

Civil Works Fund

"Transforming to Meet the Nation's Needs"



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Civil Works Fund—Overview

The U.S. Army Corps of Engineers has served our nation, through peace and war, for more than 200 years. The Corps traces its origins to the construction of the fortifications at Bunker Hill in 1775, service in the Revolutionary War, and then peacetime service opening the Western frontier. Over time our military and civil missions have evolved and continue to evolve to meet the needs of the nation. Today the civil mission includes development and management of navigation, flood and coastal shore damage reduction, environmental protection and restoration, hydroelectric power, recreation, water supply and emergency management programs.



Bob Chapman of the Corps of Engineers Fort Worth District works at "Ground Zero." Personnel of the U.S. Army Corps of Engineers were at Ground Zero just two hours after the hijacked airliners struck the World Trade Center.

Throughout its history, the Civil Works Program has depended on the expertise of its people to evaluate, facilitate, advise, develop, operate, and manage civil works projects. At all times we seek to deliver the best possible return on taxpayer investments. With approximately 25,000 employees performing civil works duties, we are the engineer team of choice for public engineering.

Mission and Organization

Mission

The Civil Works mission is constantly evolving to answer the changing needs of the nation.

Developing and Managing Water Resources

Our original civil mission related to developing and managing water resources was to support navigation by maintaining and improving water channels. In 1824, a series of laws authorized the Corps of Engineers also to improve safety on the Ohio and Mississippi Rivers, and in 1917 the Flood Control Act established our role in flood damage reduction. The Rivers and Harbors Act of 1909 authorized the consideration of various water uses including hydroelectric

The Civil Works Mission

The Civil Works mission is to contribute to the national welfare and serve the public by providing the nation with quality and responsive

- development and management of the nation's water resources
- protection, restoration, and management of the environment
- disaster response and recovery
- engineering and technical services in an environmentally sustainable, economically and technically sound manner through partnerships and the project management business process.



power generation in the planning, designing, and construction of water resource development projects. The passage of the Flood Control Act of 1936 gave the Civil Works Program the responsibility for providing flood protection for the entire country.



A park ranger emphasizes safety at the John Day Dam, Oregon.

Recreation was added to the Civil Works portfolio by the Flood Control Act of 1944, which authorized the provision of recreational facilities at reservoirs. The River and Harbor Flood Control Act expanded this authority in 1962, providing authority to build, where feasible, recreational facilities as part of all water resource development projects.

Another aspect of water resources management is that of water supply. The changing role of the Civil Works Program in water supply has been directed by a series of Water Resources Development Acts. The Water Supply Act of 1958 gave Civil Works the authority to include water storage in both

new and existing reservoir projects for municipal and industrial uses at 100 percent non federal cost.

Protecting, Restoring, and Managing the Environment

Our role in environmental protection was first outlined by the Rivers and Harbors Act of 1899, which required Civil Works to prevent the obstruction of navigable waterways. As concerns over the environment grew in the late 20th century, the Clean Water Act of 1972 greatly broadened this responsibility by providing authority over dredging and filling in "the waters of the United States," including the filling in or destruction of wetlands. Our environmental responsibilities were further broadened by new legislation, introduced in 1986, that expanded our traditional environmental mitigation activities at new and existing projects to include the enhancement and restoration of natural resources at our projects and in areas not directly tied to our projects. This new legislation made providing environmental protection one of the primary missions of our water resource development activities.

Responding and Assisting in Disaster Relief

Throughout its history, America has relied upon the Civil Works Program to respond to its needs in times of national disaster. Such response is now provided under two basic authorities: the Flood Control and Coastal Emergency Act (P.L. 84-99, as amended), and the Stafford Disaster and Emergency Assistance Act (P.L. 93-288, as amended). Under P.L. 84-99, we have direct authority to provide emergency assistance during or following flooding events to



protect lives, public facilities and infrastructure. Under the Stafford Act, the Civil Works Program supports the Federal Emergency Management Agency in carrying out the Federal Response Plan, which calls upon 26 federal departments and agencies to provide coordinated disaster relief and recovery operations. Our primary responsibility for emergency relief and recovery operations is to provide public works and engineering support.

Providing Engineering Support and Technical Services

In Title 10 of the U.S. Code, The Armed Forces, Congress expresses its intent that the Civil Works Program provide services to other federal entities, states, or local governments on a reimbursable basis. This is further outlined in Title 33, Navigation and Navigable Waterways.

The Civil Works Program is authorized to perform work on flood control, the improvement of rivers and harbors, research, and in support of private engineering and construction firms competing for or performing work outside the United States. The Civil Works Program must be reimbursed for all such work and it must determine that such work is in America's best interests.

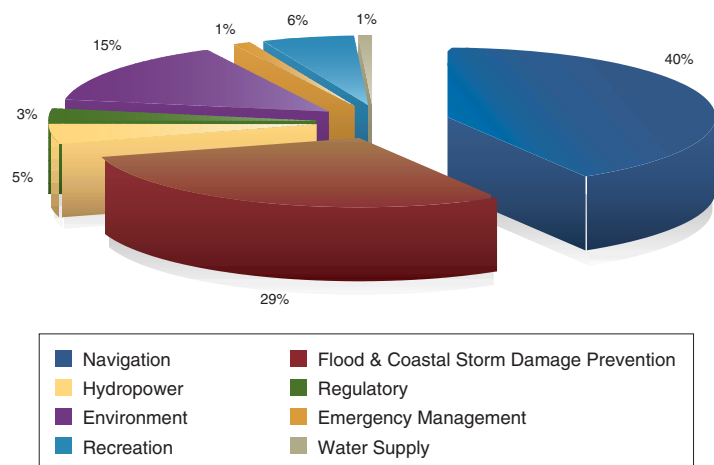


Fighting the flood in Fort Wayne, Indiana.

The Business Programs' Support of the Mission

The Civil Works Program has established nine business programs to accomplish the four components of its mission. Each business program specifically addresses a single mission component, but all also contribute to one or more of the other mission components. The relative size of each business program is shown in figure 7.

Figure 7. FY 2001 Appropriations for Business Programs¹



¹The Support for Others Business Program is not depicted because it is not funded with appropriated funds.

Developing and Managing Water Resources

Five of the nine business programs address the development and management of water resources.



Mission: Development and Management of the Nation's Water Resources

Business Programs

- Navigation
- Flood and Coastal Storm Damage Reduction
- Hydropower
- Water Supply
- Recreation

Navigation

The Navigation business program is responsible for providing safe, reliable, and efficient waterborne transportation systems for the movement of commercial goods, for national security needs, and for recreation. The program seeks to meet this responsibility through a combination of capital improvements and the operation and maintenance of existing infrastructure projects. The Navigation program is vital to the nation's economic prosperity: 98 percent of America's international trade moves through our ports,

and 20 percent of American jobs depend to some extent on the commerce that moves through these ports.



A container vessel navigates the Kill Van Kull channel as it passes under the Bayonne Bridge, New Jersey. The Corps has deepened this channel to accommodate modern shipping vessels.

The Civil Works Program operates and maintains 12,000 miles of inland waterways, 235 locks, and 300 commercial harbors. Inland waterways provide a highly fuel-efficient mode of transportation, able to move more than 500 ton-miles per gallon of fuel compared to the fewer than 400 ton-miles per gallon that rail transportation achieves. This translates to an annual saving of \$7 billion in transportation costs. Every dollar invested in improving our navigation infrastructure results in a better than \$3 increase in GDP.

In FY 2001, this \$1.9 billion program accounted for 40 percent of the Civil Works budget.

Flood and Coastal Storm Damage Reduction

This business program is aimed at saving lives and reducing the property damage caused by floods and storms. The Civil Works Program provides 8,500 miles of emplaced levees and dikes, 383 reservoirs, and more than 90 shore protection projects along 240 miles of the nation's 2,700 miles of shoreline. With the exception of the reservoirs, most of the infrastructure that we construct under this business program is owned and operated by the sponsoring cities, towns, and agricultural districts.



