of waters and listing them as impaired. Recent Congressionally directed National Academy of Sciences studies note that the Agency's approach to listing impaired waters (the 3030(d) process) is not complete (i.e., a substantial quantity of the Nation's waters remain un-assessed) and is not scientifically robust (it appears that some listed waters may be inappropriately identified or mis-characterized). Accordingly, ORD has embarked on a focused research program to develop the monitoring, diagnostic, and classification schemes to improve the Agency and State approaches to this listing process. While this is a national requirement, regional and watershed, as well as biological, differences must be factored into the process.

The States and other reporting and assessment entities have listed sediments as a major cause of water body and watershed impairment. Urban storm water has also been identified as a major source of impairment. In addition the National Academy of Science report on TMDLs has called for the increasing characterization and use of uncertainty in modeling for TMDLs. In the case of storm water management, TMDL guidance may require permits for storm water and hence the urgent need to both improve the science of modeling such systems and the additional need to include uncertainty analysis techniques as part of the modeling process. Accordingly, ORD's research has been directed to provide updates in the modeling capability for this important national problem and to increase the capability of modelers and TMDL analysts to provide more robust and cost-effective outcomes for water bodies impaired by sediments.

Verification and Validation of Performance Measures

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

Performance Database: A simple database/tracking system is being developed to document the number of acres of habitat restored and protected. Key fields will include the type of action (e.g. protection or restoration) and habitat type (e.g. estuarine, riparian).

Data Source: NEP Program documents such as annual work plans (which contain achievements made in the previous year) and annual progress reports are used along with other implementation tracking materials to document the number of acres of habitat restored and protected. EPA then aggregates the data provided by each NEP to arrive at a national total for the entire Program.

QA/QC Procedures: Primary data is prepared by the staff of the NEP based on their own reports and from data supplied by other partnering agencies/organizations (that are responsible for implementing the action resulting in habitat protection and restoration). Aggregate data is compiled through a contractor review of the NEP documentation. The NEP staff are requested to follow guidance provided by EPA to prepare their reports, and to verify the numbers they

provided. EPA and a contractor then confirm that the national total accurately reflects the information submitted by each program.

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

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

New/Improved Data or Systems: The Office of Wetlands Oceans and Watersheds has developed a standardized format for data reporting and compilation. In addition to providing the reporting matrix, habitat protection and restoration activities were defined, and habitat categories specified to assist in providing consistency of reporting. We have also designed a web page that highlights habitat loss/alteration in an educational fashion with graphics and images which reflect specific NEP reports (does not illustrate aggregate data at the national level). This will enable EPA to provide a visual means of communicating NEP performance and habitat protection and restoration progress to a wide range of stakeholders and decision-makers. In the future, we will examine the possibility of geo-referencing the data in a geographic information system (GIS).

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

Performance Database: The Watershed Assessment Tracking Environmental Results System (WATERS) is used to summarize water quality information at the watershed level. For purposes of this national summary, "watersheds" are equivalent to 8-digit hydrologic unit codes (HUCs), of which there are 2,262 nationwide. State CWA 305(b) data is submitted every two years and many states provide annual updates. Data to be used for the FY 2003 Annual Performance Report will include state submissions expected in the spring of 2002.

Data Source: State CWA 305(b) reporting. The data used by the states to assess water quality and prepare its 305(b) report include ambient monitoring results from multiple sources (state, USGS, volunteer, academic) as well as predictive tools like water quality models. Because states compile diverse data to support water quality assessments, EPA uses this data to present a snapshot of water quality as reported by the states, but does not use it to report trends in water quality. EPA's Office of Water and Office of Research and Development has established a monitoring and design team that is working with states on a 3 to 5-year project to recommend a design for a national probability-based monitoring network that could be used to provide both status and trends in water quality at a state and national level.

QA/QC Procedures: QA/QC of data provided by states pursuant to individual state assessments (under 305(b)) is dependent on individual state procedures. Numerous system level checks are built into WATERS based upon the business rules associated with assessment information. States are then given the opportunity to review the information in WATERS to ensure it accurately reflects the data that they submitted. Detailed data exchange guidance and training are also provided to the states. Sufficiency threshold for inclusion in this measure requires that 20% of stream miles in an 8-digit HUC be assessed.

