

Army Corps of Engineers: Water Resource Authorizations, Appropriations, and Activities

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Summary

The U.S. Army Corps of Engineers undertakes activities to maintain navigable channels, reduce flood and storm damage, and restore aquatic ecosystems. Congress directs the Corps through authorizations, appropriations, and oversight of its studies, construction projects, and other activities. The Corps must be authorized to undertake an activity; the authorization can be project-specific, programmatic, or general. While generally necessary, authorizations usually are insufficient for a Corps study or construction project to proceed; the agency's ability to act on an authorization requires funding. This report summarizes congressional authorization and appropriations processes for the Corps. It also discusses agency activities under general authorities.

Authorizations. Congress generally authorizes numerous new Corps site-specific activities and provides policy direction in an omnibus Corps authorization bill, typically called the Water Resources Development Act (WRDA) or more recently the Water Resources Reform and Development Act of 2014 (WRRDA 2014; P.L. 113-121). WRDAs do not provide funds to conduct activities, nor are they reauthorization bills. Congress often considers a WRDA biennially. The authorizing committees in both the House and Senate have taken steps toward developing a WRDA bill in 2016.

During the 114th Congress, the Corps has continued development of implementation guidance for 200 provisions enacted in WRRDA 2014. Since WRRDA 2014's enactment, a number of Corps feasibility studies have reached or are anticipated to reach in 2016 the milestone of a completed Chief of Engineers report with a favorable recommendation for a construction authorization. As of early January 2016, 23 projects with federal costs of \$3.3 billion (\$6.6 billion in total costs) had completed Chief of Engineers reports, and six additional projects with federal costs of \$4.5 billion (\$5.8 billion in total costs) had draft Chief of Engineers reports.

WRRDA 2014 created a new process for identifying potential Corps studies. In Section 7001 of WRRDA 2014, Congress called for the Secretary of the Army to submit an annual report to the congressional authorizing committees of potential and publicly submitted study and project authorization for Congress to consider for authorization. This annual report and completed Corps feasibility studies with Chief of Engineers reports are anticipated to form the basis for discussion of subsequent authorization legislation. The first annual report was delivered in February 2015 and the second in February 2016. The Corps is anticipated to accept proposals from nonfederal interests in late summer 2016 for inclusion in the third annual report, which is expected to be delivered to Congress in February 2017.

Appropriations. Federal funding for Corps civil works activities is provided in annual Energy and Water Development appropriations acts or supplemental appropriations acts. Annual Corps civil works appropriations have ranged from \$4.5 billion to nearly \$6 billion during the last decade. An increasing share of the agency's appropriations has been used for operations and maintenance. In part because of competition for funds and because Corps authorizations have outpaced appropriations, many authorized activities have not received appropriations.

There is a backlog of more than 1,000 authorized studies and construction projects. In recent years, few new studies, new construction projects, and new programs have been in either the President's budget request or enacted appropriations.

Standard Project Development. The standard process for a Corps project requires two separate congressional authorizations—one for studying feasibility and a subsequent authorization for construction—as well as appropriations for both. Congressional authorization for construction in recent years has been based on a completed feasibility study with a favorable Chief of Engineers

report. For most activities, Congress requires a nonfederal sponsor to share some portion of study and construction costs. Cost-sharing requirements vary by the type of project. For many project types (e.g., levees), nonfederal sponsors own the completed works after construction and are responsible for operation and maintenance.

Other Corps Activities and Authorities. Although most Corps projects are developed under the standard project development process, there are exceptions. Congress has granted the Corps some general authorities to undertake some studies, small projects, technical assistance, and emergency actions such as flood fighting, repair of damaged levees, and limited drought assistance. Additionally, the Corps conducts emergency response actions directed by the Federal Emergency Management Agency.

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Army Corps of Engineers

The U.S. Army Corps of Engineers is an agency within the Department of Defense with both military and civil works responsibilities. Under its civil works program, it plans, builds, operates, and maintains a wide range of water resource facilities. Its civil works responsibilities are principally to support navigation, reduce flood and storm damage, and protect and restore aquatic ecosystems.¹ The agency attracts congressional attention because its projects can have significant local and regional economic benefits and environmental effects.

The civil works program is led by a civilian Assistant Secretary of the Army for Civil Works, who reports to the Secretary of the Army. A military Chief of Engineers oversees the agency's 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.²

This report provides an overview of the Corps civil works program, including congressional authorization and appropriations. The report also covers the standard project development process for Corps projects and other Corps activities and authorities.

Corps Authorizations

The Corps must be authorized to undertake an activity; the authorization can be project-specific, programmatic, or general.³ While necessary, authorizations are usually insufficient for a Corps study or construction project to proceed; agency action on an authorization requires funding.

In recent decades, Congress has legislated on most Corps authorizations in omnibus Water Resources Development Acts (WRDAs).⁴ Authorization provisions at times have appeared in appropriations or supplemental appropriations legislation, especially in years when a WRDA is not enacted. If authorization provisions are included in an appropriations bill, they could be subject to a point of order on the floor for being non-germane.

WRDAs, or more recently the Water Resources Reform and Development Act of 2014 (WRRDA 2014; P.L. 113-121), authorize Corps studies, projects, and programs and establish policies for

¹ 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 assistance for select environmental infrastructure activities (e.g., municipal water and wastewater treatment systems) and other nontraditional activities. The **Appendix** provides more on the evolution of Corps civil works missions and authorities.

² A division map and district links are available at <http://www.mvn.usace.army.mil/Locations.aspx>.

