
# Army Corps of Engineers Water Resource Projects: Authorization and Appropriations

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# Summary

The U.S. Army Corps of Engineers attracts congressional attention because its civil works projects can provide economic benefits, locally and regionally, in addition to their water resource development purposes. The primary missions of the Corps are creating and maintaining navigable channels, reducing flood and storm damage, and restoring aquatic ecosystems. Congress directs the agency through authorizations, appropriations, and oversight of studies, construction projects, and other activities. This report gives an overview of Corps congressional authorization and appropriations processes. It also explains the Corps project development process, as well as other agency activities under general authorities (e.g., repair of damaged levees).

**Authorization of Water Resources Activities.** Congress generally authorizes Corps activities and provides policy direction in Water Resources Development Acts (WRDAs). Congress also authorizes some studies through resolutions passed by an authorizing committee. Pressure to authorize new projects, increase authorized funding levels, and modify existing projects promotes fairly regular WRDA consideration. Beginning in 1986, a biennial WRDA consideration was loosely followed; enactment has been less regular. The last WRDA was enacted in November 2007 (P.L. 110-114). H.R. 5892, the Water Resources Development Act of 2010, was ordered to be reported on July 29, 2010. The Senate Environment and Public Works Committee has initiated assembly of a WRDA bill.

**Annual Agency Appropriations.** Federal funding is provided for most Corps civil works activities through annual Energy and Water Development appropriations acts. Some appropriations acts also may include Corps authorizations. In part because of competition for limited funding and because Corps authorizations significantly outpace appropriations, many authorized activities do not receive appropriations. There is currently a backlog of more than 1,000 authorized studies and construction projects. In recent years, few new studies and new construction activities have been included in either the President's budget request or enacted appropriations legislation.

**Standard Project Development Process.** The standard process for a Corps project requires two separate congressional authorizations—one for investigation and one for project construction—as well as appropriations. The investigation phase starts with Congress authorizing a study; if it is funded, the Corps then conducts an initial reconnaissance study followed by a more detailed feasibility study. Congressional authorization for construction is based on the feasibility study. For most activities, the Corps also requires a nonfederal sponsor to share some portion of study and construction costs. These cost-sharing requirements vary by the type of project. For many types of projects, such as flood control projects (e.g., levees), the nonfederal sponsors are responsible for regular operation and maintenance expenses after construction.

**Other Corps Activities and Authorities.** Although the project development process just described is standard, there are exceptions. Congress has granted the Corps some general authorities to undertake small projects, technical assistance, and emergency actions such as flood-fighting and repair of damaged levees. Additionally, the Corps conducts emergency response actions through mission assignments directed by the Federal Emergency Management Agency. Corps emergency response actions are funded primarily through supplemental appropriations. Congress also has specifically authorized Corps participation in numerous environmental infrastructure projects (e.g., municipal water and wastewater treatment systems).

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# Army Corps of Engineers and Its Civil Works Program

The U.S. Army Corps of Engineers attracts much congressional attention because its projects can provide significant local and regional economic benefits, in addition to their water resource development purposes. Congress directs the Corps through authorizations, appropriations, and oversight of studies, construction projects, and other activities. This report provides an overview of the Corps civil works program. It covers the congressional authorization and appropriation process, the standard project development process, and other Corps activities and authorities. It also includes an **Appendix** on the evolution of Corps civil works missions and authorities and a description of the limits on the Corps' role in levee accreditation and improvements for the National Flood Insurance Program (NFIP).

## Responsibilities and Organization

The Corps is an agency in the Department of Defense with both military and civilian responsibilities. Under its civil works program, the Corps plans, builds, operates, and maintains a wide range of water resources facilities. The agency's long-standing civil responsibilities are creating and maintaining navigable channels and reducing flood and storm damage. Congress also has provided the Corps with an aquatic ecosystem restoration and environmental protection mission. Other Corps responsibilities include flood emergency and natural disaster response, such as flood-fighting, repair to damaged levees, and emergency water supply assistance. Congress also has authorized Corps participation in select environmental infrastructure projects (e.g., municipal water and wastewater treatment systems) and other nontraditional activities.

The civil works program is led by a civilian Assistant Secretary of the Army for Civil Works. A military Chief of Engineers oversees the Corps' civil and military operations and reports on civil works matters to the Assistant Secretary for Civil Works. A Director of Civil Works reports to the Chief of Engineers. The Corps' civil works responsibilities are organized under eight divisions that are further divided into 38 districts.[1]

## Authorizations and Water Resources Development Acts

The Corps must have an authorization to undertake an activity. However, authorizations by themselves are usually insufficient for a Corps study or construction project to proceed; these typically must receive appropriations for the Corps to act. Congress authorizes most Corps civil works activities in Water Resources Development Acts (WRDAs).[2] In addition, an authorizing committee can authorize a study to reexamine a geographic area previously studied by the Corps for a similar purpose.[3] Authorizations also have appeared in appropriations bills, especially in years when a WRDA is not enacted. Authorizations in appropriations bills, however, are

[1] A division map and district links are available at http://www.usace.army.mil/about/Pages/Locations.asp.

[2] WRDAs are distinguished from each other by referencing the year of enactment; that is, WRDA 1986 refers to the act passed in 1986, while WRDA 2007 refers to the last enacted WRDA from November 2007 (P.L. 110-114).