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

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

Data Limitations: Data are not representative of comprehensive national assessments since states do not yet employ a monitoring design that characterizes all waters in each reporting cycle. States do not use a consistent suite of water quality indicators to assess attainment with water quality standards. For example, indicators of aquatic life use support range from biological community assessments to levels of dissolved oxygen to concentrations of toxic pollutants. State assessments of water quality may include uncertainties associated with derived or modeled data. Differences in monitoring designs among and within states prevent the agency from aggregating water quality assessments at the national level with known statistical confidence.

New/Improved Data or Systems: The Office of Water is currently working with states, Tribes and other Federal agencies to improve the database that supports this management measure by addressing the underlying methods of monitoring water quality and assessing the data. Also, the Office of Water is working with partners to enhance monitoring networks to achieve comprehensive coverage of all waters, use a consistent suite of core water quality indicators (supplemented with additional indicators for specific water quality questions), and document key

data elements and decision criteria through electronic data systems and assessment methodologies. The Office of Water is using a variety of mechanisms to implement these improvements including data management systems, guidance, stakeholder meetings, training and technical assistance, program reviews and negotiations.

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 to track EPA approval/disapproval actions on new and revised state water quality standards, although such a database is currently being designed..

There is, however, an Assessment Database which tracks the water quality standard attainment status of the nation's surface waters. The new WATERS database is a GIS tool which maps this information. Please see discussion under "Watersheds that have greater than 80% of assessed waters meeting all water quality standards" for discussion of the WQS information mapped in WATERS.

Data Source: Regional reporting

QA/QC Procedures: Headquarters is responsible for 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 WQS data submitted by states.

Data Limitations: N/A

New/Improved Data or Systems: N/A

Performance Measure: Cumulative number of 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 compiling the data, and querying Regions as needed. Regions are responsible for collecting the data from their client Tribes and reporting the data to HQ once yearly.

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

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.

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

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 being reviewed. As part of implementation, EPA is coordinating its research with the Biological Research Division of the USGS.

The issue of eutrophication, hypoxia, and harmful algal blooms (HABs) is a priority with the Committee on Environment and Natural Resources (CENR). An interagency research strategy for pfiesteria and other harmful algal species was developed in 1998, and EPA is continuing to implement that strategy. EPA is working closely with NOAA on the issue of

nutrients and risks posed by HABs. This CENR sub-committee is also coordinating the research efforts among Federal agencies to assess the impacts of nutrients and hypoxia in the Gulf of Mexico.

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

Statutory Authorities

Clean Water Act (CWA)
Safe Drinking Water Act (SDWA)
Marine Protection, Research and Sanctuaries Act (MPRSA)
Ocean Dumping Ban Act of 1988
Shore Protection Act of 1988
Clean Vessel Act
Water 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)
Estuaries and Clean Waters Act of 2000

Research

Clean Water Act (CWA)
Safe Drinking Water Act (SDWA)
Marine Protection, Research and Sanctuaries Act (MPRSA)
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Shore Protection Act of 1988
Clean Vessel Act
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Toxic Substances Control Act (TSCA)
Endangered Species Act

Environmental Protection Agency

FY 2003 Annual Performance Plan and Congressional Justification

Clean and Safe Water

Objective: Reduce Loadings and Air Deposition

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

Resource Summary (Dollars in Thousands)

	FY 2001 Actuals	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Reduce Loadings and Air Deposition	\$2,007,520.1	\$2,008,432.1	\$1,630,434.4	(\$377,997.7)
Environmental Program & Management	\$143,264.6	\$152,956.6	\$134,461.0	(\$18,495.6)
Science & Technology	\$10,719.4	\$7,585.8	\$5,496.6	(\$2,089.2)
State and Tribal Assistance Grants	\$1,853,536.1	\$1,847,889.7	\$1,490,476.8	(\$357,412.9)
Total Workyears	833.2	869.5	866.6	-2.9

Key Program (Dollars in Thousands)

