

Chapter 2

The Civil Works Program Project Planning and Construction

- I. The Civil Works Program**
 - A. Fundamentals of the Civil Works Program
 - B. Individually Authorized Projects
 - C. Continuing Authority Program Projects
 - D. Project Planning Assistance to Others

- II. Project Planning and Construction**
 - A. Reconnaissance Studies
 - B. Feasibility Studies and Environmental Reviews
 - C. Preconstruction, Engineering, and Design
 - D. Construction
 - E. Operations and Maintenance
 - F. Post-Authorization Changes
 - G. Deauthorization

- III. Plan Selection Criteria**
 - A. Flood Damage Reduction and Navigation Projects
 - B. Restoration Projects
 - C. Modernizing the Corps' Planning Guidelines

- IV. Peer Review**
 - A. Independent Peer Review
 - B. Safety Assurance Review
 - C. Internal Technical Review

- V. Mitigation for Civil Works Projects**
 - A. Mitigation Requirements
 - B. Mitigation Compliance

Through its civil works program, the Corps plans and constructs water resources projects nationwide. The majority of these projects are carried out under one of the Corps' primary mission areas of navigation, flood damage reduction, and environmental

restoration. This chapter describes the civil works program; the Corps' project planning process; and the laws, regulations, and policies specific to the civil works program.

I. The Civil Works Program

Through its civil works program, the Corps plans, constructs, and operates water projects in every state in the nation. The majority of the Corps' work falls under one of its three main mission areas: flood damage reduction, navigation, and environmental protection and restoration. However, Congress also has given the Corps an increasing role in projects that fall outside these primary mission areas.

The Corps has constructed 8,500 miles of levees; 11,000 miles of navigation channels; more than 600 dams; 276 navigation lock chambers; 75 federal hydropower facilities; and countless miles of seawalls, jetties, and artificial beaches. The Corps manages the nation's inland waterway system, dredges and otherwise maintains more than 920 coastal and inland harbors, and manages more than 380 lakes and reservoirs.¹ Since 1990, when Congress added environmental protection to the Corps' mission areas, the Corps' civil works portfolio has grown to include some of the nation's largest and most controversial restoration projects.²

Outside its main mission areas, the Corps manages a host of recreation lands; supplies some 24 percent of the nation's hydropower through Corps dams; helps carry out Superfund clean-ups (through the formerly utilized site remediation program, also known as FUSRAP); and constructs schools, water supply projects, and wastewater treatment plants.

While Corps projects have produced some positive economic benefits for the Nation, they have also caused significant environmental harm. The environmental damage has been so great that Corps projects are recognized as one of the leading reasons that North America's freshwater species are disappearing five times faster than land based species and as quickly as rainforest species.³ Large-scale structural projects planned and constructed by the Corps have also increased flood risks for many communities, reduced water quality, impaired recreational opportunities, and damaged economies that rely on a healthy environment.

Two National Academy of Sciences panels and the Department of the Army Inspector General have concluded that the Corps has an institutional bias for approving large and environmentally damaging structural projects, and that its planning process lacks adequate environmental safeguards.⁴ Less environmentally damaging, less costly, nonstructural measures that would result in the same or better outcomes are routinely ignored or given short shrift. This results in projects that are unnecessarily destructive, costly, and, in many cases, simply not needed.

As communities and wildlife suffer the increased storms, floods, and droughts being wrought by global warming, it is more important than ever to transform the Corps' civil works program. Healthy rivers, wetlands, and coastlines provide the first line of defense against flooding, improve water quality, recharge groundwater, provide outstanding recreational opportunities, and provide vital habitat for fish and wildlife. Protecting and restoring these vital resources must become the primary objective for the Corps' civil works program.

A. Fundamentals of the Civil Works Program

Certain fundamental criteria apply to each Corps civil works project. Each project and project study must be authorized by Congress. Each project and project study must also be funded by Congress. Almost every project must have a non-federal sponsor who pays for a portion of the project's costs. Each project must go through a detailed planning process that is guided by laws, regulations, and guidance specifically applicable to Corps projects. And each project must comply with other applicable federal and state environmental laws.

Congressional Authorization: As discussed in Chapter 4, the Corps must have explicit Congressional approval before it can begin planning or constructing projects under the civil works program.⁵ Project studies and project construction (along with changes to Corps policy) are typically authorized through the Water Resources Development Act.⁶ Occasionally, Corps projects are authorized by stand-alone legislation or as part of another bill. For example, project authorizations are sometimes added to appropriations bills. See *Chapter 4 for a discussion of the Congressional authorization process.*

Most Corps projects costing more than \$5 million must be individually authorized by Congress. Some types of less costly projects can be carried out under one of the Corps' nine programmatic authorities, also known as "continuing authorities" programs. The continuing authorities programs place restrictions on a project's cost and purpose.

Each individually authorized project actually requires two separate authorizations. Congress must first authorize the Corps to study the project (the Corps is directed to study a water resources problem and recommend a project to address the problem). Congress then must separately authorize construction of the project recommended by that Corps study.

A project that falls under one of the Corps' continuing authority programs can be both planned and constructed without obtaining individual authorization. Congress nevertheless often will authorize specific projects under a continuing authorities program to help ensure construction. See *subsection B for a discussion of the Corps' continuing authorities programs.*

Project Funding: Before the Corps can begin an authorized study, Congress must appropriate funds to carry out that study. Likewise, Congress must appropriate funds to construct a project before the Corps can begin construction. It will often take more than one appropriation cycle to obtain all the funding necessary to complete a project study or construction. Each year's work is limited to the work that can be paid for through funds appropriated during that fiscal year, or through monies still available from a previous year's appropriation.

Activist Tip

Activists will have at least four opportunities to influence Congressional action for individually authorized Corps projects. The first is when the Corps seeks Congressional authorization to study a project. The second is when the Corps seeks appropriations from Congress to pay for the study. The third is when the Corps seeks Congressional authorization to construct the project. The fourth is when the Corps seeks appropriations to pay for the construction. Many Corps projects provide additional opportunities as they will require many years worth of study and construction funding.

At each opportunity, activists can work with members of Congress or the Administration to stop, reformulate, or require a reevaluation of a destructive project.

It is important to recognize that many authorized studies and projects are unlikely to receive the necessary funding. For example, while the Corps currently has a \$61 to \$83 billion project backlog (depending on the suite of project authorizations considered),⁷ it receives only about \$2.1 billion in construction funding each year.⁸ At that rate, it could take up to 39 years to construct all the authorized, but unconstructed, Corps projects currently on the books.

Funding for Corps activities is typically appropriated through the Energy and Water Development Appropriations Act (the E&W bill).⁹ See *Chapter 4 for a detailed discussion of the budget and appropriations process*. The E&W bill includes the total dollar amounts for each function of the Corps: General Investigation, Construction, Mississippi River and Tributaries, and Operation and Maintenance. The E&W bill also typically includes a limited number of specific project earmarks (*i.e.*, the bill directs a certain amount of appropriated money to specific Corps projects).

More detailed funding directions are included in the E&W Conference Report (or another committee report referred to in the Conference Report). The E&W Conference Report includes the E&W bill language and will typically break out each of the Corps' functional accounts by state and assign a specific dollar amount to individual projects in each state. In the appropriations process, the Conference Report is actually the final version of the appropriations bill that is sent to the President to be signed into law. As a result, any provisions in the enacted E&W Conference Report carry the force of law.

Additional explanations regarding how appropriated funds are to be spent can also be included in the managers' "joint explanatory statement" that typically accompanies the E&W Conference Report, and in Senate and House Appropriation Committee reports. Spending directives contained in these documents do not carry the force of law (unless otherwise provided in the enacted Conference Report), but agencies rarely deviate from the instructions contained in a joint explanatory statement or Committee report adopted by the conferees as these instructions represent the intent of Congress.

The few monies not earmarked for specific projects are allocated by the Corps. Congress also typically provides the Corps with some flexibility to move money between projects in cases where there are project delays or where a critical priority develops.

Since the passage of earmark reforms in 2007, Members of Congress must file a disclosure for each earmark requested by the Member, making it easier to track the source of the earmark.

Cost Sharing Requirements: Virtually all Corps projects are paid for by both the federal government and a non-federal project sponsor, also known as a local sponsor.¹⁰ The amount of the federal cost share is determined by a project's purpose. The federal government typically pays 40 to 65 percent of the cost of constructing a civil works project. See Table 1 for the standard cost share requirements for individually authorized projects. See subsection C for the cost share requirements for projects carried out under the Corps' continuing authorities programs.

The non-federal sponsor must formally agree to share the costs of a project before the project can be authorized for construction by Congress. In most cases, the non-federal sponsor can pay for at least a portion of the local cost share requirement through in-kind contributions such as providing needed project lands, easements, or rights of way, or providing services and materials for planning or construction.

Congress can waive all or a portion of the local cost share requirement or allow an increase in the amount of in-kind contributions that can be counted towards that local cost share. These types of changes typically would be included in the project's authorizing language.

A non-federal sponsor must be a legally constituted public body (which includes federally recognized Indian tribes) and typically is a state or local governmental agency. A not-for-profit organization can also act as a local project sponsor if the not-for-profit has the consent of the affected local government, and has the ability to perform the terms of its agreement and to pay damages in the event of a failure to perform. 42 U.S.C. § 1962-5b(b).

In some instances, non-federal sponsors can qualify for a reduction or waiver of the standard cost share requirement for both feasibility studies and construction if the non-federal sponsor lacks the ability to pay its share of a project's costs. 33 U.S.C. § 2213 (m). The "ability to pay" determination is based on a complex calculation that accounts for per capita income in the state and per capita personal income in the project area.¹¹ The Corps was supposed to have updated its ability to pay guidelines to include new criteria by December 31, 2007 (but as of the date of this Citizen's Guide, the Corps had not done so). 33 U.S.C. § 2213 (m).

Plan Selection Criteria: The Corps' selection of a recommended plan is driven by a set of Corps specific laws, regulations, guidelines, and policies and by the requirements of federal environmental laws such as the Clean Water Act, the Endangered Species Act, and the National Environmental Policy Act. The Corps' internal guidelines and policies are designed, in large part, to apply the *Principles and Guidelines for Water and Related Resources Implementation Studies* which were adopted in 1983 (the 1983 P&G). The 1983 P&G establish project selection criteria and dictate how the Corps is to calculate project costs and benefits. The 1983 P&G are woefully out of date; among other problems,

they relegate environmental protection to a secondary concern in project planning, and promote large scale structural projects that do not protect the environment. The 1983 P&G are currently being rewritten pursuant to a hard fought reform enacted in the Water Resources Development Act (WRDA) of 2007. *See Section III for a discussion of the Corps' plan selection criteria and for the P&G related requirements of WRDA 2007.*

Environmental Operating Principles: The Corps has established environmental operating principles that are supposed to help ensure that the project planning process is integrated with natural resource laws, values, and sound environmental practices and stewardship. The Environmental Operating Principles were established to help “restructure internal Corps methods of operation and behavior” and “do not create additional rights or responsibilities legally enforceable by outside parties.”¹² The following are the Corps' Environmental Operating Principles.

- (1) “Strive to achieve Environmental Sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.”
- (2) “Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of Corps programs and act accordingly in all appropriate circumstances.”
- (3) “Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.”
- (4) “Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.”
- (5) “Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.”
- (6) “Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.”
- (7) “Respect the views of individuals and groups interested in Corps activities, listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the Nation's problems that also protect and enhance the environment.”¹³

B. Individually Authorized Projects

Each Corps project that does not fall under one of the Corps' continuing authorities programs must undergo a two step authorization process. Congress must first pass legislation authorizing the Corps to study a water resources problem and recommend a project to solve that problem (known as a study authorization). Once the study is completed and the Corps submits a project recommendation to Congress, Congress must pass legislation authorizing the Corps to construct the project (known as construction authorization). Congress also must appropriate money for both the study and construction phases. Each of these steps is discussed below.