The Flood and Coastal Storm Damage Reduction business program has compiled an impressive record of performance. In 1991-2000, the United States averaged \$4.5 billion in property damage from floods each year in unprotected areas. In contrast, Corps projects prevented \$20.8 billion in average annual damages over the same time period in protected areas. Through FY 2000, the nation had invested \$43.6 billion (\$122 billion, adjusted for inflation) in flood damage reduction projects, and has successfully prevented an estimated \$419 billion (\$709 billion, adjusted for inflation) in flood damage. Adjusted for inflation, these figures show a return on investment of more than \$6 in damage prevented for each dollar spent.



A Corps-led sandbag operation in Portland, Oregon.

In FY 2001, this \$1.4 billion program accounted for 29 percent of the Civil Works budget.

Hydropower

Some of the Civil Works projects built for navigation and flood control have the additional benefit of providing hydroelectric power. This is in keeping with Civil Works policy and with the congressional direction to maximize public benefits in all projects for all desirable purposes, including power generation. The Civil Works Program operates and maintains 75 power plants, mostly in the Pacific Northwest, generating about 24 percent of America's hydroelectric power. The program is the country's largest producer of hydroelectricity. Hydropower is a low-cost, renewable power source that produces none of the airborne emissions that contribute to acid rain or the greenhouse effect, leading many to view it as the least environmentally disruptive source of electric power.



Turbines inside the Bonneville Dam powerhouse, Oregon.

In FY 2001, this \$215 million program accounted for 5 percent of the Civil Works budget. In FY 2000, the Federal Power Marketing Agencies returned \$444 million to the U.S. Treasury from power sales (FY 2001 figures were not available at the time of printing).



Water Supply

The Civil Works Program has 167 projects with municipal and industrial water supply as an authorized purpose. We supply water to 10 million people in 115 cities, including some of America's largest metropolitan areas, such as Washington, D.C. Atlanta, and Dallas-Fort Worth. In arid parts of the country, we have 62 projects that have irrigation as an authorized purpose. Many of these projects serve flood control, navigation, and hydroelectric as well as irrigation purposes.



Aerial view of the Dworshak Dam on the North Fork of the Clearwater River in northern Idaho.

In FY 2001, this \$35 million business program accounted for 0.7 percent of the Civil Works budget. Although it has a relatively small budget, the value of the water that the program holds is significant. Approximately 6.3 million acre feet of storage are under contract for municipal and industrial purposes and is valued at about \$1 billion over the 50-year life of the water supply contracts.



Rafting at Lost Creek Dam.

Recreation

Operating more than 4,000 sites at 456 water resource projects in 43 states, the Recreation business program is one of the primary points of contact between the Civil Works Program and the American people. The program delivers an excellent return on investment, in financial terms as well as in terms of the recreation facilities it provides. It supports 500,000 full-time or part-time jobs and generates annual visitor recreation-related spending of \$15 billion.

In FY 2001, this \$262 million program accounted for 6 percent of the Civil Works budget.

Protecting, Restoring, and Managing the Environment

Our business programs all address environmental issues, but two are focused specifically on our mission to protect, restore, and manage the environment.



Environmental Protection, Restoration, and Management

This evolving and growing business program emphasizes environmental stewardship, ecosystem restoration, mitigation, environmental compliance, and research and development. Responding to the growing national demand for restoration and protection, the program's work takes many forms, ranging from monitoring water quality at dam sites to operating fish hatcheries with the states to restoring the environment at the sites of earlier projects. Since 1998, we have added more than 120,000 acres of aquatic, wetland, and floodplain ecosystems to America's natural habitats.

In 1997, the Civil Works Program took over from the Department of Energy the Formerly Utilized Sites Remedial Action Program, which mandates the clean up of former Manhattan Project and Atomic Energy Commission sites. The transfer of this program to Civil Works capitalizes on our experience gained in cleaning up former military sites and hazardous waste sites under the Environmental Protection Agency's "Superfund" program. Work under the program is ongoing at 46 locations in Missouri, Illinois, Ohio, Maryland, New Jersey, New York, Connecticut, Pennsylvania, and Massachusetts.

In FY 2001, this \$684 million program accounted for 15 percent of the Civil Works budget.

Regulate Dredging and Filling in the Waters of the United States

This business program seeks to use a permit process to protect the aquatic environment. The approximately 1,100 Civil Works staff who are engaged in this program have seen a 50 percent increase in permit actions since 1994, but despite this have continued to exceed the goal of processing 85 percent of permit requests within 60 days.

In FY 2001, this \$129 million program accounted for 3 percent of the Civil Works budget.

Mission: Protection, Restoration, and Management of the Environment

Business Programs

- Environmental Protection, Restoration, and Management
- Regulate the Work of Others



Formerly Utilized Sites Remedial Action Program. Groundwater sampling for radioactive materials, Wayne, New Jersey.



Responding and Assisting in Disaster Relief

The Civil Works mission to respond to disasters and assist in disaster recovery is accomplished through the Emergency Management business program.

Mission: Disaster Response and Recovery

Business Program

- **Emergency Management**

Emergency Management

In a typical year there are 30 presidential disaster declarations demanding a response from the Civil Works Program. It is often difficult to know more than a few days in advance when a hurricane or other natural disaster will strike, and in the case of a man made disaster, like the events of September 11, 2001, there may be no notice at all. We have implemented "Readiness 2000," a unified and integrated corporate planning project, to raise our responsiveness to the highest possible levels. While predicting impending disasters can be difficult, the returns on investment in emergency preparedness can nonetheless be dramatic.

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Staten Island, New York, October 16, 2001. David Leach of the Army Corps of Engineers explains to Ted Monette, FEMA federal coordinating officer, the process for handling debris being removed from Ground Zero to the landfill. By mid-October 2001, approximately 10 ton of debris were being processed daily for evidence related to the attack. (Photo by Andrea Booher/FEMA News photo)

In FY 2001, the Corps of Engineers responded to an ice storm, a tropical storm, floods, an earthquake, and terrorist attacks. The Corps provided emergency power and drinking water after the Oklahoma ice storms and technical assistance after the Nisqually earthquake in Washington State. When the Mississippi began flooding crops and homes, seven districts fought the flood by building emergency levees, raising or strengthening others, and providing 5 million sandbags.

Following the terrorist attack on the World Trade Center in New York, the Corps supported urban search and rescue efforts, conducted structural assessments, installed generators to help restore power to the city's financial district, performed emergency dredging operations, and managed landfill operations to facilitate recovery activities and evidence gathering. We also provided technical assistance for debris removal operations and provided Deployable Tactical Operation Systems to the city for use as Command and Control centers at the site of the attack.

In FY 2001, this \$58 million program accounted for 1 percent of the Civil Works budget. In addition, our reimbursable work performed for FEMA amounted to \$44 million. It should be noted that the incurrence of disaster response and recovery expenditures related to the events of September 11th and our response will be most evident in the FY 2002 financial statements.



Providing Engineering Support and Technical Services

The Civil Works mission of providing engineering support and technical services is largely accomplished through our Support for Others business program.

Support for Others

The focus of this business program is to provide support primarily for government agencies. The program acknowledges that the primary source of support for state and local governments is private firms. The Support for Others program provides for the in-house engineering needs of government programs through planning, design, and construction support; technical oversight; and contract management

Mission: Engineering and Technical Services Business Program

- Support for Others

The Support for Others business program allows for centralized management of all reimbursable work performed within the United States or abroad. By assisting the performance of the private firms that conduct the majority of the work undertaken in support of government projects, our staff can gain valuable technical and project management experience, thereby strengthening our ability to perform Civil Works missions.

The Support for Others program is funded on a reimbursable basis, receiving no appropriated funds. In FY 2001, funding amounted to \$740 million, in support of more than 60 government agencies in South America, Eastern Europe, Asia, and the Pacific.

Sources of Funds

Funding for the Civil Works Program comes from a number of sources. The primary source of funding is the Energy and Water Development Appropriations Act. Additional funds come from cash contributions from nonfederal project sponsors and from reimbursable agreements to provide support for others. The Inland Waterway Trust Fund and the Harbor Maintenance Trust Fund also generate funding. Table 6 summarizes FY 2001 appropriations.

