

# ENVIRONMENTAL PROTECTION AGENCY

## The President's Proposal:

- Contains the highest funding level ever for regulatory, enforcement, and state grant support (the Operating Program), a critical component of the agency's environmental protection efforts;
- Assists 20 watersheds in restoration efforts under a new community-based cooperative program;
- Provides additional enforcement resources for states to more efficiently implement national environmental policies;
- Spurs clean up of abandoned industrial or commercial facilities known as "brownfields";
- Keeps our water resources safe, including from terrorist attack; and
- Supports strong science and innovation in regulatory approaches to controlling water and air pollution.

## Environmental Protection Agency

Christine Todd Whitman, Administrator

*www.epa.gov* 202-564-4700

**Number of Employees:** 17,645

**2002 Spending:** \$4.1 billion Operating Program, and \$7.8 billion in total

**Organization:** 17 labs and 10 regional offices across the country.

The Environmental Protection Agency (EPA) protects human health and the environment. EPA is generally focused on four areas: 1) air pollution; 2) water pollution; 3) solid waste; and 4) regulation of chemical products. It also cleans up hazardous waste sites and leaking underground tanks. States are largely responsible for implementing these programs. For example, approximately one third of EPA's funding is spent on grants to states to build and maintain water infrastructure, including sewage treatment plants and drinking water facilities.

## Overview

In the last 30 years, the United States has dramatically improved the protection of human health and the environment by reducing pollution. The reversal of environmental degradation to environmental improvement is one of this country's greatest success stories. Few, if any other nations have achieved such a turnaround on such a tremendous scale. For example:

- American drivers now emit 41 percent fewer pollutants from their cars despite now driving 143 percent more miles since 1970;
- Since 1988, the human health risk index from chronic exposure to toxic chemicals decreased by over two-thirds from 100 to 27 points;
- Most of our lakes and rivers continue to get cleaner. For instance, the Bass Anglers Sportsman Society rates the Potomac River—the river President Lyndon Johnson once called a “national disgrace”—as one of the top 10 bass waters in the United States; and
- Today, more than 265 million Americans who rely on public water systems enjoy some of the safest drinking water in the world.

However, health and environmental problems remain. Unfortunately, many government policies that achieved successes over the past 25 years need to be updated. The National Academy of Public Administration and other experts who have reviewed the nation's environmental protection system conclude that today's system is limited, uncoordinated, and inflexible. Because of the environmental challenges that lie ahead and the inefficiencies of the current system, government policies must evolve for progress to continue. The system must become as efficient and low cost as possible while at the same time maintaining environmental progress. Preserving the gains we have made, it is time to move to the next generation of environmental protection.

The Administration is implementing policies that support the next generation of environmental protection. Approaches that will deliver significant additional health protection and greatly improve the environment reflect five major themes: stewardship, sound science, state and local control, innovation, and compliance. Ensuring continuous improvement toward effective implementation of these themes requires preparing for terrorist attacks, funding projects based on merit rather than earmarking, managing for performance, environmental federalism and ensuring that a strong scientific basis undergirds the regulatory process.

## Homeland Security

EPA has adjusted well to its new role of supervising the decontamination of anthrax infected buildings. However, this experience has shown that better information and new technologies are needed for this work. The President's Budget includes \$75 million in new research funding to help develop technologies to clean up buildings attacked by bioterrorists. In addition, the President's Budget includes \$20 million to continue assessing and addressing potential vulnerabilities of the nation's drinking water systems.



### Status Report on Select Programs

The Administration is reviewing programs throughout the federal government to identify strong and weak performers. The budget seeks to redirect funds from poorly performing programs to higher priority or more effective ones. The following table provides illustrative examples of the ratings for some of EPA's programs. This chapter also discusses how some of these programs may be improved.