Obtaining Study Authorization: To obtain authorization to study a water resources problem and propose a project, a member of Congress must ensure that language authorizing the study is included in the Water Resources Development Act (or in another legislative vehicle). Congress seeks to pass a Water Resources Development Act every two years, but often does not. *See Chapter 4 for a detailed discussion of the legislative process.*

Typically, a non-federal entity will approach one of their members of Congress and request a study authorization. If the member of Congress agrees, he or she will advise the appropriate legislative Committee of the request. The Senate and/or House subcommittee that is responsible for Corps activities will then request information from the Corps (in a document known as a Docket letter) about the study area, problems, and potential solutions. Congress will then decide whether to grant the study authority to the Corps. As discussed above, studies carried out under one of the Corps' continuing authorities programs do not require individual study authorization.

In some instances, the Senate Environment and Public Works Committee or the House Transportation and Infrastructure Committee may authorize a new study merely by adopting a resolution (commonly known as a survey resolution) that provides the Corps with the necessary authority to carry out a study. A survey resolution is available only in those instances where the Corps has previously investigated and reported on water resource problems in the area at issue. The survey resolution allows the Corps to take another look at the problems facing the area without the need to have a study authorization signed into law.

Obtaining Study Funding: Congress must appropriate funds to carry out an authorized study before the Corps can begin work. Through the normal federal budget and appropriations process, the President's budget may request money to begin the study process. While Congress will use the President's budget request as a guide, it also can appropriate money for a study (or for project construction) even if those monies are not included in the President's budget. *See Chapter 4 for a detailed discussion of the budget and appropriations process.*

Obtaining Construction Authorization: As discussed above, the Corps must obtain explicit construction authorization before it can begin building any project that is not being carried out under one of the Corps' continuing authorities programs. In most instances, Congress will wait to authorize construction until it receives a final feasibility report, Chief of Engineers' Report (often referred to as a Chief's Report), and signed Record of Decision on the project.

The Chief's Report signifies that the Chief of Engineers approves the project recommendation. The Corps sends the Chief's Report to the Corps' civilian leader, the Assistant Secretary of the Army for Civil Works (the ASA(CW)) for review and approval. The Corps sends an informational copy of the Chief's Report to Congress at the same time. The ASA(CW) reviews the Chief's Report to ensure consistency with law and Administration policy and sends the Chief's Report to the Office of Management and Budget for review. If the ASA(CW) approves the Chief's Report he or she will sign a formal Record of Decision (for any project that is not already authorized for construction) and will transmit that Record of Decision to Congress.

In some instances, Congress will authorize a project before it receives a Chief's Report, and will make the authority contingent on the completion of a favorable Chief's Report within a defined period of time. These "contingent authorizations" are highly problematic because they leave the project selection entirely in the hands of the Corps with little or no Congressional oversight. Contingent authorizations also put pressure on the Corps to recommend a project regardless of the potential impacts, since Congress has already said that it wants some kind of project constructed.

The Congressional Research Service reports that since the mid-1990s, Congress has also authorized a "significant number" of projects based on Chief's Reports that were not yet approved by the ASA(CW) or by the Office of Management and Budget.¹⁴ This type of approval is also highly problematic because the projects have not be subjected to a full policy and oversight review by the Corps' own civilian leaders.

Legislation authorizing construction of a Corps project should include the project name, location, project type, and estimated federal cost. Typically a construction authorization will state that the project must be carried out as described in the Corps' feasibility study or the Chief's Report for the project. In some cases, Congress will authorize a project that is different than the one recommended by the Chief's Report. For example, Congress may authorize only a portion of the project, or it may impose additional mitigation requirements. In those instances, the authorization must describe the deviation or refer to a document that describes the project Congress wants built. Authorizing language can also provide exceptions to typical Corps policies. For example, an authorization can waive all or a portion of the local cost share requirement or allow an increase in the amount of in-kind contributions that can be counted towards that local cost share.

Activist Tip

Activists fighting older Corps projects should take the time to review both the authorizing language and the underlying Chief's Report to make sure that the Corps is following the limitations established in those documents. Projects that significantly exceed their Congressional authorization cannot be constructed.

For example, the original 1941 authorization for the Yazoo Backwater Pumping Plant (a project ultimately stopped by EPA) authorized a series of drainage projects, but explicitly required the protection of wetlands below the 90 foot elevation. When the Corps revived the plan in 1982 and again in 2007, it recommended a project that would drain wetlands down to the 87 foot elevation. This would have caused significantly more wetland losses than the authorized project. If EPA had not stopped the Yazoo Pumps, the issue of Congressional authorization would have been a key component of a legal challenge.

Obtaining Construction Funding: Once authorized, Congress must appropriate construction funding before construction can begin. Like study funding, construction funding also goes through the yearly federal budget and appropriations process. Construction funds may be requested in the President's budget, but Congress is not bound by that budget and often will appropriate more or less money than requested by the President for specific projects. *See Chapter 4 for detailed information on the budget and appropriations process.*

Construction funding is utilized by the Corps to complete detailed plans and specifications for the project, award contracts, and undertake actual physical construction. It typically takes a number of years to obtain all necessary construction funding from Congress for an individual project.

Cost Share Requirements: As discussed above, the federal government typically pays 40 to 65 percent of the cost of constructing a civil works project. The amount of the federal share is determined by the project purpose (or any specific cost-sharing requirements established through legislation specific to that project). The remaining costs must be paid by a non-federal partner, also known as a local sponsor. *See Table 1 for the standard cost share requirements for individually authorized projects.*

C. Continuing Authority Program Projects

The Corps' continuing authorities programs allow the Corps to plan, design, and construct certain types of less costly water resource projects without having to obtain individual Congressional authorization. Projects carried out under continuing authorities programs (often referred to as CAP projects) typically are much smaller in scope than individually authorized projects. They also undergo a less extensive planning process.

CAP projects are limited by the purpose of the continuing authority program under which they are carried out, and they are subject to program specific cost limitations. CAP projects also must compete for both study and construction funding from a very limited pool of funds. These funding constraints have severely limited the number of CAP projects constructed.

For example, in the first 13 years (1986 to 1999) of the Corps' Section 1135 continuing authority program, only 45 projects had been completed or were under construction. Prior to 2007, the Section 1135 program had an authorized annual funding limit of only \$25 million (Congress increased that funding limit to \$40 million in the Water Resources Development Act of 2007) and often funded the program at less than that amount. In addition, Congress often earmarks funds for specific 1135 projects, leaving hundreds of projects across the country to compete for an even smaller pool of money.¹⁵ For example, in FY 2005, Congress earmarked \$4.21 million of the \$25 million appropriated to the Section 1135 program.

Standard Cost Sharing Rules for Corps Civil Works Projects

Project	Type	Non-federal Share ¹		Legal Citation
		Construction	O&M	
Commercial Navigation— Coastal Ports²	Portion of Harbors up to 20 ft.	20%	0%	33 U.S.C. 2211
	Portion of Harbors 20-45 ft.	35%	0%	33 U.S.C. 2211
	Portion of Harbors more than 45 ft.	60%	50% ³	33 U.S.C. 2211
Commercial Navigation— Inland Waterways	Inland Waterways	50% ⁴	0%	33 U.S.C. 2212
Flood Damage Reduction— Riverine	Structural Flood Control	35% ⁵	100%	33 U.S.C. 2213
	Non-Structural Flood Control	35% ⁶	100%	33 U.S.C. 2213
Flood Damage Reduction— Shoreline Protection	Beach Replenishment and Shoreline Protection	35%	50% ⁷	33 U.S.C. 2213
Hurricane and Storm Damage Reduction		35%	100%	33 U.S.C. 2213
Restoration		35%	100%	33 U.S.C. 2213
Aquatic Plant Control	Control Operations	50%	100%	33 U.S.C. 2214
Agricultural Water Supply⁸	Non-Irrigation Projects and Irrigation Projects in Eastern States	35%	100%	33 U.S.C. 2213
Hydroelectric Power		100%	100%	33 U.S.C. 2213
Municipal and Industrial Water Supply Recreation		100%	100%	33 U.S.C. 2213
	Including Recreational Navigation	50% ⁹	100%	33 U.S.C. 2213

¹ In most cases, nonfederal interests provide lands, easements, rights-of-way, relocations, and dredge disposal areas (LERRDs) and receive credit toward its share of the project for the value of LERRDs. The federal share is paid through Congressional appropriations of federal tax dollars.

² The federal government will loan up to 10% of the non-federal share for construction to be repaid over a 30-year period. LERRDs may offset some or all of this amount.

³ The 50% nonfederal contribution applies to the portion of costs to maintain the harbor deeper than 45 feet.

⁴ The Inland Waterways Trust Fund provides the nonfederal share.

⁵ Structural flood control projects require a 5% cash outlay prior to construction. The remainder of the cost-share may be provided by LERRDs.

⁶ The nonfederal cost-share of nonstructural flood control projects may be provided entirely by LERRDs. Nonstructural flood control projects authorized before 1996 require a 25% minimum total contribution.

⁷ Projects authorized and approved before December 31, 1999 are subject to different requirements. 33 U.S.C. 2213(d)(2). Also, costs assigned to benefits of periodic renourishment to protect federal lands are 100% federal, while costs assigned to periodic renourishment to protect privately owned lands shall be 100% non federal.

⁸ Generally associated with multiple-purpose projects. For irrigation projects in 17 Reclamation (western) states, the Corps funds initial project construction, which is supposed to be repaid in conformity with Reclamation law.

⁹ The non-federal share of 50% is limited to separable costs (and in some cases, joint and separable costs) allocated to the recreational component of the project.

The Corps currently has nine continuing authorities programs, which are often referred to by the section number of the Water Resources Development Act, Rivers and Harbors Act, or Flood Control Act that authorized the program. For example section 1135 of the Water Resources Development Act of 1986 authorized a continuing authorities program titled “Project Modifications for Improvement of the Environment.” This program is typically referred to as the Section 1135 program, and projects completed under it are known as Section 1135 projects.

The Corps’ continuing authorities programs are described below.

Section 1135 — Project Modifications for Improvement of the Environment: The section 1135 program gives the Corps authority to modify existing Corps projects to restore the environment and to construct new projects to restore areas degraded by a Corps project. The Section 1135 program has an authorized yearly funding ceiling of \$40 million for the entire country. The federal share of an individual project carried out under this program cannot exceed \$5 million, and the federal cost share is 75%. 33 U.S.C. § 2309a.

Section 208 — Snagging and Clearing for Flood Control: The section 208 program gives the Corps authority to plan and carry out projects to remove snags and debris in navigable streams and tributaries for flood protection purposes. The Section 208 program has an authorized yearly funding ceiling of \$7.5 million for the entire country. The federal share of an individual project cannot exceed \$500,000, and the federal cost share is 65%. 33 U.S.C. § 701g.

Section 206 — Aquatic Ecosystem Restoration: The section 206 program gives the Corps authority to plan and carry out projects to restore degraded aquatic ecosystems (including estuaries). These projects do not have to be related to an existing Corps project. The Section 206 program has an authorized yearly funding ceiling of \$50 million for the entire country. The federal share of an individual project cannot exceed \$5 million, and the federal cost share is 65%. 33 U.S.C. § 2330.

Section 205 — Flood Damage Protection: The section 205 program gives the Corps authority to plan and construct small flood damage reduction projects. Work under this authority may include construction or improvement of levees, channels, and dams, or nonstructural alternatives such as flood warning systems or relocation. The Section 205 program has an authorized yearly funding ceiling of \$55 million for the entire country. The federal share of an individual project cannot exceed \$7 million, and the federal cost share is 65%. 33 U.S.C. § 701s.

Section 204 — Beneficial Uses of Dredged Material for Ecosystem Restoration: The section 204 program gives the Corps authority to carry out projects to restore, protect, or

create aquatic habitats, including wetlands, using dredged material from an authorized federal navigation project. The Section 204 program has an authorized yearly funding ceiling of \$30 million for the entire country, of which not more than \$5 million can be used for developing sediment management plans, and not more than \$3 million can be used for projects constructed in disadvantaged communities at full federal expense. The federal share of an individual project cannot exceed \$5 million. The federal share varies by project type, as established by 33 U.S.C. § 2213. The federal cost share is 100% where a beneficial use project is located in a disadvantaged community and the project cost does not exceed \$750,000. 33 U.S.C. § 2326.

