

Fiscal Year 2008 Civil Works Program Performance Work Plan



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Overview

The Civil Works Program performance work plan allocates resources to programs, projects and activities for the purpose of advancing achievement of the program's strategic goals and objectives. The plan includes mission statements, descriptions of business programs, an outline of program strategic goals and objectives, expected levels of performance by business program and the cost to achieve that result.

The plan defines what can be achieved with the funds appropriated in Fiscal Year (FY) 2008. As the plan is executed, and conditions change over the course of the year, program adjustments will be made as needed to achieve the performance targets as established by the plan.

Mission

The civil works mission of the United States Army Corps of Engineers (USACE) is to contribute to the national welfare and serve the public by providing the nation and the Army with quality, responsive development and management of the nation's water resources; protection, restoration and management of the environment; disaster response and recovery; and engineering and technical services. The mission will be accomplished in an environmentally sustainable, economic and technically sound manner through partnerships with other governmental agencies and nongovernmental organizations.

Developing and Managing Water Resources

The original role of the USACE in civil works, as it related to developing and managing water resources, was to support navigation by maintaining and improving water channels. Over the years and through subsequent legislation, the Corps' role was expanded to include reducing flood damage, generating hydroelectric power, creating recreation opportunities and providing storage for municipal and industrial water supply.

Protecting, Restoring, and Managing the Environment

The Rivers and Harbors Act of 1899 required the Corps to prevent the obstruction of navigable waterways. As concern over the environment grew in the late 20th century, the Clean Water Act of 1972 greatly broadened the scope of the Corps' responsibility by providing regulatory authority over the discharge of dredged and fill material into U.S. waters, including the country's wetlands. The civil works program environmental responsibilities have continued to grow through additional legislation and now include aquatic ecosystem restoration, remedial activities at former defense sites and stewardship responsibilities.

Responding and Assisting in Disaster Relief

Throughout the Corps' history, the United States has relied on the civil works program for help in times of natural and man-made disasters. The Corps responds to natural disasters under the Flood Control and Coastal Emergency Act (P.L. 84-99, as amended). The Corps responds to man-made disasters (such as terrorism) under the Robert T. Stafford Disaster and Emergency Assistance Act (P.L. 93-288, as amended). The primary role of the civil works program in emergency relief and recovery operations is to provide public works and engineering support.

Providing Engineering Support and Technical Services

In Titles 10 and 33 of the U.S. Code, Congress expressed its intent that the Corps provide services on a reimbursable basis to other federal entities; state, local and tribal governments; private firms; and international organizations. Additional authority to provide services to all federal agencies are found in Titles 15, 22, and 31 of the U.S. Code. This authority includes providing services to foreign governments.

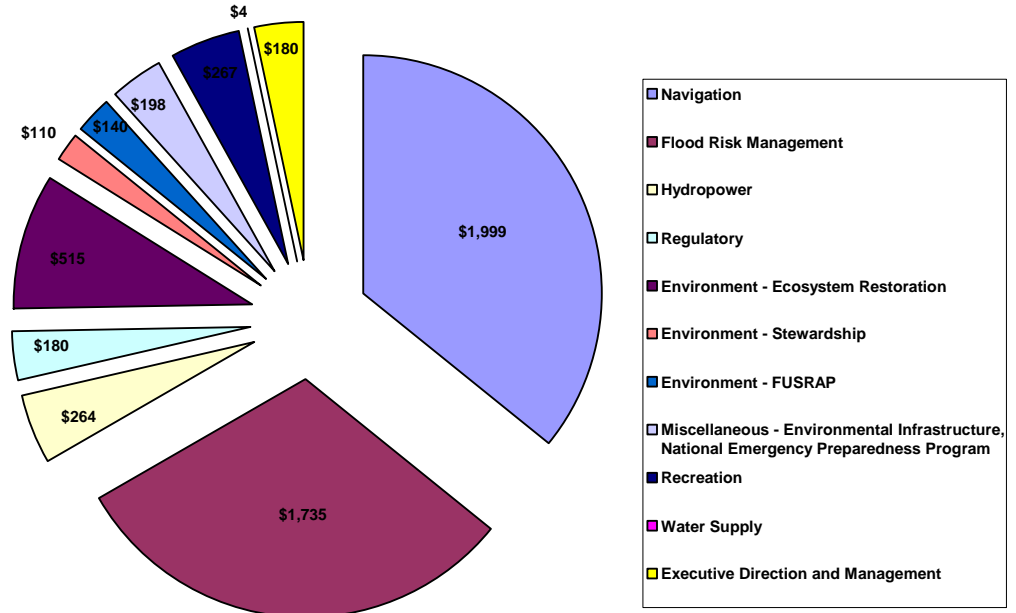
Civil Works Programs

The Corps has multiple programs to accomplish its mission. Each program specifically addresses a single mission component, but each may also contribute to one or more of the other programs' missions. Figures 1 and 2 list the programs that receive direct appropriations; furthermore, they show the funds used for executive direction and management of those programs.

Figure 1. FY 2008 Civil Works Initial Appropriation by Account

APPROPRIATION ACCOUNT	In Millions
Investigations	\$ 167
Construction	\$2,294
Operation and Maintenance	\$2,244
Mississippi Rivers and Tributaries	\$ 387
Regulatory	\$ 180
Formerly Utilized Sites Remedial Action Program	\$ 140
Flood Control & Coastal Emergencies	\$ 0
Expenses	\$ 175
Office of the Assistant Secretary of the Army (Civil Works)	\$ 5
Total	<u>\$5,592</u>

Figure 2. FY 2008 Civil Works Initial Appropriation By Business Line (\$ In Millions)



Navigation

The navigation program is responsible for providing safe, reliable, efficient and environmentally sustainable waterborne transportation systems for the movement of commercial goods and for national security needs. 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: 95 percent of America’s overseas international trade moves through its ports. Our nation’s marine transportation system (MTS) encompasses a network of navigable channels, waterways and infrastructure maintained by the Corps, as well as publicly and privately owned vessels, marine terminals, inter-modal connections, shipyards and repair facilities. The MTS consists of approximately 12,000 miles of inland and intracoastal waterways; and over 900 coastal, Great Lakes and inland channel and harbor projects that are maintained by the Corps.

In FY 2008, this \$1.999 billion program accounted for almost 36 percent of civil works appropriations.

Flood Risk Management

The Flood Risk Management Program, formerly known as the Flood and Coastal Storm Damage Program, is aimed at reducing property damage and risk to human safety in the event of floods and coastal storms. The civil works program has constructed 8,500 miles of levees and dikes, 383 reservoirs and more than 90 storm damage reduction projects along 240 miles of the nation's 2,700 miles of shoreline. With the exception of the reservoirs, most of the infrastructure constructed under this program is owned and operated by the sponsoring cities, towns and agricultural levee districts.

Over the years, the Corps' mission of addressing the causes and impacts of flooding has evolved from flood control to flood prevention to flood damage reduction, and, more recently to flood risk management. These changes reflect a greater appreciation of the complexity and dynamics of flood problems – the interaction of natural forces, human development and change through time – and the partnerships necessary to be adaptable and sustain effectiveness through time.

Risk management is defined as the process of identifying, evaluating, selecting, implementing and monitoring actions taken to mitigate levels of risk. The goal of risk management is to provide scientifically sound, cost-effective, integrated actions that reduce risks while taking into account social, cultural, environmental, ethical, political and legal considerations. The Corps' approach to flood risk management includes partners and stakeholders, including the Federal Emergency Management Agency, the Department of Housing and Urban Development, the National Oceanic and Atmospheric Administration, several states, sponsors and affected citizens to collaborate effectively and efficiently to make the nation more aware of flood risk.

The Flood Risk Management Program has compiled an impressive record of performance, yielding a six-to-one return on investment. That is, the program saves six dollars for each dollar spent. The program also has helped reduce the risk to human safety by providing timely flood warnings that provide time for evacuation.

In FY 2008, this \$1.74 billion program accounted for just over 31 percent of civil works appropriations.

Ecosystem Restoration, Environmental Stewardship, and Formerly Utilized Sites Remedial Action Program

The Corps has three distinct programs that are focused on the environment: aquatic ecosystem restoration, stewardship of Corps lands and the Formerly Utilized Sites Remedial Action Program (FUSRAP). The Army's mission in the area of aquatic ecosystem restoration is to help restore aquatic habitat to a more natural condition in ecosystems whose structures, functions and dynamic processes have become degraded. The emphasis is on restoration of nationally or regionally significant habitat where the solution primarily involves modifying the hydrology and geomorphology. Managing, conserving and preserving the natural resources on 11.5 million acres of land and water at 456 multipurpose Corps projects is the focus of the Environmental Stewardship Program, including monitoring water quality at its dams and operating fish hatcheries in cooperation with State wildlife agencies. That program includes compliance measures to ensure that Corps projects meet Federal, state, and local environmental requirements, prevention, and conservation. Under FUSRAP, the Corps cleans up former

Manhattan Project and Atomic Energy Commission sites, making use of expertise gained in cleaning up former military sites, and civilian hazardous waste sites under the Environmental Protection Agency "Superfund" program.