Program	Assessment	Explanation
Acid Rain Program	<b>Effective</b>	By 2010, sulfur dioxide emissions from utilities will be reduced by approximately 50 percent of the 1980 baseline. EPA estimates direct costs to be around \$2 billion annually, which, at around \$200/ton, is among the best performing air quality programs at EPA. This cap-and-trade program enjoys almost 100 percent compliance.
Nonpoint Source Grants to States	<b>Unknown</b>	Although nonpoint sources are the biggest remaining water pollution problem, states have not focused sufficiently on eliminating nonpoint source impairment of water quality.
Environmental Education	<b>Ineffective</b>	This program has supported environmental advocacy rather than environmental education. The budget transfers funding to the National Science Foundation's (NSF) math and science programs so that a consolidated program can better serve educators and students.
Common Sense Initiative (CSI)	<b>Ineffective</b>	The CSI was developed in 1994 to devise new approaches to environmental protection. This program struggled to produce results because of a lack of clear objectives and inflexibility. No legal authority for CSI exists, so litigation and risk of failure are high.
Pesticide Reregistrations	<b>Ineffective</b>	EPA worked for almost 30 years to reregister old pesticides on the market based on updated toxicity tests. Congress rewrote the statute twice to speed the process. Fees begun in 1987 to finish the process by 1996 have been extended for seven years. The program has had limited success identifying and reducing exposure to highest risk pesticides.

### Congressional Earmarks

The President's Budget generally provides funding for specific projects and programs based on an analysis of national interest, demonstrated needs, and statutory requirements. Unfortunately, Congressional earmarks ignore these determinations and divert funds from higher priority and more effective programs. During the past two years, Congress has earmarked over six percent of EPA's discretionary funds. This budget meets the President's priorities and EPA's needs by eliminating earmarked projects and focusing EPA funding on activities needed to carry out its missions. Congressional earmarks include research projects targeted to specific institutions that bypass the normal competitive process; projects that benefit a limited geographic area with no

national significance; and infrastructure projects that bypass the State formula allocation and priority-setting process. Some Congressional earmarks have nothing to do with improving the environment, such as \$250 thousand to the County of Maui to remove seaweed from the beach. Over \$343 million in earmarks were made for drinking and wastewater projects alone.

**Congressional Earmarks**

	Number	BA in millions of dollars	Percent of Total
2001.....	397	493	6.3%
2002.....	479	494	6.2%

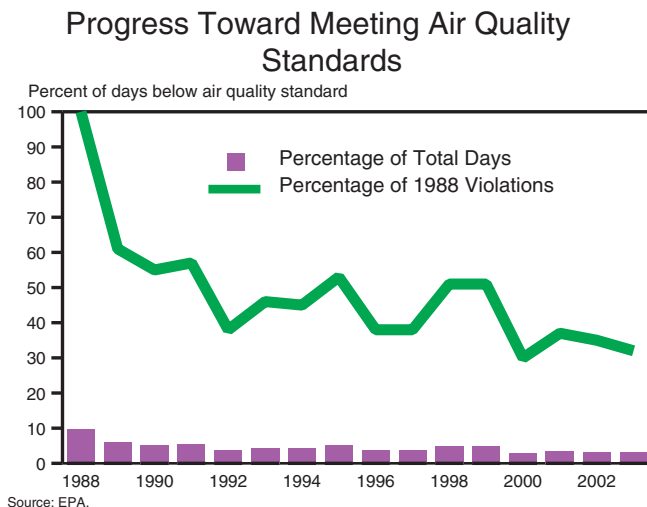
**EPA's Performance**

**Air Pollution**

Air in the United States is now the cleanest it has been since EPA began tracking its quality 20 years ago. National air quality, measured at thousands of monitoring stations across the country, has shown improvements for each of the six principal air pollutants, including carbon monoxide, lead, and nitrogen dioxide. This means with each passing year, people breathe a little easier, see a little better, and the environment is a little cleaner.