Section 111 — Mitigation of Shore Damage Caused by Federal Navigation Projects:

The section 111 program gives the Corps authority to carry out projects that prevent or mitigate erosion damage from federal navigation projects to public or private coastlines. There is no national annual funding ceiling. The federal share for an individual project cannot exceed \$5 million. Section 111 projects are cost shared in the same proportion as the cost of the navigation project causing the damage. 33 U.S.C. § 426i.

Section 107 — Small Navigation Projects:

The section 107 program gives the Corps authority to carry out projects for small river and harbor improvements including dredging channels and building anchorage areas, breakwaters, jetties, and groins. The Section 107 program has an authorized yearly funding ceiling of \$35 million for the entire country. The federal share of an individual project cannot exceed \$7 million, and the federal cost share varies depending on the project specifications. 33 U.S.C. § 577.

Section 103 — Hurricane and Storm Damage Protection:

The section 103 program gives the Corps authority to construct small shoreline and beach restoration and protection projects like jetties, groins, and other small beach protection measures. To qualify for this program, storm damage must result from storm driven waves and ocean currents, the project must protect either lands that are open to public use or that are near public facilities, and the project must be complete within itself. The Section 103 program has an authorized yearly funding ceiling of \$30 million for the entire country. The federal share for an individual project cannot exceed \$5 million, and the federal cost share varies depending on who owns the lands, the type of land, and whether the public has access to the land being protected. 33 U.S.C. § 426e.

Section 14 — Emergency Steambank Protection:

The section 14 program authorizes the Corps to carry out emergency steambank and shoreline protection projects to prevent damage to public facilities such as roads, bridges, hospitals, schools, and water/sewage treatment plants. The Section 14 program has an authorized yearly funding ceiling of \$15 million for the entire country. Federal costs are limited to \$1.5 million in a single locality during any fiscal year, and for almost all projects, the federal cost share is 65% of construction. 33 U.S.C. § 701r.

D. Project Planning Assistance to Others

The Corps is authorized to assist states, tribes, and other non-federal entities in water resource planning.

Planning Assistance to States: The Corps has the authority to assist states, tribes, and other non-federal entities in developing comprehensive plans for the development, utilization, and conservation of water and related resources. Studies under this program can address such water resources problems as supply and demand, water quality, wetlands evaluation, flood damage reduction, and dam safety. This program has an authorized yearly funding ceiling of \$10 million, and not more than \$2 million can be expended in any one state during any fiscal year. The federal cost share for assisting states in development of comprehensive plans is 50%. The non-federal share can be provided by in-kind services. 42 U.S.C. § 1962d-16.

The Corps also has the authority to provide technical assistance to states, tribes, and other non-federal entities managing water resources. Technical assistance may include development and integration of hydrologic, economic, and environmental data and analyses. This technical assistance program has an authorized yearly funding ceiling of \$5 million, with not more than \$2 million annually being utilized to enter into cooperative agreements with nonprofit organizations to assist rural and small communities. 42 U.S.C. § 1962d-16.

Planning Technical Assistance Program: The Corps has the authority to provide technical and scientific assistance to any United States company that is competing for, or has been awarded, a foreign planning, design, or construction contract. Companies seeking such assistance must cover the costs of all services provided by the Corps, and must indemnify the United States for any responsibility for damages resulting from the planning, design, construction, operation, or maintenance of the project for which the Corps provided assistance. 33 U.S.C. § 2314a.

II. Project Planning and Construction

The Corps' project planning process is guided by an extensive body of laws, regulations, and policies. Much of the planning process is designed to apply the project selection criteria established by the 1983 P&G (these woefully outdated planning guidelines are currently being updated). Corps projects must also comply fully with all applicable federal environmental laws and regulations, including the National Environmental Policy Act (NEPA).

For individually authorized Corps projects, the planning process involves five phases: (1) the reconnaissance phase; (2) the feasibility phase; (3) preconstruction, engineering, and design; (4) construction; and (5) operations and maintenance. On average, it takes about 5.6 years for the Corps to complete both the reconnaissance and feasibility studies for individually authorized projects.¹⁶ Construction can take a year to decades to complete, depending on project size, cost, and complexity. Some projects also require post-authorization changes, which requires a sixth phase of planning. Each of these phases is discussed in detail below.

Projects carried out under one of the Corps' continuing authority programs follow a similar, but typically less detailed, planning process.

A. Reconnaissance Studies

Once a study is authorized and at least some funds have been received from Congress, the Corps may begin the project study process. The first step in this process is to prepare a reconnaissance study. The reconnaissance study is used to identify potential solutions to a water resources problem in sufficient detail to let the federal government and non-federal sponsor decide whether project planning should proceed to the more detailed feasibility study phase. If the answer is yes, the Corps will prepare a feasibility study for the project and an environmental impact statement. A significant number of projects do not make it past the reconnaissance phase.¹⁷

A reconnaissance study typically can be completed in one year, and as a matter of law cannot take longer than 18 months. 33 U.S.C. § 2282. At the beginning of the reconnaissance study process, the Corps will appoint a project manager to serve as the main point of contact with the non-federal sponsor and the public. The project manager develops and implements a project management plan, and keeps track of all commitments made during the process.

The Reconnaissance Report: The Corps must produce a Reconnaissance Report, also known as a Section 905(b) Analysis (after the section of WRDA 1986 that established the reconnaissance report requirement). The Reconnaissance Report identifies the water resources problem and potential solutions to that problem. It must include “a

preliminary analysis of the Federal interest, costs, benefits, and environmental impacts” of a potential project, and “an estimate of the costs of preparing the feasibility report.” 33 U.S.C. § 2282(b). Ultimately, the report is used to determine whether there is federal and non-federal interest in pursuing a civil works project. If the report recommends further evaluation through a feasibility study, it also must identify the non-federal sponsor who will provide the local cost share for the feasibility study.

The Reconnaissance Report is prepared by the District, and must be certified (or approved) by the Division. By certifying a Reconnaissance Report, the Division is concluding that “the proposed feasibility study would likely comply with current policies, the scope and nature of the water resource problem(s) warrant Federal participation in a feasibility study, and a non-Federal entity has the appropriate interest, authority, and capabilities to fulfill non-Federal responsibilities for the feasibility, design, and construction phases.”¹⁸

Additional Reconnaissance Study Documents: If the Corps determines that there is a federal interest and the non-federal sponsor also wishes to proceed, several additional documents must be prepared:

- (1) The non-federal project sponsor must submit a Letter of Intent (LOI) to the District Commander that states that the non-federal sponsor is willing to proceed to the feasibility study phase and is able to contribute the necessary local cost share for the feasibility study. The LOI must be submitted with the Reconnaissance Report to the Division for approval.
- (2) The Corps and local sponsor must negotiate and finalize a Project Management Plan (PMP), also called a Project Study Plan (PSP), that describes how work will be conducted and how resources will be expended. It identifies work tasks, schedules for work completion, cost estimates, and guidelines. The PMP must also include a Review Plan that outlines the scope and plans for internal technical and any anticipated independent peer reviews required for the project. *See Section IV for a discussion of the technical and independent review requirements and the required contents of a Review Plan.*
- (3) The Corps and the non-federal sponsor must negotiate and sign a Feasibility Cost Sharing Arrangement (FCSA), through which the parties agree to share the costs of the feasibility study. The FCSA cannot be executed until the Reconnaissance Report is approved by the Division.

Paying for the Reconnaissance Study: The federal government pays for 100% of the reconnaissance study, with costs normally limited to \$100,000. Funding for the reconnaissance study will be listed by state under the General Investigations (GI) account in the annual Energy and Water Development Appropriations Act.

B. Feasibility Studies and Environmental Reviews

The feasibility study is a comprehensive review of a proposed project that leads to the selection of a recommended plan by the Corps (and the Administration). The feasibility study describes and evaluates alternative plans for addressing the water resources problem, evaluates the project's environmental and economic costs and benefits, and recommends a plan for implementation. The feasibility study must be accompanied by an environmental review, as required by the National Environmental Policy Act. In most cases, this will require preparation of a detailed environmental impact statement. A feasibility study typically takes up to three years to complete, but can take much longer.

Plan Selection Criteria: The Corps' project plan selection process is driven by an extensive body of laws, regulations, and policies. Much of the planning process is designed to apply the project selection criteria established by the 1983 P&G (these woefully outdated planning guidelines are currently being updated). As noted above, selected plans also must comply with federal environmental laws. *See Section III for a discussion of the Corps' plan selection criteria.*

The Feasibility Report: The Feasibility Report describes the alternatives considered by the Corps and recommends a specific plan for implementation. The contents of a feasibility report are established by law. The report must "describe, with reasonable certainty, the economic, environmental, and social benefits and detriments of the recommended plan and alternative plans considered by the Secretary and the engineering features (including hydrologic and geologic information), the public acceptability, and the purposes, scope, and scale of the recommended plan. The feasibility report shall also include the views of other Federal agencies and non-Federal agencies with regard to the recommended plan, a description of a nonstructural alternative to the recommended plan when such plan does not have significant nonstructural features, and a description of the Federal and non-Federal participation in such plan, and shall demonstrate that States, other non-Federal interests, and Federal agencies have been consulted in the development of the recommended plan."¹⁹ 33 U.S.C. § 2282.

Importantly, Corps Feasibility Reports also must contain a specific plan to mitigate fish and wildlife losses resulting from the project, or a determination that the project will have negligible adverse impacts on fish and wildlife. 33 U.S.C. § 2283. Mitigation also must be addressed in the environmental impact statement. *See Section V for a detailed discussion of the Corps' mitigation requirements.*

In addition to any needed mitigation plan, the Feasibility Report must include: (1) a benefit-cost or cost-effectiveness analysis of the project (depending on the type of project being evaluated); (2) a description of the engineering plan and supporting analyses such as existing and modified hydrology and hydraulics, geotechnical data, and the results of geologic investigations pertinent to implementation of the plan; (3) a Real Estate Plan

(REP) that identifies and estimates the value of all real estate requirements for the project; and (4) the operation, management, repair, restoration, and replacement (OMRR&R) requirements for the project.

As a rule of thumb, the Corps seeks to complete approximately 80% of the engineering design in the feasibility report — the amount that the Corps deems necessary to prepare a meaningful cost estimate. The remaining engineering, which consists of more detailed designs and specifications, is carried out during the PED phase.

The Environmental Impact Statement and Other Environmental Documentation:

The Corps must prepare an environmental impact statement (EIS) to accompany the Feasibility Report, as required by the National Environmental Policy Act (NEPA).²⁰ The EIS is typically presented with the Feasibility Report.

NEPA requires the Corps to evaluate the environmental impacts of a proposed project, consider alternatives to the proposed project that will cause less environmental harm, and consider the views of other federal agencies, states, and the public. NEPA documents are a critical component of project planning and provide an essential opportunity for public input into the Corps' planning process. *See Chapter 6 for a discussion of NEPA and other applicable federal environmental laws.*

The EIS evaluates the anticipated impacts of the recommended project and alternatives for achieving the project goals that may cause less environmental harm. Under NEPA, the Corps must fully evaluate the environmental impacts of the project, but the Corps is not required to select the least environmentally damaging project alternative. The Corps must provide an opportunity for the public, other federal agencies, and the states to review and comment on the EIS. The EIS typically includes detailed evaluations that support the conclusion in the EIS, such as an assessment of the impacts to waterfowl and wildlife, an assessment of changes to the hydrology of the area, an assessment of impacts to wetlands, and an assessment of needed mitigation for the project.

The Corps also may be required to prepare reviews and obtain approvals to proceed with the project under other applicable environmental laws such as the Clean Water Act and the Endangered Species Act. *See Chapter 6 for more information on applicable environmental laws.*

Peer Review: Studies carried out on costly or controversial Corps projects are subject to the independent peer review requirements established by WRDA 2007. 33 U.S.C. § 2343. The Corps has also set up a peer review process that is to be followed for all other Corps projects.²¹ Each of these peer reviews is to be carried out as an integral part of the study process. *See Section IV for a detailed discussion of the peer review requirements.*

Activist Tip

Because formal public comment periods are typically very short, activists should work to become familiar with a Corps project before release of a draft feasibility report and draft EIS.