³ While most Corps authorizations are in legislation, some studies also potentially could be undertaken under other authorities. Some studies reviewing operations of completed projects proceed under general study authorizations without new project-specific congressional action; this is pursuant to §216 of the Flood Control Act of 1970 (P.L. 91-611, 33 U.S.C. §549a). Also, authorizing committees have in the past authorized studies using a committee resolution to reexamine a geographic area previously studied by the Corps for a similar purpose; this authority derives from §4 of the Rivers and Harbors Act of 1913 (37 Stat. 801, 33 U.S.C. §542). This committee resolution authority, however, has not been used since 2009.

⁴ WRDAs are distinguished from each other by referencing the year of enactment; that is, WRDA 1986 refers to the act passed in 1986. The authorizing committee generally develops a bill for introduction by the chairperson; alternatively, the Administration can propose a bill for congressional consideration. The House Transportation and Infrastructure Committee or the Senate Environment and Public Works Committee are the congressional committees that generally authorize Corps civil works activities. If the Administration proposes a WRDA, Congress generally receives the proposal at the same time as the President's budget. More than 15 years have passed since an Administration has proposed a WRDA bill.

Corps civil works activities (e.g., nonfederal cost-share requirements). A WRDA is not a reauthorization bill; rather, it is an authorization bill. That is, WRDAs generally authorize new activities that are added to the pool of existing authorized activities. Most project-specific authorizations in WRDAs fall into three general categories: project studies, construction projects, and modifications to existing project authorizations. WRDAs also have deauthorized projects and established deauthorization processes.

Congressional authorizations make certain projects and activities eligible to receive federal funding. WRDAs do not appropriate funds for activities; project funding is provided typically through the annual appropriations process for the agency. While use of monies from trust funds associated with Corps activities generally requires congressional appropriations action (i.e., the funds are “on-budget”), a WRDA may be a legislative vehicle for altering trust fund collections and disbursement policies and procedures.

Beginning with WRDA 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), 2000 (P.L. 106-541), and 2007 (P.L. 110-114); and WRRDA 2014 was enacted in June 2014.

WRDA 1986 marked the end of a stalemate between Congress and the executive branch regarding Corps authorizations. It 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 consideration of authorization legislation 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. Pressure to authorize new projects, increase authorized funding levels, and modify existing projects is often intense, thus prompting regular WRDA consideration.

Enactment has been less consistent. Controversial project authorizations and disagreements over the need for and direction of change in how 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. Earmark restrictions for site-specific authorizations complicated WRDA enactment in the 111th and 112th Congresses. WRRDA 2014, which was enacted on June 10, 2014, overcame these concerns to authorize 34 construction projects that had received agency review, had Chief of Engineers reports, and had been the subject of a congressional hearing. It also altered processes and authorizations for project delivery options, including expanded opportunities for nonfederal entities to lead projects and for innovative financing, including public-private partnerships.⁵

During the 114th Congress, the Corps has continued development of implementation guidance for 200 provisions in WRRDA 2014. As of early February 2015, the Corps had completed guidelines for roughly 56% of the provisions.⁶ WRRDA 2014 called for the agency to submit annually a report of potential and publicly submitted study proposals, proposals for construction authorization, and proposals for modifications to previously authorized projects. These annual reports, along with completed Corps studies, may form the basis for discussion of subsequent

⁵ For more on WRRDA 2014 and how it evolved during congressional deliberations, see CRS Report R43298, *Water Resources Reform and Development Act of 2014: Comparison of Select Provisions*, by Nicole T. Carter et al.

⁶ The implementation guidelines for WRRDA 2014 provisions are being published at http://www.usace.army.mil/Missions/CivilWorks/ProjectPlanning/LegislativeLinks/wrrda2014/wrrda2014_impguide.aspx. Many of the provisions do not require new guidance.

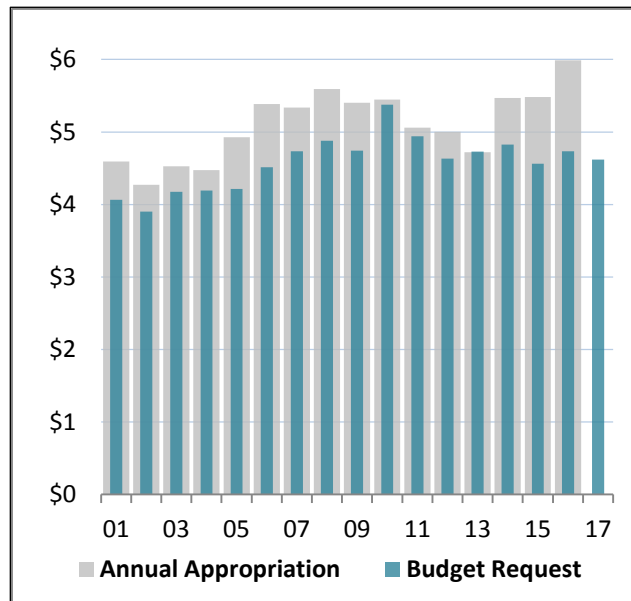
authorization legislation. As of early February 2016, 23 completed feasibility studies for projects with federal costs of \$3.3 billion (total costs of \$6.6 billion) have Chief of Engineers reports awaiting congressional construction authorization. Another six projects with federal costs of \$4.5 billion (total costs of \$5.8 billion) have draft Chief of Engineers reports. An additional eight projects have studies that are under development and may have their Chief of Engineers reports by the end of 2016; no estimate is available on the cost of these eight projects.