EPA sets air quality standards to protect the health of sensitive populations such as asthmatics, children, and the elderly in accordance with the Clean Air Act. The agency tracks trends through its pollution standards index. As the chart shows, the percentage of days across the country that air quality violated a health standard has dropped from almost ten percent in 1988 to three percent in 2000. On those relatively few days of noncompliance, the standard generally was violated for only a few hours. Not only has the number of days of noncompliance declined, the air is less polluted on those days when standards are exceeded.

EPA's primary method for controlling air pollution is regulation. In 2003, EPA is expected to spend almost \$560 million on reducing emissions into our air. However, in terms of social costs, all of us, mainly through increased prices, pay one hundred times that: approximately \$50 billion to \$60 billion annually for clean air. The challenge is to continue to reduce emissions into the air at the same or even less cost.



Although the next generation of environmental protection relies on the cooperation inherent in the marketplace, market-based approaches are already demonstrating cost-effective air pollution control. EPA has pioneered the use of economic incentives and market based approaches that allow pollution sources to buy and sell emission allowances. For example, the Acid Rain program was established by the Clean Air Act Amendments of 1990 to control power plant emissions of sulfur dioxide and oxides of nitrogen, both of which contribute to acid rain. Each utility must have sufficient allowances to cover annual emissions. To cover the necessary allowances, the utility must either purchase allowances or reduce emission levels. Excess allowances can be banked for later use. EPA conducts an annual auction for purchasing or selling allowances. One hallmark of this program is its compliance rate, which is close to 100 percent. By one estimate, the saving associated with this “cap-and-trade” program is 55 percent compared with costs for doing this through traditional enforcement.

#### **Markets Work for Environmental Protection**

The Administration believes that innovative and market-based approaches can achieve clean air cost-effectively. The Administration is working on a legislative proposal for a flexible, market-based program to significantly reduce and cap emissions of sulfur dioxide, nitrogen oxides, and mercury from electric power generators. The program would be phased in over a reasonable period of time, provide regulatory certainty, and offer market-based incentives to help achieve required reductions.

### **Water Quality and Safe Drinking Water**

Like air quality, water quality has significantly improved since the Clean Water Act became law in 1972. The gains are so large, in fact, that storm water runoff from homes, streets, and fields (called “nonpoint source pollution”), now cause more water pollution than industrial sources.

Nearly all the improvements in water quality can be attributed to legislation enacted since EPA’s formation in 1970 and the significant federal, state, local, and private investments in their implementation. Under the Clean Water Act, EPA administers both regulatory and voluntary programs in conjunction with the States. For example, 44 states and EPA regulate the discharge of point source pollutants from factories and wastewater treatment plants. Since 1988, the federal government has provided over \$19 billion in grants to the clean water state revolving funds (CWSRF), and these funds have made over \$37 billion available for loans. Currently, approximately 99 percent of wastewater treatment plants provide secondary treatment or better, significantly reducing pollutant loadings to the nation’s waterways. EPA’s goal is to increase by 100 (for a total of 600) the number of the nation’s 2,262 watersheds that will have more than 80 percent of their assessed waters meet all water quality standards by 2003.

The drinking water program develops regulations, conducts research to support regulations, and works with States to implement them. For 2003, EPA aims to have 92 percent of the population served by community systems with water that meets all health-based standards in effect by 1994. The hurdle has been raised from 83 percent in 1994. Actual reports of waterborne disease outbreaks, compiled by the Centers for Disease Control and Prevention, have been very low for some time except for an outbreak in 1993 and are expected to stay level with 2001. Regulations have been put in place to prevent outbreaks from microbes, such as cryptosporidium outbreak that occurred during 1993 in Milwaukee, Wisconsin, which is shown in the chart above.