[3] Sec. 4 of the Rivers and Harbors Act of 1913 (37 Stat. 801, 33 U.S.C. §542).

discouraged as standard procedure, and if they are included in a bill they can be subject to a point of order on the floor for being non-germane.

WRDAs authorize Corps studies, projects, and programs and establish policies for Corps civil works activities, such as cost-share requirements. A WRDA for the most part is not a reauthorization bill, but an authorization bill; that is, it authorizes new activities that are added to the pool of existing authorized activities. Project authorizations in WRDAs usually fall into three general categories: studies, projects, and modifications to existing authorizations. WRDAs also can contain general civil works policy provisions.

## WRDA Process

Beginning in 1986, a biennial WRDA cycle was loosely followed for a number of years. WRDAs were enacted in 1988 (P.L. 100-676), 1990 (P.L. 101-640), 1992 (P.L. 102-580), 1996 (P.L. 104-303), 1999 (P.L. 106-53), and 2000 (P.L. 106-541).[4] Pressure to authorize new projects, increase authorized funding levels, and modify existing projects is often intense, thus promoting a fairly regular biennial consideration of WRDA, although enactment has been less consistent. Controversial project authorizations and disagreements over the need for and direction of changes to the way the Corps plans, constructs, and operates projects contributed to WRDA bills not being enacted in the 107th, 108th, and 109th Congresses. The 110th Congress enacted WRDA 2007 in November 2007, overriding a presidential veto. It authorized $29.8 billion in Corps activities.[5] With enactment of WRDA 2007, the Corps now has an estimated "backlog" of more than 1,000 authorized activities, with authorized funding estimated to exceed $80 billion.[6]

Once a committee of jurisdiction—the House Transportation and Infrastructure (T&I) Committee or the Senate Environment and Public Works (EPW) Committee—decides to consider a WRDA, Members of Congress may request that the appropriate committee chair include a particular study authorization, project authorization, or project modification.[7]

## WRDA 2010 Consideration

WRDAs generally are written by the committee (T&I or EPW) with Member input. After receiving Member requests, the committee develops a bill for introduction. The Water Resources Development Act of 2010, H.R. 5892, was order to be reported on July 29, 2010; its sponsors have estimated it to represent $6 billion in authorizations. The Senate EPW Committee accepted Member requests for a WRDA bill in spring 2010. Consideration of WRDA 2010 in the House

[4] WRDA 1986 marked the end of a decade or more of stalemate between the Congress and the executive branch regarding authorizations. In addition to authorizing numerous projects, WRDA 1986 resolved long-standing disputes related to cost-sharing, user fees, and environmental requirements. Prior to 1986, disputes over these and other matters had largely prevented enactment of major civil works legislation since 1970. Biennial authorizations were resumed after WRDA 1986 to avoid long delays between the planning and execution of projects and so that Congress could review proposed projects on a regular basis.

[5] Data provided by the Corps to CRS in March 2010. The $29.8 billion total represents $21.8 billion in federal investments and $8 billion in nonfederal investments.

[6] Estimates of the Corps backlog vary widely; $58 billion was cited as the figure for the Corps backlog before passage of WRDA 2007.

[7] If the Administration proposes a WRDA, Congress generally receives the proposal during February of the second year of a Congress, at the same time as the President's budget. There have been no Administration-proposed WRDA bills transmitted to Congress in recent years.

has been complicated by the Republican conference moratorium on congressional earmarks through the end of the 111th Congress and its application to project-specific Corps authorizations.

Many in Congress viewed WRDA 2007 as addressing pent-up demand for project authorizations that had accumulated since WRDA 2000, and assert that another WRDA is needed to reestablish regular authorization of Corps projects to address the nation's water resources needs. Those supporting WRDA 2010 consideration also suggest that water resource projects can provide both short-term employment and long-term economic and environmental benefits. Others express concerns about the growing backlog of already authorized Corps projects and suggest that another WRDA could exacerbate the backlog. These interests argue that the primary purpose of the next WRDA bill should be to establish authorization and funding priorities, manage the backlog, and improve the project and agency performance.

## Energy and Water Development Appropriations

Corps authorizations exceed annual appropriations; that is, only a subset of authorized activities are included in the President's budget request and funded by enacted appropriations. This results in competition for funds among authorized activities during the appropriations process. To concentrate limited resources and to move ongoing projects toward completion, recent budget requests by the Bush and Obama Administrations have focused funding on projects near completion, and limited new studies and projects. Both administrations also focused funds on projects within the Corps' primary missions of flood and storm damage reduction, navigation, and aquatic ecosystem restoration.

Given the Corps' backlog and limited federal budget resources, decision-makers make difficult choices among competing authorized activities as they prepare annual appropriations. Enacted annual Corps civil works appropriations (excluding supplemental appropriations) have remained steady or increased slightly over the last decade. An increasing share of Corps appropriations funds operations and maintenance as the Corps infrastructure ages; operation and maintenance of Corps-owned infrastructure represented 44% of FY2010 enacted Corps appropriations.

Recent appropriations bills have funded a larger set of studies and projects than proposed by the Administration. Enacted appropriations legislation illustrates how authorizations have outpaced appropriations. The majority of the more than 700 studies and construction projects authorized in WRDA 2007 have received no appropriations. Seven new construction starts were included in the Administration's FY2010 budget request; 11 additional construction starts were added by Congress in the conference report (H.Rept. 111-278) for Energy and Water Development Appropriations Act for FY2010 (P.L. 111-85). H.Rept. 111-278 funded eight new studies.