In FY 2008, the Corps' total environmental appropriation was comprised of \$515 million for ecosystem restoration, \$110 million for environmental stewardship and \$140 million for remedial actions, which are approximately 9.2, 2.0 and 2.5 percent respectively of the Corps' total civil works appropriations.

Regulation of Wetlands and Waterways

In accordance with the Rivers and Harbors Act of 1899 (Sec. 10) and the Clean Water Act of 1972 (Sec. 404), as amended, the Army Civil Works Regulatory Program regulates the discharge of dredged and fill material into U.S. waters, including wetlands. The Corps implements many of its oversight responsibilities by means of a permit process. Throughout the permit evaluation process, the Corps must comply with the National Environmental Policy Act and other applicable environmental and historic preservation laws. In addition to federal statutes, the Corps must also consider the views of other federal, tribal, state and local governments and agencies; interest groups; and the general public when rendering its final permit decisions.

In FY 2008, this \$180 million program accounted for a little more than 3 percent of civil works appropriations.

Emergency Management

Throughout Corps history, the United States has relied on the civil works program for help in times of national disaster. Emergency management continues to be an important part of the civil works program. The civil works program supports the Department of Homeland Security in carrying out the National Response Framework (NRF) by providing emergency support in the areas of public works and engineering, and conducts emergency response and recovery activities in response to floods and coastal storms under authority of Public Law 84-99. The Corps responds to more than 30 presidential disaster declarations and other emergencies in a typical year, and its highly trained workforce is prepared to deal with both man-made and natural disasters.

Hurricanes Katrina, Rita, Wilma and Ophelia caused significant damage to the flood and hurricane protection projects along the Gulf Coast and South Atlantic states. Hurricane Katrina alone caused extensive damage to the hurricane shore protection and flood control projects in the states of Louisiana, Mississippi and Alabama, totaling over \$2.1 billion. Major damage to the storm protection system in the New Orleans area included breaches of significant sections of levees and floodwalls along Lake Pontchartrain and vicinity, as well as, the New Orleans-to-Venice projects that required extensive repairs prior to the beginning of the 2006 hurricane season.

In addition to its repair efforts, the Corps began studying ways to improve hurricane protection in the vicinity of Lake Pontchartrain. The Corps' senior leadership commissioned the Hurricane Protection Decision Chronology (HPDC) shortly after Hurricane Katrina struck the Gulf Coast of the United States on August 29, 2005. The Corps' Institute for Water Resources (IWR) was asked to convene an external HPDC team to collect, record, and analyze project memoranda,

reports and related documentation in order to describe and explain decision-making for the Lake Pontchartrain & Vicinity Hurricane Protection Project (LP&VHPP). The requested report was to provide an explanation, as opposed to an evaluation, of how the Corps' policies and organization, legislation, financial and other factors influenced the decisions that led to the LP&VHPP protective structures in place when Hurricane Katrina struck the Gulf Coast.

The HPDC focus on project decision-making is intended to complement the engineering forensics investigations on the performance of the LP&VHPP during Hurricane Katrina, such as those conducted by the Interagency Performance Evaluation Task Force and other institutions. The intent of the HPDC is to make predictions about the future by looking at historical data. It is the record of the LP&VHPP's complex history of relationships, actions and decisions over 50 years that led to the system as it existed when Hurricane Katrina struck. The HPDC points to the fact that no single individual, agency, organization or decision was solely responsible for the LP&VHPP's development over that 50-year history. The Corps is committed to open, transparent communication with the American public about what has been learned in the aftermath of Hurricane Katrina.

The Corps not only makes contributions to domestic emergency management efforts, but it also plays a major role on the international stage through its participation in the civil military emergency preparedness program. In support of the DoD, the Corps shares emergency management knowledge and expertise with U.S. Allies and partners in the former Soviet Republics and Eastern Europe. This valuable program brings together key leaders and builds relationships among nations in direct support of the National Defense Strategy.

In FY 2008, this program received \$5 million in operation and maintenance funding for the National Emergency Preparedness Program which funds Continuity of Operations activities, and non-natural disaster preparedness activities. This is less than one tenth of 1% of the total Civil Works appropriation and not related to the performance measures in this workplan.

In FY 2008 this program received no Flood Control & Coastal Emergencies funding in the civil works appropriation.

Hydropower

The Corps' multipurpose authorities provide hydroelectric power as an additional benefit of projects built for navigation and flood control. The Corps is the largest owner/operator of hydroelectric power plants in the United States and one of the largest in the world. The Corps operates 350 generating units at 75 multipurpose reservoirs, mostly in the Pacific Northwest, accounting for about 24 percent of America's hydroelectric power and about three percent of the country's total electric-generating capacity. Its hydroelectric plants produce nearly 100 billion kilowatt-hours each year, sufficient to serve about 10 million households—equal to ten cities the size of Seattle, Washington. Hydropower is a renewable source of energy and one of the least environmentally disruptive sources of electric power, producing none of the airborne emissions that contribute to acid rain or the greenhouse effect.

In FY 2008, this \$264 million program accounted for almost 5 percent of civil works appropriations.

Water Storage for Water Supply

Conscientious management of the nation's water supply is critical to limiting water shortages and lessening the impact of droughts. The Corps has an important role in ensuring that homes, businesses and farms nationwide have enough water to meet their needs. The Corps has the authority for municipal and industrial water supply as part of projects that serve navigation, flood protection and hydroelectric purposes.

In FY 2008, this \$4 million program accounted for less than 1/10 of 1 percent of civil works appropriations.

Recreation

The Corps is the number one federal provider of outdoor recreation as an ancillary benefit of flood prevention and navigation projects. The mission of the recreation program is to provide quality outdoor public recreation experiences to serve the needs of present and future generations and to contribute to the quality of American life, while managing and conserving natural resources consistent with ecosystem management principles.

The Corps administers 4,488 recreation sites at 423 projects on 12 million acres of land. During fiscal year 2007, 10 percent of the U.S. population visited a Corps project at least once. These visitors spent \$18 billion pursuing their favorite outdoor recreation activity, supporting some 350,000 full- and part-time jobs.

This program, estimated at \$267 million, accounts for just under 5 percent of the civil works budget in FY 2008.

Organizational Structure

The Workforce

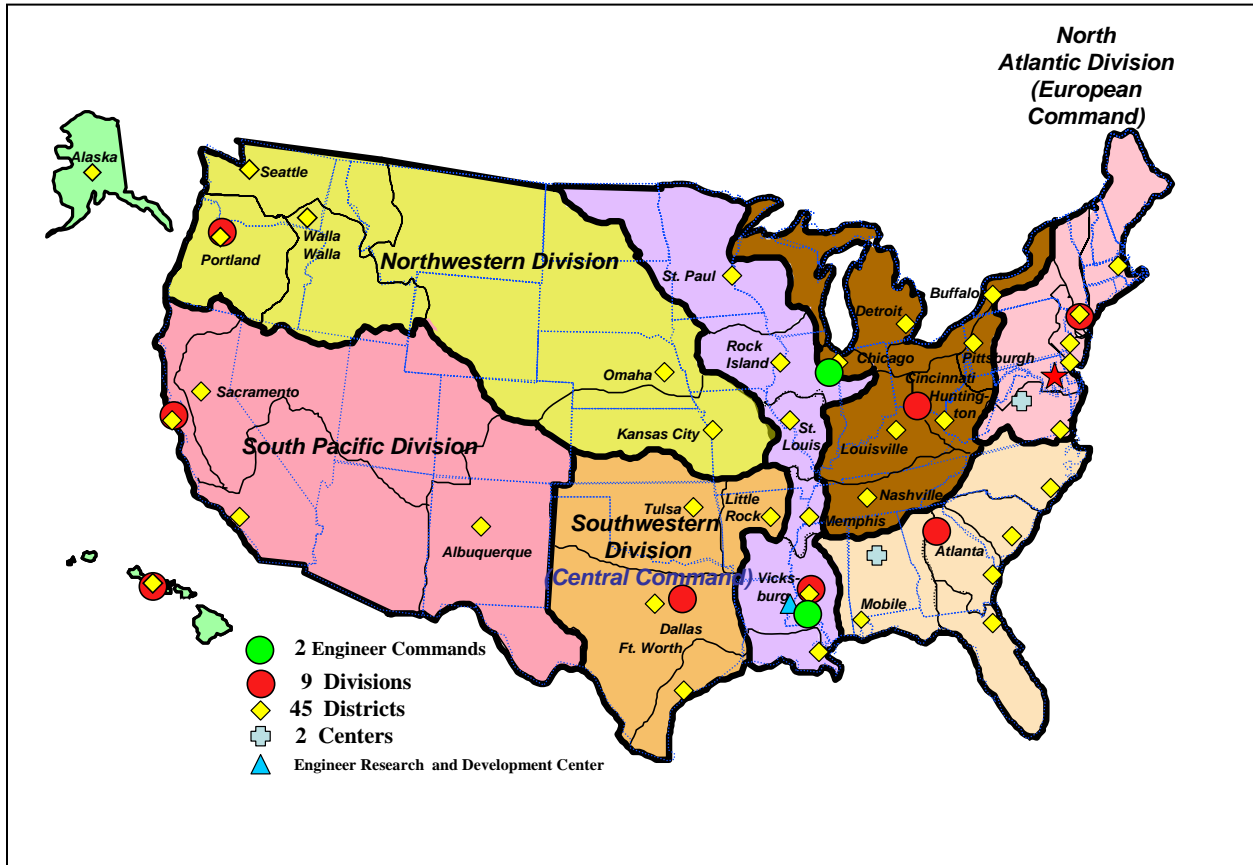
The Corps employs approximately 35,000 people, including 650 military officers and 24,800 civilians, who perform civil works duties; the remaining approximately 9500 people perform duties related to the execution of the military programs mission. It is funded through the energy and water development appropriation and executes programs through eight regional divisions and 38 of the 41 districts of the Corps of Engineers — the remaining three districts have only military-related missions. There is a ninth provisional division in the Gulf Region, supporting operations in Iraq and it has three provisional districts embedded within the division; there is also a provisional district in Afghanistan that reports directly to Corps headquarters.