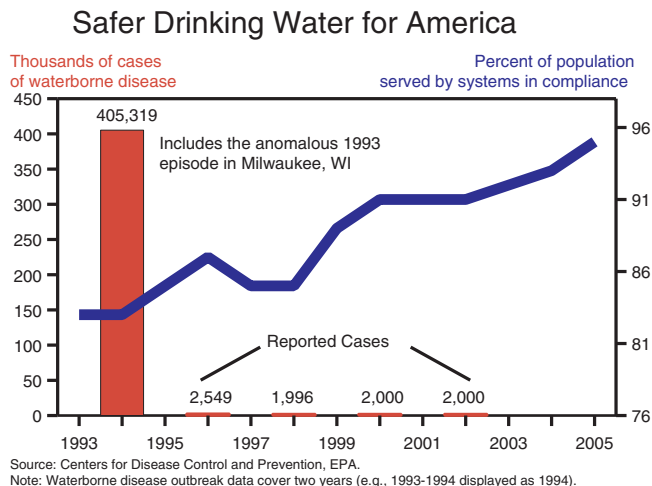
In total, the 2003 President's Budget for EPA would provide approximately \$3 billion to support its performance goal of clean and safe water, including \$2 billion to improve local wastewater and drinking water infrastructure through the CWSRF and drinking water state revolving fund.

Water quality is not free. Although the EPA will spend approximately \$3 billion in 2003 on restoring, maintaining and protecting water quality, all of us pay for clean water through taxes, utility bills, and increased prices. These costs to society are estimated to be over \$80 billion, or almost 30 times EPA's water budget. Once again the challenge is to continue to improve water quality at the same or less cost.

The President's Budget provides \$20 million for a new watershed initiative. Twenty pilot projects will be funded that will help stakeholders protect and restore their watersheds. EPA will work with other federal agencies, states, tribes, communities and others to select watersheds primarily based on community support and the likelihood of positive environmental outcomes. This collaborative approach can provide more efficient and effective solutions to water pollution. The results of these pilot projects will be measured and will be made available to the public. The budget also funds several pilot projects on water quality trading. Trading to achieve water pollution reductions in a watershed will improve water quality at less cost. Widespread use of incentive programs will substantially speed progress toward cleaning up areas that do not currently meet water quality standards and help to achieve this goal in a cost-effective manner.

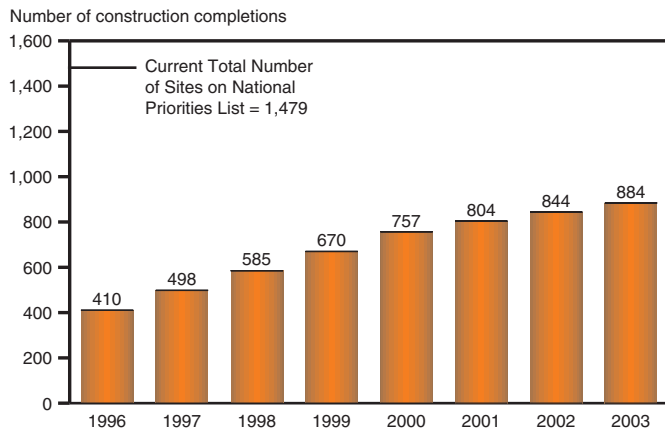
## Solid and Hazardous Waste

EPA runs the \$1.3 billion Superfund program that aims to clean up contaminated sites and remove substances that pose an immediate threat. Where groundwater is contaminated, wells are dug and the water treated. Where soil is toxic, it is removed and safely disposed. The goal is to make the site useful again. When EPA determines who is responsible for the contamination, it has the authority to compel them to pay. But cleanups have often been delayed by litigation.





**Number of Hazardous Waste Sites Cleaned Up**



As the accompanying chart shows, 804 hazardous waste sites have been cleaned up. This is projected to rise to 884 by the end of 2003, or 60 percent of the current number of Superfund sites.

The improvement of a site can be dramatic, as visually represented in these “before and after” pictures of the Army Creek Landfill Superfund site (see accompanying pictures). Where once leaking barrels contaminated water supplies, there is now an open wildlife area.



The Army Creek Landfill of New Castle, Delaware before being cleaned up under the Superfund program.