Table 6. FY 2001 Business Program Appropriations
(Dollars in Millions) (May not add due to rounding)

Fund Source	Business Programs									Total
	Navigation	Flood & Coastal Storm Damage Prevention	Hydropower	Regulatory	Environment	Emergency Management	Recreation	Water Supply	Support for Others	
General Investigation	\$40	\$60	\$1		\$45	\$2	\$5	\$7		\$160
General Construction	572	690	58		390		8			1,718
O&M	1,223	290	149		77	4	240			1,983
Regulatory Program				\$125						125
Flood Control, Mississippi River & Tribs	37	285			10			27		359
Flood Control & Coastal Emergencies						50				50
FUSRAP					140					140
General Expenses	62	44	7	4	22	2	9	1		151
Appropriations	\$1,934	\$1,370	\$215	\$129	\$684	\$58	\$262	\$35	\$0	\$4,687



Organization

How the Organization Supports the Mission

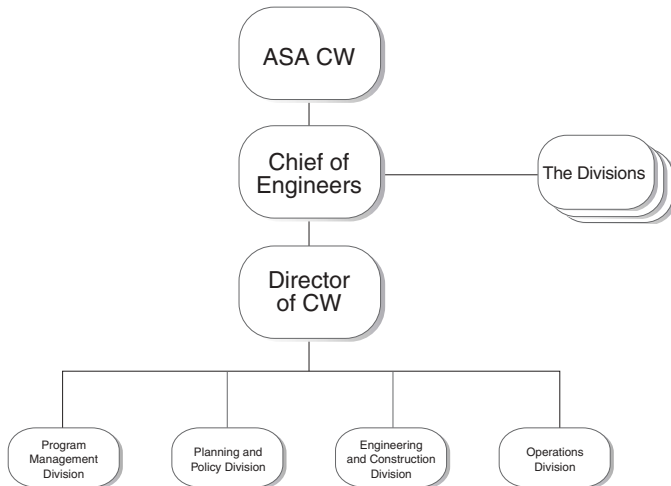
The Civil Works Program comes under the direct authority of the Assistant Secretary of the Army for Civil Works (ASA (CW)), who has the principal responsibility for the functions of the

Department of the Army relating to all aspects of the Civil Works Program.

Appointed by the President and confirmed by the Senate, the ASA (CW) is charged with developing, defending, and executing the Civil Works legislative and financial program and budget. The current ASA (CW) is the Honorable Mike Parker, who assumed his duties in October 2001.

The Chief of Engineers is also the Commander of the U.S. Army Corps of Engineers, which executes the Civil Works Program. The Chief of Engineers defines policy as promulgated by the ASA (CW), and directs the Civil Works Program according to that policy. Lieutenant General Robert B. Flowers has been serving as the 50th Chief of Engineers since October 2000.

Figure 7. Civil Works Organization



The Chief of Engineers relies upon the Director of Civil Works to execute the Civil Works Program on a day-to-day basis. Directing

four divisions—Program Management, Planning and Policy, Engineering and Construction, and Operations and Maintenance (O&M)—the Director of Civil Works provides the policy and oversight to enable the Corps' major subordinate commanders and district commanders to successfully carry out or conduct the five phases of a Civil Works Project.

Figure 8: Project Development Process
Water Resources Partnership



The Five Phases of a Civil Works Project

Reconnaissance. The Planning and Policy Division provides the policy that governs the Reconnaissance Phase. During this phase, the project development team identifies problems and potential solutions, or define projects to address specific public needs. While all projects have a reconnaissance phase in which the initial definition of the follow-on work is

developed, only 16 percent of reconnaissance studies result in actual construction.



Feasibility. Once the initial definition of the follow-on work has been developed, projects enter the Feasibility Phase. Again, the Planning and Policy Division provides policy guidance for the conduct of feasibility reports. In this phase, the project development team seeks to formulate a solution based on the initial findings disclosed in the Reconnaissance Report, evaluating potential solutions compared to costs and benefits, preparing initial designs, and recommending a plan to solve the problem at issue. The phase concludes with a decision on the product to be designed and constructed.

Preconstruction Engineering and Design. Once the studies are completed and a feasible product has been decided upon, the project enters the Preconstruction Engineering and Design Phase. The Engineering and Construction Division provides guidance for accomplishing design and construction. In this phase, the project development team finalizes the project's design, prepare plans and specifications, and prepare the construction contract for advertising.

Construction. The Engineering and Construction Division also provides guidance for the Construction Phase. During this phase, engineers complete a Design Document, continue preparing plans and specifications as needed, and prepare engineering instructions for field personnel. In addition to preparing a variety of reports related to the site, the project development team also reviews contractor proposals, review contractor claims and modifications, and develops operations and training manuals and emergency action plans.



Workers place roller-compacted concrete beneath the Table Rock Auxillary Gated Spillway in late January 2001. Approximately 7,000 cubic yards were placed over a period of seven days.

Operations and Maintenance. The final phase is Operations and Maintenance. In this phase, the Operations Division handles the operation and maintenance of those projects that remain a responsibility of the Federal Government. Nonfederal sponsors are responsible for operation and maintenance of most projects constructed since 1986. The Operations Division ensures that projects are inspected periodically, reviews any project modifications, and recommends needed repairs.

Despite the complexities of the projects we undertake, the Civil Works Program prides itself on its efficiency. In FY 2001, general expenses consumed only 3 percent of our budget. The overwhelming portion of our budget, and of our organization as a whole, was devoted to delivering important projects and service to the nation.



Performance Goals

The Civil Works Program has developed a draft strategic plan to focus on identifying and answering the nation's water resources needs, which directly impact our national prosperity, competitiveness, quality of life, and environmental stability. Research findings and input from the public, gained through public listening sessions, have led us to identify the following five issues as the main national water resource challenges facing the nation:



The Corps review team takes a dramatic trek on the San Francisco-Oakland Bay Bridge to get a first-hand look at its construction as part of its recent safety assessment.

- Balancing demands for water resources development in terms of access to and use of those resources and the preservation of environmental quality
- Repairing damage to our environment from past development
- Addressing the performance and safety implications of an aging water resource infrastructure

- Ensuring the capability to respond to natural disasters
- Minimizing the impact of institutional inhibitors on water resource decision making and management.

To address these challenges, we have developed the following five strategic goals (specific objectives associated with each goal enable the measurement of our annual performance toward achievement of the strategic goal):

- Provide sustainable water resources development and management
- Protect, restore, and manage environmental resources
- Provide justified levels of project services of high quality to the satisfaction of customers and project sponsors
- Reduce annual losses resulting from natural and man made disasters
- Be a world-class technical leader.

We have developed four overarching strategies specifically to outline how we intend to pursue the five strategic goals listed above. These strategies are reflected, to the extent necessary, in the objectives that support each strategic goal:



- Anticipate water resources needs
- Adopt integrated approaches
- Proactively position policies, people, and processes
- Communicate, coordinate, collaborate, and educate.

Strategic Goals

Strategic Goal 1: Provide Sustainable Water Resources, Development, and Management

By anticipating, identifying, and addressing water resource infrastructure problems and needs, the Army Corps of Engineers Civil Works Program is able to enhance our nation's economic well-being. By maintaining our coastal harbors and intercoastal waterways, we strengthen America's ability to export its products to the world and to move those products around the nation.

To ensure that we continue to manage our water resources effectively and to maintain our waterway infrastructure, the Civil Works Program applies a consistent program investment objective to the development and management of water resources infrastructure. At the core of this objective are two guiding principles:

- Invest in the navigation program infrastructure when project benefits exceed their costs
- Invest in the flood and coastal storm damage reduction program infrastructure when project benefits exceed their costs.

Performance Measure 1: For investments in navigation projects, the benefit-to-cost ratio at the completion of project construction should at least equal the benefit-to-cost ratio at the time of initial project funding. The performance target for FY 2001 was to achieve a benefit-to-cost ratio at completion within 10 percent of the initial benefit-to-cost ratio.