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Administrative Services	\$1,509.8	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$256,867.2	\$241,582.9	\$0.0	(\$241,582.9)
Disadvantaged Communities	\$4,309.6	\$4,350.8	\$4,481.3	\$130.5
EMPACT	\$100.1	\$0.0	\$0.0	\$0.0
Effluent Guidelines	\$23,354.1	\$22,773.4	\$23,010.3	\$236.9
Facilities Infrastructure and Operations	\$11,354.5	\$11,335.7	\$11,869.4	\$533.7
Homeland Security	\$0.0	\$1,500.0	\$0.0	(\$1,500.0)
Lake Champlain	\$0.0	\$1,545.2	\$0.0	(\$1,545.2)
Legal Services	\$2,714.3	\$2,923.1	\$3,170.7	\$247.6
Management Services and Stewardship	\$3,654.4	\$5,710.6	\$6,192.8	\$482.2
NPDES Program	\$40,961.5	\$40,991.0	\$41,720.8	\$729.8
National Nonpoint Source Program Implementation	\$16,644.6	\$16,488.6	\$16,908.6	\$420.0
Recreational Water and Wet Weather Flows Research	\$5,926.4	\$5,635.8	\$5,496.6	(\$139.2)
Regional Management	\$402.7	\$494.2	\$490.7	(\$3.5)
State Nonpoint Source Grants	\$237,476.8	\$237,476.8	\$238,476.8	\$1,000.0
Wastewater Management/Tech Innovations	\$9,055.0	\$8,840.1	\$9,073.7	\$233.6

	FY 2001 Enacted	FY 2002 Enacted	FY 2003 Request	FY 2003 Req. v. FY 2002 Ena.
Water Infrastructure: Alaska Native Villages	\$34,923.0	\$40,000.0	\$40,000.0	\$0.0
Water Infrastructure:Bristol County	\$1,935.7	\$0.0	\$0.0	\$0.0
Water Infrastructure:Clean Water State Revolving Fund (CW-SRF)	\$1,347,030.0	\$1,350,000.0	\$1,212,000.0	(\$138,000.0)
Water Quality Infrastructure Protection	\$16,704.3	\$16,783.7	\$17,239.3	\$455.6

FY 2003 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 covering municipal and industrial discharges, urban wet weather, large animal feeding operations, mining, the pretreatment program for non-domestic wastewater discharges into municipal sanitary sewers, and biosolids management controls), specific 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), which require achievable pollutant reductions generally, and water quality based requirements, which require greater controls in locations where water quality standards would not otherwise be met, are achieved. The point source reductions required by the TMDLs must be implemented through issuance of NPDES permits containing appropriate limits. 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: Protect Watersheds and Aquatic Communities. EPA also provides financial assistance through the Clean Water State Revolving Fund (CWSRF) program 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.

Safeguarding our nation's 20,000 wastewater collection and treatment systems from terrorist acts is the combined responsibility of private, local, state, and federal entities. Threats from terrorists could include contamination with chemical or biological agents, destruction of physical infrastructure and disruption of electrical and computer systems. Few utilities around the nation have undertaken comprehensive vulnerability assessments or emergency planning specifically for counter terrorism purposes. In response to these threats, EPA is focusing its efforts on development and testing of counter terrorism tools, supporting training and the development of vulnerability assessments and enhancing emergency operations plans by utilities, providing needed technical assistance, conducting research on redesign and detection for the collection and treatment systems, and testing and implementation of this research.

FY 2003 resources under objective 1 will support the efforts of EPA and its partners to provide tools and training necessary to assess vulnerabilities of critical wastewater treatment infrastructure, take appropriate preventive actions, and enhance emergency operation plans. In addition we intend to support on-going vulnerability prevention through on-site technical assistance.

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 through reductions in pollutant loadings. 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 take final action on effluent limitations guidelines for two major industrial sectors: metal products and machinery and concentrated animal feeding operations (CAFOs). These guidelines will then be incorporated into NPDES permits as they are issued or reissued by the NPDES permitting authority. EPA will continue to develop the chemical criteria protective of aquatic life and human health which complement the effluent guidelines used in the NPDES program.

EPA is developing regulations under section 316(b) of the Clean Water Act to ensure that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. These regulations are unique in that they apply to the intake of water and not the discharge. A major goal of this program is to minimize the impingement and entrainment of fish and other aquatic organisms as they are drawn into a facility's cooling water intake. Impingement occurs when fish and other aquatic life are trapped against cooling water intake screens. Entrainment occurs when aquatic organisms, eggs and larvae are drawn into a cooling system, through the heat exchanger, and then pumped back out. In FY 2003, EPA will take important regulatory steps to provide this aquatic protection. First, EPA will take final action to regulate cooling water intakes at existing power plants – both utilities and non-utility power producers – that use large volumes of cooling water (often referred to as Phase 2 regulations). Second, EPA will propose regulations for a larger group of facilities that employ a cooling water intake structure with intake flow levels less than those covered by Phase 2, but where flow levels remain a concern for aquatic organisms (referred to as Phase 3 regulations). In addition to electricity generating facilities, Phase 3 regulations could control chemical manufacturing facilities, pulp and paper manufacturing facilities, and petroleum product manufacturing facilities.