Now a wildlife area flourishes where the Army Creek Landfill used to be.

After the Superfund program began, concern emerged about whether many abandoned industrial sites were contaminated and who was responsible for cleaning them up. Developers worried about liability and steered clear of these properties. To reinvigorate development of these fallow areas, states and local communities, as well as the federal government created the brownfields program. The program assesses sites for potential contamination to assure developers and where necessary, clean sites to make them suitable for new development. The President’s brownfields program will remove obstacles to cleanup and reform cleanup mechanisms. This budget keeps the President’s commitment to clean up these sites by doubling current funding to \$200 million, subject to the authorizing legislation recently passed by the Congress.

**Toxic Chemicals**

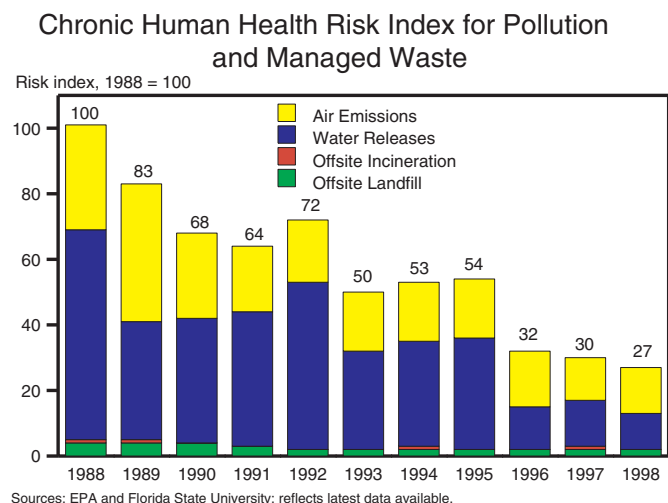
EPA also works to reduce risks from toxic substances. EPA uses a wide range of tactics to accomplish this. Activities include making available important chemical and hazard data to workers and to the general public; reviewing commercial and industrial chemicals; and registering pesticides to ensure adverse risks are not introduced to the public at large.

Pesticides can pose risks to humans through food consumption. Thus, EPA administers programs designed to reduce these concerns and promote a safe food supply. For example, EPA sets maximum limits on the amount of pesticide residues on food and reviews limits set in the past to ensure that they meet current scientific standards. By the end of this year, EPA expects to reassess a cumulative 66 percent of these limits and, by the end of 2003, EPA expects to reassess a cumulative 70 percent of the total 9,721 that need to be reviewed by 2006. This includes 75 percent of the 893 that have the greatest potential impact on dietary risks to children.

Also, EPA registers new pesticides to help ensure that they do not pose significant risks. Through this program, EPA expedites the registration of safer pesticides to encourage the use of lower risk products. New pesticides are judged to be “safer” if they pose less risk to human health and the environment or have lower toxicity than current, conventional pesticides. Usage trends show that the percentage of agricultural acres treated with safer pesticides increased from 1.8 percent to 4.3 percent between 1996 and 1998.

### Sound Science

From air to water to toxic substances that persist in the environment, sound science plays a pivotal role in adequately managing the risks involved. Many of the Agency’s priorities reflect this. For example, in 2003, EPA will begin new biotechnology research. This is expected to result in an improved capability to address three areas: the allergenicity risk from genetically modified foods, the ecological risks from genetically modified organisms, and the management of gene transfers and resistance issues. This research will help determine better metrics for meeting the goal of reducing risks to human health and the environment. Sound science will also be enhanced through improved human capital planning that addresses workforce issues such as retirements and skill gaps. Analysis shows that 60 percent of the Agency’s physical scientists and chemists in the Office of Research and Development will be eligible to retire by 2005. This potential skill shortfall needs to be addressed now in order to ensure future scientific integrity of EPA programs; thus, EPA plans to complete a workforce restructuring plan by May 31, 2002 to support its mission goals and strategic plan.