The Corps is required by law to issue a notice of intent to prepare an EIS for a project and to request comments on the scope of the EIS. Activists should take advantage of those notices to begin to engage in the project planning process. For example, you can ask for permission to attend study meetings, request regular stakeholder meetings, and work to establish relationships with key staff from the Corps and other federal and state agencies. Activists should also reach out to the non-federal sponsor, especially if the sponsor is a local or state governmental entity that should be responsive to your concerns.

Public Participation In The Feasibility Phase: Public participation is an integral component of the feasibility phase of Corps planning. The public must be given the opportunity to comment on the draft feasibility study as well as on the NEPA analysis. The NEPA process includes three opportunities for public participation: at the scoping phase, upon release of the draft report, and upon release of the final report. The Corps also often holds public hearings at the NEPA scoping phase and after draft NEPA documents are released for public comment. The public also can request such hearings.

Public comment periods are typically very short — the public will often have only 45 to 60 days to file formal comments. As a result, activists should strive to obtain information and become involved in the planning process prior to the public comment period. This earlier involvement will provide important background information and advance notice of key issues that will need to be addressed in your formal comments. Typically, there is also a second 30-day public comment period on the final Feasibility Report and final EIS.

It is important to submit formal comments on draft and final feasibility studies and environmental impact statements. These comments can help redirect a Corps plan and are critical for developing the record for any potential legal challenge to the project. If you are considering suing the Corps to improve a project's NEPA analysis, you will have to file comments on the draft and/or final EIS to ensure that you have legal standing to sue. In preparing formal comments, it is important to highlight all areas of concern with the Corps' study, to propose specific alternatives that should be analyzed, and to provide as much documentation supporting your concerns/positions as possible.

Additional Feasibility Study Documents: The following additional documents are prepared during the feasibility study phase:

- (1) If necessary, an updated Project Management Plan (PMP), negotiated between the Corps and the local sponsor, must be completed during the scoping phase of the feasibility study. The PMP describes how work will be conducted and how resources will be expended. It identifies work tasks, schedules for work completion, cost estimates, guidelines, and internal and independent review requirements.
- (2) A Project Cooperation Agreement (PCA), negotiated between the Corps and the local sponsor. The PCA describes the local sponsor's agreement to financially participate in the construction, operation and maintenance of the recommended plan. The PCA may not be executed before the feasibility study phase.

Final Approval of Feasibility Documents and the Record of Decision: After the public review period for the draft Feasibility Report and draft EIS, the Corps will make any changes it deems necessary, and submit all feasibility phase documents to Corps Headquarters in Washington, D.C. for final approval. The Chief of Engineers

will approve a recommended plan in a document known as a Chief of Engineers' Report (often referred to as a Chief's Report). The Chief's Report summarizes the recommendations, key conditions imposed on the recommended project, and other pertinent information contained in the feasibility study.

The Corps sends the Chief's Report to the Assistant Secretary of the Army for Civil Works (the ASA(CW)) for review and approval, and sends a copy of the Chief's Report to Congress at the same time. The ASA(CW) reviews the Chief's Report to ensure consistency with law and Administration policy, and sends the Chief's Report to the Office of Management and Budget for review. If the ASA(CW) approves the Chief's Report he or she will sign a formal Record of Decision (for any project that is not already authorized for construction) and will transmit that Record of Decision to Congress.

In most cases, the Corps will continue to work on preconstruction, engineering, and design between the time that the final feasibility report is submitted to Congress and the project is authorized — provided the Corps gets the necessary funding to do so.

Paying for the Feasibility Study: The federal government pays 50% of the costs of a feasibility study with the remaining 50% paid for by the non-federal sponsor. The non-federal sponsor may pay its 50% by providing in-kind products or services, such as planning assistance, GIS mapping, or hydrological analyses. An important exception to this 50-50 cost share for feasibility studies is for projects dealing with inland waterway navigation. Feasibility studies for inland waterway navigation projects are paid for 100% by the federal government.

C. Preconstruction, Engineering, and Design

The next phase of planning is known as preconstruction, engineering, and design (PED). PED involves the preparation of detailed technical designs and specifications and a clear identification of the lands, easements, rights of way, relocations, and disposal areas that are needed for the project. PED typically takes about two years to complete. As a rule of thumb, the Corps expects to carry out the final 20% of its engineering design during the PED phase, with the first 80% carried out during the feasibility phase.

The Corps is allowed to proceed with PED while Congress reviews the final Feasibility Report and considers whether it should authorize construction of the project as long as the Chief of Engineers certifies to Congress that the project is not controversial.²² As a result, for many projects the PED phase will overlap with the end of the feasibility phase.

Required PED Documents: A number of documents must be prepared during PED (although many of these also can be prepared during the feasibility phase). The major documents include a Design Documentation Report (DDR), which provides the technical basis for the plans and specifications and serves as a summary of the final design; Plans

and Specifications (P&S), which are detailed construction drawings and specifications for the project; and, if necessary, an Engineering Documentation Report (EDR) to support minor changes in design and costs from those contained in the authorizing reports.

Safety Assurance Review: Certain hurricane and storm damage reduction projects and certain flood damage reduction projects must undergo a safety assurance review if the Chief of Engineers determines that a review by independent experts is necessary to assure public health, safety, and welfare. 33 U.S.C. § 2344. The Safety Assurance Review was established by WRDA 2007 in direct response to the 2005 failure of Corps-built levees and floodwalls in New Orleans following Hurricane Katrina. *See Section IV for a discussion of the Safety Assurance Review requirements.*

Paying for PED: PED is cost shared between the Corps and the non-federal sponsor in the same proportion that construction is cost shared. Typically, however, the Corps pays the PED costs upfront and the non-federal sponsor reimburses the Corps during the construction phase. *See Table 1 for the standard cost share requirements for individually authorized projects. See Section I for the cost share requirements for projects carried out under the Corps' continuing authorities programs.*

D. Construction

Once the project is authorized for construction, the Corps must seek funding to carry out the project. Once some level of construction funds are received, the Corps will typically contract out the actual construction work while retaining oversight (and in some cases, management of) the project.

Before actual construction can begin, the following must occur:

- (1) The Secretary of the Army and non-federal sponsor must approve and execute a final Project Cooperation Agreement (PCA). The PCA obligates the Corps and the non-federal sponsor to participate in implementing, operating, and maintaining the project according to requirements established by Congress and the administration.
- (2) The non-federal sponsor must also provide the necessary lands, easements, rights of ways, relocations, and disposal sites (LERRDs). The non-federal sponsor is responsible for providing and acquiring all LERRDs (excluding railroad bridges and approaches). The cost of the LERRDs can almost always be credited toward the non-federal cost-share, and the non-federal sponsor can request the Corps' assistance in acquiring LERRDs on the sponsor's behalf.
- (3) The construction contract must be advertised and awarded.

The time it takes to complete construction varies. While most projects take several years to construct, some can take decades (for example, raising the Mississippi River mainline levees). Lack of adequate federal funds can significantly slow the process — again, federal funds must be appropriated annually in the Energy and Water Development Appropriations Act.

Safety Assurance Review: As discussed below, a Safety Assurance Review must take place during the construction phase (and PED phase) for certain hurricane and storm damage reduction projects, and for certain flood damage reduction projects. 33 U.S.C. § 2344. *See Section IV for a discussion of the Safety Assurance Review requirements.*

Construction Phase Documents: Two major documents are prepared during the construction phase: (1) the construction contract(s), which is the agreement between the Corps and the contractor(s) about how the project will be built; and (2) the project operation and maintenance (O&M) manual, which contains the instructions for the non-federal sponsor to follow for operating and maintaining the project after construction is finished. Some projects require several contracts and manuals.

Paying for Construction: The construction cost share is determined by the project purpose (or any specific cost-sharing requirements established through legislation specific to that project). As noted above, the cost of LERRDs can typically be credited toward the non-federal cost-share. *See Table 1 for the standard cost share requirements for individually authorized projects. See Section I for the cost share requirements for projects carried out under the Corps' continuing authorities programs.*

E. Operations and Maintenance

Once they are constructed, most Corps projects require ongoing operations and maintenance (O&M). O&M includes operations, repair, rehabilitation, and major replacement. O&M activities range from day-to-day maintenance, such as mowing levees, to long-term or less frequent activities such as repairing cracks, conducting inspections, and carrying out major rehabilitation efforts.

O&M activities for inland waterways, harbors, and certain reservoir systems are paid for by the federal government and are typically quite substantial. These O&M activities can include such things as dredging and dredged spoil disposal, water level and flow regulation, bank stabilization, and construction of wing dikes and other in-stream navigation training structures. Development of O&M plans for these types of projects will require an environmental review (typically an EIS) pursuant to the National Environmental Policy Act (NEPA). Planning for major rehabilitation work on federal projects will also require an environmental review.

For most other projects, O&M activities are typically handed over to the non-federal sponsor, and the activities are far less extensive.

Operation and Maintenance Documents: The project O&M manual and management plan, created during the earlier planning phases will be revised as needed. As noted above, major federal O&M activities must be evaluated under NEPA, and ongoing O&M activities along with changes in such activities can trigger the requirement to prepare supplemental NEPA documents. For example, the federal O&M activities to maintain the navigation system on the Upper Mississippi River are clearly subject to NEPA.

Paying for Operations and Maintenance: The cost-share requirements for operations and maintenance activities are based on project type. *See Table 1 for the standard O&M cost share requirements for individually authorized projects.*

F. Post-Authorization Changes

The Corps has the authority to carry out post-authorization studies to determine whether a project should be modified or is no longer justified. Post-authorization studies and modifications are most likely where there has been a significant delay between the original project authorization and appropriation for construction funding.

Post-authorization change studies require an environmental review under the National Environmental Policy Act. The scope and nature of the proposed changes, the potential environmental impacts of those changes, and the existence of changed environmental conditions or new information, will determine whether the Corps must prepare a supplemental EIS or a less detailed environmental assessment.

Post-authorization studies that lead to a recommendation that a project is no longer justified appear to be extremely rare. For example, the Corps recommended construction of the Yazoo Pumping Plant project (originally authorized in 1941) in post-authorization change reports prepared in 1982 and 2007, despite the fact that the project would have drained and damaged 200,000 acres of ecologically significant wetlands in the heart of the Mississippi River flyway. The project was so destructive that EPA ultimately issued an extremely rare Clean Water Act veto, putting an end to the project once and for all.

Post-Authorization Change Studies: The Corps has the authority to carry out the following post-authorization change studies (these studies are paid for by funds appropriated to the construction account):

- (1) A General Reevaluation Report (GRR) is the most extensive of the post authorization change studies; it is essentially a new Feasibility Report. A GRR is “a reanalysis of a previously completed study, using current criteria and policies, which is required due to changed conditions and/or assumptions.”²³ A GRR can affirm the earlier plan, recommend a new or modified plan, or find that the project is no longer justified and should not be constructed. A GRR should require preparation of an EIS.

- (2) A Limited Reevaluation Report (LRR) can be used if policy changes require reevaluation of only certain aspects of an authorized project. For example, an LRR might be appropriate for a review that is limited to reassessment of just the economics of the project.²⁴
- (3) An Engineering Documentation Report (EDR) can be prepared when there are minor changes in design and costs from the authorizing reports, or technical changes that do not require project reformulation.²⁵

The type and scope of any recommended change will determine whether the change can be approved by the Corps or whether new Congressional authorization will be required. As discussed below, the Corps has discretionary authority to implement a number of changes to already authorized projects. If a post-authorization report recommends changes that fall outside that discretionary authority, the report would be sent to Congress and new Congressional authorization would be required before those changes could be implemented.