Figure 3 shows the division boundaries. These are defined by watersheds and drainage basins, reflecting the water resources nature of the civil works mission. Through its Pacific Ocean and South Atlantic Divisions the Corps also has civil works responsibilities in the Territory of American Samoa, the Territory of Guam, the Commonwealth of the Northern Mariana Islands, the Commonwealth of Puerto Rico, and the US Virgin Islands.

The distribution of civil works employees similarly highlights the customer focus of the program: 95 percent of employees work at the district level, labs, or field operating agencies, reflecting the fact that project management is performed at the district level. The civil works program contracts out to civilian companies all of its construction and most of its design work.

As many as 150,000 people are indirectly employed in support of civil works projects. These contractual arrangements have served the nation well in times of emergency.

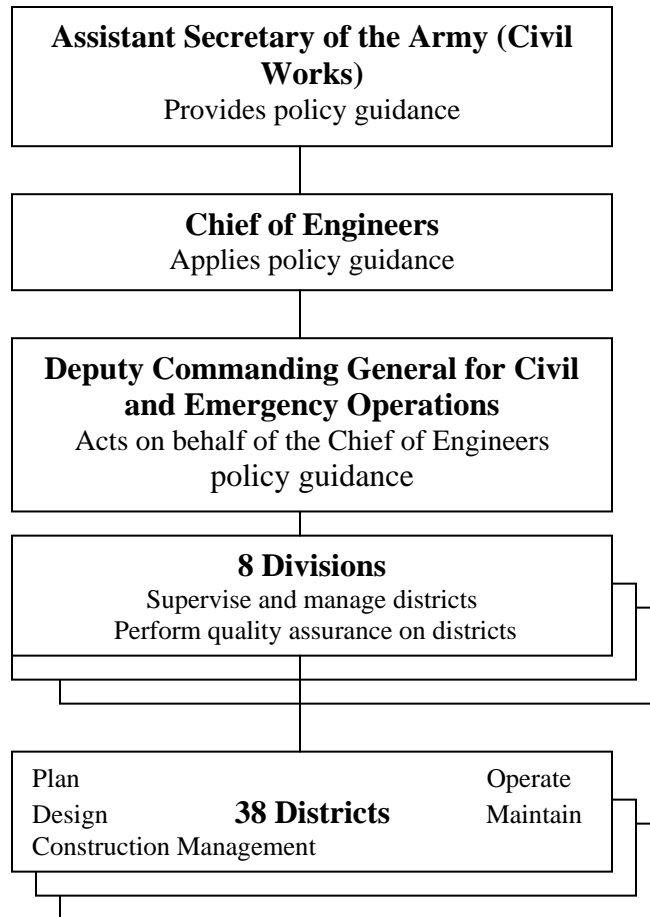
Figure 3. Civil Works Boundaries



The Leadership

Oversight of civil works is provided through four levels of authority. As shown in Figure 4, the Assistant Secretary of the Army for Civil Works (ASA (CW)) is appointed by the President and is responsible for civil works policy. The Chief of Engineers is a military officer who reports to the ASA (CW) and is responsible for mission accomplishment; however, he delegates most of his responsibilities for managing the various programs to the Deputy Commanding General (DCG) for Civil and Emergency Operations. The Chief of Engineers, through the DCG for Civil and Emergency Operations, is responsible for the leadership and management of the civil works program and for ensuring that policies established by the ASA (CW) are applied to all phases of the civil works mission. The divisions, commanded by division engineers, are regional offices responsible for the supervision and management of their subordinate districts, including the monitoring and quality assurance of district work. The districts are the foundation of the civil works mission, managing water resource development over a project's life cycle.

Figure 4. Civil Works Levels of Authority



Civil Works Program - Performance Work Plan

Civil works directly impacts America’s prosperity, competitiveness, quality of life and environmental stability. In March 2004 the civil works leaders published a strategic plan that provides a framework for enhancing the sustainability of America’s resources. The strategic goals listed in the plan support the strategic direction of the Corps over the five-year period from FY 2004 – FY 2009. Key performance measures developed in conjunction with the Office of Management and Budget through the Performance Assessment Rating Tool process for FY 2002 - FY 2007 are presented below. Each performance measure has a FY 2008 target. The listing of projects that support and/or contribute to achievement of that target may be viewed in the appropriations tables that follow.

Goal 1: Provide Sustainable Development and Integrated Management of the Nation's Water Resources.

Navigation

Objective: To invest in navigation infrastructure that is fully capable of supporting maritime requirements in environmentally sustainable ways where economically justified.

Performance Indicator: Track navigation lock and channel availability by identifying trends in scheduled and unscheduled lock closures for the navigation system, measured in hours.

Performance Result: The Corps uses the same indicators as in Goal 3; please see Figures 8 and 9 for the results.

Flood Risk Management

Objective: To invest in environmentally sustainable flood and coastal storm damage reduction solutions to the Nation when the benefits exceed the costs.

Performance Indicator: This is measured by the performance of civil works facilities in reducing damage and risk to human safety where flooding otherwise would have been experienced by the Nation.

Performance Result: The Corps uses the same indicators as in Goal 3; please see Figures 10 and 11 for the results.

Hydropower

Objective: To invest in hydropower solutions when benefits exceed the costs.

Performance Indicators: The availability of hydroelectric generating units during peak power demand periods, their generating capacity and forced outage rates are indicators of the success in meeting this objective.

Performance Result: The Corps uses the same indicators as in Goal 3; please see Figure 13.

Goal 2: Repair Past Environmental Degradation and Prevent Future Environmental Losses

Aquatic Ecosystem Restoration

Objective: Restore degraded, significant ecosystems structure, function and process to a more natural condition by investing in restoration projects or features that make a positive contribution to the nation's environmental resources in a cost-effective manner.

Funding History: The first row of Figure 5 shows the funding for aquatic ecosystem restoration.

Performance Indicators: Figure 5 also lists seven measures that serve as indicators to assist Corps personnel to determine their progress in meeting this objective.

- **Number of acres of habitat restored, created, improved or protected - annual.** The number of acres of habitat restored is an appropriate measure for documenting progress towards restoration of degraded ecosystems.

- **Number of acres of habitat restored, created, improved or protected – long term.** This is a periodic aggregate of the total acres of habitat restored, created, improved or protected in a four year period.
- **Number of nationally significant acres of habitat restored, created, improved or protected - annual.** This measure will document the subset of acres of habitat restored each year that have high-quality outputs as compared to national needs.
- **Number of nationally significant acres of habitat restored, created, improved or protected – long term.** This is a periodic aggregate of the total nationally significant acres of habitat restored, created, improved or protected in a four year period.
- **Dollars per acre to restore, create, improve or protect nationally significant habitat.** The cost of the projects that produce nationally significant acres in any given year will be used to calculate this figure. In the long run through efficiencies in project execution or other considerations, the goal would be to restore more acres per dollar expended.
- **Percentage of all acres of habitat restored, created, improved or protected in a 4 year period that are nationally significant.** Uses the four year totals and will be reported periodically. The long-term goal is for 75% of the total acres of habitat restored, created, improved or protected in a four year period to be nationally significant.
- **Comparison of estimated costs of construction with actual costs.** This measure is under development. It will monitor changes in construction costs by comparing the cost in the initial Partnership Agreement for construction of a project to the actual costs at physical completion of a project. The goal is that 75% of the projects completing in any one year should be within 15% plus or minus of the original cost estimate.

Expected Performance

The appropriation for FY08 is \$515 million. Approximately \$131 million will be used to make significant progress on Everglades South Florida/Central and South Florida projects such as restoration of the Kissimmee River, Seminole Big Cypress Restoration, Manatee Pass Through Gates and South Dade County C-111 modification. Over 80 million dollars will be used to meet the requirements of a biological opinion the Columbia River system and \$50 million will fund Missouri River Fish and Wildlife Recovery. Other projects receiving significant funding include restoration of Poplar Island, MD, Hamilton Airfield Wetlands, CA, Upper Mississippi River Restoration and the modifications to the Chicago Sanitary and Ship Canal to prohibit Asian Carp from entering the Great Lakes from the Mississippi. An additional estimated 18,000 acres are projected to be completed in FY08, of which almost 90% is nationally significant. A significant number of studies exploring ecosystem restoration options in a variety of diverse ecosystems across the country also received funding.