During 2003, the Agency will continue implementing the regulations to control storm water from municipalities, industries and construction sources; to have approximately 900 CSO communities covered by NPDES permits and implementing controls based on EPA's CSO

policy as required by the Consolidated Appropriations Act of 2000; and 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 animal feeding operations (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.

The Office of Inspector General has identified the NPDES permit backlog as a material weakness under Federal Manager's Financial Integrity Act (FMFIA). The backlog in EPA-issued permits had tripled over the past 10 years; and the backlog in state-issued permits 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, developing innovative approaches, and providing technical support and training to Regions and states. In 2003, EPA will maintain a target for the backlog of current permits for major point sources at 10 percent, compared to a 28% backlog 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 2003, the Agency is requesting \$1.212 billion 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 is critical to the success of the national SRF programs.

The CWSRF investment will continue 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 \$19 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 \$37.7 billion, of which more than \$34

billion has been provided to communities as financial assistance. As of July 2001, \$3.4 billion is being readied for loans.

The Agency is requesting a one year extension 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 by the Congress, the transfer provision expires September 30, 2002.

The CWSRF and the DWSRF are important elements of the nation's substantial investment in sewage treatment and drinking water systems which provides Americans with significant benefits in the form of reduced water pollution and safe drinking water. The SRFs continue to play a key role as communities address their aging infrastructure, 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 on the best approaches to assuring that critical water infrastructure is maintained and improved so that Americans can enjoy clean and safe water for many years to come. 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.

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 Rural Community Assistance Program and the National Small Flows Clearinghouse. The water efficiency program provides information on the beneficial impacts of municipal water efficiency, and helps communities and our partners (including the lodging industry, office building managers, and educational institutions) become aware of, and reduce, their rates of water use, thereby saving water, conserving energy, and reducing chemical usage.

More than 70,000 homes in Indian country have inadequate or nonexistent wastewater treatment. EPA and the Indian Health Service estimate tribal wastewater infrastructure needs exceed \$650 million. To improve public health and water quality in Indian Country, the Agency proposes to continue the 1 ½ percent set-aside of the CWSRF for wastewater grants to Tribes as provided in the Agency's FY 2002 appropriations bill. The Agency also requests \$40 million for wastewater and water infrastructure projects in Alaska Native Villages.

The Agency continues to manage the construction grants close-out process and expects by the end of 2002 to have substantially achieved success in closing out pre-1992 projects; we expect that we will still have several pending appeals in a few states. The Agency also provides grant assistance for environmental protection for Alaska Rural and Native Villages and Indian Tribes, and manages grant assistance for 739 water and wastewater projects with total appropriations of over \$3.5 billion through FY 2001.

EPA does not regulate septic, or “on-site decentralized wastewater,” systems. However, poorly-sited and maintained systems pose a risk to drinking water wells and surface water, drinking water supplies, home basements, yards, shellfish beds, aquatic life and the supporting ecosystem. Properly managed septic systems are an important part of the nation’s wastewater treatment infrastructure, and the water program is addressing the challenges of effective system management through publication 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 60 percent 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, effective 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 to encourage states to provide CWSRF funding for high priority projects that address nonpoint source and estuary issues.

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 the Association of state and Interstate Water Pollution Control Agencies (ASIWPCA) will continue the state/EPA nonpoint source management partnership to help states identify and meet their technical and programmatic needs. In particular, EPA and the states will work together to better use the CWA Section 319 framework and funds to develop and implement NPS TMDLs.

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 eight 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 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 2003 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 seventy in 2001. This number is expected to increase annually as more federally recognized Tribes with significant NPS pollution problems become eligible to participate in the 319(h) program. EPA conducts several tribal workshops every year with the primary objectives of improving Tribes' knowledge of NPS pollution, assessment techniques, program development, and implementation. Due to increasing demand for limited tribal grant funds, EPA is proposing a one year elimination of the current statutory ceiling on the percentage of Section 319 grant funds that may be awarded to Tribes/tribal consortia for nonpoint source activities.