Roughly 85% of the Corps budget is for geographically specified studies or projects. Such studies and projects are identified in justification materials submitted as part of the Administration's budget request and in conference reports accompanying Energy and Water Development appropriations bills. Members may send a letter to the chairman or ranking member of the Appropriations Subcommittee on Energy and Water Development to request inclusion of a study or project among the activities funded by the Energy and Water Development appropriations bill. In recent years, recommended deadlines for these requests have been in March or April. CRS Report R40669, *Energy and Water Development: FY2010 Appropriations*, provides a discussion of Corps civil works appropriations. CRS Report R40216, *Water Infrastructure Funding in the American Recovery and Reinvestment Act of 2009*, discusses the Corps economic stimulus funds from the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

# Standard Corps Project Development Process

This section and its subsections describe the study and construction process for most Corps water resources projects. The next section describes some exceptions to the standard process. The standard process has the following basic steps (also see **Table 1**):

- Congressional study authorization is obtained in WRDA or through committee resolution.
- The Corps performs a reconnaissance study using appropriated funds.
- The Corps performs a feasibility study if the reconnaissance study is favorable and funds are appropriated.
- Congressional construction authorization is pursued. The Corps can perform preconstruction engineering and design while construction authorization is pursued.
- Congress authorizes construction, and the Corps constructs the project using appropriated funds.

**Table 1. Corps Project Phases, Average Duration, and Federal Cost**

| | Reconnaissance | Feasibility | Preconstruction Engineering and Design | Construction | O&M |
|---|---|---|---|---|---|
| Avg. Duration (years) | 1 | 2-3 | approx. 2 | varies | authorized project duration |
| Federal Share of Costs | 100% | 50%[a] | varies by project purpose[b] | varies, see **Table 2** | varies, see **Table 2** |

a. Inland waterways feasibility studies are a 100% federal responsibility (33 U.S.C. § 2215). These projects are not considered "local" by their nature.

b. In most cases, preconstruction planning and engineering costs shares are the same as the construction cost-shares in **Table 2**.

The process is not automatic. Appropriations are required to perform studies and to undertake construction; that is, congressional study and construction authorizations are necessary but insufficient for the Corps to pursue a project. For most activities, the Corps also needs a nonfederal sponsor to share the study and construction costs. Nonfederal sponsors generally are state, tribal, county, or local agencies or governments. Although sponsors typically need to have some taxing authority, some Corps activities can be cost-shared with nonprofit and other entities. Since WRDA 1986 (P.L. 99-662), nonfederal sponsors are responsible for a significant portion of the financing of studies, construction, and operation and maintenance (O&M) of most projects.

## Study Authority to Initiate a Corps Project

A Corps project starts with a study of the water resource issue and alternatives to address it. The purpose of the Corps study process is to inform federal decision-makers on whether there is a federal interest in authorizing a Corps construction project. The Corps generally requires two

types of congressional action to initiate a study—study authorization and then appropriations. Interest in Corps assistance with a water resource need often originates with a request from a local or state government entity or community, business, or other local interests.

If the Corps has performed a study in the geographic area before, a new study can be authorized by a resolution (known commonly as a "survey resolution") of either the House T&I Committee or the Senate EPW Committee.[8] To be eligible for a resolution authorization, the new study must stay within the scope of the authorization of the original completed report. If the Corps has not previously investigated, Congress needs to authorize the study in legislation, typically WRDA.

Once a study is authorized, appropriations are sought through the annual Energy and Water Development appropriations acts. Within the Corps, projects are largely planned at the district level, then approved at the division and Corps headquarters. Early in the study process, the Corps assesses the level of interest and support of nonfederal entities that may be potential sponsors. The reconnaissance study, feasibility study, and preconstruction engineering and design are conducted under a single congressional study authorization. The length of each phase varies by project, with larger and more complex projects typically requiring a longer process.

## Reconnaissance Study

The reconnaissance study investigates the nature of the water resources problem and assesses the federal government's interest. The reconnaissance study also examines the interest of nonfederal sponsors, who are involved in all phases of project development. Corps policy is to complete most reconnaissance studies within 12 months. The costs of reconnaissance studies and their related project study plans generally are limited to $100,000 at full federal expense. Around one-third of reconnaissance studies eventually lead to feasibility studies; only 16 of every 100 reconnaissance studies lead to constructed projects.[9]

## Feasibility Study and Construction Authorization

If a nonfederal sponsorship is secured and the Corps recommends proceeding, a feasibility study begins. The cost of the feasibility study (including related environmental studies) is split equally between the Corps and the nonfederal project sponsor, as shown in **Table 1**. The objective of the feasibility study is to formulate and recommend solutions to the water resources problem identified in the reconnaissance phase. During the first few months of a feasibility study, the local Corps district formulates alternative plans, investigates engineering feasibility, conducts benefit-cost analyses, and assesses environmental impacts under the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. § 4321).[10] The evaluation of federal water resources projects,

[8] To request a study's inclusion in a resolution, a Member of Congress may send a letter to the chairman of the House Committee on Transportation and Infrastructure or the Senate Committee on Environment and Public Works. The number of studies authorized by resolution varies by Congress. The 108th Congress authorized 63 studies via survey resolutions; the 109th Congress authorized 29.