Figure 5. Aquatic Ecosystem Restoration Indicators

	FY 2004	FY 2005	FY 2006	FY2007	FY 2008 Note 4	
					Target	Actual
Funding history in millions of dollars	413	408	516	340	515	
Acres of habitat restored, created, improved, or protected (annual)	Note 1	32,573	6,600	4,838	17,800	
Acres of habitat restored, created, improved, or protected (4 year total)	Note 2					
Nationally significant acres of habitat restored, created, improved, or protected (annual)	Note 3		5,500	2,987	15,400	
Nationally significant acres of habitat restored, created, improved, or protected (4 year total)	Note 2					
Cost per acre to restore, create, improve, or protect nationally significant habitat	Note 3		\$9,800	\$6,800	\$2,400	
Percent of all restored, created, improved, or protected acres of habitat that are nationally significant			83%	62%	86%	
Percent of projects completing with actual cost within 15% (plus or minus) of the original cost estimate	Note 2					

Note 1: This measure was added at the end of FY 2004, and FY 2005 is the first year of complete data.

Note 2: Performance measure developed in FY 2008; FY 2009 will be first year of reporting.

Note 3: Performance measures were developed in FY 2006, and that is the first year of reporting.

Note 4: Starting with 2008 this business program is crediting acres in a given year when physical construction is complete, instead of the last year that the project is budgeted in the construction account. This is due to the increased use of fully-funded contracts and funding of the out-year monitoring requirements.

Regulatory

Objective: To administer the regulatory program in a manner that protects the aquatic environment (assures no net-loss of aquatic resources) while making timely and fair permit decisions.

Funding History: The first row of Figure 6 shows the funding for the Regulatory Program.

Performance Indicators: Figure 6 also lists eight measures that serve as indicators to assist Corps personnel to determine their progress in meeting this objective.

- **Individual permit compliance.** The Corps shall complete an initial compliance inspection on the annual target percentage of all individual permits (including LOPs) issued during the preceding FY where authorized work is underway.
- **General permit compliance.** The Corps shall complete an initial compliance inspection on the annual target percentage of all General Permits (including NWP) issued during the preceding FY where authorized work is underway
- **Mitigation site compliance.** The Corps shall complete field compliance inspections of the annual target percentage of active mitigation sites each fiscal year. Active mitigation sites are those sites authorized through the permit process and are being monitored as part

of the permit process but have not met final approval under the permit special conditions (success criteria).

- **Mitigation inspections or audits.** The Corps shall complete compliance inspections/audits on the annual target percentage of active mitigation banks and in lieu fee programs annually.
- **Resolution of noncompliance issues.** The Corps will reach resolution on the annual target percentage of all pending non-compliance with permit conditions and/or mitigation requirements that are unresolved at the end of the previous fiscal year and have been received during the current fiscal year.
- **Resolution of enforcement actions.** The Corps shall reach resolution on the annual target percentage of all pending enforcement actions (i.e., unauthorized activities) that are unresolved at the end of the previous fiscal year and have been received during the current fiscal year.
- **General permit decisions.** The Corps shall reach permit decisions on the annual target percentage of all general permit applications within 60 days.
- **Individual permits.** The Corps shall reach permit decisions on the annual target percentage of all standard permits and letters of permission within 120 days. This standard shall not include individual permits with Formal Endangered Species Act consultations.

Expected Performance

The appropriation for FY08 is \$180 million. These funds will be used to hire and support regulatory personnel to analyze projects and make permits decisions, complete necessary compliance efforts on issued permits, and investigate and resolve instances of alleged unauthorized activities within our nation’s waters.

The regulatory program performance measure targets for FY 2008 are the same as for FY 2007 even though funding was increased by approximately \$20 M (from FY 07 to FY 08). Promulgation of guidance associated with the Supreme Court decision on the Carabell and Rapanos cases significantly increased the workload on our staff for many jurisdictional determinations. Projections of additional workload associated with implementation of the guidance balanced the additional funds resulting in no change in target performance levels.

Figure 6. Regulatory Indicators

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	
					Target	Actual
Funding history in millions of dollars	139	143	158	159	180	
Percent of compliance inspections on individual permits	16	14	41	11	10	
Percent of compliance inspections on general permits	5	5	7	7	5	
Percent of active mitigation sites inspected	11	9	10	7	5	
Percent of compliance inspections on active mitigation banks	20	19	26	63	20	

Percent resolution on noncompliance with permit conditions or mitigation requirements	26	24	37	56	20	
Percent resolution on pending enforcement actions	37	23	60	82	20	
Percent of general permit application decisions made within 60 days	85	85	82	78	75	
Percent of standard permits and letter of permission permit decisions made within 120 days	61	61	61	53	50	

Environmental Remediation (Formerly Utilized Sites Remedial Action Program-FUSRAP)

Objective: To achieve the cleanup objectives of the FUSRAP. The Corps uses three outcome measures to indicate progress meeting this objective: Minimize risk to human health and the environment, maximize the cubic yardage of contaminated material disposed in a safe and legal disposal facility, and return the maximum number of affected individual properties to beneficial use.

Funding History: The first row of Figure 7 shows the funding for environmental remediation.

Performance Indicators: The measures listed in Figure 7 serve as indicators to help Corps personnel determine their progress in meeting this objective. In addition to the indicators explained below, the Corps has begun to measure the cumulative percentage of FUSRAP funding that is expended on actual cleanup activities and the total cost of disposing contaminated material.

- **Number of records of decision (ROD) signed.** As studies are completed and best alternatives for cleanup activities are decided, the number of RODs will increase. A final ROD establishes the final cleanup standard, which controls the actual estimate of the remaining environmental liability for each site.
- **Number of remedial investigations (RI) completed.** The RI establishes the baseline risk assessment whereby the level of risk to human health and the environment is identified.
- **Number of action memorandums signed.** Where warranted by risk or other limited factors, action memorandums allow the Corps to move toward reducing risk more rapidly than through production of a ROD. No action memorandums are presently identified.
- **Cubic yardage of contaminated material disposed.** Target soil amounts are dependent on previous-year funding and scheduled activities.
- **Individual properties returned to beneficial use.** Number of properties that have been released for general use following remediation.
- **Number of remedies in place or response complete.** As select portions of sites or complete sites meet their remedial action goals, the risk to human health and the environment is reduced to within acceptable levels, and properties are able to be used within a community without fear of increasing cancer risk or further degrading the environment.
- **Remediation of contaminated material.** The cost to dispose of contaminated material as measured in cubic yards. This measure is scheduled to be evaluated at the end of FY 2009.

- **Percentage of funding expended on cleanup.** Measures the cumulative percentage of FUSRAP funding that is expended on cleanup activities rather than studies.

Expected Performance

The appropriation for FY08 is \$140 million. These funds will be used to complete remedial activities at the Painesville site. Remedial activities will continue at other sites with the excavation of 125,000 cubic yards of contaminated material. Remedial Investigation are scheduled to be completed at the Niagara Falls Storage Site and the Iowa Army Ammunition Plant site. RODs are scheduled to be completed at Harshaw IA-6, Tonowanda Landfill, and Luckey GroundWater.

Figure 7. Remedial Action Indicators

	FY 2004	FY 2005	FY 2006	FY2007	FY2008	
					Target	Actual
Funding history in millions of dollars	139	164	139	138	140	
Number of RODs signed	9	3	2	5	3	
Remedial investigations completed	21	5	4	0	2	
Action memos signed	3	0	1	0	0	
Contaminated material removed (in thousand cubic yards)	2,927.0	243.0	225.0	185.6	125	
Individual properties returned to beneficial use	65	5	15	27	34	
Remedies in place or response complete	4	2	0	4	1	
Remediation of contaminated material	Note 1					
Percentage of funding expended on cleanup	Note 2				80%	

Note 1: Data on this measure will not be available until the end of FY 2009.

Note 2: Data collection on this measure begins in FY 2008

Goal 3: Ensure that Projects Perform to Meet Authorized Purposes and Evolving Conditions

Navigation

Objective: Improve the efficiency and effectiveness of existing Corps water resource projects by maintaining justified levels of service availability to commercial traffic of high-use infrastructure (e.g., waterways, harbors, channels).

Objective: Address the operation and maintenance (O&M) backlog on all operating projects by funding high-priority operation and maintenance projects.

Funding History: The first row of Figure 8 shows the funding for the operation and maintenance of the Navigation Program. Figure 9 shows the funding for the major rehabilitation and construction program.

Performance Indicators: To assist the Corps in measuring its progress in meeting the Goal 3 objectives, the Corps uses performance indicators that relate to the operation and maintenance activities for inland waterways and coastal ports and harbors, as well as the efficiency of the overall, combined navigation system. The indicators are described below and their measures are shown in Figures 8 and 9.