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 and improved recreational water quality and risk communication programs are necessary to ensure clean and safe water for drinking, recreation, and wildlife habitat. 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. In addition, thousands of beach advisories and closings are issued at recreational rivers, lakes, and oceans every year throughout the United States. According to the Natural Resources Defense Council's eleventh annual beach report, 11,270 closings and advisories were issued in 2000. As monitoring improves and expands, as required by the *Beaches Environmental Assessment and Coastal Health Act of 2000* (the Beaches Act), the numbers are likely to rise still higher. Under this research objective, EPA will continue to

develop and validate effective strategies for controlling WWFs, especially when they are toxic. EPA will also develop and provide effective evaluation tools necessary to make timely and informed decisions on beach advisories and closures and strengthen beach programs and water quality criteria for recreational water use.

Research on WWFs will focus on the development of decision support tools to evaluate and verify improved watershed management strategies. A truly holistic watershed management approach will include practical interaction with flood and erosion control, reuse and reclamation techniques, and infrastructure demands---while protecting the watershed environment, including source waters. A major public health emphasis will be placed on WWF management needs. To minimize the public health risks from swimming and other recreational water activities, research will specifically focus on both developing techniques to reduce WWF impacts as well as provide data to support the development of scientifically sound beach closure criteria. This program is designed to promote “community-based” decisions by developing decision support tools and alternative WWF control technologies and strategies for use by local decision makers involved in community-based watershed management and pollution control. In FY 2003, EPA plans to update its WWF Research Plan to address specific issues associated with aquatic stressors, including nutrients, suspended solids and sediments, pathogens, toxics, and flow.

Beaches research in FY 2003 will focus on better understanding the effects of microbial pathogens on human health. These pathogens present growing human health and environmental concerns. Significant uncertainty exists in determining the level of illness corresponding to the actual exposure (ingestion, inhalation, and skin contact) to contaminated recreational waters. A scientifically-based investigative process to determine potential health risks and eliminate their sources in recreational waters is sorely needed to provide decision makers with the necessary tools to make defensible science-based decisions to ensure public health safety. This will include identifying appropriate indicators of fecal contamination and determining relationships between indicators and risk levels for disease. As part of this effort, EPA is performing a suite of epidemiological studies needed to establish a stronger, more defensible link between water quality indicators and disease. These epidemiological studies will provide reliable information about the relationship between recreational water quality and swimming-associated health effects. This will enable EPA to provide states with consistent monitoring methods, standardized indicators of contamination, and standardized definitions of what constitutes a risk to public health. This information will be used to develop improved water quality criteria. Local public health officials can use the results of this research to provide the public with “real-time” information on potential exposure to pathogenic microbes and make more timely beach closure decisions.

Other research will focus on continued development of monitoring and risk communication alternatives, development and evaluation of faster and improved methods for measuring fecal indicators, and characterization of typical water ingestion exposures for swimmers. Improved indicators and exposure pattern data are needed to conduct well-designed epidemiological studies.

FY 2003 Change from FY 2002

EPM

- (-\$1,000,000) This decrease reflects having successes in developing tools for vulnerability assessments to ensure security for wastewater.
- (-\$500,000) This reduction reflects progress made in providing information to the wastewater treatment industry as well as facilitating communication and coordination between the wastewater treatment industry and relevant governmental agencies through a grant with the Association of Metropolitan Sewerage Agencies.
- (-\$20,765,200) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.
- (+\$876,900) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes - rent: -\$3,569,400, utilities: +\$3,468,000, Security: -\$9,103,900. Nominal increases/decreases occurred in human resource operations, grants and contracts related activities.)*

STAG

- (+\$1,000,000) This increase in Section 319 Non-point source funding will support states' programs to address polluted runoff, including through implementation of watershed-based plans for NPS TMDLs.
- C (-\$138,000,000) The FY 2003 request (\$1,212,000,000 for the CWSRF) is consistent with the longstanding goal for the CWSRF to revolve at an average of \$2 billion per year. This reduction also helps fund high priority Homeland Security activities across the Federal government.
- (-\$220,412,900) The FY 2003 Request is below the FY 2002 Enacted budget level due to Congressional earmarks received during the FY 2002 appropriations process which are not included in the FY 2003 President's Request.