Corps Appropriations

The Corps is typically funded through congressional appropriations provided in the annual Energy and Water Development appropriations bill. Because the rate of Corps authorizations exceeds the rate of the agency's annual appropriations, only a subset of authorized activities typically are included in the President's budget request and eventually funded by enacted appropriations. This situation results in competition for funds among authorized activities during the budget and appropriations processes. To concentrate limited resources and move ongoing projects toward completion, budget requests by the George W. Bush and Obama Administrations have focused funding on projects near completion and limited new studies and projects. Both Administrations also have focused funds on projects within the Corps' primary missions of flood and storm damage reduction, navigation, and aquatic ecosystem restoration.

Over the last decade, enacted annual Corps civil works appropriations (excluding supplemental appropriations) have remained steady or increased slightly, ranging from \$4.5 billion to nearly \$6 billion, whereas the President's request typically has been less than the final enacted amount. Most recently, Congress appropriated \$5.99 billion to the Corps for FY2016 in P.L. 114-113. Recent trends in Corps budget requests and enacted appropriations are shown below in **Figure 1**.

Figure 1. Annual Budget Request and Enacted Appropriations for Corps Civil Works
(nominal \$ in billions for FY2001 to FY2017)



Source: Congressional Research Service, using U.S. Army Corps of Engineers data.

Note: Does not include supplemental appropriations.

Traditional Account Structure and Budgeting Approach

The President's budget request for the Corps typically includes funding requests at both the account level (i.e., investigation, construction, operations, and maintenance) and by business line (i.e., types of activities such as navigation and flood and coastal storm damage reductions). It also includes project-specific funding levels for those projects proposed for funding. The executive branch justifies decisions of which projects to fund and at what level through a number of measures, including benefit-cost ratios and other measures that are outlined in Corps budget development guidance each year.⁷ Descriptions of proposed work are included in budget justifications that are published by the Corps after the release of the President's budget request.⁸

Congress generally provides money to the Corps at the account level in appropriations laws. Accompanying congressional reports, which are sometimes incorporated into law by reference, often identify specific Corps projects to receive appropriated funds. With the heightened attention to and restrictions on congressionally directed spending, since FY2010 the projects identified in these reports have been limited largely to the projects included in the President's budget request, and new line items at the project level have not been added by Congress. As such, congressional action on Corps appropriations has generally been limited to (1) alteration (i.e., reductions or increases) of the amounts requested for individual projects in the President's request; and (2) provision of additional funding for various types of Corps activities that Congress views as having received an inadequate funding request by the Administration (see below section, "Additional Funding").

The two largest Corps accounts are Construction and Operations and Maintenance (O&M), which together account for the majority of the agency's funding. The O&M account has made up a growing portion of Corps funds over this time, whereas the budget for the Construction account, including "new start" construction projects, has been reduced. This shift is consistent with recent efforts by the Administration and Congress to limit funding for new activities and instead focus on completing existing projects and efforts to address aging infrastructure issues. Enacted appropriation bills for FY2014, FY2015, and FY2016 broke with earlier bans on new construction starts and allowed the agency to initiate a specified number of Corps new start studies and projects. However, numerous authorized projects have yet to be initiated.

Two congressionally authorized trust funds are administered by the Corps and require annual appropriations. The Harbor Maintenance Trust Fund (HMTF) and the Inland Waterways Trust Fund (IWTF) support cost-shared investments in federal navigation infrastructure for harbors and inland waterways, respectively. Maintenance funding for harbor-related maintenance activities is funded in large part from the HMTF. This trust fund receives revenues from taxes on waterborne commercial cargo imports, domestic cargo, and on cruise ship passengers at federally maintained ports. Similarly, roughly half of inland waterways construction appropriations are from the IWTF, which receives the proceeds of a fuel tax on barge fuel for vessels engaged in commercial transport on designated waterways. In recent fiscal years, the HMTF has had a large surplus balance, but appropriations from the fund typically have not kept pace with receipts accruing to it. Conversely, the IWTF has faced revenue shortages in recent years that have prevented it from maintaining historical levels of expenditures. Both trust funds were addressed in 2014 authorizing legislation that made changes to their financing structures and subsequently received significant

⁷ For example, see <http://www.publications.usace.army.mil/USACEPublications/EngineerCirculars.aspx>.

⁸ Recent justifications are available at <http://www.usace.army.mil/Missions/CivilWorks/Budget.aspx>.

funding increases in FY2016.⁹ Whether these trust funds will continue to provide for increased spending on inland and coastal navigation will depend on future appropriations legislation.

Additional Funding

Roughly 85% of the Corps budget is typically for geographically specified studies or projects. In addition to specific projects identified for funding in the President's budget, for decades Congress annually identified during the discretionary appropriations process many additional Corps projects to receive funding (e.g., dredging of low- and medium-use harbors at specific locations).¹⁰ In the 112th Congress, site-specific project line items added by Congress (i.e., earmarks or congressionally directed spending) were subject to newly instated House and Senate earmark moratorium policies. Since that time (FY2010), enacted congressional appropriations generally have adhered to these moratorium policies and refrained from inserting funds for specific projects in appropriations bills that were not requested in the President's budget.

In lieu of the traditional project-based increases, Congress has included "additional funding" categories for various types of Corps projects (e.g., additional funding for ongoing maintenance of small, remote, or subsistence harbors), along with directions and limitations on the use of these funds. The Corps typically has been directed to report back to Congress in annual work plans on how these funds will be allocated at the project level.¹¹ Most recently, Congress continued the practice of adding funding for various categories of Corps work within the agency's major accounts in FY2016, providing over \$1.3 billion in additional funding for various categories of Corps activities.