Scientifically sound metrics must be used when evaluating the success of efforts to protect human health and the environment. Measuring the impact of toxic chemicals on human health is a difficult undertaking, but EPA is developing indicators that measure these relationships. The chart shows a rough index of risk from chemicals by weighting releases by toxicity and their fate in the environment.

The Administration is fully committed to ensuring that the rules it issues are based on sound science, public health and safety, and the needs of the economy, consistent with applicable law.

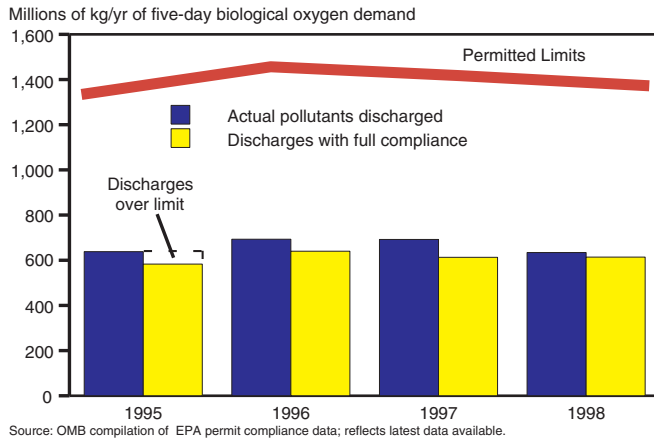


## Improving Performance

### Environmental Federalism

In many respects, EPA programs are models of federalism. Under most pollution control statutes, EPA conducts research and promulgates national standards for protecting human health and the environment. EPA has generally delegated implementation of these statutes to the states, which take primary responsibility for monitoring pollution, permitting emissions, and enforcing the permits. State enforcement of environmental laws has generally worked well, with states conducting 90 percent of enforcement actions. Currently, 49 states run air pollution programs and 48 run the core hazardous waste programs. EPA has delegated the management of water pollution programs to 44 states. Thus, most facilities that discharge water pollution are regulated by state governments. As an example of the excellent job states do in controlling such pollution, most facilities discharge amounts of water pollution that are well below their permitted limits. For example, in 1998, municipal and industrial sources actually discharged in total less than half of the amount of organic water pollution that they were allowed to discharge under the law. Furthermore, only a small amount of those discharges (three percent in 1998) exceeded legal permit levels (see accompanying chart on five-day biological oxygen demand).

**Water Pollutants Are Discharged Well Below Permitted Limits**



Despite this degree of delegation, EPA still maintains over 1,000 enforcement personnel to assist the states with their workload. The budget proposes to strengthen EPA’s partnership with states by shifting more enforcement responsibility and resources to states through establishment of a new \$15 million state enforcement grant program. Such an approach properly recognizes that states have the primary responsibility to implement pollution control programs and that increasing state resources would result in more “cops on the beat,” more inspections, and more enforcement, since state enforcement costs are lower than federal costs.

Recognizing that the needs of interstate commerce may require uniformity in many circumstances, EPA will work to ensure that patchwork regulatory activities by states under the federal program do not burden interstate commerce.

**Better Regulation through Transparent Analysis**

In total, the benefits of EPA’s pollution control efforts far exceed the costs. However, when considered on a case-by-case basis, some actions are more effective than others.

For example, overall benefits from air pollution control are due mainly to reductions in lead and particulate matter and not other air pollutants. In 1997, EPA developed new regulations for ozone and particulate matter. EPA’s data show that the new ozone standard results in a net cost (the costs exceed the benefits) to society ranging from \$1.1 billion to \$8.1 billion annually, whereas the new particulate matter standards are likely to result in significant net benefits.

**Improving the Regulatory Process**

The President’s Budget reinvigorates the role of science at EPA by supporting funding of a top-level policy office. The office will, among other responsibilities, ensure that sound science has been incorporated into decisions and that the analysis behind decisions is transparent to the public.