Performance Result 1: In FY 2001, three navigation construction projects were completed. Two of the three projects were completed with a benefit-to-cost ratio within 10 percent of the estimate used to justify initial project construction funding. One project was completed with a benefit-to-cost ratio more than 10 percent lower than the initial benefit-to-cost ratio; but the completion benefit-to-



Aerial view of South Williamson, Kentucky. The project consists of floodplain evacuation, resettlement, and floodproofing activities.



cost ratio still was greater than unity, which is used to indicate a justified investment.

Performance Measure 2: For investments in flood and coastal storm damage reduction projects, the benefit-to-cost ratio at the completion of project construction should at least equal the estimated benefit-to-cost ratio at the time of initial project funding.

Performance Result 2: In FY 2001, eight flood damage reduction projects were completed. Six of the eight projects were completed with a benefit-to-cost ratio within 10 percent of the estimate used to justify initial project construction funding. Five of those six projects were completed with a benefit-to-cost ratio exceeding what was forecast prior to the start of construction. The two projects with an erosion in the initial benefit-to-cost ratio of more than 10 percent were still completed with a positive benefit-to-cost ratio, thus validating the initial investment decision.

Strategic Goal 2: Protect, Restore, and Manage Environmental Resources

To accomplish this strategic goal, the Civil Works Program must anticipate, identify, and address the nation's needs for the environmental restoration and enhancement of our water resources. We will work with our partners, including other federal and state agencies, nongovernmental organizations, and Native American tribes,

to develop creative solutions that are both effective and efficient, employing, where appropriate, leading-edge technologies and methodologies.



Kissimmee River C-38 Restoration Project, Florida.

We are pursuing the restoration of environmental damages and losses that resulted from past actions where we did not adequately anticipate or take into account the environmental consequences of those actions. We plan to exercise our authority to its fullest extent in support of the ecosystem restoration portion of the Civil Works Program. In addition, we will support the national commitment to wetlands embodied in the Clean Water Action Plan, by adding to the nation's

environmental resource base through restoration and enhancement projects. We are working to ensure that there is no further net loss of wetlands due to unwise development activity.

In addition, the Corps of Engineers has been given responsibility to execute an environmental clean up program of contaminated sites under the Formerly Utilized Sites Remedial Action Program (FUSRAP). Improvement of the overall efficiency of the clean up



program will result in a reduction of the potential risks to health and the environment at high-priority sites.

Our success in pursuit of this strategic goal is demonstrated in the performance measures that have been developed for the Environmental and Regulatory business programs.

Environmental

The Environmental business program emphasizes environmental stewardship, ecosystem restoration, mitigation, environmental compliance, and research and development. The work undertaken by this program takes many forms, reflecting the growing national demand for restoration and protection.

We have established three program objectives in support of the strategic goals of the Civil Works Program. They are as follows:

- Invest in mitigation and restoration projects or features to make a positive contribution to the nation's environmental resources
- Invest in mitigation and restoration projects and in the operation of program facilities to assist in the recovery of federally listed threatened and endangered species
- Ensure that the operation of all Civil Works facilities and management of associated lands, including out-granted areas, complies with the environmental requirements of the relevant federal, state, and local laws and regulations



Ducks, geese, and herons are protected on more than 85,200 acres of Army Corps of Engineers land devoted to wildlife management.

Performance Measure 1: The percentage of Civil Works Program-administered mitigation land meeting the requirements of the authorizing legislation or of the relevant Corps of Engineers decision document. Target for FY 2001 was to meet requirements for 70 percent of mitigation lands. This measure is calculated as a percentage of all designated program-administered mitigation land for which we meet mitigation requirements.

Performance Result 1: During FY 2001, we administered 713,374 mitigation acres, representing a slight increase over the previous fiscal year. The increase was the result of inventory records for mitigation lands being revised to add land administered for mitigation purposes. We achieved 78 percent of mitigation requirements, exceeding the performance target of 70 percent. The



Table 7. Civil Works-Administered Mitigation Land

	FY 1999	FY 2000	FY 2001
Total acreage designated as Civil Works-administered mitigation land	724,224	712,933	713,374
Mitigation land for which requirements were met (acres)	553,191	552,441	554,880
Percentage of Civil Works-administered mitigation lands for which mitigation requirements were met	76%	77%	78%

Table 8. Recovery Plan Projects

	FY 1999	FY 2000	FY 2001
Number of opportunities to participate in recovery of federally listed species	484	503	505
Number of opportunities taken	450	470	491
Percentage of opportunities taken to assist in the recovery of federally listed species	93%	93%	97%

figure of 70 percent was set as an initial target until we gained experience in both baseline measurement and in linking performance levels to resourcing levels (Table 7). For FY 2002, the performance target is being raised to 80 percent.

Performance Measure 2: The percentage in which the Civil Works Program engaged of the total opportunities to participate in Recovery Plan projects for federally listed species should be not less than 30 percent. [The performance target is being raised for FY 2002 to 95 percent based on the experience of FY 2001 and the preceding years.]

Performance Result 2: During FY 2001, we participated in recovery programs for 78 federally listed species, engaging in 491 separate opportunities to benefit these species or their habitats (Table 8).

Performance Measure 3: To correct 100 percent of all significant findings and 70 percent of all major findings annually. A significant finding is a determination that we are not meeting an environmental requirement and that the concern poses, or has a high likelihood of posing, a direct and immediate threat to human health, safety, the environment, or the mission. The success rate of correcting significant and major findings is calculated annually.

Performance Result 3: During FY 2001, we corrected two of three, or 67 percent, of the significant findings, and 62 percent of major findings (Table 9). The Corps corrected the two significant findings identified during FY 2001; the remaining finding from the prior FY has been partially corrected to eliminate the immediate threat to the environment. The Corps anticipates total correction of the one open significant finding in FY 2002 subject to funding availability. The correction rate for major findings was lower because many findings were identified late in the fiscal year. The Corps continues to place a high priority on achieving

Table 9. Correction of Significant and Major Environmental Findings

	FY 1999	FY 2000	FY 2001
Number of significant findings	10	5	3
Percentage corrected	50%	80%	67%
Number of major findings	528	555	400
Percentage corrected	41%	70%	62%

both performance goals in FY 2002.



Regulatory

The Civil Works Program operates a comprehensive regulatory program that protects navigation and the aquatic environment. The primary objective of the program is to protect the aquatic environment. Additional program management objectives relate to minimizing the amount of time taken to process decisions on requests for permits to work in the waters of the United States. The following program objectives have been established to support the pursuit of the strategic goals of the Civil Works Program:

- Administer the regulatory program in a manner that protects the aquatic environment
- Administer the regulatory program in a manner that renders fair and reasonable decisions for applicants
- Administer the regulatory program in a manner that enables efficient decision making.

Performance Measure 1: Administer the regulatory program in a manner that protects the aquatic environment.

Performance Result 1: During FY 2001, 43,832 acres of wetlands were restored, created, enhanced, or preserved, offsetting the 24,073 acres that were lost to permitted development (Table 10). This realized the performance objective of no net loss of wetlands.

Table 10. Development and Mitigation of Wetlands

	FY 1999	FY 2000	FY 2001
Wetland acres permitted for development	21,556	18,900	24,073
Wetland acres mitigated	46,433	44,757	43,832

Performance Measure 2: The number of all permit decisions completed within 60 days, expressed as a percentage of all permit decisions. Target is to complete 85 to 95 percent of all actions within 60 days.

Performance Result 2: During FY 2001, we completed 73,415 permit actions in 60 days or less, representing an 88 percent success rate (Table 11). While this figure exceeds the performance target of 85 percent, it reflects a decline from last year's performance of 90 percent. The general trend has been downward since FY 1998, when 94 percent were completed in 60 days. Performance has been dropping due to additional review requirements for both individual permits and some nationwide permits.

Table 11. Permit Actions Completed within 60 Days

	FY 1999	FY 2000	FY 2001
Number of permit actions completed within 60 days	83,413	80,035	73,415
Percentage of actions completed within 60 days	92%	90%	88%



Performance Measure 3: The number of standard permit decisions completed within 120 days, expressed as a percentage of all standard permit decisions. Standard permits are those for larger projects that require extensive review. Target is to complete 70 to 80 percent of decisions on standard permits within 120 days.