[9] General Robert B. Flowers, Army Corps Chief of Engineers, oral statement, *Reforms to Address the Corps of Engineers Feasibility Studies*, hearing before Senate Environment and Public Works Subcommittee on Transportation and Infrastructure on March 15, 2001, available at http://epw.senate.gov/stm1_107.htm. More recent statistics are not publicly available.

[10] Generally, the district produces an environmental impact statement (EIS) during the feasibility phase. Preparation includes public meetings to determine the view of local interests on the extent and type of improvement desired.

including Corps activities, is governed by the 1983 *Principles and Guidelines for Water and Related Resources Implementation Studies*, written by the Water Resources Council, and policy direction provided in WRDA bills and other enacted legislation.[11] An important outcome of the feasibility analysis is determination of whether the project warrants further federal investment (i.e., whether it has sufficient national economic development benefits).

The feasibility phase ends when the Chief of Engineers signs a final recommendation on the project, known as the Chief's Report. The Corps sends an informational copy of the Chief's Report to Congress when it transmits the report to the Assistant Secretary and the Office of Management and Budget (OMB). Since the mid-1990s, Congress has authorized a significant number of projects based on these informational copies, prior to the projects receiving a full review by the Assistant Secretary and OMB. Congress also has authorized construction of projects prior to the availability of information copies of feasibility studies; these construction authorizations generally are contingent on a favorable Chief's Report or a determination of feasibility by the Secretary of the Army.

## Cost Shares for Construction and Operation and Maintenance

The feasibility study also evaluates how construction costs will be split between the federal government and the nonfederal sponsor. The split of federal and nonfederal financial responsibilities for construction and O&M varies by project purpose, as shown in **Table 2**. The Corps' project development process is organized around projects with primary purposes of navigation, flood and hurricane damage reduction, and/or aquatic ecosystem restoration. While these are the primary purposes, the agency has the authority to undertake activities with other purposes as part of multi-purpose projects. **Table 2** lists these additional project purposes, which can be added to a project that has at least one of the three primary purposes at its core.

How to allocate the construction and O&M costs of Corps projects among nonfederal sponsors and the federal government has been debated for decades. WRDA 1986 significantly increased local cost-share requirements; some subsequent WRDAs made further adjustments in cost sharing. The waiving of cost-share requirements for individual projects is infrequent and requires specific authority. Congress has established that the cost shares shall be subject to the nonfederal sponsors' ability to pay (33 U.S.C. §2213(m)(2)).[12] Which contributions should be credited toward the nonfederal cost share—for example, in-kind services and work performed prior to the signing of a construction agreement—has also been debated; Section 2003 of WRDA 2007 (42 U.S.C. § 1962d-5b) provided congressional direction on this subject.

[11] Available at http://www.usace.army.mil/CECW/Pages/pgr.aspx. Pursuant to WRDA 2007, the Administration is updating the *Principles and Guidelines*; information on the revision process is available at http://www.whitehouse.gov/administration/eop/ceq/initiatives/PandG.

[12] The most recent publicly available guidance on how the Corps implements the ability to pay provision is from 1989, which is available at http://140.194.76.129/publications/eng-regs/er1165-2-121/toc.htm. It does not reflect enacted changes in the Corps authority, including those in Sec. 2019 of WRDA 2007.

**Table 2. Cost-Shares for Construction and Operation of New Corps Projects**

| Project Purpose | Maximum Federal Share of Construction | Maximum Federal Share of O&M |
|---|---|---|
| **Navigation** | | |
| Coastal Ports— | | |
| <20 ft. harbor | 80%[a] | 100%[b] |
| 20-45 ft. harbor | 65%[a] | 100%[b] |
| >45 ft. harbor | 40%[a] | 50%[b] |
| Inland Waterways | 100%[c] | 100% |
| **Flood and Hurricane Damage Reduction** | | |
| Inland Flood Control | 65% | 0% |
| Coastal Hurricane and Storm Damage Reduction<br>except Periodic Beach Nourishment | 65%<br>50% | 0%<br>0% |
| Repair of Damaged Flood and Coastal Storm Projects | | |
| Locally Constructed Flood Projects | not applicable | 80%[d] |
| Federally Constructed Flood and Coastal Projects | not applicable | 100%[d] |
| **Aquatic Ecosystem Restoration** | | |
| Environmental Restoration | 65% | 0% |
| **Multi-Purpose Project Components** | | |
| Hydroelectric Power | 0% | 0% |
| Municipal and Industrial Water Supply Storage | 0% | 0% |
| Agricultural Water Supply Storage | 65%[e] | 0% |
| Recreation at Corps Facilities | 50% | 0% |
| Aquatic Plant Control | not applicable | 50% |
| **Other** | | |
| Environmental Infrastructure (typically municipal water and wastewater infrastructure) | 75%[f] | 0% |

**Source:** 33 U.S.C. §§ 2211-2215, unless otherwise specified below.

a. These percentages reflect that the nonfederal sponsors pays (10%, 25%, or 30%) during construction and an additional 10% over a period not to exceed 30 years.

b. Appropriations from the Harbor Maintenance Trust Fund, which is funded by collections on commercial cargo imports at federally maintained ports, are used for 100% of these costs.

c. Appropriations from the Inland Waterway Trust Fund, which is funded by a fuel tax on vessels engaged in commercial transport on designated waterways, are used for 50% of these costs.

d. 33 U.S.C. § 701n. Repair assistance is restricted to projects eligible for and participating in the Corps' Rehabilitation and Inspection Program and to fixing damage caused by natural events, not regular maintenance or betterments.

e. For the 17 western states where reclamation law applies, irrigation costs are funded by the Corps but ultimately repaid by nonfederal users.

f. Most environmental infrastructure projects are authorized with a 75% federal cost share; a few have a 65% federal cost share.