Changes in Project Scope: The Corps can approve the following changes to the scope and location of a project, provided the changes do not include addition or deletion of a project purpose (except for deletion of water quality where the benefits attributable to water quality are less than 15% of the total project benefits):

- (1) “Increase or decrease in scope no greater than 20 percent of the scope authorized by Congress. If the scope can be defined by several parameters, (for example, storage capacity, outputs, environmental impacts) and the change in any one parameter exceeds 20 percent, the change must be approved by the Commander USACE.”²⁶
- (2) “Change in the location or the design of the project to the extent that the location and magnitude of the impacts of the change are determined to be insignificant compared to the impacts assessed for the authorized project.”²⁷

The Corps’ internal guidance suggests that the Chief of Engineers also may be able to approve additional changes to a project’s scope, but notes that the “Chief of Engineers’ discretionary authority to approve changes to authorized projects must not be abused.”²⁸ Changes in scope, including reduction in scope, beyond those listed above are to “serve as an alert that the change may exceed the Chief of Engineers’ discretionary authority.”²⁹ Ultimately, the Chief, in consultation with the ASA(CW), will determine whether a proposed change can be made under discretionary authority or whether additional Congressional authorization is required.

Addition of New Project Purposes: Under certain circumstances, the Corps can add one or more of the following new project purposes to a civil works projects without new Congressional authorization — water supply, recreation, fish and wildlife enhancement (except for land acquisition), and low flow augmentation for purposes other than water quality. The Corps also has the authority to add certain provisions for future hydroelectric power, and for the conservation of threatened and endangered species.³⁰ The addition of any other project purpose will require new Congressional authorization.

Increase in Project Costs: Under certain circumstances, the maximum project cost (the amount specified in the authorizing legislation) can be increased without Congressional approval. Automatic price increases are allowed for (1) project modifications, such as engineering and design refinements, as long as the modifications do not alter the scope or functions of the project and do not add more than 20% to the total cost of the project; (2) changes in construction costs (including real property acquisition, reconstruction studies, planning, engineering, and design) that are consistent with engineering and other appropriate cost indexes; and (3) any additional studies, modifications, or actions (including mitigation and other environmental actions) that are required by changes in federal law, such as future Endangered Species Act compliance. 33 U.S.C. § 2280. All other price increases above the maximum project cost must be authorized by Congress.

G. Deauthorization

For various reasons ranging from ongoing controversy, significant environmental harm, lack of construction funding, or lack of interest in pursuing an authorized project, a project that has already been authorized for construction can be deauthorized. A deauthorized project is “off the books” and cannot be constructed. Authorized studies can also be deauthorized. Congress has established an automatic deauthorization process for both projects and studies, which is largely handled by Corps Headquarters. Congress can also deauthorize additional specific projects and studies through passage of deauthorization language in a Water Resources Development Act or other legislative vehicle.

Automatic Project Deauthorization: The automatic project deauthorization process was originally established by Congress in 1986. This process requires the Secretary to submit an annual list to Congress of authorized projects or separable elements that have received no obligations during the five full fiscal years preceeding the transmittal of the list. The Secretary also must notify each Senator and each Member of the House of Representatives in whose district a part or all of a project on the list would be located. After the last date of the fiscal year following the fiscal year that the list was submitted, the project or separable element is no longer authorized unless funds have been obligated for the planning, design, or construction of the project during that period. 33 U.S.C. § 579a.

Automatic Study Deauthorization: The automatic study deauthorization process was also originally established in 1986. This process requires the Secretary to submit an annual list to Congress of authorized studies that have not received funding for five consecutive years. Each study on that list is automatically deauthorized unless it receives funding within 90 days of the submittal of the list. 33 U.S.C. § 2264.

Project or Study Specific Deauthorizations: Congress can deauthorize projects or studies that do not qualify for automatic deauthorization by including deauthorization language in a Water Resources Development Act or other legislation. However, this is not an easy process particularly if the deauthorization is not fully supported by Members of Congress from all of the states affected by the project. Typically, members of Congress will only pursue deauthorizing legislation if a project has significant public safety implications or egregious environmental impacts.

In WRDA 2007, Congress did deauthorize the Mississippi River Gulf-Outlet (MRGO), an ecologically destructive navigation project built by the Corps in the 1960s. WRDA 2007 § 7013. Construction and operation of the MRGO led to the loss of tens of thousands of acres of Louisiana's coastal wetlands. The MRGO also played a major role in the 2005 flooding of New Orleans by funneling Hurricane Katrina's storm surge into the city. Activists had fought for decades prior to Hurricane Katrina to close the MRGO to stem the tremendous wetland losses, but it was the public safety risks exposed by Hurricane Katrina that ultimately led to the channel's deauthorization. In addition to deauthorizing the MRGO as a navigation project, Congress also authorized preparation and implementation of a plan to restore the wetlands and storm buffering capacities lost to the outlet.

III. Plan Selection Criteria

The Corps' selection of a recommended plan is driven by a set of Corps specific laws, regulations, guidelines, and policies and by the requirements of federal environmental laws such as the Clean Water Act, the Endangered Species Act, and the National Environmental Policy Act (NEPA).

The Corps' internal guidelines and policies are designed, in large part, to apply the *Principles and Guidelines for Water and Related Resources Implementation Studies* (the 1983 P&G), which establish project selection criteria and dictate how the Corps is to calculate project costs and benefits. The 1983 P&G are woefully out of date; they relegate environmental protection to a secondary concern in project planning and promote large scale structural projects that do not protect the environment. As discussed below, the 1983 P&G are currently being rewritten pursuant to a hard fought reform enacted in WRDA 2007.

All Corps projects are supposed to comply fully with all applicable federal environmental laws and regulations, and for all projects, the Corps must assess whether the recommended plan complies with federal, state, and local laws, regulations, and policies. 33 U.S.C. § 2281. These laws impose both procedural and substantive requirements that must be met for Corps projects.

For example, NEPA establishes key procedural requirements that must be followed for Corps projects. NEPA requires the Corps to evaluate the environmental impacts of a proposed project, consider alternatives to the proposed project that will cause less environmental harm, and consider the views of other federal agencies, states, and the public. NEPA documents are a critical component of project planning, and provide an essential opportunity for public input into the Corps' planning process. However, while NEPA requires the Corps to evaluate alternatives that will cause less harm to the environment, NEPA does **not** require selection of the least damaging alternative. See *Chapter 6 for a discussion of NEPA and other applicable federal environmental laws.*

Other federal environmental laws, like the Clean Water Act, impose substantive requirements on Corps projects. For example, the Clean Water Act 404(b)(1) Guidelines (which are actually mandatory regulations that must be followed), prohibit the Corps from moving forward with a civil works project (1) "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem"; (2) if the discharge would violate certain laws and standards; (3) if the discharge would cause or contribute to significant degradation of water quality; or (4) if the Corps has not taken "appropriate and practicable" steps to minimize harm to protected waters. 40 C.F.R. § 230.10. See *Chapter 3 for a detailed discussion of these Clean Water Act requirements.*

Activist Tip

The Corps has the authority to select an alternative that is not the NED Plan when there are “overriding reasons for selecting another plan based upon other Federal, state, local, and international concerns.” As a result, activists should not let the Corps hide behind NED as justification for selecting a destructive project. Instead, activists should make it clear that avoiding environmental harm is an “overriding reason” to select a non-NED Plan.

A. Flood Damage Reduction and Navigation Projects

As a matter of law, the Corps cannot recommend a flood damage reduction project unless the benefits of that project exceed the costs. 33 U.S.C. § 701a. Navigation projects are similarly held to this standard. As a result, the Corps must determine that these types of projects have a positive benefit-cost ratio. The Corps must also determine that the recommended plan is “cost-effective.” 33 U.S.C. § 2281.

The Corps currently uses the 1983 P&G to guide its determination of project costs and benefits, and its selection of project alternatives. Under the 1983 P&G, all civil works projects except those for environmental restoration must contribute to a single federal objective known as National Economic Development (NED). To determine what plan merits federal participation, the feasibility phase must identify the NED Plan. The NED Plan is the alternative that will produce the greatest net economic benefits, consistent with protecting the nation’s environment. To help determine the NED plan, the Corps will conduct a benefit-cost analysis for each alternative evaluated in detail.

The Corps can select an alternative that is not the NED Plan provided that the feasibility report fully documents the reasons for selecting the different plan and the ASA(CW) determines that there “are overriding reasons for selecting another plan based upon other Federal, State, local and international concerns.”³¹ The Corps may also recommend a locally preferred plan that does not comply with the NED Plan if requested by the non-federal sponsor and approved by the ASA(CW).³²

As noted above, all Corps flood damage reduction and navigation projects also must comply with federal environmental laws, and the Corps must assess whether the recommended plan complies with federal, state, and local laws, regulations, and policies. 33 U.S.C. § 2281.

B. Restoration Projects

Environmental restoration projects do not require calculation of a quantitative benefit-cost analysis. Instead, restoration projects must improve the quality of the environment and must be cost-effective.³³ 33 U.S.C. §§ 2330(a) and 2281. As a matter of law, project elements that are included to protect and improve environmental quality are deemed to produce benefits that are at least equal to the costs of those measures. 33 U.S.C. § 2284.

Restoration projects are not subject to the NED evaluation. Instead, under the 1983 P&G, the Corps must identify the National Ecosystem Restoration (NER) Plan. The NER Plan is the alternative that maximizes restoration benefits compared to project costs. As a result, the assessment of an environmental restoration project focuses on quantitative and qualitative restoration criteria such as increases in species diversity, potential increases in nesting sites, and acres to be restored.

The Corps can select a restoration project alternative that is not the NER Plan provided that the feasibility report fully documents the reasons for selecting the different plan and the ASA(CW) determines that there “are overriding reasons for selecting another plan based upon other Federal, State, local and international concerns.”³⁴ The Corps may also recommend a locally preferred plan that does not comply with the NER Plan if requested by the non-federal sponsor and approved by the ASA(CW).³⁵

As noted above, all Corps restoration projects must comply with federal environmental laws, and the Corps must assess whether the recommended plan complies with federal, state, and local laws, regulations, and policies. 33 U.S.C. § 2281.

C. Modernizing the Corps’ Planning Guidelines

WRDA 2007 enacted a new national water policy that requires a fundamentally different approach to water resources project planning and directed the Secretary of the Army to develop new planning guidelines to implement that policy by November 8, 2009. 42 U.S.C. § 1962 — 3. In updating its planning guidelines, the Corps is to consult with other federal agencies and the National Academy of Sciences, and solicit and consider public and expert comments. The 1983 P&G are currently being updated pursuant to this hard fought reform.

The revised P&G must implement the new national water resources planning policy established in WRDA 2007; this new policy makes environmental protection and restoration a primary objective for *all* water projects:

“It is the policy of the United States that all water resources projects should reflect national priorities, encourage economic development, and protect the environment by — (1) seeking to maximize sustainable economic development; (2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and (3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems.” 42 U.S.C. § 1962 — 3.

The revised P&G also must (1) ensure that public safety issues are assessed and incorporated into the formulation of alternatives and the recommended plan; (2) ensure that Corps planning uses the best available economic principles; (2) ensure that Corps planning uses sound and modern analytical techniques for water resource planning, including adaptive management; (4) account for the value of projects for low-income communities; (5) account for the value of nonstructural approaches and watershed-scale planning; and (6) ensure that projects are justified through public, as opposed to private, benefits. 42 U.S.C. § 1962 — 3.

If properly implemented, these changes would create a new paradigm for water resources planning in the United States and would fundamentally transform the Corps’ planning process.

IV. Peer Review

WRDA 2007 instituted a standardized peer review process for costly or controversial Corps projects. WRDA 2007 also instituted a safety assurance review to examine the detailed technical designs and construction activities for certain high risk flood and storm damage protection projects. The Corps has also established an internal technical review process for most of its studies. These requirements are discussed in detail below.

The WRDA 2007 review requirements were established to help improve the quality of Corps studies and designs. In 2006, the Government Accountability Office (GAO) told Congress that recent Corps studies “did not provide a reasonable basis for decision-making” because they “were fraught with errors, mistakes, and miscalculations, and used invalid assumptions and outdated data.”³⁶ The GAO also testified that these failings were “systemic in nature and therefore prevalent throughout the Corps’ Civil Works portfolio.”³⁷ This confirmed a pattern of egregious planning flaws revealed by more than a decade of National Academy of Sciences, GAO, Army Inspector General, and independent expert studies.