Table 12. Standard Permit Actions Completed within 120 Days

	FY 1999	FY 2000	FY 2001
Number of standard permit actions completed within 120 days	3,175	2,521	2,600
Percentage of actions completed within 120 days	72%	62%	60%

Performance Result 3: During FY 2001, we completed 60 percent of all standard permit actions in less than 120 days (Table 12). This is below the lower limit of the performance range. Performance dropped due to additional individual permit workload, resulting from

changes in the nationwide permit program, primarily Nationwide Permit 26. There are also additional review requirements, such as endangered species, that have affected review time.

Strategic Goal 3: Provide Justified Level of Project Services of High Quality to the Satisfaction of Customers and Project Sponsors

Our customers, partners, and stakeholders expect delivery of the level of service that was designed into a Civil Works project, and expect that high quality of service to continue even with changing demands on the project. This strategic goal was developed to ensure that the Civil Works Program continues to meet or exceed those customer expectations. This requires that we pay particular attention to the quality and performance of our projects, that we recognize and analyze problems early, and that we identify cost-effective ways to prevent, lessen, or correct any deficiencies.

In addition, we recognize that we must continue to provide facilities that meet the needs of diverse and changing user groups. For projects to deliver the desired performance and service levels, they must be able to serve the needs of their users. Projects are typically designed to accomplish a particular purpose for a specified lifespan. In order that they continue to meet the changing needs of users, they may have to undergo design changes or may need to be rehabilitated or reconstructed so that their functions may be modernized.

The performances of the Navigation, Flood and Coastal Storm Damage Prevention, Hydropower, Recreation, and Water Supply business programs reflect the overall success of the Civil Works Program in achieving this strategic goal. The performance of each business program is outlined in the following sections.



Navigation

The responsibilities of the Navigation program include the improvement and maintenance of port and harbor channels and the inland waterways that handle the nation's maritime commerce. The objective of the program is to ensure that the navigation infrastructure is operated and managed in such a manner to assure justified levels of service. To measure our success we have developed three performance measures that year after year depict the progress we have made and how successful we have been in managing the navigation program. These are as follows:



Tugboats assist a ship on the Mississippi River at Head of Passes, Louisiana.

- Monitor the volume of commerce and the operational cost of the fuel-taxed-waterways component of the navigation system
- Assure that high use of navigation infrastructure (waterways, harbors, and channels) is available 90 percent of the time it is scheduled for availability to commercial traffic
- Maintain a level of dredging that assures safe and reliable harbor and channel availability.

Performance Measure 1: Monitor the volume of commerce and the operational cost of the fuel-taxed-waterways component of the navigation system.

Performance Result 1: Data for calendar year 2000 and 2001 were not available at the time of printing.

Performance Measure 2: Percentage of time program facilities are open to commercial traffic.

Performance Result 2: During FY 2001, the availability of inland navigational infrastructure decreased by 2.5 percent to 93.5 percent (Table 14). The availability of the nation's navigational infrastructure continues to exceed the performance target of 90 percent.

Performance Measure 3: The volume of material dredged is largely dependent upon acts of nature and factors beyond the con-

Table 13. Volume of Commerce and Operational Cost

	FY 1999	FY 2000	FY 2001
Ton-miles of commerce carried (billions) ¹	276	N/A ²	N/A ²
Cost per ton-mile	\$0.0018	N/A ²	N/A ²

¹Ton-mile data are reported on a calendar basis. Costs are on a fiscal year basis
²Data were not available at time of printing.

Table 14. Availability of Navigational Infrastructure

Performance Achieved	FY 1999	FY 2000	FY 2001
Actual availability	96.2%	96.0%	93.5%



Table 15. Volume and Cost of Material Dredged

	FY 1999	FY 2000	FY 2001
Cubic yards removed (millions) ¹	242	243	218
Cost per cubic yard	\$2.40	\$2.42	\$2.56

¹Volume of material dredged reflects maintenance dredging only, and does not include dredging done for new construction projects.

trol of man. No performance target has therefore been established. The depth of material to be dredged and the disposal of dredged material are the two main factors influencing the cost of dredging.

Performance Result 3: During FY 2001, we removed 218 million cubic yards of dredged material for maintenance dredging, at a cost of \$2.56 per cubic yard (Table 15).

Flood and Coastal Storm Damage Reduction

There are two general approaches to reducing flood damage. The first approach calls for the use of large-scale engineering projects to prevent floodwaters from inundating property. The second approach calls for the modification of property susceptible to flooding, to minimize the risk of damage. Civil Works projects usually use a combination of both approaches. The program objective is to operate and maintain existing federal infrastructure to provide design levels of protection. Essential to the success of the program objective is the requirement to maintain Civil Works facilities to assure that facilities will function as designed.

Table 16. Flood Damages Prevented

(Dollars in billions)	FY 1999	FY 2000	FY 2001
Flood damage prevented	\$21.2	\$2.8	\$21.7 ¹
10-year rolling average	\$22.3	\$20.8	N/A ²

¹Preliminary estimate of the dollar amount of flood damage prevented.

²Value will be determined when FY 2001 flood damage prevented figure is finalized.

Performance Measure 1: Actual performance of Civil Works facilities in reducing damage where flooding would otherwise have been experienced.

Performance Result 1: During FY 2001, the Corps preliminary estimates show a prevention of \$21.7 billion in flood damage (Table 16).

Hydropower

The Civil Works Program operates 346 hydroelectric power-generating units at 75 multipurpose reservoirs, providing a significant supply of renewable-source energy to the nation. The electricity is distributed by federal power marketing agencies. To ensure that we continue to provide much needed energy to the nation, we have established a single program objective:

- Minimize the incidence of unplanned outages to hydroelectric power production.

Performance Measure 1: Two measures are monitored: kilowatt-hours generated, to measure total power generation; and cost per kilowatt-hour, to measure generating efficiency. Performance targets for production are not set because power generated is largely dependent upon hydrologic conditions that cannot be managed.



Performance Result 1: During FY 2000, the Civil Works Program generated 96.1 billion kilowatt-hours (Table 17), representing a decrease of 3.0 percent from FY 1999 (within normal annual variations). The cost per kilowatt-hour was not available at time of this report publication.

Table 17. Kilowatt Hours Generated

	FY 1999	FY 2000	FY 2001
Kilowatt-hours generated (billions)	99.1	96.1	N/A ¹
Cost per kilowatt-hour	\$0.0236	N/A ¹	N/A ¹

¹Data were not available at time of printing.

Performance Measure 2: Maintain a high degree of hydroelectric power availability at multipurpose reservoir projects. Our goal is to keep the forced (unplanned) outage rate at less than 4.5 percent. The lower the forced outage rate, the more reliable and the less expensive is the electricity service we provide to our customers.

Table 18. Hydroelectric Power Availability

	FY 1999	FY 2000	FY 2001
Performance target	4.5%	4.5%	4.5%
Actual availability	3.69%	N/A ¹	1.84%

¹Data were not available at time of printing.

Performance Result 2: Our performance during FY 2001 towards minimizing forced outages was excellent. We achieved very low levels of unplanned outages of 1.84 percent, well below our performance target of 4.5 percent (Table 18).

Recreation

Most federal lakes were originally built with a single primary purpose, and benefited mainly the local population. Public needs and values have changed, however, and we have sought to serve the evolving public interest by adapting our reservoirs for multiple uses, provided there is sufficient legislative authority to do so. To support the broader strategic goals of the Civil Works Program and to achieve maximum cost-effectiveness in the provision of outdoor recreation services, we have established the following program objectives:

- Provide outdoor recreation opportunities in an effective and efficient manner at Civil Works-operated water resource projects
- Provide outdoor recreation opportunities to meet the needs of present and future generations.

Performance Measure 1: Cost per visitor-day of providing outdoor recreation facilities. The cost per visitor-day is determined by a number of variables. While Civil Works is able to manage the cost of providing recreation facilities, the number of visitors who use these facilities is governed in large part by external factors such as the weather and prevailing economic conditions. Historically, no management performance target has therefore been specified.