## Engineering and Design

The study phase—preconstruction engineering and design—that follows the feasibility analysis takes two years, on average, and is conducted while pursuing congressional authorization for the project and construction funding. The preconstruction costs are distributed between the federal and nonfederal sponsor in the same proportion as the cost-share arrangement for the construction phase. Once the project receives congressional authorization, federal funds for construction are sought in the annual Energy and Water Development Appropriations Act. The federal cost share for construction varies by project purpose. Nonfederal parties are responsible for all operation and maintenance expenses, absent a few exceptions mainly for harbors and inland waterways.

## Changes After Construction Authorization

A project is likely to undergo some changes after authorization. If project features or the estimated cost changes significantly, an additional congressional authorization may be necessary. Authorization for a significant modification is typically sought in a WRDA. For less significant modifications, however, additional authorization is often not necessary. Section 902 of WRDA 1986 (33 U.S.C. § 2280) allows for increases in total project costs of up to 20% without additional authorization for modifications that do not *materially* change the project's scope or function.

## Study and Project Deauthorization

Although WRDA is generally an authorization bill, Congress at times has used WRDA to reauthorize activities that would soon expire under established deauthorization processes or that have already been deauthorized. Authorizations of Corps construction projects generally are not time-limited; however, there is a process to begin deauthorization of projects that have been without funding for five years. In WRDA 1986, as modified by later legislation, Congress established deauthorization processes for Corps studies and projects unless congressional appropriations action is taken. Under 33 U.S.C. § 2264, every year the Secretary of the Army transmits a list to Congress of incomplete authorized studies that have not received funds for five full fiscal years. The study list is not published in the *Federal Register*. Congress has 90 days after submission to appropriate funds; otherwise the study is deauthorized. Under 33 U.S.C. § 579a(b)(2), every year the Secretary also transmits to Congress a list of authorized projects and separable elements of projects that have not received funding during the last full five fiscal years. The project deauthorization list is published in the *Federal Register*. If funds are not obligated for the planning, design, or construction of the project or element during the fiscal year following that in which the list is transmitted, the project or element is deauthorized.

# Other Corps Activities and Authorities

Although the project development process described above is standard, there are exceptions. The Corps has some general authorities to undertake small projects, technical assistance, and emergency actions. Congress also has specifically authorized the Corps to undertake numerous municipal water and wastewater projects. These exceptions are described herein.

## Small Projects Under Continuing Authorities Programs

The Corps' authorities to undertake small projects are called Continuing Authorities Programs (CAPs). Projects under these authorities can be conducted without obtaining a project-specific study or construction authorization or project-specific appropriations; these activities can be performed at the discretion of the Corps. For most CAP authorities, Congress has limited the size and scope of the projects, as shown in **Table 3**.[13] The CAPs are typically referred to by the section number in the bill where the CAP was first authorized. In recent years, Congress has reduced the Corps' discretion in managing the CAPs by directing funds to particular CAP projects. Congress also increasingly has authorized specific CAP projects. Some of these project-specific authorizations under the CAPs are used to apply special rules to a project or to ensure that a project is considered eligible under a particular CAP. Demand for CAP projects have increased in recent years. **Table 3** shows the backlog of projects competing for CAP funding.

## Technical Assistance

Congress has also granted the Corps some general authorities to provide technical assistance. The Corps does not need project-specific authority to undertake activities that are eligible under the authorities listed in **Table 4**.

## Natural Disaster and Emergency Response Activities

### National Response Framework Activities Under FEMA

The Stafford Act (42 U.S.C. § 5170b) authorizes the Federal Emergency Management Agency (FEMA) to direct the Department of Defense to provide assistance for a major disaster or under an emergency declaration by the President. Under the National Response Framework,[14] the Corps coordinates emergency support for *public works and engineering*. This includes technical assistance, engineering, and construction management as well as emergency contracting, power, and repair of public water and wastewater and solid waste facilities. The Corps also assists in monitoring and stabilizing damaged structures and demolishing structures designated as immediate hazards to public health and safety. It also provides technical assistance in clearing, removing, and disposing of contaminated and uncontaminated debris from public property, and establishing ground and water routes into affected areas; contaminated debris management is coordinated with the U.S. Environmental Protection Agency. The Corps' funding for these activities is provided through FEMA appropriations, often through supplemental appropriations.

[13] There is also an authority under 33 U.S.C. § 610 for the Corps to control noxious aquatic plant growths at a 70% federal - 30% nonfederal cost share; the authority is capped at $15 million annually. This authority has not been operated as a CAP. Most, but not all, of the work under this authority has been for research.

[14] The framework is available at http://www.dhs.gov/xprepresp/committees/editorial_0566.shtm.