Research

S&T

- (-\$1,950,000) The FY 2003 Request is \$1,950,000 below the 2002 Enacted budget due to the Congressional earmarks received during the appropriations process which are not included in the 2003 President’s Request.
- (-\$291,800, -3.2 FTE) This reduction results from the completion of research on the development of rapid indicators of fecal contamination. Resources are being shifted to address drinking water pathogen issues in Goal 2, Objective 1.

Annual Performance Goals and Measures

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 Millions of pounds of industrial discharges of pollutants to the nation's waters were significantly eliminated through implementation of effluent guidelines.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Reduction in loadings for toxic pollutants for facilities subject to effluent guidelines promulgated between 1992 & 2000, as compared to 1992 levels as predicted by model projections. (cumulative)	10.3	10.5 million		Pounds
Reduction in loadings for conventional pollutants for facilities subject to effluent guidelines promulgated between 1992 & 2000, as compared to 1992 levels as predicted by model projections. (cum)	557.0	572 million		Pounds
Reduction in loadings for non-conventional pollutants for facilities subject to effluent guidelines promulgated between 1992 & 2000, as compared to 1992 levels as predicted by model projections. (cum)	922.0	1,007 million		Pounds

Baseline: Loading reduction estimates are based on model projections from effluent guidelines promulgated between 1992 and 1999, with both the numbers of affected facilities and permits estimated. Flow data is not available for some point sources in PCS.

NPDES Permit Requirements

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

In 2002 Current NPDES permits 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 Maintaining current NPDES permits aid in the reduction or elimination of discharges into the nation's waters of inadequately treated discharges from municipal and industrial facilities; and pollutants from urban storm water, CSOs, and CAFOs.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Major point sources are covered by current permits.	75	90%	90%	Point Sources

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
States with current storm water permits for construction sites over 5 acres.	91			% 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.	59			% States
Permittees (among the approximately 900 CSO communities nationwide) that are covered by NPDES permits or other enforceable mechanisms consistent with the 1994 CSO policy.	87			% 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.	75	73%	84%	Point Sources
States with current storm water permits for all industrial activities operating in the state.	92			% States
Loading reductions (pounds per year) of toxic, non-conventional, and conventional pollutants from NPDES permitted facilities (POTWs, Industries, SIUs, CAFOs, SW, CSOs).			500 million	pounds
Pounds of pollutants prevented from being discharged into waters due to field technical assistance at 775 municipal wastewater treatment plants.			12,000	pounds
Permits on 303(d) listed waterbodies which implement EPA approved TMDLs.			90	% permits

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 2003 Reduce point source loadings by closing out within 7 years projects funded under Clean Water Act Title II (construction grants) awarded after FY 91 and Special Project Stag Grants.
- 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 Reduced point source loadings by expediting completion of 37 projects funded under Clean Water Act Title II (construction grants) and special project STAG grants.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Construction grants projects awarded after FY91 closed out within 7 years of grant award.	79	90		% grants
Construction grants projects awarded before FY92 remaining to be closed out.	138	13		Projects
Percentage of Construction Grants and Special Project Grants closed out within 7 years of award.			90	% grants

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	% Grants
Special project STAG grants closed out within 7 years of grant award.	78	90		

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 2003 Develop effluent guidelines that when implemented are expected to reduce pollutant loadings into surface waters.
- In 2003 Develop regulations for cooling water intakes that when implemented are expected to reduce harm to aquatic life.
- 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 2002 Take final action on 2 and propose 3 effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.
- In 2001 Took final action on 1 and proposed 4 effluent guidelines limitations for industrial categories that contribute significantly to pollution of surface waters.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Number of effluent guidelines proposed or promulgated.	4 / 1	3/2		Rules
Number of cooling water intake (316(b)) regulations proposed or promulgated.		1/1	1/1	Rules
At least 150 million pounds of pollutants eliminated from waters of the U.S. as a result of two final effluent guidelines.			150	million pounds

Baseline: Loading reduction estimates are based on model projections from the effluent guidelines, with both the numbers of affected facilities and permits estimated.