Table 19. Recreation Usage

	FY 1999	FY 2000	FY 2001
Visitor-days (millions)	224	212	209
Cost per visitor-day	\$0.88	\$1.24	\$1.28

Performance Result 1: During FY 2001, the number of visitor-days at our outdoor recreation areas decreased from 212 to 209 million (Table 19). Preliminary estimates indicate our cost per visitor-day increased slightly with the slight drop in visitation.

Water Supply

Performance measures for this business program have not been fielded.

Strategic Goal 4: Reduce Annual Losses Resulting from Natural and Man Made Disasters

By developing and implementing new ways to reduce the risk of flood and storm damage losses, the Civil Works Program is able to reduce potential flood damage, saving our nation billions of dollars. Every year we strive to reduce further the risks associated with flooding and to increase our responsiveness to natural disasters. The Emergency Management business program supports this strategic goal.



View of Sea Bright, New Jersey, coastline as a storm attacks the seawall.

The Civil Works Program includes a disaster response and recovery program, maintained by the Corps of Engineers under Public Law 84-99 and under the Federal Response Plan in coordination with the Federal Emergency Management Agency and others. Civil Works response activities are intended to supplement state and local efforts. Our disaster preparedness and response capabilities are not limited to water-related disasters, but draw on the engineering skills and management capabilities of the Corps to encompass a broad range of natural disasters and national emergencies.

Through our emergency preparedness planning and disaster response capability we are able to make a significant and direct contribution to our national security objectives. We have established four program strategies to support the strategic goals of the Civil Works Program. They are as follows:

- Attain and maintain a high and consistent state of preparedness
- Provide a rapid, effective, and efficient all-hazards response capability, prepared for deployment anywhere worldwide
- Provide the leadership to ensure effective and efficient long-term crisis recovery, emphasizing recovery of the nation's water resources infrastructure



- Provide professional emergency management program services to international customers.

Performance measures for this business program are being developed, but none have been implemented.

Strategic Goal 5: Be a World-Class Technical Leader

A priority of the Corps of Engineers is to maintain a leading-edge technical capability today and into the future. Ensuring that we can deliver high-quality and responsive engineering services to the nation and others requires that we have a solid foundation in a core set of technical skills. To that end, and in anticipation of future requirements, we have begun to identify the range of expertise that we have within the Corps; we have also begun to identify those critical functions where our reserves of talent may be depleted through retirement and attrition. We maintain the world-class capabilities inherent in our laboratories through capital investment, and we are engaging in research and development to improve our operational processes so that we may better address the nation's water resource problems and opportunities.

We will leverage our core technical capabilities as appropriate by providing engineering-related services to the Department of Defense agencies, other federal agencies, and authorized entities through our Support for Others business program. Overseas, we help countries enhance their public sector capacities, especially in managing water for development of their economies and protection of their environments and ecosystems. In doing so, we are able to promote democracy, peace, and stability, in part by assisting legitimate authorities to improve their infrastructure and environments and to ease conditions that potentially can lead to conflict.

To be a world-class technical leader it is imperative that we seek continuous improvement in the processes we use to meet the needs of our customers, partners, and stakeholders. The feedback provided by our customers and project sponsors is the best indication of how effective we are in meeting the quality, timeliness, and cost effectiveness of their expectations. We will continue to seek that feedback in order to strengthen our overall performance and to raise our customers' satisfaction.



Actions Planned to Improve Performance

The Civil Works strategic goals indicate what needs to be done to address critical national water resources needs. Our strategies outline how we intend to pursue each strategic goal. Each strategic goal incorporates two or more of the following overarching strategies:

- Anticipate water resource needs
- Adopt integrated approaches
- Proactively position policies, people, and processes
- Communicate, coordinate, collaborate, and educate.

Anticipate Water Resource Needs

No matter how well we believe we are managing our water resources, to plan appropriately for the accomplishment of our mission we must at all times be responsive to events, trends, issues, and technologies and to the sentiment of the general public, experts, our stakeholders, and Congress. We therefore focus on the early identification of water resource needs, developing and revising as necessary the strategies we need to manage change and to ensure our continuing effectiveness. While maintaining our traditional mission expertise, we must also remain alert to emerging areas requiring specialized technical expertise. We take on leadership roles where we have the appropriate authority, expertise, and experience, and we partner with federal agencies and state and local governments, including tribal governments, where it is appropriate, to leverage their capabilities alongside our own. We additionally invest in the research, development, and implementation of innovative technologies and processes, and in the exploration of creative approaches and solutions that have the potential to advance our capabilities and our ability to improve our water resources.

Adopt Integrated Approaches

The use of integrated water resource management is critical to our success in balancing and combining disparate water resource needs, objectives, and priorities. Environmental restoration will become an increasingly important budgetary priority as the nation strives to compensate for the adverse effects of past economic development. As we move forward we will seek to balance competing needs and objectives through the use of a "watershed" framework that unites technical experts, stakeholders, and decision makers in the task of addressing resource needs, opportunities, conflicts, and trade offs. We will seek also to assist in regional planning; to infuse an environmental ethic into all mission areas and engineering functions; and to develop and employ holistic methodologies. Through this integrated approach, we aim to unify the work on our ongoing programs and to leverage scarce



resources. We are also seeking through this approach to develop and adopt new systems, models and tools; to apply interdisciplinary methods and views; and to identify and clarify overlaps and interdependencies.

Proactively Position Policies, People, and Processes

Customer satisfaction demands that we continue to improve performance. It is essential that we provide the support our people need to best accomplish their mission. With this in mind, we strive to provide updated policies and guidelines to reflect current requirements. To ensure the continuance of a qualified workforce, we employ recruitment and retention policies that enable us to meet our staffing and project requirements. To seek performance improvements, we will use the most modern performance management approaches and benchmarks, while we continue to use our project management business process to effect control over all we deliver and ensure our products and services meet customer expectations. To ensure that all sectors of our organization can leverage the experience of others, we employ knowledge management strategies to provide operational strength through connectivity.

Communicate, Coordinate, Collaborate, and Educate

We must improve the ways in which we communicate with our partners. As we increasingly seek to develop strategic partnerships in our work, it is important that we:

- Listen with an open mind to our stakeholders, partners, customers, and critics
- Encourage joint planning
- Develop multiple methods and materials for communicating the water resources story to a variety of audiences
- Get our message out more consistently, reliably, and accurately
- Promote technology transfer of analytical and decision-making methodologies between us and our partners.

As we seek to address water resource challenges, we also must collaborate more closely at all levels with governmental and non-governmental entities. Our forums and management processes should be more intergovernmental in nature, and through the use of a regional approach to problem solving we must seek to devolve greater authority to nonfederal agencies; we must also enhance our capabilities at the state and local levels.

Nongovernmental organizations and tribal nations share many of our goals and values regarding water resources, and we should view them as potential partners in educating the general public, stakeholders in water resources, public officials, and key decision



makers about the challenges that we face and the options that are available to us as we strive to overcome those challenges.

Summary

The successful execution of these strategies will enable us to accomplish our goals and conquer the major water resources challenges that we face. And by delivering to the taxpayer a notable return on investments made in the nation's civil works, we can enhance the quality of life for all Americans.



Financial Statement Review

FY 2001 represented another year of continuous improvement for the USACE Civil Works Fund, as we moved ever closer to fulfilling the requirement of producing auditable financial statements in compliance with the Chief Financial Officers Act of 1990 (CFO Act). Within DoD, the Civil Works Fund has been at the forefront in implementing federal financial management reform.

These financial statements were compiled in accordance with guidance issued by the Office of Management and Budget and supplementary guidance provided by DoD. The Army Audit Agency audited the statements, which comprise the Balance Sheet, Statement of Net Cost, Statement of Changes in Net Position, Statement of Budgetary Resources, and Statement of Financing.

Overview of the Financial Statements

The financial statements for the Civil Works Fund are presented in a comparative format, providing financial information for FY 2000 and FY 2001. While comparative statements are not required until the agency receives an unqualified audit opinion on its financial statements, we opted for early implementation of the requirement, as encouraged by the Office of Management and Budget.

Below are the financial highlights of each statement. These highlights focus on significant balances or conditions to help clarify the Civil Works Fund's operations. Additional explanatory information may also be found in the notes that accompany these statements.