As of the date of this Citizen’s Guide, however, the Corps still is not complying fully with the WRDA 2007 review requirements. To improve project planning, activists need to hold the Corps accountable to its independent review requirements.

A. Independent Peer Review

WRDA 2007 requires outside independent peer review of certain Corps project studies. The reviews are to be carried out by the National Academy of Sciences or “a similar independent scientific and technical advisory organization or an eligible organization” selected by the Corps. The independent review requirements are codified at 33 U.S.C. § 2343.

Project Studies Subject to Independent Peer Review: The following types of project studies are subject to the independent peer review requirements of WRDA 2007 if the study triggers are met: feasibility studies and their environmental impact statements; reevaluation studies and their environmental impact statements; and “any other study associated with a modification of a water resources project that includes an environmental impact statement” and that study’s environmental impact statement. 33 U.S.C. § 2343(a).

These types of project studies are subject to independent peer review under the following circumstances (33 U.S.C. § 2343(a)):

- (1) A project study **must** be reviewed if it costs more than \$45 million *unless* the project falls under one of the exemptions for review (see below).

- (2) A project study **must** be reviewed if the Governor of an affected State requests an independent review *unless* the project falls under one of the exemptions for review.
- (3) A project study **must** be independently reviewed if the Chief of Engineers determines that the project study is controversial *unless* the project falls under one of the exemptions for review.
- (4) A project study **may** be reviewed if the head of a federal or state agency determines that the project is likely to have a significant adverse impact *and* requests a review. The Chief of Engineers may deny a federal or state agency request for independent review, but if that happens, the agency head can appeal the Chief's denial to the Chairman of the Council on Environmental Quality.

The WRDA 2007 independent peer review requirements apply to project studies initiated between November 8, 2007 and November 8, 2014. The requirements also apply to studies initiated between November 8, 2005 and November 7, 2007 **if** those projects did not have an "array of alternatives" identified as of November 7, 2007.³⁸ 33 U.S.C. § 2343(h).

Project Studies Exempt from Independent Peer Review: The Chief of Engineers can choose to exempt any of the following types of projects from the WRDA 2007 independent review requirements (33 U.S.C. § 2343(a)(5)):

- (1) Projects subject to review under the \$45 million cost trigger can be exempted if the Corps chooses not to prepare an environmental impact statement for the project and the Chief decides that the project (a) is not controversial; (b) "has no substantial adverse impact on fish and wildlife species and their habitat"; (c) will have no more than a negligible impact on "unique" cultural resources; and (d) will have no more than negligible impacts on ESA-listed species prior to mitigation.
- (2) Projects subject to review under any trigger can be exempted if the project is being carried out under one of the Corps' nine continuing authorities programs and the Corps determines that the project does not require an environmental impact statement (but instead requires only an environmental assessment).
- (3) Projects subject to review under any trigger can be exempted if the project "involves only the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates within the same footprint and for the same purpose as an existing water resources project" and the project can be treated as routine and as having minimal life safety risks. It is important to recognize that many large rehabilitation projects will not meet these criteria, and will require independent review.³⁹

Review Panel Selection: The Chief of Engineers is to “contract with the National Academy of Sciences or a similar independent scientific and technical advisory organization or an eligible organization” to conduct the independent peer review. 33 U.S.C. § 2343(c). The Corps has the discretion to select the entity that will carry out the review, but that entity must apply the National Academy of Sciences criteria to ensure that panel members do not have a conflict with the project being reviewed. *Id.* While the Corps’ internal guidance recognizes that National Academy of Sciences (NAS) reviews are frequently cited for the type of independent external peer review process that the Corps should follow, the Corps’ guidance states that “actual NAS reviews are expected to be rare.”⁴⁰

Duties of Review Panel: The panel will review the study given to it; assess the adequacy and acceptability of the economic and environmental methods, models, and analyses; provide written and oral comments to the Chief throughout the development of the project; and submit a final report with the panel’s economic, engineering, and environmental analysis of the project study and assessment of the adequacy and acceptability of the economic and environmental methods, models, and analyses used by the Chief. The panel will not have the benefit of direct public input, but instead will have a limited opportunity to review any public comments provided to the Corps upon release of the draft feasibility report and draft EIS. 33 U.S.C. § 2343(d).

Scope of Review: The “peer review may include a review of the economic and environmental assumptions and projections, project evaluation data, economic analyses, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in evaluation of economic or environmental impacts of proposed projects, and any biological opinions of the project study.” 33 U.S.C. § 2343(a).

The Corps’ internal peer review guidance (discussed below) limits the panel’s ability to make recommendations regarding implementation of particular plans: “review panels should be instructed to not make a recommendation on whether a particular alternative should be implemented, as the Chief of Engineers is ultimately responsible for the final decision on a planning or reoperations study. External panels may, however, offer their opinions as to whether there are sufficient analyses upon which to base a recommendation for construction, authorization, or funding.”⁴¹ This limitation appears to conflict with the WRDA 2007 requirements.

Timing of Review: The Chief is directed to consider the need for an independent review at least as early as the time the without-project conditions are identified, the array of alternatives is identified, or the preferred alternative is identified. In all cases, the review must take place between the signing of the feasibility cost sharing agreement and the date the Chief transmits a draft Chief’s Report to the affected state(s) for their review and comment, and to the Secretary of the Interior for certain projects — the panel also terminates on the date of this transmittal. The panel must submit a report to the Chief

not more than 60 days after the close of the public comment period on a draft project study, unless the Chief determines that a longer time is required. 33 U.S.C. § 2343(b) and (e).

Panel Recommendations: The Corps is not required to adopt panel recommendations. Instead, the Chief need only consider the recommendations and prepare a written response for any recommendations adopted or not adopted. 33 U.S.C. § 2343(f).

Public Availability: The Chief of Engineers is required to make a copy of the independent review panel report and the Chief's written responses available to the public by electronic means, including the Internet. The Chief is also required to transmit the review report and the Chief's responses to Congress along with the Corps' final decision document for the project study. 33 U.S.C. § 2343(f). As of the date of this Citizen's Guide, the Corps appears to be misinterpreting this requirement to mean that the public should not have access to the independent review report until the final Chief's report and/or record of decision is submitted to Congress.

Paying for Independent Peer Review: The cost of an independent review is a federal cost and may not exceed \$500,000. However, the Chief of Engineers can waive the cost limitation if he deems it appropriate. 33 U.S.C. § 2343(g).

Sunset Provision: The WRDA 2007 independent review requirements will terminate on November 8, 2014 (seven years after enactment of WRDA 2007). 33 U.S.C. § 2343(h).

B. Safety Assurance Review

WRDA 2007 requires a safety assurance review for certain hurricane and storm damage reduction projects, and for certain flood damage reduction projects to assure public health, safety, and welfare. 33 U.S.C. § 2344. This review was established in direct response to the 2005 failure of Corps-built levees and floodwalls in New Orleans following Hurricane Katrina.

Projects Subject to Safety Assurance Review: Hurricane and storm damage reduction projects and flood damage reduction projects must undergo a safety assurance review "if the Chief of Engineers determines" that such a review "is necessary to assure public health, safety, and welfare." In determining whether a safety assurance review is necessary, the Chief is to consider whether "(1) the failure of the project would pose a significant threat to human life; (2) the project involves the use of innovative materials or techniques; (3) the project design lacks redundancy; or (4) the project has a unique construction sequencing or a reduced or overlapping design construction schedule." The safety assurance review applies to any project that is in design or construction on or between November 8, 2007 and November 8, 2014. 33 U.S.C. § 2344.

Timing and Scope of Safety Assurance Review: The review is to begin at the “appropriate point in the development of the detailed engineering and design specifications” and must take place before initiation of construction activities and periodically thereafter until construction activities are completed. The review and review schedule is to be “sufficient to inform the Chief of Engineers on the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare.” 33 U.S.C. § 2344.

Review Panel Selection: The Chief of Engineers selects the reviewers, and must apply the National Academy of Sciences criteria to ensure that reviewers do not have a conflict of interest. The Chief has flexibility in both the number and areas of expertise of the panelists, and can appoint just a single reviewer. 33 U.S.C. § 2344(c) and (e).

Public Availability: The recommendations of the reviewer(s) and the response of the Chief of Engineers must be made available to the public, including on the internet. 33 U.S.C. § 2344.

Sunset Provision: Like the WRDA 2007 independent peer review requirements, the safety assurance review requirements terminate on November 8, 2014 (seven years after enactment of WRDA 2007). 33 U.S.C. § 2344(f).

C. Internal Technical Review

The Corps has established internal technical review requirements for all Corps decision documents and their supporting analyses. Decision documents are defined as all feasibility studies, reevaluation studies, and reports associated with project modifications that require a Chief’s report, Congressional authorization, or preparation of an EIS. These include major rehabilitation reports, dredged material management plans, dam safety modification reports, design deficiency reports, studies prepared by local sponsors, and continuing authority program studies that require an EIS.⁴²

In all cases, these internal technical reviews are to be carried out by “professionals that are at arms length and not associated with development of the work that is being reviewed.”⁴³ These internal review requirements are in addition to the independent peer review and safety assurance reviews established by WRDA 2007.

District Quality Control Review: Each decision document will go through a District Quality Control (DQC) review. The DQC examines the “basic science and engineering work products” with a goal of fulfilling the project quality requirements as defined in the Project Management Plan (PMP).⁴⁴ DQC is managed by the Corps District preparing the document being reviewed and may be conducted by staff in that District as long as they are not otherwise involved in the study.

Agency Technical Review: Each decision document will also go through an Agency Technical Review (ATR). ATR is “an in-depth review, managed within USACE, and conducted by a qualified team outside of the home District that is not involved in the day-to-day production of a project/product.”⁴⁵ The goal of the ATR is to “ensure that the product is consistent with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers.”⁴⁶

ATR teams are to be made up of senior Corps personnel and may be supplemented by outside experts as appropriate. The leader of the ATR team is to be from outside the Corps Division in which the underlying documents are being prepared. For planning feasibility level studies, the ATR will be managed by the appropriate Planning Center of Expertise (PCX). *See Chapter 1 for a discussion of the PCX.*

ATR reviews are to provide advice on defined and specific issues that should include an analysis of the underlying assumptions, analyses, and conclusions related to public safety, economic, engineering, environmental, and other issues. ATR panels should also evaluate the soundness of models and analytic methods used. ATR panels should be given the flexibility to bring important issues to the attention of decision makers, but they will be instructed not to make a recommendation on whether a particular alternative should be implemented.⁴⁷

Review Plans: The District (or other Corps office responsible for a project) will develop a Review Plan to guide the review process for projects subject to internal technical and outside independent peer review.⁴⁸ The Review Plan is to be developed in coordination with the appropriate PCX and approved by the appropriate Division. The Review Plans are prepared during the reconnaissance phase of the planning process and are a component of the Project Management Plan (PMP). A Review Plan must be developed prior to completion of the Feasibility Cost Sharing Agreement (FCSA). *See Section II for a discussion of the reconnaissance phase and the required PMP and FCSA documents.*

The Review Plans are to be detailed enough to assess the necessary level of review, the focus of such a review, the models and data proposed for the study, and the parts of the study that are likely to be challenging. Review Plans are also to include an execution plan that explains how the review will be carried out.

Public Participation in Review Plans and Reviews: Review Plans must be published on the home District’s public website, and the public must be given an opportunity to review and comment on each Review Plan. Each Division is also required to post an agenda of Review Plans on the Division website and to update that agenda at least every three months. The agenda is to describe all decision documents covered by the review requirements and link to each review-related document that has been made public.⁴⁹

The public is also supposed to be allowed to participate in the review process. “Whenever feasible and appropriate,” the draft decision document being reviewed under a Review Plan is to be made available to the public for comment at the same time it is submitted for review (or during the review process). In such cases, the District should also “sponsor a public meeting where oral presentations on scientific issues can be made to the reviewers by interested members of the public. When employing a public comment process, the PCX shall, whenever practical, provide reviewers with access to public comments that address significant scientific or technical issues.”⁵⁰

V. Mitigation for Civil Works Projects

WRDA 2007 established strict mitigation standards for Corps civil works projects. The WRDA 2007 reforms strengthened the Corps' existing mitigation requirements in an effort to dramatically improve the Corps' abysmal mitigation record.⁵¹ Unfortunately, as of the date of this Citizen's Guide, the Corps still had not complied with its new (or old) mitigation mandates. To minimize the impacts of Corps projects, and to force the Corps to plan less destructive projects in the first instance, activists need to hold the Corps accountable to its mitigation requirements.