Operation and maintenance of the inland waterways, including rehabilitations

- **Channel availability, high use projects.** The percent of time that all Inland Waterways segments with high commercial activity are available when customers want to use them.
- **Percent of projects exceeding facilities condition index (FCI) standard.** This measure assesses agency performance in meeting the goals of the President’s Real Property Asset Management Initiative.
- **Segment Availability – closures over 24 hours.** Number of instances where mechanical driven failure or shoaling results in the closure of all or part of a high or moderate commercial use segment for over 24 hours. Only includes failures on the main chamber of a lock, rather than an auxiliary chamber, and shoaling due to inadequate dredging, rather than low water levels from droughts or channels closed due to floods.
- **Segment Availability – closures over 1 week.** Number of instances where mechanical driven failure or shoaling results in the closure of all or part of a high or moderate commercial use segment for over 1 week. Only includes failures on the main chamber of a lock, rather than an auxiliary chamber, and shoaling due to inadequate dredging, rather than low water levels from droughts or channels closed due to floods.
- **Percent of high use segments with “good” service level.** Percent of high commercial use segments with sufficient preventive maintenance to achieve a good service level. High use segments are the upper and lower Mississippi, the Illinois, Ohio and Tennessee Rivers and the GIWW. Discussions with stakeholders will determine “good” level of service; however, “good” is higher than “acceptable”.
- **Total funds expended per segment ton-mile (5 year rolling average).** Total O&M funds expended per segment ton-mile averaged over a five year period, including rehabilitations.
- **Ton-miles.** The sum total of movement of cargo on the waterways; this measure is a roll-up of tons of cargo transported by a vessel multiplied by the miles that vessel traveled on the inland waterway.

Efficiency of the inland waterways navigation system

- **Cost per ton.** The measure assesses the efficiency of the commercial navigation system, which combines inland waterways and coastal ports and harbors. This is a roll-up of the efficiency of all navigation projects where the cost of operation and maintenance per ton of cargo shipped through a port or inland waterway system is known and tracked at a particular location.

Usage of Coastal Ports and Harbors, including rehabilitations

- **Tons of cargo.** Total sum of cargo in tons moved in and out of the coastal ports and harbors system. This measure is an indicator of utilization of the system; data are

collected for the purpose of trend analysis. There is no specific target generated by the Corps.

- **Channel availability, high-use projects.** The percent of time that high commercial-traffic navigation channels are available to commercial users. There are a total of 59 high-use projects defined as those that pass 10 million or more tons of cargo per year.
- **Channel availability, low-use projects.** The percent of time that low commercial use channels, harbors, and locks are available to all current users.

Construction of the Inland Waterways Navigation System

- **High-return investments.** The percent of funding to rehabilitate, construct or expand projects that is allocated to high-return investments. High-return investment projects are defined as those projects with a benefit-to-cost ratio of 3.0 or greater.

Construction of the Coastal Ports and Harbors

- **Percent of reports recommending projects reflecting watershed principles.** Percent of Chief's reports recommending projects for authorization that meet criteria for reflecting watershed principles in the recommended plan. This measure expresses a long-term goal and assesses the progress in watershed-based planning.
- **Average annual benefits attributable to Preconstruction Engineering and Design (PED) work completed in current FY.** Total average annual benefits (present value) attributable to PEDs completed in the current fiscal year. This measure assesses the effectiveness of PED in enabling transportation savings.
- **Average annual benefits realized by construction projects completed in current FY.** Total average annual benefits (present value) realized by construction projects completed in the current fiscal year. This measure assesses the effectiveness of the construction program in realizing transportation savings.
- **Percent change in funds required to complete all programmed work.** Percent change in constant dollar balance to complete programmed work on all ongoing, budgetable construction projects. This measure assesses progress in reducing the backlog of ongoing, budgetable construction projects.

Expected Performance – Operation and Maintenance

The O&M appropriation for navigation in FY 08 is \$1.265 billion. This will fund continued operation and maintenance of 240 locks at 195 locations and maintenance dredging of critical and high commercial use reaches of the 11,000 miles of inland and intracoastal waterways. Not all waterways will be maintained to authorized dimensions, many locks and dams will forego all but the most critically needed maintenance, and some locks, dams, and waterways will only be maintained in caretaker status. The overall condition of the inland and intracoastal waterways is not expected to improve and projects will continue to experience lock closures due to mechanical breakdowns and failures. The funds will also enable maintenance dredging of only the high use, commercially important coastal ports, harbors, and channels, critical harbors of refuge, and

subsistence harbors of the 926 deep and shallow draft harbors. Many low commercial use harbors and channels will not be dredged and will continue to shoal, further limiting vessel drafts. For the 59 highest use coastal ports and harbors, channel conditions are not expected to change significantly. For these projects, authorized channel depths were only available approximately 35% of the time for the center half of the channel during fiscal years 2005-2007. The condition of lower use inland and intracoastal waterways, and coastal ports and harbors is expected to continue to decline.

Figure 8. Navigation Program, Operation and Maintenance Activities Performance Indicators

		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008		
						Target	Actual	
	Funding history in millions of dollars	1,198	1,209	1,211	1,298	1,265		
Inland waterways	Segment Availability (thousands of hours)	38	49	39	39	38		
	Channel availability, high use projects	Note 2						
	Percent of projects exceeding FCI standard							
	Percent of high use segments with “good” service level							
	Total funds expended per segment ton-mile (5 year rolling average)							
	Ton-miles (in billions of ton – miles by calendar year)	256	246	250	Note 3	257		
	Efficiency – Cost per ton	Note 1					1.979	
Coastal ports and harbors	Tons of cargo (in billions of tons)	1.908	1.935	1.921	Note 3	Note 2		
	Channel availability, high use projects	Note 4	38%	35%	32%	32%		
	Channel availability, low use projects	Note 2						

Note 1: New performance measure for FY 2008 which will be the first year that data will be collected
 Note 2: New performance measure established 30 Sep 07; benchmark to be established in FY2008.
 Note 3: Waterborne Commerce Statistics will not be available until mid-summer 2008.
 Note 4: First year program measure was tracked was FY 2005.
 Note 5: Based on preliminary data

Expected Performance –Construction and Investigations

The appropriation for Investigations and Construction in FY 08 is \$733 million. Investigations funds will be used to study and design navigation improvements for Anchorage Harbor, AK; the Red and White Rivers in AR; Port Everglades Harbor, FL; Savannah Harbor, GA; the Upper Mississippi River and Illinois Waterway; Indiana Harbor, IN; Greenup Locks and Dam, KY & OH; Bayou Sorrel Lock, Calcasieu Lock, Calcasieu River, and the Port of Iberia in LA; Searsport Harbor, ME; Boston Harbor, MA; Upper Ohio River, PA; Brazos Island Harbor, Freeport Harbor, Sabine-Neches Waterway, and Texas City Channel in TX; Norfolk Harbor-Craney Island Expansion, VA; and Grays Harbor and Lake Washington Ship Canal in WA.

Construction funding for inland waterways will be used to: Continue major rehabilitation of Lock & Dam 3, Mississippi River, MN; Lock & Dam 11 and Lock & Dam 19, Mississippi River, IA; Lock & Dam 24 and Lock & Dam 27, Mississippi River, IL; Markland Lock & Dam, Ohio River, KY; continue deficiency corrections at Chain of Rocks Canal, Mississippi River, IL; continue static instability corrections at Emsworth Lock and Dam, Ohio River, PA; and continue construction and/or replacement of locks and dams at Lockport Lock & Dam, Illinois Waterway, IL; Melvin Price Lock & Dam, Mississippi, River, IL; Olmsted Lock & Dam, Ohio River, IL; John T. Myers Locks & Dams, Ohio River, IN; Kentucky Lock & Dam, Tennessee River, KY; McAlpine Locks & Dam, Ohio River, KY; Locks & Dams 2, 3, & 4, Monongahela River, PA; Chickamauga Lock, Tennessee River, TN; and Marmet Lock, Kanawha River, WV.

Construction funding for coastal navigation projects will be used for channel deepening and improvement projects at: Mobile Harbor, AL; Akutan, Nome, Chignik, St. Paul, Sitka, and Unalaska Harbors, AK; Oakland Harbor, Port of Long Beach, Port of Los Angeles, and Sacramento Deepwater Ship Channel, CA; Jacksonville, Port Everglades, and Tampa Harbors and St. Lucie Inlet, FL; Brunswick Harbor, GA; Delaware River, NJ, PA, DE; New York and New Jersey Harbor, NY & NJ; Wilmington Harbor, NC; Columbia River, OR & WA; Houston-Galveston Channels and Texas City Channel, TX; and Norfolk Harbor, VA. Additional construction funding will be used to construction of dredged material and beneficial use placement sites at Indiana Harbor, IN, and Poplar Island, MD; and mitigate for shoreline damages caused by navigation projects at Canaveral Harbor and Lake Worth, FL; Assateague Island, MD; and Cape May Inlet to Lower Township and Lower Cape May Meadow, NJ.

Figure 9. Navigation Program Construction and Investigation Indicators

		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008													
						Target	Actual												
	Funding history in millions of dollars	Note 1	621	916	609	733													
	Percentage of funds to high-return investments (BCR > 3) (Inland Waterways)	Note 2				Note 3													
Coastal Ports and Harbors	Percent of reports recommending projects reflecting watershed principles					Note 2				Note 3									
	Average annual benefits attributable to PEDs completed in current FY									Note 2				Note 3					
	Average annual benefits realized by construction projects completed in current FY													Note 2				Note 3	
	Percent change in funds required to complete all programmed work																	Note 2	

Note 1: First year program measure was tracked was FY 2005.