Balance Sheet

This statement presents the assets, liabilities, and net position of the Civil Works Fund as of 30 September 2000 and 2001. Civil Works assets amounted to \$41.2 billion at FY 2001 year-end. Of this amount, 85 percent of the dollar value is in the property, plant, and equipment accounts. Relative to its assets, the liabilities of Civil Works are low, amounting to \$2.4 billion. The liabilities are primarily related to \$991 million in deferred credits from long-term receivables recorded for water storage contracts and hydraulic mining; \$598 million in accounts payable; and \$354 million in accrued payroll.

The third and final major component of the Balance Sheet is net position. In the aggregate, the various elements of the net position section on the Balance Sheet are also referred to as "equity." Equity is the residual interest in the assets of the entity that remains after deducting its liabilities. For FY 2001, the Civil Works net position was \$38.8 billion, representing a 2 percent growth over FY 2000.



Statement of Net Cost

This statement presents the annual cost of operating the various Civil Works programs. To the extent a program generates revenues, these amounts offset gross costs to arrive at the net cost of operations. For FY 2001, program costs amounted to \$4.8 billion, representing a 10 percent increase from the previous year. Conversely, program revenues dropped 27 percent from FY 2000, amounting to \$494 million. Overall, FY 2001 witnessed a 17 percent increase in the net cost of operations, to \$4.3 billion.

Statement of Changes in Net Position

This statement presents those accounting items that caused the net position section of the Balance Sheet to change from the beginning to the end of the reporting period. The Civil Works Fund enjoyed a positive \$1.4 billion net result in operations. However, after previous-period adjustments were factored in, the net change to the Cumulative Results of Operations amounted to \$815 million. These previous-period adjustments represent refinements to our accounting procedures as we work to continuously improve our operations. The net position at year-end was \$38.8 billion, a 2 percent increase from the previous year.

Statement of Budgetary Resources

This statement is particularly meaningful as it provides information on how the Civil Works Fund obtained its budgetary resources and the status or remaining balances of those resources at year-end. Additionally, information on the outlays or actual cash disbursements for the year is disclosed in this statement.

Total budgetary resources increased by nearly 10 percent for FY 2001, to \$11.6 billion. This increase was due primarily to a 20 percent increase in budget authority and to a 15 percent increase in spending authority from the offsetting of collections. The Civil Works Fund incurred \$9.6 billion in obligations during the year, and disbursed \$5.1 billion.

Statement of Financing

This is a reconciling statement that tracks the relationship between the proprietary accounts and the budgetary accounts of the Civil Works Fund. The Statement of Financing provides information on the total resources provided to the Civil Works Fund during the fiscal year and on how those resources were used.

The first section of the statement, "Obligations and Nonbudgetary Resources," constitutes the total amount of \$5.2 billion for which the Civil Works Fund may have a future liability that would eventually require cash payments.



The second section, "Resources That Do Not Fund Net Costs of Operations, " identifies and adjusts budgetary transactions recorded by the Civil Works Fund for changes in the amount of goods, services, and benefits ordered but not received; the costs capitalized on the balance sheet; and financing sources that fund costs of previous-periods. For FY 2001, the fund had negative \$2 billion in resources that did not fund the net costs of operations.

The third section, "Components of Costs of Operations That Do Not Require or Generate Resources," is used to adjust the obligations and resources that do not fund net costs of operations, in order to determine the net cost of operations. Thus, sections one and two are reconciled to yield a net cost of operations of \$4.3 billion. This amount also ties back to the Statement of Net Cost.



Management Integrity

The Federal Managers' Financial Integrity Act of 1982 (FMFIA) requires an annual review of the adequacy of the U.S. Army Corps of Engineers program and management controls. The Director of Resource Management, the Chief Financial Officer, is responsible for oversight and for reporting on the Corps of Engineers management and internal control program. The Chief Financial Officer also chairs the Internal Management Control Panel that recommends actions pertaining to identified material weaknesses.

The Internal Management Control Program calls for individual offices and subordinate commands to provide assurances each year of the adequacy of internal controls within their own organizations. These constitute the primary assurance that management controls are in place and working effectively. Based on these and alternative forms of reviews, such as all known audits, investigations, and inspections, the Chief of Engineers asserted that he has reasonable assurance that management control systems are in place. In the past year, we have corrected several known weaknesses; we are addressing continuing challenges.

Corrected Weaknesses

Property Authorizations

Some organizations in the past did not use prescribed allowance tables to ensure that property acquired was both authorized and required. In FY 2001, we updated our personal property management system and developed an automated query process to improve our performance in this area.

Our property management system now includes a look-up table that requires users to select a valid authorization source document before requisitioning any equipment. This improvement will provide for the controlled use of assets and will allow requisition only of the authorized amount of materiel necessary to accomplish our mission. An improved authorization process will also allow for cross-leveling of equipment between activities and the potential reduction of equipment across the board.

Control of Personal Property

We recognized a need to improve the physical control and financial accountability of personal property. We have implemented a lifecycle process that integrates the business processes electronically embedded in the Corps of Engineers Financial Management System (CEFMS) with our personal property management system. This is now a transaction-based system that manages each piece of property entering and exiting our control. To ensure integrity in accountability, all property is inventoried annually, using barcode



readers, and is reconciled electronically with the information in the property system. In addition, CEFMS is reconciled to Real Estate Management Information System (REMIS) and Automated Personal Property Management System (APPMS).

Continuing Challenges

Information Technology Capital Planning and Investment Decision Process

The Clinger-Cohen Act of 1996 requires the institutionalization of an information technology capital planning and investment process to integrate the programming and budgeting for IT investments by monitoring and tracking such investments. The current process is fragmented, with some projects receiving funding despite not having been through the process.

To institutionalize this process, we will, by the end of FY 2002, publish an Engineer Manual clearly delineating the process. We also plan to conduct three regional training sessions for IT planners at all of our divisions, districts, field operating agencies, and labs, and will follow up by making this process a focus item during our command inspections.

Subcontract Plans for Small Businesses

Procedures for evaluating and negotiating subcontracting plans and for evaluating subcontractor performance are not wholly in compliance with the law as it pertains to small business subcontracting. We are in the process of implementing an Internet-based automated system that will employ "best of breed" automated procedures. In early FY 2002 we will implement a pilot system, with the aim of fielding the full system Corps-wide by early FY 2003.

Internal Accounting System

Through an independent assessment conducted during the annual Chief Financial Officers Act audit, auditors found the Corps of Engineers Financial Management System to be in substantial compliance with two of the three requirements of the Federal Financial Management Improvement Act of 1996. The auditor reported that we are in compliance with federal accounting standards and that CEFMS properly uses a standard, transaction-driven general ledger.

FFMIA also requires that the accounting system provide complete, reliable, consistent, timely, and useful information. Because of specific weaknesses in data integrity, accumulated depreciation calculations, and the financial documentation of construction projects initiated before implementation of CEFMS, we are not yet fully compliant. We are continuing to address and correct these problems.



Future Financial Trends and Business Events

The Civil Works Program serves as the custodian for America's water resources. A look at the trends projected over the next 20 years reveals how important it will be to fund the Civil Works Program adequately and how important it will continue to be to use those funds wisely.

Emerging Challenges and Future Trends Growth in Waterborne Commerce and an Aging Infrastructure

Over the next 20 years, we expect inland traffic to grow by up to 37 percent. Yet already we are operating and maintaining an aging water resources infrastructure that is nearing, and in some cases surpassing, its 50-year planned design life. If we are to maintain expected performance levels, we must rebuild or replace aging locks and dams. Delays associated with aging locks cost shippers, carriers, and ultimately consumers \$385 million in increased operating costs annually.

"As I look to the future, we have some serious issues of infrastructure that we need to deal with in this country."

LTG Robert B. Flowers
Chief of Engineers

A lock modernization program has been underway since passage of the 1986 Water Resource Development Act. To date, we have invested \$1.7 billion in 14 locks, with an additional \$3.4 billion programmed for construction on an additional 13 locks. Funding

at less than optimum levels has increased construction times by between one and five years, however, resulting in direct cost increases of more than \$250 million due to inflation and in an estimated \$1.7 billion in transportation savings lost.