A. Mitigation Requirements

WRDA 2007 establishes minimum standards for civil works project mitigation, defines the elements that must be included in mitigation plans, requires the Corps to monitor civil works mitigation until ecological success is achieved, and requires the Corps to consult yearly with state and federal resource agencies on the progress being made for each civil works mitigation plan.⁵² Notably, these new mitigation requirements must be met for **all** new and ongoing Corps project studies.

Applicability of New Mitigation Requirements: The Corps must now comply with its full suite of mitigation requirements for **all** new and ongoing Corps project studies. This means that the Corps must satisfy its strict mitigation requirements in every feasibility study (and every project carried out under a feasibility study) that is either initiated or finalized after November 7, 2007. In addition, the full suite of mitigation requirements must be satisfied for each authorized project for which the Corps prepares a supplemental environmental impact statement or supplemental environmental assessment and for each authorized project for which the Corps conducts a general reevaluation report or other internal reevaluation. 33 U.S.C. § 2283(d).

Minimum Mitigation Standards: Corps projects are subject to the following minimum mitigation standards.

- (1) The Corps must implement mitigation for fish and wildlife losses unless the Corps makes a specific finding that the project would cause only “negligible adverse impacts to fish and wildlife.” 33 U.S.C. § 2283(d).
- (2) The Corps must implement not less than in-kind mitigation. This means that the mitigation must restore the same or greater ecosystem and habitat values lost to the civil works project. Specifically, the Corps must implement in-kind mitigation for damage to bottomland hardwood wetlands, and it must mitigate impacts to other habitat types “to not less than in-kind conditions, to the extent possible.” 33 U.S.C. § 2283(d).

- (3) The Corps is required by statute to meet, at a minimum, the same mitigation standards that the Corps requires of other governmental entities and private parties under the Clean Water Act § 404 program. The Council on Environmental Quality reports that under the 404 program, the Corps requires “a ratio of more than two acres of mitigation for every acre of permitted impacts to wetlands.”⁵³ As a result, this should be the minimum amount of mitigation required for the civil works program as well. *See Chapter 3 for a discussion of the mitigation requirements of the 404 program.*
- (4) The Corps is required by statute and regulation to minimize the adverse impacts of its own projects on the nation’s waters to the maximum extent practicable, as required by the Clean Water Act 404(b)(1) Guidelines (which are actually mandatory regulations). To do this, the Corps must first avoid, then minimize impacts, and then implement compensatory mitigation to offset any remaining damage.⁵⁴ *See Chapter 3 for a discussion of the sequencing requirements of the 404 program.*
- (5) The Corps’ internal guidance states that adverse impacts to wetlands are to be “fully mitigated.”⁵⁵

Detailed Mitigation Plans Required: Since 1986, the Corps has been required to submit a “specific plan to mitigate fish and wildlife losses” with every project the Corps recommends to Congress, unless the Corps makes a specific finding that the project would cause only “negligible adverse impacts to fish and wildlife.” 33 U.S.C. § 2283(d). WRDA 2007 added detailed requirements for Corps mitigation plans, which now must include:

- (1) The type, amount, and characteristics of the habitat being restored, a description of the physical actions to be taken to carry out the restoration, and the functions and values that will be achieved;
- (2) The ecological success criteria, based on replacement of lost functions and values, that will be evaluated and used to determine mitigation success;
- (3) A description of the lands and interest in lands to be acquired for mitigation, and the basis for determining that those lands will be available;
- (4) A mitigation monitoring plan that includes the cost and duration of monitoring, and identifies the entities responsible for monitoring if it is practicable to do so (if the responsible entity is not identified in the monitoring plan it must be identified in the project partnership agreement that is required for all Corps projects); and

- (5) A contingency plan for taking corrective action in cases where monitoring shows that mitigation is not achieving ecological success as defined in the plan. 33 U.S.C. § 2282(3).

Mitigation Timing: Since 1986, the Corps has been required to implement all civil works mitigation prior to, or concurrently with, project construction. Purchase of mitigation lands is supposed to take place prior to any project construction, or concurrently with the purchase of interests in project lands (*i.e.*, also before any project construction). Construction associated with mitigation can be carried out concurrently with project construction. 33 U.S.C. § 2283(a).

Long Term Monitoring and Consultation: WRDA 2007 establishes detailed mitigation monitoring and consultation requirements for Corps projects. The Corps (or a delegated entity) must monitor mitigation for **each** civil works project **until** the monitoring demonstrates that the ecological success criteria established in the project's mitigation plan have been met. The Corps also must consult yearly on each project with the appropriate federal agencies and the states on the status of the mitigation efforts. The consultation must address the status of ecological success on the date of the consultation, the likelihood that the ecological success criteria will be met, the projected timeline for achieving that success, and any recommendations for improving the likelihood of success. 33 U.S.C. § 2283(d)(3).

Regulations implementing the National Environmental Policy Act also require the Corps to monitor its mitigation requirements to help ensure that any mitigation the Corps commits to carry out in a Record of Decision is fully implemented. 40 C.F.R. §§ 1505.2 and 1505.3; 33 C.F.R. § 230.15.

Mitigation Reporting: WRDA 2007 requires the Corps to report to Congress each year on the status of its civil works mitigation. 33 U.S.C. § 2283a. The mitigation status report must provide mitigation information — including the results of its yearly mitigation consultations — for all projects that are under construction, all projects that have undergone or completed construction but for which mitigation has not been completed, and all projects for which construction funding is requested for the next fiscal year. The status report is to be submitted with the President's proposed budget request for the Corps, and must be made available to the public, including on the internet.

No Net Loss of Wetlands Goal: WRDA 1990 established a statutory “interim goal of no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and a long-term goal to increase the quality and quantity of the nation's wetlands, as defined by acreage and functions” for the Corps' civil works program. 33 U.S.C. § 2317(a)(1).

Paying for Mitigation: Mitigation costs are a project cost and are allocated to the appropriate project purpose (the purpose requiring the mitigation) and cost-shared accordingly. Cost-shared mitigation costs include the costs of lands, easements, rights-of-way, and relocations needed to implement the mitigation. 33 U.S.C. § 2283(c).

Congress established an Environmental Protection and Mitigation Fund in 1986 to fund authorized fish and wildlife mitigation measures in advance of appropriation of construction funding for a project. Monies paid from the fund are to be reimbursed from the first appropriations made for construction (including planning and design) of such project. The fund has an authorized yearly funding ceiling of \$35 million. 33 U.S.C. § 2286.

B. Mitigation Compliance

The WRDA 2007 mitigation reforms were enacted to address the Corps' abysmal record on mitigation, which is discussed below. Unfortunately, as of the date of this Citizen's Guide, the Corps had not improved its mitigation planning and had not complied with the requirements established by WRDA 2007.

Historic problems with Corps mitigation planning can be found in four main areas. Activists should be aware of these historic problems to assist in properly commenting on Corps projects and Corps mitigation plans.

First, historically the Corps has failed to implement any mitigation at all for the vast majority of its projects. As noted above, since 1986 the Corps has been required to implement mitigation for all but negligible fish and wildlife losses. Despite this statutory mandate, the Government Accountability Office (GAO) reported that the Corps failed to mitigate at all for 69 percent of projects constructed between 1986 and 2001. GAO also reported that where the Corps did require mitigation, it failed to mitigate concurrently with project construction 80 percent of the time.⁵⁶

It is simply not plausible that 69 percent of Corps projects would cause only "negligible adverse impacts." For example, the Corps' own guidelines state that the environment will be harmed by "practically all flood control projects."⁵⁷ And no reasonable person could suggest that turning a free flowing river into a navigation channel through the construction and operation of locks, dams, and training structures, and through dredging and water level manipulation could cause only negligible impacts.

Projects examined by the GAO included a number with egregious violations of the Corps' requirement to mitigate for all projects with more than negligible fish and wildlife impacts. For example, the Corps did not prepare a mitigation plan for the American River Watershed Flood Plain Protection Plan, even though EPA concluded that the project was so environmentally destructive that it "must not proceed as proposed." The Corps also

did not prepare mitigation plans for the Boston Harbor Navigation Improvements and Berth Dredging project or the John T. Myers and Greenup Lock Improvements project even though EPA told the Corps that each of those projects would have “significant environmental impacts.”⁵⁸

Similarly, in 2002, the Corps’ San Francisco District refused to include mitigation for a proposed project in northern California that would have destroyed 100 acres of wetlands. According to the Corps, it would not require mitigation for the Bolinas Lagoon project because it would be too expensive to do so and mitigation could not take place close to the project site.⁵⁹ With much pushing from the environmental community, the Bolinas Lagoon project has been substantially revised.

Second, historically the Corps would often propose out-of-kind mitigation in the small percentage of projects where mitigation was proposed. The Corps would often propose mitigating impacts to wetlands, streams, and riparian habitat with fewer acres of more common terrestrial habitat. This out-of-kind mitigation by definition cannot replace lost wetland functions, and cannot meet the Corps’ statutorily mandated goal of no net loss of wetland acres.

A very recent example of this problem can be found in the Corps’ 2007 proposal for the notorious Yazoo Backwater Pumping Plant project in Mississippi (a project that was vetoed by EPA under the Clean Water Act in August 2007). That proposal, which was finalized after enactment of WRDA 2007, called for mitigating 60,700 acres of wetland damage by planting tree seedlings on 10,662 acres of frequently flooded agricultural lands, with no requirements to ensure that those lands had wetland hydrology. In actuality, the Yazoo Pumps would have drained and damaged far more than 60,700 acres of wetlands. In 2000, EPA said the project would actually drain and damage more than 200,000 acres of ecologically significant wetlands; and EPA, the Fish and Wildlife Service, and an independent hydrology assessment all demonstrated that the Corps’ study grossly underestimated the actual wetland impacts.⁶⁰

Even if it were theoretically possible to mitigate wetland losses at this scale, the Corps’ proposal certainly would not have done so. Since the Corps had not actually proposed any wetlands mitigation it could not replace the wetland functions that would be lost through the project. Even if the Corps’ proposal somehow miraculously created 10,622 acres of wetlands, even using the Corps’ assessment of wetland impacts that would still result in more than an 80 percent loss of wetlands.

Additional examples of this problem abound. For example, the Corps’ project to enlarge the existing Mississippi River Mainline Levees will destroy a minimum of 7,328 acres of wetlands, but mitigation is limited to reforesting 5,863 acres of frequently flooded agricultural lands. Potential mitigation lands have not been identified, and the Corps

will not develop mitigation plans until after acquiring mitigation lands. The Corps' plan to dredge over 100 miles of the Big Sunflower River will, among other things, damage 3,631 acres of wetlands. But, the Corps' mitigation is limited to planting tree seedlings on only 1,912 acres of frequently flooded agricultural lands.

Third, historically Corps studies have identified only the amount of mitigation that would be undertaken, while leaving all mitigation planning for a later date. Lack of a detailed mitigation plan makes it impossible to evaluate the potential for mitigation success or to calculate the true cost of implementing that mitigation.