Note 2: New performance measure for FY 2008, which will be the first year data are collected.

Note 3: Performance measure established 30 Sep 2007; baseline targets being determined in FY 2008.

Coastal and Flood Damage Reduction

Objective: To reduce the nation's risk of damages and risk to public safety due to flooding and coastal storms through the safe operation of flood damage reduction projects, as authorized.

Funding History: The first row of Figure 10 shows the operation and maintenance funding for flood and coastal storm damage reduction. The first row of Figure 11 shows the funding for the construction program.

Performance Indicators: To assist the Corps in measuring its progress in meeting the Goal 3 objective, the Corps uses performance indicators that relate to the operation and maintenance activities as well as the construction program for flood and coastal storm damage reduction. Beginning in FY08 the performance will be measured in both the Construction appropriation and the Operation and Maintenance appropriation. The indicators are described below and their measures are shown in Figures 10 and 11.

Operation and maintenance of the coastal and flood damage program

- **Operating projects in zones 21-25 (High Risk).** The percentage of operating projects (e.g., dams, levees, channels, flood gates) that are in zones 21-25 of the relative risk ranking matrix.
- **Operating projects in zones 1-6 (Low Risk).** The percentage of operating projects (e.g., dams, levees, channels, flood gates) that are in zones 1-6 of the relative risk ranking matrix.
- **Marginal cost of operations.** The marginal cost of operation and maintenance for all operating projects (e.g., dams, levees, channels, flood gates) relative to damages prevented.

Construction of the coastal and flood damage reduction program

- **Flood damage prevented.** Measures the estimated annual dollars of property damage avoided through the existence of Corps' flood control projects completed during the fiscal year.
- **Increase in benefits realized.** This is the total percent increase in the present value of total benefits realized from construction work completed in the applicable fiscal year.
- **Ten-year moving average.** The 10-year moving average of actual flood damage reduction benefits attributable to completed projects.
- **Additional people protected.** The percent increase in total affected population with reduced risk at project design attributed to completion of projects in the applicable fiscal year.
- **Dam safety projects.** The percentage of the dams in the screening portfolio risk assessment (SPRA) that fall in Dam Safety Action Class (DSAC) I, II, or III.
- **Relative loss of life.** The total relative annualized loss of life per dam.
- **DSAC I, II, and III projects.** The number of DSAC I, II and III projects underway or completed during the applicable year.
- **SPRA assessments completed.** The number of SPRA screening level assessments completed in the applicable year.

Expected Performance – Operation and Maintenance

The appropriation for FY08 is \$566 million. These funds will be used to operate and maintain the Federal projects, and inspect the Federal projects as they are completed and turned over to local sponsors. It allows the coordination of Federal reservoir operating schedules with private reservoirs within the basin. In FY08 the program began developing and collecting rough relative risk data to assist in the prioritization of project funding. There is also a major Asset Management Team applying modern analytical tools to projects for the assignment of condition, consequence and the resulting relative risk.

O&M funding is used to fund Dam Safety Program functions including monitoring and evaluating performance (instrumentation) of all dams, accomplishing routine dam safety related maintenance and remedial repairs, performing all required inspections (periodic, post earthquake, high pool etc.), preparing Emergency Action Plans (EAP), performing site specific dam safety training of project personnel, and implementing force protection security features.

Figure 10. Operation and Maintenance - Flood Damage Prevented

	FY 2004 Note 1	FY 2005 Note 1	FY 2006 Note 1	FY 2007 Note 1	FY 2008	
					Target	Actual
Funding history in millions of dollars	1,214	1,193	1,512	1,774	566	
Operating projects in zones 21-25 (HR)	Note 2				96	
Operating projects in zones 1-6 (LR)					49	
Marginal cost of operations					1.25%	

Note 1: Prior year funds were for the total of all appropriations in the Coastal and Flood Damage Reduction program and should not be compared to the FY08 O&M appropriation.

Note 2: New measure for FY 2008, which will be the first year data are collected

Expected Performance – Construction

The appropriation for FY08 is \$1.169 billion. A portion of these funds will be used to complete the three projects shown in the table below in FY 2008. Their individual performance in terms of reducing the flood risk to the population in the floodplain and the expected average annual flood damage reduction benefits are also shown. These funds also allow the continuation of construction on 27 other projects that will complete in the near future. Our dam safety program was able to continue 25 studies and 8 construction projects with the funds provided.

Project Name	FY08 Work Plan (\$1,000)	FDR Avg Ann Ben (\$1,000)	POP in 100-YR (1,000)
DES PLAINES RIVER, IL	\$6,620	\$1,732	5
RIO PUERTO NUEVO, PR	\$6,000	\$125,548	126
CEDAR HAMMOCK, WARES CREEK, FL	\$5,000	\$3,860	40
TOTAL	\$17,620	\$131,140	171

Wolf Creek, Center Hill and Clearwater Dams were found to be deficient due to excessive and concentrated seepage as a result of the karst geology (porous limestone) foundation they are each founded upon. Repairs are underway to construct deep concrete cutoff walls to control seepage. All three of these dams are classified as DSAC I (critically near failure or extremely high life and/or economic risk).

Emsworth Lock & Dam was found to be statically inadequate. Gate repairs are underway.

Herbert Hoover Dike was constructed using hydraulic fill, which does not meet current design standards. The Herbert Hoover Dike is another DSAC I project. This construction method has been found to be prone to seepage problems. Repairs are underway to cut off the excess seepage through the embankment.

Lockport Dam was found to be statically inadequate. Repairs are underway to stabilize a retaining wall, and to cut off seepage along the embankment section.

Success Dam was found to be seismically inadequate due to liquefaction potential in the foundation. The remediated dam will meet Corps performance criteria for both the Operating Basis Earthquake (OBE) and Maximum Credible Earthquake (MCE). Also, the spillway will be enlarged to provide Probable Maximum Flood (PMF) capability.

Canton Dam was found to have an inadequate spillway. A spillway enlargement is underway that will utilize some of the largest fuse gates (gravity powered, non-mechanical gate devices) ever constructed to safely pass the PMF.

Bluestone Dam is a concrete dam with a static stability deficiency. Repairs consist of providing additional foundation anchors to stabilize the structure. Additionally, existing hydropower draft tubes which were not utilized for hydropower are being fitted with special gates to increase the spillway capacity and safety pass the PMF.

Tuttle Creek Dam was found to be inadequate due to liquefaction potential in the foundation. The remediated dam will meet Corps performance criteria for both the Operating Basis Earthquake (OBE) and Maximum Credible Earthquake (MCE).

In addition to the funding for repair of dam safety deficiencies, there are 29 projects which are programmed to receive a total of \$38 million to fund dam safety studies including seepage, seismic and hydrologic evaluations to identify any additional existing dam safety deficiencies.

Figure 11 Coastal and Flood Damage Prevented - Construction

	FY 2004 Note 1	FY 2005 Note 1	FY 2006 Note 1	FY 2007 Note 1	FY 2008	
					Target	Actual
Funding history in millions of dollars	1,214	1,193	1,512	1,774	1,169	
Additional people protected (in thousands of people)	22	24	121	142	272	
Flood damage prevented annually (in millions of dollars)	Note 2		56.1	55.6	Note 5	
Flood damage prevented: Ten-year moving average (in millions of dollars)	21,700	21,400	9,200	20,096		
Increase in benefits realized (thousands of \$)	Note 3				18.1 (5.2%)	
% of Dam safety projects in DSAC I, II, III	Note 4			55.7%	56%	
Relative loss of life per dam				0.808	0.77	
DSAC I, II, and III projects				10	12	
SPRA assessments completed		61	61	61	70	

Note 1: Prior year funds and performance data were for the total of all appropriations in the Coastal and Flood Damage Reduction program and should not be compared to the FY08 construction appropriation.

Note 2: This measure was effective at the beginning of FY 2006.

Note 3: New measure for FY 2008, which will be the first year data are collected.

Note 4: Data not available prior to FY 2007

Note 5: Data are collected from actual floods occurring throughout the year, and data become available in March following the year of interest. The Corps makes no predictions or targets year to year; data are used for trend analysis only.

Environmental Stewardship

Objective: To improve the efficiency and effectiveness of existing Corps water resources projects.

Objective: To ensure healthy and sustainable lands and waters and associated natural resources on Corps lands in public trust to support multiple purposes.

Objective: To protect, preserve and restore significant ecological resources in accordance with master plans.

Objective: To ensure that the operation of all civil works facilities and management of associated lands, including out-granted lands, complies with the environmental requirements of the relevant federal, state and local laws and regulations.

Objective: To meet the mitigation requirements of authorizing legislation or applicable Corps authorization decision document.

Funding History: The first row of Figure 12 shows the funding for environmental stewardship.

Performance Indicators: To measure success in attaining the objectives shown above, the Corps has developed seven performance indicators. Data on these indicators may be found in Figure 12.