Supplemental Appropriations

Emergency supplemental appropriations provided to the Corps in recent years are an additional consideration in the context of Corps appropriations. From 1987 to 2014, Congress appropriated \$32.2 billion in supplemental funding to the Corps.¹² Of this funding, \$30.8 billion came through supplemental appropriations acts enacted since 2003. This funding was approximately half of the amount provided to the Corps in regular appropriations through FY2014 (\$61.3 billion). The majority of these supplemental appropriations funded Corps flood-fighting activities, repairs, and storm damage infrastructure investments (e.g., activities in response to the 2005 hurricanes, including Hurricane Katrina; the 2008 Midwest floods; and the 2011 Missouri and Mississippi floods). Most recently, in January 2013 Congress provided the Corps with \$5.3 billion in supplemental appropriations to respond to Hurricane Sandy's landfall. Much of this funding is expected to be available for construction projects over a multiyear horizon. For a discussion of Corps supplemental appropriations, see CRS Report R42841, *Army Corps Supplemental Appropriations: Recent History, Trends, and Policy Issues*, by Charles V. Stern and Nicole T. Carter.

⁹ For more information on these trust fund expenditures, see CRS Report R41430, *Inland Waterways: Recent Proposals and Issues for Congress*, by Charles V. Stern, and CRS Report R43298, *Water Resources Reform and Development Act of 2014: Comparison of Select Provisions*, by Nicole T. Carter et al.

¹⁰ While congressional earmarks make up a relatively small percentage of most agency budgets, a significant number of Corps projects historically received congressionally directed funding for construction or operational expenditures.

¹¹ Recent Corps Work Plans are available at <http://www.usace.army.mil/Missions/CivilWorks/Budget.aspx>.

¹² This includes \$5.3 billion in supplemental funds for response and recovery related to Hurricane Sandy in P.L. 113-2.

Standard Corps Project Delivery Process

The congressional authorization and the appropriations processes are critical actions in a multi-step process to deliver a Corps project. This section describes the standard study and construction process for most Corps projects, and it provides some exceptions to the standard process. The standard process consists of the following basic steps:

- Congressional study authorization is obtained in a WRDA or other legislation.¹³
- The Corps performs a feasibility study if funds are appropriated.¹⁴
- Congressional construction authorization is pursued. The Corps can perform preconstruction engineering and design while awaiting construction authorization if funds are appropriated.
- Congress authorizes construction in WRDA or other legislation, and the Corps constructs the project if funds are appropriated.

The process is not automatic. Appropriations are required to perform studies and undertake construction; that is, congressional study and construction authorizations are necessary but alone are 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. Since WRDA 1986 (P.L. 99-662), nonfederal sponsors have been responsible for a significant portion of the financing of studies, construction, and O&M of most projects.

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; a few authorities allow for private entities as partners. Generally, projects take longer than shown in **Table 1** because some steps require congressional authorization before they can begin and action on each step is subject to the availability of appropriations.

WRRDA 2014 expanded and consolidated the authorities for nonfederal entities to both perform studies and construct projects (or elements of projects) that typically would be undertaken by the Corps and for the cost of these nonfederal-led studies and construction to be shared by the federal government largely as if the Corps had performed them. While nonfederal study and project delivery may increase under these authorities, the process described herein is the standard Corps process in which the Corps is the manager of the study and project, and the nonfederal sponsor contributes a portion of the costs and associated real estate, easements, etc.

¹³ As previously noted, WRRDA 2014 altered the expectations and processes for identifying activities considered for inclusion in subsequent WRDAs.

¹⁴ The Corps has roughly 200 active feasibility studies. §1002 of WRRDA 2014 consolidated the contents of the Corps preliminary analysis (which previously was reported as a separate reconnaissance study) and its feasibility study.

Table 1. Corps Project Phases, Average Phase Duration If Fully Funded, and Federal Cost Share

	Feasibility Study (including preliminary analysis)	Preconstruction Engineering and Design (PED)	Construction	Operation & Maintenance
Avg. Duration (years), once congressionally authorized and funded ^a	3 ^b	Approx. 2	Varies	Authorized project duration
Federal Share of Costs	50% ^c	Varies by project purpose ^d	Varies, see Table 2	Varies, see Table 2

Source: CRS.

- a. Generally projects take longer than the duration of the individual steps. Some steps require congressional authorization before they can begin, and action on each step is subject to availability of appropriations.
- b. WRRDA 2014 requires most feasibility studies to be completed within three years of initiation and deauthorizes any feasibility study not completed after seven years.
- c. Inland waterways feasibility studies are 100% federal funded (33 U.S.C. §2215). These projects are not considered “local” by their nature. Prior to WRRDA 2014, the preliminary analysis was included within a reconnaissance study that was produced at 100% federal expenses. Post-WRRDA 2014 cost sharing of preliminary analysis has not been clarified. WRDA 2014 establishes a maximum federal cost of \$3 million for most feasibility studies.
- d. Generally, PED cost shares are the same as construction cost shares shown in **Table 2**.

Study Authority

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 decisionmakers 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.

Congress generally authorizes Corps studies in WRDA legislation. WRRDA 2014 created a new process for identifying potential Corps studies. In Section 7001 of WRRDA 2014, Congress called for the Secretary of the Army to submit an annual report to the congressional authorizing committees (the House Transportation and Infrastructure Committee and Senate Environment and Public Works Committee) of potential and publicly submitted study and project authorization proposals for Congress to consider for authorization. As previously noted, this annual report, along with completed Corps feasibility studies with Chief of Engineers reports, may form the basis for discussion of subsequent authorization legislation.¹⁵ The Corps delivered to Congress an annual report in February 2015 and February 2016.¹⁶ It is anticipated to announce another call for proposals in mid-2016.