Clean Water State Revolving Fund: Annual Assistance

- In 2003 900 projects funded by the Clean Water SRF will initiate operations, including 515 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 8,800 projects will have initiated operations since program inception.
- In 2003 Reduce point and nonpoint source loadings by managing the \$34 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 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 2001 933 projects funded by the Clean Water SRF initiated operations, including 400 projects providing secondary treatment, advanced treatment, CSO correction (treatment), and/or storm water treatment. Cumulatively, 7,452 SRF funded 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.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
CW SRF projects that have initiated operations. (cumulative)	7,452	7,900	8,800	SRF projects
States that are using integrated planning and priority systems to make CW SRF funding decisions. (cumulative)	16	18	20	States

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
States that meet or exceed "pace of the program" measures for loan issuance and construction (cumulative).	24			States
States and Puerto Rico that conduct separate annual audits of their CW SRFs	42			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 %	90 %	Ratio
EPA will report to Congress on the pace of the Clean Water State Revolving Fund Program.	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 SFR funding decisions. NIMS shows 3,909 SRF projects initiated as of June 1998.

Improving Wastewater Sanitation in Indian Country

- In 2003 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 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 Increased protection of human health in Indian Country by providing adequate wastewater sanitation to over 10,000 homes in Indian Country with inadequate wastewater sanitation systems.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Percent of homes in Indian Country whose residents are provided with adequate wastewater sanitation systems through funding from the CW SRF Tribal Set Aside Program. (cumulative)	14	19	26	% 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 2003 Enhance public health and environmental protection by securing the nation's critical wastewater infrastructure through support for homeland security preparedness, including vulnerability assessments, emergency operations planning, and system operator training.
- 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 Protected human health and avoided increased point source loadings by permitting over 750 wastewater treatment systems to maintain permitted performance levels.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	
Wastewater treatment facilities maintaining permitted performance levels through assistance under Section 104(g) of the CWA.	776	780		Facilities

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request 65%/5000	%pop/systems
Percent of the population served by, and the number of, large and medium-sized (10,001 and larger) Publicly Owned Treatment Works (POTWs) that have taken action for homeland security preparedness.				

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

Wastewater Treatment

- In 2003 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 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 Reduced 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.

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 Request	States
States which adopt the Voluntary Management Guidelines for On-site Wastewater Treatment Systems.	0	2	4	States

Baseline: The Agency's National Information Management System shows 3,909 SRF projects initiated as of June 1998.

Reducing Nonpoint Source Pollution

- In 2003 Reduce nonpoint source sediment and nutrient loads to rivers and streams.
- In 2002 Reduce nonpoint source sediment and nutrient loads to rivers and streams.
- In 2001 Reduced nonpoint source sediment and nutrient loads to rivers and streams by ensuring that 5% of AFOs have developed Comprehensive Nutrient Management Plans (CNMPs).

Performance Measures:	FY 2001 Actual	FY 2002 Enacted	FY 2003 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			% 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	29	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	200	M Dollars

Baseline: As of September 1998, 24 states were funding nonpoint and estuary projects with their SRFs.

Verification and Validation of Performance Measures

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. This includes fields for permit issuance and expiration dates for individual permits only. EPA has carried out detailed backlog tracking with PCS data since November 1998 and has hard copies of historical reports since the early 1980s.

Data Source: Regions and states enter data into PCS.

QA/QC Procedures: HQ reviews data submitted by states as part of the QA/QC process. The Office of Water (OW) has generated state-by-state reports listing what appears in PCS for key data fields for facilities and discharge pipes (name, address, Standard Industrial Classification (SIC) code, latitude/longitude, Hydrologic Unit Code (HUC), reach, flow, issuance date, expiration date, application received date, effective date, etc.). These reports were distributed in January 2001 to state and regional PCS, National Pollutant Discharge Elimination System (NPDES), and Geographic Information Systems (GIS) coordinators to allow states to "see what EPA sees" when it views PCS data. Where discrepancies exist between state and PCS data, OW is identifying such discrepancies and making corrections in PCS, where necessary. Additionally, many states have been collecting and verifying NPDES data on their own, but maintain these data in separate state-level systems (electronic and hardcopy). EPA plans to populate fields in PCS that are currently blank with existing state-level data provided by states.

Data Quality Review: Office of Inspector General (OIG) audits 8100076 (3/13/98) and 8100089 (3/31/98) discussed the need for current data in PCS. OW is 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 PCS data availability, staff are working with individual states and regions to tailor approaches to getting key data into PCS. OW is offering data upload, data entry, and, if necessary, data compilation support to states and anticipates completion of the project by the end of calendar year 2001.

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 the data quality of PCS. 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 the National Pollution Discharge Elimination program.