- **Mitigation compliance.** This measure demonstrates the Corps' performance in meeting mitigation requirements that are specified in project authorizations. The measure is a percentage of the number of designated Corps-administered mitigation lands (acres) meeting mitigation requirements divided by the total number of designated Corps-administered mitigation lands, or the number of pounds of (or number of individual) fish produced in a mitigation hatchery, divided by the number of fish to be produced at a mitigation hatchery to meet the mitigation requirement.
- **Endangered species protection.** The percent of Corps operating projects with Endangered Species Act (ESA) requirements for which the Corps is meeting ESA requirements or responsibilities.
- **Cultural resources management.** The percent of Corps operating projects meeting federally mandated cultural resource management responsibilities.
- **Healthy and sustainable lands and waters.** This measure is defined as the number of Corps fee-owned acres classified as in a sustainable condition divided by the total number of Corps fee-owned acres. The result provides an indicator of the condition status of all Corps fee-owned acres. Sustainable is defined as follows: the acreage is not significantly impacted by any factors that cannot be managed and does not require intensive management to maintain its health; and the acreage also meets operational goals and objectives set forth in applicable management documents.
- **Level one natural resources inventory completion index.** This measure demonstrates the status of Corps efforts in completing basic, level-one natural resource inventories required by USACE Environmental Regulation (ER) 1130-2-540, Environmental Stewardship Operations and Maintenance Policies. Such inventories are necessary for sound resource management decisions and strategic development. The measure is defined as the sum total number of acres of completed inventory for each of the four components of the minimum level-one natural resources inventory, divided by four times the total number of Corps fee-owned acres. The proportion (percentage) yielded is used to evaluate the relative completeness of the inventory.
- **Master plan completion.** A master plan is completed, per regulation, to foster an efficient and cost-effective project for natural resources, cultural resources and recreational management programs. This measure demonstrates Corps commitment to fully integrate environmental stewardship in the management of operating projects. The measure is expressed as a percentage and is derived by dividing the number of required master plans completed in compliance with regulation by the total number of required master plans.
- **Efficiency.** This is represented by program costs recovered in cents on a dollar. The outcome for this objective is to manage projects in an efficient manner. This measure is an assessment of federal costs avoided in relation to the program cost. Revenue recovered each year, equivalent to the federal costs avoided, will vary due to the nature and extent of the sustainability practices implemented. The program emphasis, however, is on resource sustainability as opposed to revenue generation.

Expected Performance

The appropriation for FY08 is \$110 million. These funds will be used to continue activities that provide many of the priority performance outputs identified by the indicators above and that

contribute to achieving the program’s overall outcome of healthy and sustainable lands and waters. This outcome is in direct support of the Civil Works strategic plan goal to “ensure that projects perform to meet authorized purposes and evolving conditions”.

Critical natural resources management activities will be continued on Corps lands and waters such that the FY 07 achievement level may be maintained. It is anticipated that the number of acres classified as in a healthy and sustainable condition will remain at about 18%, as funding for increased management actions is not available. A healthy and sustainable condition classification means that the lands are not significantly impacted by factors that can be managed, the lands meet operational goals and objectives, and only minor or periodic management practices may be required to maintain the health. With the FY 08 funding, natural resources management efforts will focus on preventing degradation of significant resources from current conditions.

The FY 08 funding also will support achieving annual requirements of other high priority environmental and legislative mandates including mitigation compliance, endangered species protection and cultural resources management. It is anticipated that all projects with mitigation compliance and endangered species protection requirements will meet the minimum requirements of the year. However, only about 72% of the projects with cultural resources management requirements in the year will meet the minimum annual requirements.

Also, given the level of funding and the need to meet specifically mandated and priority program outputs mentioned above, only minor improvement in the percentage of completed basic natural resources inventories are anticipated in FY 08. It is projected that an additional 1% of these inventories will be completed, resulting in about 41% completed by the end of FY 08. Insufficient funding is available in FY 08 to support significant additional outputs toward completing master plans; therefore the percentage completed is projected to remain unchanged from the FY 07 achievement level of 27%.

Figure 12. Environmental Stewardship Indicators

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	
					Target	Actual
Funding history in millions of dollars	151	146	124	113	110	
Mitigation compliance	Note 1	76%	61%	86%	100%	
Endangered species protection		Note 2			100%	
Cultural resource management		Note 3		63%	72%	
Healthy and sustainable acreage		37%	21%	18%	18%	
Level one natural resources inventory completed		33%	38%	40%	41%	
Master plans completed		32%	27%	27%	27%	
Efficiency (in cents on the dollar)		\$0.09	\$0.10	\$0.12	Note 4	

Note 1: FY 2005 was the first year of performance measurement of the program.

Note 2: This measure becomes effective in FY 2008.

Note 3: This measure was added at the end of FY 2006, and FY 2007 is the first year of complete data.

Note 4: In order to ensure that revenue generation is not emphasized at the expense of sustainability, the Corps does not set annual efficiency targets.

Hydropower

Objective: To improve the efficiency and effectiveness of existing Corps water resource projects.

Funding History: The first row of Figure 13 shows the past three years of capital improvements and operation and maintenance expenditures for the Hydropower Program.

Performance Indicator: The objective of the hydropower program is to maintain a high level of reliability and peak availability of hydroelectric power-generating capability at multipurpose reservoir projects. The performance indicators listed below are used by the Corps to measure progress toward attaining this objective. Performance indicator results and targets for the year are shown in Figure 13.

- **Percent of time available during periods of peak demand.** The amount of time hydroelectric generating units are available to the Power Marketing Administration's interconnected system during daily peak demand periods.
- **Percent of forced outages.** The percent of time generating units are in an unscheduled or unplanned outage status. The lower the forced outage rate, the more reliable and less expensive the electrical power provided to the customer.
- **Percent of generating capacity that has a major generator/turbine related component rated in "poor" condition.** The major components include the generator, turbine runner, governor, transformer, circuit breaker, exciter, compressed air system, emergency closure gates and valves, surge arresters, and batteries. The long-term goal is to reduce generating capacity rated as "poor" by 10 percent over the next 10 years. Equipment condition assessments will be performed by the HydroAMP Condition Assessment tool.
- **Perform a comprehensive periodic review or annual power review at each required hydropower plant.** Each year a number of hydropower facilities undergo an annual power review. This target is measured in percent the total number of reviews completed for facilities that require a review.
- **Electrical reliability standards met.** Percentage of Federal Energy Regulatory Commission (FERC) and the National Electric Reliability Council (NERC) approved electric reliability standards that apply to generator owners and operators in the bulk power system met or exceeded. (FERC has established mandatory rules for producers of electric power. The Corps' hydropower program takes reliability seriously and considers it to be essential to its success in meeting the needs of its customers; compliance with all applicable standards will only be limited by the availability of resources. However, due to no waiver of sovereign immunity in the authorizing legislation, the FERC has no jurisdiction over the Corps' hydropower program and reporting on this standard is strictly voluntary.)
- **Operation and maintenance costs for power.** The Corps is a member of the EUCG (not an acronym) Benchmarking Consortium, which consists of hydropower producers from across the industry. Therefore, EUCG benchmarking data will be utilized to produce annual benchmarking reports for costs of power. The target is that O&M costs not increase annually beyond the 5-year rolling average "plus" or "minus" 5 percent.

Expected Performance

The Hydropower program appropriation for FY08 is \$264 million. These funds will be used for critical routine operations and maintenance activities to avoid plant closures and maintain reliable plant operation, as well as for continuing major rehabilitation of two hydropower plants: the John H. Kerr on the Roanoke River in Virginia with an expected completion date in year 2012 and the Walter F. George facility on the Chattahoochee River in Georgia, which is expected to be completed in fiscal year 2008. A portion of the funds (38% of the funded amount) will be used to fund fish mitigation measures. Program funding for critical routine and non-routine O&M has fluctuated over the previous years below sufficient levels to make improvements toward performance targets. The continuation in FY08 of not initiating new starts for major rehabilitation and the level of funding for critical non-routine maintenance will continue to negatively impact performance measures. Performance improvements for the key performance measures of peak availability and forced outages is expected to show no significant improvements and will most likely continue the downward trend seen over previous years.

Figure 13. Hydropower Indicators

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	
					Target	Actual
Funding history in millions of dollars	245	285	288	228	264	
Percent of time units are available	85.57	84.54	86.95	84.35	85	
Percent of time available during periods of peak demand	87.48	87.24	88.69	84.26	85.0	
Percent of time units are out of service due to unplanned outage	4.00	4.66	3.73	4.67	4.55	
Generating capacity rated in poor condition	Note 1				<10%	
Hydropower plant reviews					100%	
Operation and maintenance costs for power					\$75/KWh	
Electric reliability standards met					100%	

Note 1: This measure was added at the end of FY 2007; FY 2008 will be the first year to report data.

Recreation

Objective: To provide justified outdoor recreation opportunities in an effective and efficient manner at all Corps-operated water resources projects.

Objective: To provide continued outdoor recreation opportunities to meet the needs of present and future generations.

Objective: To provide a safe and healthful outdoor recreation environment for the Corps' customers.

Funding History: The first row of Figure 14 shows the funding, in actual expenditures, for the Recreation Program.

Performance Indicators: The measures listed in Figure 14 serve as indicators to assist Corps personnel to determine their progress in meeting the Corps' recreation efficiency, service and availability objectives. The indicators are explained below.