¹⁵ While the Section 7001 annual reports may be used in the development of Corps authorization legislation, WRRDA 2014 did not change the underlying responsibilities of Congress in authorizing Corps studies and construction projects. The Section 7001 report instead is a mechanism that assists in the identification of activities that both meet the Section 7001 criteria and for which there exists nonfederal or Administration interest in congressional authorization. Prior to attention to and chamber rules associated with authorization and appropriation earmarks, individual Members often brought attention to similar activities for congressional authorization.

¹⁶ The Section 7001 annual reports are available at http://www.usace.army.mil/Missions/CivilWorks/ProjectPlanning/LegislativeLinks/wrrda2014/wrrda2014_proposals.aspx.

According to Section 7001 of WRRDA 2014, the criteria for inclusion in the annual report are as follows:

The Secretary shall include in the annual report only those feasibility reports, proposed feasibility (continued...)

Feasibility Study

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 and approved at the division level 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. It also investigates the nature of the water resources problem and assesses the federal government's interest.

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 identified water resources problem. 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).¹⁷ The evaluation of Corps water resources projects remains governed by the 1983 *Principles and Guidelines for Water and Related Resources Implementation Studies*, and policy direction provided in WRDA bills and other enacted legislation.¹⁸ 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).

Once the final feasibility report is available, the Chief of Engineers signs a recommendation on the project, known as the Chief's Report or Chief of Engineers report. The Corps submits the completed Chief of Engineers reports to the congressional authorizing committees (33 U.S.C. §2282a) and also transmits the Chief's Report to the Assistant Secretary and the Office of Management and Budget (OMB) for Administration review. Since the mid-1990s, Congress has authorized many projects based on Chief of Engineers reports prior to completion of the project review by the Assistant Secretary and OMB.¹⁹

(...continued)

studies, and proposed modifications to authorized water resources development projects and feasibility studies that—(i) are related to the missions and authorities of the Corps of Engineers; (ii) require specific congressional authorization, including by an Act of Congress; (iii) have not been congressionally authorized; (iv) have not been included in any previous annual report; and (v) if authorized, could be carried out by the Corps of Engineers.

The Corps has not found requests for deauthorizations to be eligible proposals for the Section 7001 annual report. More information on how the Corps studies and plans a project is available in Corps publications, such as Army Corps of Engineers, *Planning Guidance Notebook*, ER 1105-2-100, Washington, DC, April 22, 2000, at http://www.publications.usace.army.mil/Portals/76/Publications/EngineerRegulations/ER_1105-2-100.pdf. (Hereinafter referred to as Corps Planning Guidance Notebook.)

¹⁷ CRS Report R43209, *Environmental Requirements Addressed During Corps Civil Works Project Planning: Background and Issues for Congress*, by Linda Luther, discusses how the Corps study process is combined with its NEPA compliance process.

¹⁸ During FY2016, the Corps planning activities remain under the 1983 *Principles and Guidelines*, pursuant to language in the explanatory statement accompanying the Energy and Water Development Appropriations title of the Consolidated Appropriations Act, 2016 (P.L. 114-113). As of June 2015, most other federal water resource investments are being developed and evaluated under a set of Administration documents known as the Principles, Requirements, and Guidelines; for more on these documents, see CRS In Focus IF10221, *Principles, Requirements, and Guidelines (PR&G) for Federal Investments in Water Resources*, by Nicole T. Carter and Betsy A. Cody.

¹⁹ WRRDA 2014 authorized 34 new construction projects. Of these, 25 had been transmitted to Congress by the Assistant Secretary of the Army, and nine were awaiting the transmittal to Congress by the Assistant Secretary when (continued...)

Preconstruction Engineering and Design

Corps preconstruction engineering and design (PED) of a project may begin after the Chief of Engineers report while awaiting congressional authorization for project construction (33 U.S.C. §2287). Corps work on PED is subject to the availability of Corps appropriations. Once funded, the average duration of PED is two years, but the duration varies widely depending on the size and complexity of a project. PED costs are distributed between the federal and nonfederal sponsor in the same proportion as the cost-share arrangement for the construction phase.

Construction and Operation and Maintenance

Once the project receives congressional construction authorization, federal funds for construction are sought in the annual appropriations process. Once construction funds are available, the Corps typically functions as the project manager; that is, Corps staff, rather than the nonfederal project sponsor, typically is responsible for implementing construction. While some construction may be performed by Corps personnel and equipment, the majority of work typically is contracted out to private engineering and construction contractors. Post-construction ownership and operations responsibilities depend on the type of project. When construction is complete, the Corps may own and operate the constructed project (e.g., navigation projects), or ownership may transfer to the nonfederal sponsor (e.g., most flood damage reduction projects).

Construction and O&M Cost Shares

The cost-share responsibilities for construction and O&M vary by project purpose, as shown in **Table 2**. **Table 2** first provides the cost share for the primary project purposes; next, it provides the cost shares for those 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 beneficiaries 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 typically requires specific authorization by Congress.²⁰

(...continued)

the bill was sent to the President; all 34 projects had a Chief of Engineers report. At times Congress also has authorized construction of a small set of projects prior to the availability of informational 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.

²⁰ Congress has established that cost shares shall be subject to the nonfederal sponsors' ability to pay (33 U.S.C. §2213(m)(2)); however, it is rarely employed. 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 §2019 of WRDA 2007.