## Table 3. Select Corps Continuing Authorities Programs

(in $ millions)

| Authority | Eligible Activities | Max. Federal Construction Cost Share | Per-Project Federal Limit | Annual Federal Program Limit | FY2010 Approp. | Est. Federal Backlog of Active Projects[a] | Est. Federal Backlog of Un-started Projects[b] |
|---|---|---|---|---|---|---|---|
| Sec. 14 | Streambank and shoreline erosion of public works and nonprofit services | 65% | $1.5 | $15.0 | $5.8 | $37.2 | $35.5 |
| Sec. 103 | Beach erosion and hurricane storm damage reduction | 65% | $5.0 | $30.0 | $3.9 | $39.7 | $12.0 |
| Sec. 107 | Navigation improvements | Varies as shown in **Table 2** for commercial navigation; 50% for recreational navigation | $7.0 | $35.0 | $6.3 | $101.1 | $23.9 |
| Sec. 111 | Prevention or mitigation of shore damage caused by federal navigation projects | Shared in the same portion as the project causing the damage | $5.0 | n.a. | $6.0 | $46.7 | $0.8 |
| Sec. 204, Sec. 207, Sec. 993 | Beneficial use of dredged material | 75% | n.a. | $15.0 | $7.8 | $30.0 | $4.2 |
| Sec. 205 | Flood control | 65% | $7.0 | $55.0 | $37.8 | $310.4 | $93.8 |
| Sec. 206 | Aquatic ecosystem restoration | 65% | $5.0 | $50.0 | $27.1 | $369.8 | $98.7 |
| Sec. 208 | Removal of obstructions, clearing channels for flood control | 65% | $0.5 | $7.5 | $0.0 | $0.4 | $2.0 |
| Sec. 1135 | Project modifications for improvement of the environment | 75% | $5.0 | $40.0 | $24.2 | $173.1 | $41.5 |

**Source:** CRS, compiled from H.Rept. 111-278, and Corps documents, including Appendix F of Planning Guidance Notebook, Engineering Regulation 1105-2-100, available at http://140.194.76.129/publications/eng-regs/er1105-2-100/a-f.pdf, and Corps provided data to CRS in May 2010.

**Note:** n.a. = not applicable

a. This backlog is the federal share of active projects (i.e., projects that have received some CAP funds in the last four fiscal years) before the FY2010 appropriations.

b. This backlog is the federal share of un-started projects (i.e., projects for which nonfederal sponsors have approached the Corps and that received no CAP funding prior to FY2010) before the FY2010 appropriations.

**Table 4. Corps Technical Assistance Authorities**

(in $ millions)

| Program | Activities Authorized | Maximum Federal Cost Share | Federal Share Per-Project Limit | Annual Federal Program Limit | FY2010 Appropriations |
|---|---|---|---|---|---|
| Planning Assistance to States | Technical assistance to states and communities with water resources planning on a regional and comprehensive scope | 50% | $0.5 annually per state | n.a. | $7.161 |
| Flood Plain Management Service | Technical assistance on flood and floodplain issues | 100% for eligible activities | n.a. | $15.0 | $8.059 |
| Tribal Partnership Program | Studies of water projects that benefit Indian tribes | 50%[a] | $1.0 | n.a. | $0.852 |

**Source:** CRS, compiled from H.Rept. 111-278, and Corps documents, including Appendix G of Planning Guidance Notebook, Engineering Regulation 1105-2-100, available at http://140.194.76.129/publications/eng-regs/er1105-2-100/a-g.pdf.

**Note:** n.a. = not applicable

a. Section 203 of WRDA 2000 (P.L. 106-541) states that any cost sharing for this CAP shall be subject to the ability of the nonfederal entity to pay. A draft "Ability to Pay" rule is under development. When finalized, this rule will apply to these studies. Until then, reductions in nonfederal costs are not to be applied.

## Flood-Fighting and Emergency Response

In addition to work performed as part of the National Response Framework, P.L. 84-99 (33 U.S.C. § 701n) provides the Corps with authority for emergency response and disaster assistance.[15] P.L. 84-99 authorizes disaster preparedness, advance measures, emergency operations (disaster response and post-flood response), rehabilitation of flood control works threatened by floods, protection or repair of federally authorized shore protection works threatened by coastal storms, emergency dredging, and flood-related rescue operations. These activities are limited to actions to save lives and protect improved property (public facilities/services and residential or commercial developments). Most of the disaster response work performed under this authority (including the repair program described below) is funded through supplemental appropriations provided directly to the Corps.

## Repair of Damaged Levees and Other Flood and Storm Projects

P.L. 84-99 also authorizes the Corps to rehabilitate damaged flood control works (e.g., levees) and federally constructed hurricane or shore protection projects (e.g., federal beach nourishment projects) and to conduct related inspections. This authority is referred to as the Rehabilitation and Inspection Program (RIP). To be eligible for rehabilitation assistance, the project must be in

[15] The Corps also has other limited authorities related to emergency response (e.g., an Emergency Streambank and Shoreline Erosion Protection program) and recovery (e.g., a Snagging and Clearing for Flood Control program).

active status at the time of damage by wind, wave, or water action other than ordinary nature.[16] Active RIP status is maintained by proper project maintenance as determined during an annual or semiannual inspection and by the correction of deficiencies identified during periodic inspections.[17] Approximately 14,000 miles of levees participate in RIP—2,250 miles of locally constructed and operated levees; 9,650 miles of Corps-constructed, locally operated levees; and 2,100 miles of federally operated levees.[18]

For locally constructed projects, 80% of the cost to repair the damage is paid by the Corps and 20% by the levee owner (as shown in **Table 2**). For federally constructed projects, the repair cost is entirely a federal responsibility (except for cost of obtaining the sand or other material used in the repair). For damage to be repaired, the repair must have a favorable benefit-cost ratio. Local sponsors assume any rehabilitation cost for damage to an active project attributable to deficient maintenance.