- **Total NED Benefits.** Contribution of Corps managed parks (in millions of dollars) to National Economic Development (NED).¹
- **Benefit-to-cost ratio.** This is the ratio of NED benefits to actual expenditures or programmed dollars in the budget.
- **Cost recovery.** Measures the percent of total recreation receipts to the recreation budget.
- **Park Capacity.** Measure of the capacity of facilities to provide recreation opportunities, expressed in millions of site days/nights that the Corps' recreation units were available for use.
- **Number of visitors.** Total number of visitors to Corps-managed parks, expressed in millions of people.
- **Visitor health and safety services.** This measure is expressed as a percentage of visitors served at Corps- managed recreation areas with acceptable service levels.
- **Facility Service.** This measure is the percentage of visitors served at a Corps-managed recreation area with a facility condition score of 4 or better, which indicates their experience was fair to good.

Expected Performance

The estimated funding for FY08 is \$267 million. This level of funding will significantly affect recreation program performance and service to the public. We estimate that 12 million fewer visitors will be served at CE managed parks resulting in a loss in over \$45 million in NED benefits. Only 49 percent of those people that do visit Corps parks will be served at acceptable service levels. In addition, a combination of reduced service levels and reduced recreation opportunities will continue with increased frequency from FY2007, implemented through 69 partial and 22 complete park closures in FY2008.

¹ NED benefits arising from recreation experiences are measured in terms of willingness to pay for each increment of supply or type of recreation opportunity. The unit day value method relies on expert or informed opinion and judgment to approximate the average willingness to pay of users of federal or federally assisted recreation resources. The unit day value is estimated at the park (recreation area) level by evaluating each park against a set of published criteria. By applying a carefully thought-out and adjusted unit day value to estimated use, an approximation is obtained that may be used as an estimate of project recreation benefit (i.e., NED benefits = Unit Day Value X Recreation Use in Visitor Days).

Figure 14. Recreation Indicators

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	
					Target	Actual
Funding history in millions of dollars	289	292	291	299	267	
Total NED benefits (in millions of dollars)	1,223	1,243	1,216	1,171	1,126	
Benefit-to-cost ratio	4.28	4.30	4.27	4.27	4.22	
Cost recovery	16%	16%	16%	16%	16%	
Park capacity (in millions of days)	74	74	74	74	74	
Number of visitors (in millions of visits)	135	142	144	144	132	
Visitor health and safety services – recreation areas	Note 1	51%	50%	50%	49%	
Facility service	Note 2	48%	48%	48%	48%	

Note 1: Service standards were revised in FY 2005, so FY2004 data are not comparable.

Note 2: Measure was established at the end of FY 2004; FY 2005 is first year of complete data.

Water Storage for Water Supply

Objective: To provide water supply storage in a cost-efficient and environmentally responsible manner, in partnership with nonfederal water management plans, that is consistent with law and policy.

Funding History: The first row of Figure 15 shows the funding for the Water Supply Program.

Performance Indicator: To assist in measuring progress toward this objective, the Corps uses measures relating to the acre-feet of water stored and cost recovery measures. These are shown in Figure 15.

- **Acre-feet available.** Of the total acre-feet of water stored in a reservoir, this number represents the total acre-feet made available for the purpose of water supply.
- **Acre-feet under contract.** Of the acre-feet made available for water supply, this number represents the total number of acre-feet under contract (for both present and future use) with local interests.
- **Percentage under contract.** The percentage of the acre-feet of water supply storage space under contract compared to the acre-feet of space available for water storage.
- **Costs available for recovery.** The Corps seeks proportional reimbursement of capital cost for that portion of the reservoir that has been allocated for water supply. Cost available for recovery is the total estimated capital cost of water supply allocations.
- **Costs recovered.** Costs assigned to present use water supply storage space that have been or are in the process of being recovered through repayment agreements.
- **Percent of costs recovered.** The percentage of costs available for recovery compared to costs recovered.
- **Administrative yearly cost.** Annual cost to collect fees and administer contracts.

- **Administrative yearly cost (input) per acre-foot of storage (output).** This efficiency measure describes the cost to provide the water storage.

Expected Performance

The appropriation for FY08 is \$4 million. Approximately 60% of these funds will be used for billings and collections associated with the 316 water supply agreements at the 134 Corps reservoir projects where there is municipal and industrial water supply storage space. Records indicate that for every dollar spent on billings and collections, some \$15 to \$20 is collected in principal, interest and operation and maintenance expense from the local sponsors. This money is deposited into the U.S. Treasury. About 25% of the funds will be used to initiate a National Portfolio Assessment for Reallocations and to fund four water supply studies: Alabama Coosa Comprehensive, Texas Water Allocation Assessment, Chatfield, CO and the Middle Brazos River, TX. These are all in areas affected by critical drought and increased population pressure. As study funding has remained fairly constant so has our ability to complete reallocation studies, thereby restricting our ability to return even greater revenues to the Treasury. The remaining 15% of the funds will be used to pay the allocated portion of the water supply costs of the Endangered Species Act Biological Opinions program and the allocated joint costs of water supply in projects containing hydroelectric power.

Figure 15. Water Storage for Water Supply

	FY 2004	FY 2005	FY 2006	FY 2007 Note 1	FY 2008	
					Target	Actual
Funding history in millions of dollars	2	2	2	2.5	4	
Acre-feet available (in millions of acre-feet)	9.856	9.761	9.936	9.379	9.6	
Acre-feet under contract (in millions of acre-feet)	9.108	9.356	9.936	9.083	9.4	
Percent under contract	92.4	95.9	94.5	96.8	96.9	
Costs available for recovery (in millions of dollars)	1,477.2	1,459.8	1,492.9	1,282.3	1,300	
Costs recovered (in millions of dollars)	1,064.0	1,096.1	1,117.9	868.4	910	
Percent recovered	72.0	75.0	74.9	67.8	70	
Administrative yearly cost (in millions of dollars)	Note 2				1.3	
Administrative yearly cost per acre-foot of storage					\$0.14	

Note 1: Database converted during 2007 from an update of old data to an automated system (OMBIL). This accounts for the change in storage space and costs.

Note 2: This efficiency measure was established at the end of FY 2007; FY2008 will be the first year that data is available.

Goal 4: Reduce Vulnerabilities and Losses to the Nation and the Army from Natural and Man-Made Disasters, Including Terrorism

The purpose of this goal is to manage the risks associated with all types of hazards and to increase the responsiveness to disasters of the civil works emergency management program within the Corps' Office of Homeland Security in support of federal, state and local emergency management efforts. Disaster preparedness and response capabilities are not limited to water-related disasters, but draw on the engineering skills and management capabilities of the Corps,

encompassing a broad range of natural disasters and national emergencies. Emergency readiness contributes to national security.

Objective: To attain and maintain a high, consistent state of preparedness.

Objective: To provide a rapid, effective and efficient all-hazards response.

Objective: To ensure effective and efficient long-term recovery operations.

Funding History: The first row of Figure 16 shows the funding for emergency preparedness and response and recovery operations.

Performance Indicators: The four primary measures listed in Figure 16 are designed to serve as indicators to assist Corps personnel in determining their progress in meeting the Corps' emergency management objectives. The indicators are explained below.

- **Planning response team readiness.** The Corps has established designated planning and response teams (PRT) that are organized to provide rapid emergency response for a specific mission area. This measure is calculated as a percentage of time during the fiscal year that PRTs are fully staffed, trained and ready to deploy.
- **Project inspection performance.** The Corps performs inspections of flood control works operated and maintained by public sponsors to insure and assess their operations and maintenance condition. This measure is determined by the percentage of scheduled inspections completed during the fiscal year.
- **Damaged project restoration.** The Corps repairs flood control projects damaged by flood or storm under authority of Public Law 84-99. This measure is determined by the percentage of projects damaged during a fiscal year that are repaired prior to the next flood season.
- **Project condition ratings.** Under the Corps Rehabilitation and Inspection Program, inspected projects are given condition ratings that characterize the project maintenance condition. This measure is determined by the percentage of the total projects inspected during the fiscal year that received a rating of at least minimally acceptable.

Expected Performance

The Corps maintains 41 national planning and response teams. These teams are trained and prepared to deploy to a disaster area and provide assistance for temporary power, temporary housing, debris management, water and ice commodities, temporary roofing and infrastructure assessment.

No FCCE funds were included in the Civil Works appropriation for FY 2008. The minimum baseline preparedness activities will be funded with existing supplemental funds. The lack of funds appropriated specifically for preparedness activities continues to result in reduced targets as well as reduced performance.

Figure 16. Emergency Preparedness Indicators

	FY 2004	FY 2005 Note 1	FY 2006 Note 1	FY 2007 Note 1	FY 2008	
					Target Note 2	Actual
Funding history in millions of dollars	51	348	5,408	1,561	32	
Planning response team readiness	93%	82%	92%	72%	70%	
Project inspection performance	90%	96%	93%	97%	80%	
Damaged project restoration	92%	75%	65%	29%	20%	
Project condition ratings	93%	94%	95%	90%	80%	

Note 1: Funding was provided in supplemental appropriations to repair projects damaged by coastal storm and flooding.

Note 2: Approximately \$32 million of existing FCCE funds are being used to maintain a preparedness baseline.