Table 2. Standard 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
20-50 ft. harbor	65% ^a	100% ^b
>50 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 except Periodic Beach Renourishment	65% 50%	0% 0%
Aquatic Ecosystem Restoration	65%	0%
Multi-Purpose Project Components		
Hydroelectric Power	0% ^d	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%

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

- These percentages reflect that the nonfederal sponsors pay 10%, 25%, or 50% during construction and an additional 10% over a period not to exceed 30 years.
- 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.
- 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.
- Capital costs initially are federally funded and are repaid by fees collected from power customers.
- For the 17 western states where reclamation law applies, irrigation costs initially are federally funded but repaid by nonfederal water users.

Changes After Construction Authorization

A project may undergo some changes after authorization. If project features or the estimated costs change significantly, additional congressional authorization may be necessary. Congressional authorization for a significant modification is typically sought in a WRDA. Requests for such modifications or the study of such modifications also are solicited through the Section 7001 annual report process. For less significant modifications, additional authorization often is not necessary. Section 902 of WRDA 1986 as amended (33 U.S.C. §2280) generally allows for increases in total project costs of up to 20% (after accounting for construction cost inflation) without additional congressional authorization.

Study and Project Deauthorization

Although WRDAs largely are authorization bills, Congress at times has used WRDAs to deauthorize projects and establish deauthorization processes. Authorizations of Corps construction projects generally are not time limited; however, there are processes for deauthorizing them.

- WRRDA 2014 created a one-time process to deauthorize projects with federal costs to complete of \$18 billion; this deauthorization process is restricted to projects authorized prior to WRDA 2007. The Corps completed an initial step in this process with the October 2015 publication of an interim deauthorization list identifying 147 potential projects for deauthorization, with a federal cost to complete estimated at \$14.3 billion.²¹
- WRRDA 2014 required that any project authorized in WRRDA 2014 be automatically deauthorized if after seven years of enactment no funding had been obligated for its construction.
- The Secretary of the Army is directed to transmit to Congress annually a list of authorized projects and project elements that did not receive obligations of funding during the last five full fiscal years (33 U.S.C. §579a(b)(2)). 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 following fiscal year, the project or element is deauthorized.²²

For studies, there are two deauthorization processes:

- WRRDA 2014 required that any feasibility study that is not completed seven years after initiation is automatically deauthorized.
- The Secretary of the Army is directed to transmit to Congress annually a list of incomplete authorized studies that have not received appropriations for five full fiscal years (33 U.S.C. §2264). The study list is *not* published in the *Federal Register*. Congress has 90 days after submission of the study list to appropriate funds for a study; otherwise the study is deauthorized.²³

Other Corps Activities and Authorities

Although the project delivery 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 below.

²¹ The Interim Deauthorization List can be found at <https://www.federalregister.gov/articles/2015/10/07/2015-25586/one-time-deauthorization-of-water-resources-projects>.

²² The Secretary last transmitted a new list of construction projects eligible for deauthorization in 2007; those deauthorizations became final in 2009. Without a secretarial transmittal of a list, the deauthorization process is not initiated. There have been no deauthorizations under this authority since 2009.

²³ CRS has no data indicating that studies have been deauthorized through this process in recent years.

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 project-specific congressional study or construction authorization or project-specific appropriations; these activities are performed at the discretion of the Corps. For most CAP authorities, Congress has limited the project size and scope as shown in **Table 3**.²⁴ The CAPs typically are referred to by the section number in the bill in which the CAP was first authorized. WRRDA 2014 requires the Assistant Secretary of the Army to publish prioritization criteria for the CAPs and an annual CAP report.²⁵

Table 3. Select Corps Continuing Authorities Programs (CAP) for Small Projects and Their Enacted Appropriations
(in \$ millions)

Common Name of the CAP Authority	Eligible Activities and U.S. Code Citation	Max. Federal Cost Share	Per-Project Federal Limit	Annual Federal Program Limit	FY2014	FY2015	FY2016
§14	Streambank and shoreline erosion of public works and nonprofit services; 33 U.S.C. §701r	65%	\$5	\$20	\$4.0	\$4.5	\$2.0
§103	Beach erosion/ hurricane storm damage reduction; 33 U.S.C. §426g	65%	\$5	\$30	\$2.5	\$1.3	\$0.5
§107	Navigation improvements; 33 U.S.C. §577	Varies (see Table 2); 50% for recreational	\$10	\$50	\$4.7	\$2.4	\$7.0
§111	Prevention/ mitigation of shore damage by federal navigation projects; 33 U.S.C. §426i	Same as the project causing the damage	\$10	Not Applicable	\$1.3	\$0.7	\$0.5
§204	Regional sediment management/ beneficial use of dredged material; 33 U.S.C. §2326	65%	\$10	\$50	\$7.0	\$3.5	\$0.5
§205	Flood control; 33 U.S.C. §701s	65%	\$10	\$55	\$15.0	\$10.0	\$8.0
§206	Aquatic ecosystem restoration; 33 U.S.C. §2330	65%	\$10	\$50	\$8.0	\$8.0	\$8.0

²⁴ There also is an authority under 33 U.S.C. §610 for the Corps to control noxious aquatic plant growths at a 70% federal and 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.

²⁵ No *Federal Register* publication or annual report was available as of February 2016.