Our ports are facing a similar growth in usage. Domestic and international marine trade is expected to double by 2020, to more than 4 billion tons of cargo per year. At the same time, the container ship of choice is increasingly a vessel that requires 50-55 feet of depth, found only in a few American ports.

Failure to react to this trend would result in a decline in our marine system, to less competitive ports, higher prices for consumers, and a reduction in economic growth potential.

Continuing Development of Flood-Prone Areas

Floods account for 85 percent of our natural disasters annually, causing losses and damage of \$4 billion each year. The trend is for this to increase, as an increasingly affluent society moves closer to our water resources. Urban development in the flood plains is



increasing at a rate of 1.5 percent to 2.5 percent annually, but fewer than 15 percent of more than 20,000 American communities have structural flood protection. Since 1980, migration to the coasts has seen the coastal population rise to more than 41 million, a rate of growth outpacing overall U.S. population growth by 15 percent. Failure to respond to these changes will inevitably translate into an increase in preventable social and economic loss.

Increasing Priority on Environmental Considerations

Rivers and coastal waters are vital to the U.S. economy, but over the years there have been conflicting demands on our water resources. Rivers for example, were once commonly dammed to provide flood control, low-cost hydroelectric power, and water supplies, but environmental concerns have essentially now preempted considerations of multipurpose reservoir construction. Flood plains are sites for business, agriculture, industry, and homes, but this economic development exacts a cost on the environment that society is increasingly disinclined to pay. We must find better ways to balance economic and environmental demands so that we can continue to realize sustainable development.

Sustainable development emphasizes reinvestment in communities through partnerships and the development of regional strategies for economic growth and environmental protection. In 1998, the American Society of Civil Engineers graded American infrastructure. They graded wastewater systems D+, noting the contamination of rivers, lakes, and groundwater sites. They estimated that it would cost \$140 billion over the next 20 years to improve wastewater treatment and build new plants. They graded the treatment of solid waste C-, but anticipated that expenditures for the disposal of nonhazardous municipal solid waste will grow.

Impact on Future Financial Position

The trends above indicate a shortage of available funding. Our operations program has lagged far behind requirements for many years—our construction backlog, for example, is \$38 billion for the completion of all active and/or authorized projects. Our requirements in this area are increasing and will place more strain on Civil Works resources.



Gavins Point Dam Spillway. View of spillway 29,000 CFS Release. Missouri River. Yankton, South Dakota.

"Thoughtful development does not damage the environment."

LTG Robert B. Flowers
Chief of Engineers



Our operations and maintenance backlog consists of the unfunded work needed to preserve the integrity of our projects and to ensure their continued viability. Delays in performing this work will result in more extensive and costly repairs and in higher operational costs. The critical backlog was \$415 million in FY 2001, and is expected to be \$702 million in FY 2002. This does not even address the \$1.1 billion of unfunded work that is required but not yet considered critical. The need to address this critical financial issue is essential to America's economic well-being.

Projects in the backlog are vital to commercial navigation and economic prosperity; it is essential, for example, that work on deepening the Port of New York and New Jersey continue. There are also important projects in the backlog that address flood damage reduction in southeast Louisiana and on the American River in California, and that address environmental restoration in the Florida Everglades.

Business Initiatives

Increased funding would provide the swiftest solution, but the Civil Works budget is likely to remain relatively unchanged in the foreseeable future. We must therefore become more efficient in our use of current funding. We are pursuing several initiatives to this end.

Design-Build Project Delivery System

We are gradually moving away from a design-bid-build project delivery system toward design-build, an approach that provides the benefit of working with a single contractor over the course of a project. Used more extensively by the Corps of Engineers on military programs, it is only a matter of time before this method spreads significantly to Civil Works.

We have already used design-build on a few projects, such as the flood retention structure for the Department of Energy's Los Alamos National Laboratory in New Mexico. This project, where time was of the essence to protect against potential flooding due to forest fires, saw the completion of a 70-foot high, 390-foot long roller-compacted concrete structure for \$8 million in a mere eight weeks.

For this method to work, we must concentrate on defining function or performance characteristics and on selecting the best-value design-builder. The results of the Los Alamos project nonetheless indicate that design-build can reduce the cost of projects and help us address our construction backlog.



Performance-Based Contracting

The Department of the Army has emphasized use of performance-based contracting for four years. The Army has established as a minimum performance level the award of at least 50 percent of service contracts as performance-based, with a goal of striving to continually exceed that level. The Corps has been reporting its performance to the Army in awarding performance-based service contracts of \$250,000 dollars or greater on a quarterly basis since FY 1997 and has exceeded the 50 percent goal in every reporting quarter since FY 1997.

Recent Corps activities have focused on further increasing the use of performance-based contracting. These include the following:

- In FY 1999, the Corps established a performance-based service contract library on the Corps internet web site (<http://www.hq.usace.army.mil/cepr/asp/main/parc.asp>)
- Also in FY 1999, the Corps helped the Department of Defense develop the Performance-Based Services Acquisition Guidebook
- In FY 2001 the Department of Army published a Performance-Based Service Acquisition Implementation Plan, which the Corps is fully supporting
- Also in FY 2001, all Corps acquisition personnel will have completed training in Performance-Based Service Acquisition.

Paperless Contracting

We continue to strive toward becoming a paperless organization. Our standard procurement system does all contract preparation online, eliminating the need for paper. It not only posts solicitations and contracts to a central site, but also can receive bids electronically. This latter function has yet to be implemented, as we must first await development of a standard for electronic signatures. We are positioned to move ahead when this occurs.

As part of the Army, we are part of the "Single Face to Industry" program that uses the Internet to list solicitations from all major commands. Our electronic bid solicitation system uses a site specific to the Corps. If the solicitation is small, it can be downloaded from the Internet. For larger packages, a CD-ROM is available that contains the solicitation, drawings, appendices, rules, and regulations.



Expanding E-Government Services.

The Army has two major initiatives underway, and the Tri-Services have a third major cooperative initiative to promote online procurement.

- The Department of the Army has implemented a Standard Procurement System to foster an all-electronic procurement system. The Standard Procurement System is designed to support all contract preparation and management being done electronically. It has the ability to post bid solicitations and contracts to a central site. It also has the ability to receive bids electronically, but this capability has not been used above the Simplified Acquisition Process threshold because the Department of the Army has not completed development of a standard for electronic signature. The Simplified Acquisition Process allows the Federal Government to solicit and award purchases up to the Simplified Acquisition Threshold of \$100,000 without issuing a formal solicitation or advertising in the Commerce Business Daily. The Corps is aggressively pursuing the innovative contracting initiative by supporting a pilot program that will automate even the source selection process and the electronic bid sets.
- The Department of the Army has implemented the Army Single Face to Industry as a single website to post all contract solicitations electronically. The Corps is working toward 100 percent participation in the Army Single Face to Industry website.
- The Tri-Services (Air Force, Army, and Navy) have implemented an Electronic Bid Solicitation System. The Corps uses a homepage website maintained by the Headquarters, U. S. Army Corps of Engineers, Office of Procurement and Acquisition that announces solicitations. For small and relatively simple solicitation packages, a direct download is allowed, while for other acquisitions a compact disk may be requested. This compact disk contains the solicitation, drawings, appendices, rules, and regulations as well as appropriate document readers.

Executive Resource Information System

A current initiative in the Directorate of Resource Management is to develop and field a new Executive Resource Information System. This system will provide RM the ability to analyze and track financial information across all 63 field offices without significant manual effort. The Corps of Engineers has vast amounts of financial information that reside in Oracle data tables. The directorate wants to maximize the use of this financial information by using the advancing technologies vested in Business Intelligence solutions for the ERIS. The capabilities provided



within the BI software are endless. Utilizing the drill-down features, for example, RM personnel can click on a troublesome variance to determine which Division(s) is(are) contributing to the problem. One additional click would drill-down to each District within a Division to narrow the problem even further, displaying the root of the problem. Once fully implemented, RM personnel will have powerful technologies that will enable corporate data views across all business areas within RM.