Fourth, historically the Corps has made little effort to evaluate whether its mitigation efforts were working. For example, in November 2000, the Corps' Vicksburg District — which covers portions of Arkansas, Louisiana and Mississippi — acknowledged that it had carried out no mitigation monitoring at all for the many civil works projects in that District.⁶¹ In at least some situations, the Corps has looked only to the amount of money it has spent to determine mitigation “success.” The Corps advised GAO that “the point at which 50 percent of mitigation is completed occurs in the fiscal year in which the Corps district office’s cumulative expenditures toward the mitigation plan total at least 50 percent of the estimated cost of these activities.”⁶²

Endnotes

1. U.S. Army Corps of Engineers, Information Paper, Civil Works Program Statistics, February 17, 2005, (“Civil Works Program Statistics Fact Sheet”).
2. The Water Resources Development Act of 1990 established a new mission for the Corps: “The Secretary shall include environmental protection as one of the primary missions of the Corps of Engineers in planning, designing, constructing, operating, and maintaining water resources projects.” 33 U.S.C. § 2316(a). As of January 2004, the Corps was constructing 81 specifically authorized restoration projects. In fiscal year 2004, 19% of the Corps’ total appropriation (\$866.6 million) was going towards restoration projects. The largest of these projects include the Comprehensive Everglades Restoration Program, Columbia River Fish & Wildlife Mitigation, Upper Mississippi River Environmental Management Program, and the Missouri River Fish & Wildlife Mitigation. Civil Works Program Statistics Fact Sheet, *supra* note 1.
3. Ricciardi, Anthony and Rasmussen, Joseph B., “Extinction Rates of North American Freshwater Fauna”; *Conservation Biology*; 13 (5), October 1999, at 1220.
4. National Research Council, *New Directions in Water Resources Planning for the U.S. Army Corps of Engineers*, 1999, at 4, 21, 61-63; National Research Council, *Inland Navigation System Planning: The Upper Mississippi River-Illinois Waterway*, 2001, at 25-28; 53-54; US Army Inspector General, *Report of Investigation*, Case 00-019, 2000, at 7-8.
5. Before the Corps can proceed with an authorized study or build a project authorized for construction it also must obtain funding from Congress. See Chapter 4 for a detailed discussion of the budget and appropriations processes.
6. While most Corps projects and statutory policies are now enacted through a Water Resources Development Act (WRDA), Corps policies are codified, and kept up to date, in a document known as the United States Code. As a result, Corps policy provisions will typically have both a WRDA reference and a United States Code (U.S.C. or U.S.C.A. for U.S. Code Annotated) reference. For example, section 2034 of WRDA 2007 (Independent Peer Review) has been codified at 33 U.S.C. § 2343. The United States Code compiles all changes to policy provisions and is the official source for the current version of the law. As a result, you should always utilize the U.S.C. reference to find the most current legal requirements. Note that the section numbers of the U.S.C. and U.S.C.A. are identical, the U.S.C.A. merely adds explanations and case law references that have interpreted the code sections. While the Corps is devoted to talking about laws in terms of their WRDA section numbers, it is impossible to know whether a provision has been amended by looking only at the original WRDA language. Project authorizations typically are not codified in the United States Code. As a result, to find amendments to a project provision, you will need to search each subsequent WRDA (the Corps will typically include all such changes in its description of a project’s authorizing language).
7. Before enactment of WRDA 2007, the Corps had an existing “backlog” of more than 800 authorized projects, of which more than 500 were not consistently receiving construction appropriations. That backlog was “estimated at \$38 billion to \$60 billion depending on the suite of project authorizations considered.” Congressional Research Service, *Report to Congress; Army Corps of Engineers Water Resources Projects: Authorization and Appropriations*, Updated October 4, 2007 at 4. WRDA 2007 authorized an additional \$23 billion in Corps activities, adding more than 900 new projects and programs to the Corps’ already massive backlog.
8. Congress appropriated \$1.7 billion for Corps construction in Fiscal Year 2004, \$1.8 billion for construction in Fiscal Year 2005, \$2.4 billion for construction in Fiscal Year 2006, \$2.3 billion for construction in Fiscal Year 2007, and \$2.3 billion for construction in Fiscal Year 2008. Energy and Water Appropriations Act 2004; Energy and Water Appropriations Act 2005; Energy and Water Appropriations Act 2006; Revised Continuing Appropriations Resolution 2007 (Pub. L. 110-5); Consolidated Appropriations Act of 2008 (Pub. L. 110-161).
9. Like all legislation, the E&W Bill must go through the full legislative process, including House and Senate Committee votes, House and Senate floor votes, and a House-Senate Conference Committee to work out any differences between the House and Senate versions.
10. The local sponsor cost share requirement was established in 1986. It applies to all projects authorized after 1986 and to most projects authorized before 1986.
11. U.S. Army Corps of Engineers, ER 1165-2-121, Flood Control Cost-Sharing Requirements under the Ability-to-Pay Provision - Section 103(m) of PL 99-662 (01 Nov 1989).
12. U.S. Army Corps of Engineers, Environmental Operating Principles and Implementation Guidance.
13. *Id.*
14. Congressional Research Service, *Army Corps of Engineers Water Resources Activities: Authorization and Appropriations*, Updated February 4, 2005 at 4.
15. As of FY 2001, there were 355 Section 1135 projects competing for the limited program funds.
16. National Research Council, *New Directions in Water Resources Planning for the U.S. Army Corps of Engineers* (National Academy Press 1999) at 41.
17. In 2001, the Corps’ then Chief of Engineers General Robert B. Flowers testified that only about a third of reconnaissance studies eventually lead to feasibility studies, and that only 16 of every 100 reconnaissance studies leads to a project actually being constructed by the Corps. 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://www.senate.gov/~epw/stm1_107.htm#03-15-01 (visited June 29, 2009).
18. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, Appendix H, Amendment #1 (20 Nov 2007) at H-5.
 19. These requirements were established by WRDA 1986.
 20. In certain extremely rare situations, it is possible that a less detailed environmental assessment may be sufficient.
 21. U.S. Army Corps of Engineers, EC 1105-2-410, Review of Decision Documents (22 Aug 2008).
 22. The Corps can proceed to PED once the Chief of Engineers has transmitted his recommendations for a project to the Secretary for transmittal to Congress and before Congress authorizes a project for construction **as long as** the Chief of Engineers also transmits findings to Congress stating that the project is without controversy and justifies further engineering, economic, and environmental investigations. 33 U.S.C. § 2287.
 23. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (22 Apr 2000) at 4-2.
 24. *Id.*
 25. *Id.*
 26. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, Appendix G, Amendment #1 (30 Jun 2004) at G-55 to G-56.
 27. *Id.*
 28. *Id.*
 29. *Id.*
 30. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (22 Apr 2000) at 4-10.
 31. *Id.* at 2-7; 1983 P&G.
 32. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (22 Apr 2000) at 2-8. “In all cases, the LPP [locally preferred plan] must have greater net benefits than smaller scale plans, and enough alternatives must be analyzed during the formulation and evaluation process to insure that net benefits do not maximize at a smaller scale than the sponsor’s preferred plan. . . . If the sponsor prefers a plan more costly than the NED plan, the NER Plan or the combined NED/NER Plan, and the increased scope of the plan is not sufficient to warrant full Federal participation, ASA(CW) may grant an exception as long as the sponsor pays the difference in cost between those plans and the locally preferred plan. The LPP, in this case, must have outputs similar in kind, and equal to or greater than the outputs of the Federal plan. It may also have other outputs. The incremental benefits and costs of the locally preferred plan, beyond the Federal plan, must be analyzed and documented in feasibility reports . . .” *Id.*
 33. The Secretary is authorized to carry out a restoration project if the Secretary determines that the project “(i) will improve the environment and is in the public interest; or (ii) will improve the elements and features of an estuary” and determines that the project “is cost-effective.” Restoration projects “may include removal of a dam.” 33 U.S.C. § 2330(a).
 34. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (22 Apr 2000) at 2-7; 1983 P&G.
 35. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (22 Apr 2000) at 2-8. *See also*, note 32, *supra*.
 36. Government Accountability Office, (GAO-06-529T), *Corps of Engineers, Observations on Planning and Project Management Processes for the Civil Works Program*, March 2006.
 37. *Id.*
 38. Because the array of alternatives is typically selected early in the planning process, most studies initiated during this period likely will not be subject to the WRDA 2007 independent review requirements. It also may be difficult to establish whether or not an “array of alternatives” had already been identified for projects initiated during this period.
 39. It is important to recognize that some rehabilitation projects will not be exempt because they are technically complex and fall outside the other exemption parameters. Major rehabilitation projects can cost tens of millions to hundreds of millions of dollars, will require a benefit cost analysis, and can extend the life of an existing project for another 50 years.
 40. U.S. Army Corps of Engineers, EC 1105-2-410, Review of Decision Documents (22 Aug 2008).
 41. *Id.*
 42. *Id.*
 43. *Id.*
 44. *Id.*
 45. *Id.*
 46. *Id.*
 47. *Id.*
 48. The required contents of Review Plans are set forth in Appendix B to EC 1105-2-410, Review of Decision Documents (22 Aug 2008).
 49. U.S. Army Corps of Engineers, EC 1105-2-410, Review of Decision Documents (22 Aug 2008).
 50. *Id.*, Appendix B.
 51. These earlier mitigation requirements were established by the Clean Water Act 404(b)(1) Guidelines and by WRDA 1986 and WRDA 1990.
 52. WRDA 2007 § 2036. These provisions have been codified at 33 U.S.C. §§ 2283, 2283a, and 2317b.
 53. Council on Environmental Quality, *Conserving America’s Wetlands 2006: Two Years of Progress in Meeting the President’s Goals*, Appendix B at 22 (April 2006).
 54. The Clean Water Act 404(b)(1) Guidelines explicitly state that they apply to the Corps’ civil works program. 40 C.F.R. § 230.2(a).
 55. U.S. Army Corps of Engineers, ER 1105-2-100 (22 Apr 2000), Appendix C at 6-17. Each District Commander is to “ensure that

- adverse impacts to wetland resources are fully mitigated.”
56. General Accounting Office, *U.S. Army Corps of Engineers Scientific Panel's Assessment of Fish and Wildlife Mitigation Guidance*, GAO-02-574, May 2002 at 4. The Corps provided the mitigation planning information for 150 projects that it says were authorized between 1986 and September 30, 2001 that received construction appropriations. *Id.*
 57. U.S. Army Corps of Engineers, ER 1105-2-100, Corps Planning Guidance Notebook, (April 22, 2000) at E-89.
 58. The list of projects without mitigation plans identified in the May 2002 GAO study *U.S. Army Corps of Engineers Scientific Panel's Assessment of Fish and Wildlife Mitigation Guidance* (GAO-02-574) was provided to American Rivers by the U.S. Army Corps of Engineers. EPA gave the Corps' environmental impact statement for the American River Watershed Flood Plain Protection Plan a rating of EU2. EPA gave the Boston Harbor Navigation Improvements and Berth Dredging Project and the John T. Myers and Greenup Lock Improvements environmental impact statements an EU2 rating. The criteria for these ratings, which include the quotes referenced in the text, are described at <http://www.epa.gov/compliance/nepa/comments/ratings.html> (visited March 20, 2008).
 59. Specifically, the Corps concluded that it would not mitigate for the loss of 100 acres of jurisdictional wetlands because: (1) on-site mitigation is not physically possible; (2) there are no acceptable potential mitigation sites close to the project site and off-site mitigation would be inconsistent with County policies; (3) mitigation would be so expensive that it would prevent the Corps from proceeding with the project; and (4) loss of salt marsh habitat cannot be mitigated because no mitigation is planned. Draft Environmental Impact Statement, Bolinas Lagoon Ecosystem Restoration Project, San Francisco District (July 2002) at 4-15 to 4-16.
 60. U.S. Army Corps of Engineers, Final Yazoo Backwater Area Reformulation Report and Final Supplement No. 1 to the 1982 Yazoo Area Pump Project Final Environmental Impact Statement (2007), Appendix 1 Mitigation. The mitigation also might include some use of water control structures to establish winter waterfowl habitat on a small percentage of the mitigation acres. The Corps also said that specific plans would not be developed until mitigation lands are purchased, and monitoring will be limited to initial visual inspections followed by remote sensing techniques.
 61. U.S. Army Corps of Engineers, Vicksburg District, November 7, 2000 response to Freedom of Information Act Request No. 00-60 submitted by Melissa Samet, Earthjustice requesting information and data on the Corps' wetlands monitoring program in the Vicksburg District. While the Vicksburg District recently started a mitigation monitoring program, the data being collected is not sufficient to determine whether functional replacement is actually occurring.
 62. General Accounting Office, *U.S. Army Corps of Engineers Scientific Panel's Assessment of Fish and Wildlife Mitigation Guidance*, GAO-02-574, May 2002 at 4 n.2.