Common Name of the CAP Authority	Eligible Activities and U.S. Code Citation	Max. Federal Cost Share	Per-Project Federal Limit	Annual Federal Program Limit	FY2014	FY2015	FY2016
§208	Removal of obstructions, clearing channels for flood control; 33 U.S.C. §701g	65%	\$0.5	\$7.5	\$0	\$0	\$0
§1135	Project modifications for improvement of the environment; 33 U.S.C. §2309a	75%	\$10	\$40	\$10.5	\$6.6	\$3.0

Sources: CRS, using Rules Committee Print 113-32 accompanying Consolidated Appropriations Act, 2014 (P.L. 113-76); explanatory statement accompanying Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235); and explanatory statement accompanying Consolidated Appropriations Act, 2016 (P.L. 114-113).

Technical Assistance

Congress also has 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**.

Table 4. Corps Technical Assistance Authorities

(in \$ millions)

Program	Activities Authorized	Max. Federal Cost Share	Per-Project Federal Limit	Annual Federal Program Limit	FY2014	FY2015	FY2015
Planning Assistance to States	Technical assistance to states and communities for regional water resources planning, and eligible levee system evaluations of federally authorized levees; 42 U.S.C. §1962d-16	Varies	\$5.0 annually per state for state assistance	\$30 for state assistance \$15 for technical assistance	\$4.0	\$5.0	\$6.0
Flood Plain Management Service	Technical assistance on flood and floodplain issues; 33 U.S.C. §709a	100% for eligible activities	Not Applicable	\$50	\$8.0	\$8.0	\$15.0
Tribal Partnership Program	Studies of water projects that benefit Indian tribes; 33 USC §2269	50%	\$1.0	Not Applicable	\$2.5	\$1.0	\$1.5

Sources: using Rules Committee Print 113-32 accompanying Consolidated Appropriations Act, 2014 (P.L. 113-76); explanatory statement accompanying Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235); and explanatory statement accompanying Consolidated Appropriations Act, 2016 (P.L. 114-113).

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 a presidential emergency declaration. Under the National Response Framework, 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. The agency 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. Corps' funding for these activities is provided through FEMA appropriations, often through supplemental appropriations.²⁶

Flood-Fighting and Emergency Response

In addition to work performed as part of the National Response Framework, Congress has given the Corps its own emergency response authority. This authority is commonly referred to as the Corps' P.L. 84-99 authority, based on the act in which it was originally authorized, the Flood Control and Coastal Emergency Act. P.L. 84-99 (33 U.S.C. §701n) authorizes the Corps to perform emergency response and disaster assistance.²⁷ 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). The Corps also has some authorities to assist with select activities during drought.²⁸

²⁶ For more on the Corps deployable emergency resources and expertise, see CRS Report R43560, *Deployable Federal Assets Supporting Domestic Disaster Response Operations: Summary and Considerations for Congress*, coordinated by Jared T. Brown.

²⁷ 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).

²⁸ The Corps has authority to assist in the provision and transport of emergency water supplies when state resources have been exceeded and there is an imminent public health threat. While the Corps is authorized to assist political subdivisions, farmers, and ranchers with non-irrigation water, this authority largely has been used for assisting tribes with drinking water supplies. The agency can construct wells and transport water to provide emergency drinking water during drought conditions. Corps assistance is provided only to meet minimum public health and welfare requirements in the immediate future that cannot be met by state or local actions or through reasonable conservation measures. Transport expenses are nonreimbursable expenses (i.e., 100% federal); the purchase or acquisition of the water and the storage facility at the terminal point and permanent water facilities are reimbursable expenses. This authority cannot be used for the provision of water for livestock, irrigation, recreation, or commercial/industrial use. Eligible entities are limited to drought-distressed political subdivisions, farmers, and ranchers. A governor, his/her representative, or the governing body of a tribe must make a written request for Corps assistance. The Corps makes the determination that an area has an inadequate water supply causing, or likely to cause, a substantial threat to the health and welfare of the inhabitants of the area. Funding is provided through the Corps' Flood Control and Coastal Emergencies Account. The (continued...)

Most of the Corps disaster response work (including the repair program described below) generally is funded through supplemental appropriations provided directly to the Corps. Until supplemental appropriations are provided, Congress has provided the Corps with authority to transfer money from ongoing Corps projects to emergency operations (33 U.S.C. §701n).

Repair of Damaged Levees and Other Flood and Storm Projects

In P.L. 84-99, Congress also authorized 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 active status at the time of damage by wind, wave, or water action other than ordinary nature.²⁹ 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.³⁰ 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.

For locally constructed projects, 80% of the cost to repair the damage is paid using federal funds and 20% by the levee owner. 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 Corps must determine that repair has a favorable benefit-cost ratio.³¹ Local sponsors assume any rehabilitation cost for damage to an active project attributable to deficient maintenance.

Assistance for Environmental Infrastructure/Municipal Water and Wastewater

Since 1992, Congress has authorized and provided for Corps assistance with design and construction of municipal drinking water and wastewater infrastructure projects. This assistance has included treatment facilities, such as recycling and desalination plants; distribution and collection works, such as stormwater collection and recycled water distribution; and surface water protection and development projects. This assistance is broadly labeled *environmental infrastructure* at the Corps. Although no Administration has included environmental infrastructure

(...continued)

Corps has authority to reprogram its civil works funds to accomplish work under this authority. The agency also has authority to participate in temporary contracts to provide limited quantities of water (if available) for municipal and industrial purposes (33 U.S.C. §708).

²⁹ 33 U.S.C. §701n. For more 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*.

³⁰ An aspect of RIP implementation receiving attention is the agency's 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. In §3013, WRRDA 2014 provided congressional direction regarding updating and content of guidance associated with vegetation on levees. As of February 2016, the Corps had not released the implementing guidance for §3013 of WRRDA 2014. This and other environmental issues associated with levee maintenance are beyond the scope of this report.