Performance Measure (PM): Loading reductions (pounds per year) of toxic and non-conventional, and conventional pollutants from NPDES permitted facilities (POTWs, Industries, Significant Industrial Users (SIUs), Confined Animal Feeding Operations (CAFOs), Storm Water (SW), Combined Sewer Operations (CSOs)).

Performance Database: The Permits Compliance System(PCS) will be used for available information on permitted facilities, including SIC codes, flow, and location data. Other databases that may be used include the Clean Water Needs Survey for treatment-level information, the storm water Notice of Intent (NOI) database to determine facilities covered under storm water general permits, the National Oceanic and Atmospheric Administration (NOAA) Rainfall Database for precipitation information, and STORET for water quality information. The data in these databases will be used to model loadings from NPDES permitted facilities. However, data are not available for all categories of dischargers or for all dischargers in each category. Data are particularly lacking for storm water dischargers.

Data Sources: Regions and states enter data into PCS, the Needs Survey, and STORET. NOI data is provided by applicants for coverage under general permits (both storm water and non-storm water) and limited data elements are entered into PCS by some states. Where EPA is the permitting authority, EPA contractors enter storm water NOI data in a separate database. EPA has collected effluent guidelines development data for various industrial categories. NOAA enters data in the Rainfall Database. EPA is collecting Best Management Practices (BMP) effectiveness data from various studies. And EPA is collecting Combined Sewer Overflow (CSO) data from states EPA for required reports to Congress; these data should ultimately reside in PCS.

QA/QC Procedures: EPA reviews critical data submitted by states. Some databases, such as STORET require documentation of the quality of the data along with the data entry. With respect to PCS, EPA has a project underway to work with states to improve the data in PCS (See earlier narrative for “Major/Minor Point Sources Covered by Current Permits.”) Load reductions are estimated by modeling the various categories of sources. Actual data will be used to calibrate and verify the models used.

Data Quality Reviews: See earlier narrative for “Major/Minor Point Sources Covered by Current Permits.”

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

New/Improved Data or Systems: EPA Headquarters is providing contractor assistance to improve the data quality in PCS. By 2003, PCS is scheduled to be modernized to make it easier to use. As the modernized system is being developed, additional efforts are underway to bolster

comprehensive data collection to ensure that the modernized system includes data needed to manage the National Pollutant Discharge Elimination program.

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: EPA headquarters is responsible for compiling the data and querying regions as needed. Regions are responsible for collecting the data from their client states and reporting the data to headquarters 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 has been operative since 1996. It is updated on an annual basis, and database fields are changed or added as needed.

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. EPA has had regular meetings with USDA on the CAFO rule and the Cost and Capability study and has planned coordinated funding for targeted watersheds.

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, Conservation Reserve Program, and other conservation programs. USDA also plays a major role in reducing nutrient discharges through these same programs and through activities related to the AFO Strategy. EPA will also continue to work closely with the Forest Service and Bureau of Land Management, whose programs can contribute significantly to reduced pollutant loadings of sediment, especially on the vast public lands that comprise 29 percent of all land in the United States. EPA will work with these agencies, USGS, and the states to document improvements in land management and water quality. Finally, EPA is teaming with NOAA to track an 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.

Coordination with Other Agencies

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. Projects under the WWF research plan are being coordinated with projects under Section 104(b)(3) of the Clean Water Act (CWA). This plan is also being used to coordinate relevant work being conducted by others such as the Water Environment Research Foundation's Wet Weather Advisory Panel, the ASCE Urban Water Resources Research Council, the U.S. Department of Agriculture, the U.S. Centers for Disease Control and Prevention (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 other national and international organizations that work to improve coordination and minimize duplication of WWF research.

EPA is partnering with numerous other Federal and state agencies on WWF research projects. For example, the Agency signed a three-year interagency agreement (IAG) with

USACE at the Waterways Experiment Station (WES) in Vicksburg, Mississippi, to develop a numerical watershed model that will predict change in stream channels from land use change. Both organizations have an inherent interest in developing the tools to predict such geomorphologic changes. Land use changes alter storm water runoff patterns which upset the established equilibrium between the flow, shape, and course of the streambed (stream geomorphology). Under this IAG the USACE will modify an existing river model to account for erosion in small streams.

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

Statutory Authorities

Clean Water Act
Clean Air Act
Coastal Zone Act Reauthorization Amendments of 1990
Safe Drinking Water Act
Toxic Substances Control Act
Wet Weather Water Quality Act of 2000

Research

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