### Corps Authorities and NFIP Levee Accreditation

The Federal Emergency Management Agency (FEMA) must accredit a levee in order for it to appear on FEMA's floodmaps for the National Flood Insurance Program as providing protection from the 100-year flood (i.e., 1% chance flood). These floodmaps are used for a variety of purposes, including determining flood insurance premiums and mandatory purchase requirements. Since late 2005, FEMA has increased the amount of information it requires to accredit a levee. In particular, it requests more information on the structural integrity of the levee and the hydrology and hydraulics to which the levee is exposed (44 C.F.R. 65.10 (b)).

Preparing levee accreditation packages, including data certifications, is the responsibility of the levee owner. Local owners of some levees previously accredited by FEMA are having trouble obtaining and paying for accreditation. They face a lack of readily available data on their levees' construction, materials, and structural integrity and are confronting assessments indicating a lower level of protection than previously thought. Prior to 2006, FEMA often had accepted the Corps' inspection of levees for its Rehabilitation and Inspection Program (RIP) as sufficient for the data certification used as the basis for FEMA's levee accreditation. Corps RIP inspections are insufficient to meet the additional information sought by FEMA for levee accreditation after 2005.

Some interests have looked to the Corps to assist with levee data certification. The Corps currently has no general authority to perform NFIP-compliant data certifications using discretionary appropriations and is restricted from performing FEMA data certification on a reimbursable basis for nonfederal entities if the work can be provided by the private sector. This restriction is established for all Corps civil works activities in Section 211 of the Water Resources Development Act of 2000 (P.L. 106-541), commonly known as the Thomas Amendment. Whether the Corps should be authorized to perform NFIP levee data certifications for locally operated levees, and who would bear (or share) the costs, are matters of active debate. The Corps does perform data certification for federally operated levees, for levees that are part of an ongoing Corps study, and at the request of another federal agency.

Some interests also have looked to the Corps for assistance with levee improvements needed to obtain levee accreditation. The Corps has no general authority to make levee improvements; most Corps participation in levee improvements is through congressionally authorized flood damage reduction projects.

[16] 33 U.S.C. § 701n. For more information on RIP, see U.S. Army Corps of Engineers, Engineer Regulation 500-1-1, *Emergency Employment of Army and Other Resources Civil Emergency Management Program*, available at http://140.194.76.129/publications/eng-regs/.

[17] An aspect of RIP implementation receiving attention is the Corps' guidance on vegetation on levees. Some levee owners are having difficulty conducting regular maintenance and emergency repairs while also complying with environmental laws, such as the Endangered Species Act. In some areas, the vegetation on and near levees provides species habitat and other environmental benefits. This and other environmental issues associated with levee maintenance are beyond the scope of this report.

[18] Corps data provided to CRS on April 30, 2010. In January 2009, the Corps published a temporary extension of RIP to locally operated levees with deficient conditions if the owner is making system-wide improvements. It is available at http://www.iwr.usace.army.mil/nfrmp/docs/HQS-ECOPY3I50-Exchange-01132009-162045.pdf.

A common issue under RIP is levee owners' interest in not only levee repair but also levee improvements, which is prohibited under RIP. The Corps' authority is expressly restricted to repair or restoration to the pre-disaster level of protection; no betterments or levee setbacks are allowed under this authority. The RIP program is not designed to evaluate the federal interest in investments to further reduce the flood risk at a location. If federal participation is sought in increasing protection, the typical route would be to pursue a Corps flood damage reduction study, thus triggering the standard Corps project development process previously described.

## Environmental Infrastructure/Municipal Water and Wastewater Projects

Since 1992 Congress has authorized and appropriated funds for the Corps to assist with design and construction of municipal drinking water and wastewater infrastructure projects (including treatment facilities such as recycling and desalination plants, and distribution and collection facilities such as stormwater collection and recycled water distribution) and surface water protection and development projects. These projects are broadly labeled *environmental infrastructure*. Most environmental infrastructure projects are authorized for a specific geographic location (e.g., city or county) under Section 219 of WRDA 1992 (P.L. 102-580), as amended; however, other similar authorities, sometimes covering regions or states, exist in multiple sections of WRDAs and in select Energy and Water Development Appropriations acts. Management of the Corps and nonfederal financing varies according to the specifics of the authorization. Under Section 219, the Corps performs the authorized work; for environmental infrastructure projects authorized in other provisions, the Corps often can use appropriated funds to reimburse nonfederal sponsors for perform the work.

The Corps is now authorized to contribute to more than 400 of these projects and programs, with authorized appropriations totaling more than $5 billion. The Corps received $140 million for environmental infrastructure projects in FY2010 and $200 million in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). Although no Administration has included environmental infrastructure in a Corps budget request since the first authorization in 1992, Congress has regularly included Corps environmental infrastructure funds in appropriations bills.

Because environmental infrastructure activities are not part of a Corps program per se, there are no clear and consistent general eligibility criteria. Because the activities are not traditional Corps water resources projects, they are not subject to the Corps planning process (e.g., a benefit-cost analysis is not performed). The projects, however, are subject to federal laws, such as the National Environmental Policy Act (NEPA). Under most Corps environmental infrastructure authorizations, financing is 75% federal and 25% nonfederal, as indicated in **Table 2**.