³¹ §3029 of WRRDA 2014 authorized the Corps to include among eligible repair activities modification to address major deficiencies or to implement nonstructural alternatives to repair; as of February 2016, the Corps had not released the implementing guidance for §3029 of WRRDA 2014.

in a Corps budget request since the first congressional authorization in 1992, Congress regularly includes Corps environmental infrastructure funds in appropriations bills. Environmental infrastructure projects repeatedly have been called out by various Administrations and others³² as a low priority for the Corps, in part because other federal and state agencies have programs for which these projects may be eligible (e.g., U.S. Environmental Protection Agency's state revolving funds).

Most Corps environmental infrastructure assistance is authorized for a specific geographic location (e.g., city, county, multiple counties) 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. The Corps' involvement and nonfederal financing varies according to the specifics of the authorization. Most Corps environmental infrastructure assistance requires cost sharing, typically designated at 75% federal and 25% nonfederal; however, some of the assistance authorities are for 65% federal and 35% nonfederal cost sharing. 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 work they perform.

Since 1992, Congress has authorized the Corps to contribute assistance to more than 400 of these projects and to state and regional programs, with authorizations of appropriations totaling more than \$5 billion. WRRDA 2014 expanded authorizations and authorization of appropriations for specific environmental infrastructure activities in multiple states. The Corps received \$140 million for environmental infrastructure assistance in FY2010 and \$200 million in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). The Administration did not fund any environmental infrastructure activities in its FY2013 work plan. Congress recommended \$44 million for environmental infrastructure assistance in FY2014, \$50 million for FY2015, and \$55 million for FY2016 in the explanatory statements accompanying the appropriations bill.

Because environmental infrastructure 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, a feasibility report is not produced). The Corps environmental infrastructure assistance activities, however, are subject to federal laws, such as the National Environmental Policy Act.

³² National Commission on Fiscal Responsibility, *CoChairs' Proposal: \$200 Billion in Illustrative Savings, Draft Document*, November 12, 2010, <http://www.fiscalcommission.gov/news/cochairs-proposal>.

Appendix. Evolution of Corps Civil Works Mission

The Corps' oldest civil responsibilities are creating and regulating 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 Corps projects are multipurpose—that is, they provide water supply, recreation, and hydropower in addition to navigation or flood control. Its environmental activities involve wetlands and aquatic ecosystem restoration and environmental mitigation activities for Corps 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.

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 and authorized agreements for the temporary use of surplus water. The Flood Control Act of 1950 (33 U.S.C. §701n) began the Corps' emergency operations through authorization for flood preparedness and emergency operations.³³ The Water Supply Act of 1958 (43 U.S.C. §390b) gave the Corps authority to include some reservoir storage for municipal and industrial water supply in reservoir projects at 100% nonfederal cost.

Corps Regulatory Activities: Permits and Their Authorities

The Corps has several regulatory responsibilities and issues several different types of permits. 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 (CWA; 33 U.S.C. §1344), which requires a permit for dredging or filling activities into waters of the United States. Since the mid-1960s, court decisions and administrative actions have altered the jurisdictional reach of the Corps' regulatory program, and in June 2015, the Corps and the Environmental Protection Agency jointly promulgated revised rules to define the regulatory scope of CWA jurisdiction under Section 404 and other provisions of that act. For more information, see CRS Report R43455, *EPA and the Army Corps' Rule to Define “Waters of the United States”*, by Claudia Copeland, and CRS Report 97-223, *The Army Corps of Engineers' Nationwide Permits Program: Issues and Regulatory Developments*, by Claudia Copeland. The Corps also regulates and authorizes disposal of materials into the ocean under the Marine Protection Research and Sanctuaries Act (MPRSA; 33 U.S.C. §§1401-1455); for more information, see CRS Report RS20028, *Ocean Dumping Act: A Summary of the Law*, by Claudia Copeland.

³³ 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.

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 additional 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, 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 federal agencies 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 (1986-2000)

Congress fundamentally transformed the rules for Corps water projects and their funding through WRDA 1986 (33 U.S.C. §2211); it established new cost-share formulas, resulting in greater financial and decision-making roles for local stakeholders. WRDA 1986 reestablished the tradition of biennial consideration of an omnibus Corps civil works authorization bill. 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. These legislative changes gave the Corps an aquatic ecosystem restoration and environmental protection mission.

Evolving Demands and Processes (2001-present)

The agency's aging infrastructure and efforts to enhance the security of its infrastructure from terrorism and natural threats have expanded Corps activities in infrastructure rehabilitation, maintenance, and protection. WRDA 2007 continued the expansion of the Corps' ecosystem restoration activities by authorizing billions of dollars for ecosystem restoration activities, including large-scale efforts in coastal Louisiana and in the Upper Mississippi River. The Corps also retooled its long-standing flood control mission to use a flood risk management approach. This was undertaken in response to congressional direction in WRDA 2007 and disasters like Hurricanes Katrina, Rita, Ike, and Sandy and significant floods in the Midwest. This approach emphasizes a greater appreciation for the shared responsibilities across levels of government for managing flood risks and damages. The regularity with which the Corps has received significant congressional appropriations for natural disaster response has increased attention to its role in emergency response, infrastructure repair, and post-disaster recovery. WRRDA 2014 expanded

opportunities for nonfederal (including private) participation in project delivery and financing and aimed to improve the efficiency of Corps planning activities.

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