Environmental protection, like any major undertaking, depends on performance. The cost-effective delivery of this service demands solid management, planning, and evaluation. Using common metrics across government, each agency, including EPA, has been rated according to key resource management initiatives. These ratings are designed to ensure better performance and tighter linkages between management and budget.

**Strengthening Management**

Central to improving government performance is aggressive implementation of the President’s Management Reform Agenda. EPA’s actions in each of the five initiatives will lead to improvement of EPA’s programs.

Initiative	2001 Status
<p><b>Human Capital</b>—EPA does not have an up-to-date workforce strategy that supports mission goals and its strategic plan. Significant skill imbalances exist in critical occupations important to electronic government and sound science initiatives. For example, all statisticians and 53 percent of computer specialists in the Office of Environmental Information, and 60 percent of the physical scientists and chemists in the Office of Research and Development will be eligible to retire by 2005. EPA plans to complete a restructuring plan by May 31, 2002.</p>	●
<p><b>Competitive Sourcing</b>—EPA has established an intra-agency-working group headed by the deputy CFO to implement the President’s competitive sourcing initiative. EPA is in the process of finalizing its plan to meet the two-year 15 percent goal on its way to eventually compete 50 percent of all commercial activities.</p>	●

Initiative	2001 Status
<p><b>Financial Management</b>—EPA is unable to provide an unqualified assurance statement as to systems of management accounting and administrative controls because of material weaknesses, including information security and NPDES permits. EPA is working to correct these material weaknesses.</p>	●
<p><b>E-Government</b>—Most of EPA's capital asset planning for information technology (IT) acquisition is well done and on average, major IT projects operate near cost, schedule, and performance targets. EPA plans to make regulatory information including proposed rules and comments on them more readily available on-line to the public through a consolidated docket. The agency aims to improve capital planning and investment control; integrate its enterprise architecture and budget process; implement a broad based network for efficient electronic sharing of environmental information; develop an agency-wide security action plan; and promote E-Government through central data exchange.</p>	●
<p><b>Budget/Performance Integration</b> —EPA has integrated presentation of resources with performance goals. The agency budget sets forth goals and output targets. Its budget accounts were reorganized by the Congress to allow more flexibility in resource management. The agency is working on continuing improvement in linking results and resources. As part of this effort, EPA is expected to include social costs in each of its goals when revising its strategic plan. The agency is studying reducing the number of strategic goals; delivering flexibility in program missions; and establishing a budgetary accounting system for managerial accountability.</p>	●

## Environmental Protection Agency

(In millions of dollars)

	2001	Estimate	
	Actual	2002	2003
<b>Spending:</b>			
Discretionary Budget Authority:			
Operating program .....	3,940	3,985	4,056
Clean water state revolving funds (CWSRF) .....	1,347	1,350	1,212
Drinking water state revolving funds (DWSRF) .....	823	850	850
Brownfields cleanup funding <sup>1</sup> .....	—	—	121
Targeted water infrastructure funding .....	465	459	123
Requested .....	(112)	(110)	(123)
Unrequested .....	(353)	(344)	(—)
Superfund .....	1,286	1,289	1,293
Other .....	73	74	69
Subtotal, Discretionary budget authority adjusted <sup>2</sup> .....	7,934	8,007	7,724
Remove contingent adjustments .....	-99	-104	-107
Total, Discretionary budget authority .....	7,835	7,903	7,617
Emergency Response Fund, Budgetary resources .....	—	175	—
Mandatory Outlays:			
Environmental services .....	-12	-11	-11
Superfund recoveries .....	-202	-175	-175
Reregistration revolving fund .....	3	—	-44
Other .....	4	-1	—
Total, Mandatory outlays .....	-207	-187	-230

<sup>1</sup> An additional \$79 million in Brownfields funding for personnel costs and state program grants is included in the operating program.

<sup>2</sup> Adjusted to include the full share of accruing employee pensions and annuitants health benefits. For more information, please see Chapter 14, "Preview Report," in *Analytical Perspectives*.