# Appendix. Evolution of the Army Corps Civil Works Mission

The Corps' oldest civil responsibilities are creating navigable channels and flood control projects. Navigation projects include river deepening, channel widening, lock expansion, dam operations, and disposal of dredged material. Flood control projects are intended to reduce riverine and coastal storm damage; these projects range from levees and floodwalls to dams and river channelization. Many navigation and flood control projects are multipurpose—that is, they provide water supply, recreation, and hydropower in addition to navigation or flood control. Environmental restoration activities involve wetlands restoration and environmental mitigation activities for Corps facilities. Environmental infrastructure refers to municipal water and wastewater facilities. The agency's regulatory responsibility for navigable waters extends to issuing permits for private actions that might affect wetlands and other waters of the United States.[19] The economic and environmental impact of Corps projects and the agency's regulatory activities can be significant locally and regionally and at times are quite controversial.

## Navigation and Flood Control (1802-1950s)

In the 19th century, the Corps' mission evolved into civil and military building for the nation. In 1824, Congress passed legislation charging military engineers with planning roads and canals to move goods and people. In 1850, Congress directed the Corps to engage in its first planning exercise—flood control for the lower Mississippi River. During the 1920s, Congress expanded the Corps' ability to incorporate hydropower into multipurpose projects and authorized the agency to undertake comprehensive surveys to establish river-basin development plans. The modern era of federal flood control emerged with the Flood Control Act of 1936 (49 Stat. 1570), which declared flood control a "proper" federal activity in the national interest. The 1944 Flood Control Act (33 U.S.C. § 708) significantly augmented the Corps' involvement in large multipurpose projects. The Flood Control Act of 1950 (33 U.S.C. § 701n) began the Corps' emergency operations through authorization for flood preparedness and emergency operations.[20] The Water Supply Act of 1958 (43 U.S.C. § 390b) gave the Corps authority to include storage for municipal and industrial water supply in reservoir projects at 100% local cost.

## Changing Priorities (1960-1986)

By the late 1960s, construction of major waterworks had declined. Changing national priorities and local needs, increasing construction costs, and completed projects at most prime locations decreased the attractiveness of water projects. Water supply for traditional off-stream uses, such as domestic, commercial, industrial, and agricultural uses, was increasingly in direct competition with in-stream uses, such as recreation, fisheries, and wildlife habitat. From 1970 to 1985,

[19] Sections 10 and 13 of the Rivers and Harbors Act of 1899 (22 U.S.C. § 407) require that a permit be obtained from the Corps for alteration or obstruction of and refuse discharge in U.S. navigable waters. The Corps also has regulatory responsibilities under other laws, notably Section 404 of the Clean Water Act (33 U.S.C. § 1344). Since the mid-1960s, court decisions and administrative actions have altered the jurisdictional reach of the Corps' regulatory program.

[20] Emergency response activities are also conducted under the Disaster Relief Act of 1974 (42 U.S.C. § 5121), also known as the Stafford Disaster and Emergency Assistance Act.

Congress authorized no major water projects, scaled back several authorized projects, and passed laws that altered project operations and water delivery programs to protect the environment. The 1970s marked a transformation in Corps project planning. The 1969 National Environmental Policy Act and the Endangered Species Act of 1973 (16 U.S.C. § 1531) required the Corps to consider environmental impacts, increase public participation in planning, and consult with other federal agencies. Executive orders (E.O. 11988 and E.O. 11990) united the goals of reducing flood losses and environmental damage by recognizing the value of wetlands and required federal agencies to evaluate potential effects of actions on floodplains and to minimize impacts on wetlands.

## Environmental Mission and Local Responsibility (1986-present)

Congress fundamentally transformed the ground rules for Corps water project planning and funding through WRDA 1986 (33 U.S.C. § 2211) by establishing new cost-share formulas, resulting in greater financial and decision-making roles for local stakeholders. WRDA 1986 reestablished the tradition of a biennial omnibus authorization bill. Congress has since enacted WRDAs in 1988, 1990, 1992, 1996, 1999, 2000, and 2007. WRDA 1986 also provided the Corps with authority to determine if changes can be made in existing structures or operations to improve environmental quality. WRDA 1990 (33 U.S.C. §§ 1252, 2316) explicitly expanded the Corps' mission to include environmental protection and increased the Corps' responsibility for contamination cleanup, dredged material disposal, and hazardous waste management. WRDA 1992 (33 U.S.C. § 2326) authorized the Corps to use the "spoils" from dredging in implementing projects for protecting, restoring, and creating aquatic and ecologically related habitats, including wetlands. WRDA 1996 (33 U.S.C. § 2330) gave the Corps the authority to undertake aquatic ecosystem restoration projects. While the Corps has been involved with numerous environmental restoration projects in recent years, WRDA 2000 approved a restoration program for the Florida Everglades that represented the agency's first multiyear, multibillion-dollar effort of this type. WRDA 2007 subsequently authorized the Corps to pursue billions of dollars more in ecosystem restoration activities, including large-scale efforts in coastal Louisiana and in the Upper Mississippi River. These legislative changes have given the Corps an aquatic ecosystem restoration and environmental protection mission.

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