Lesson 5

CIVIL WORKS PROGRAM
DEVELOPMENT AND EXECUTION COURSE
LESSON NUMBER 5

3. CIVIL WORKS FUNCTIONAL PROGRAMS

TOPIC:

a. General Investigations Program
   (1) Reconnaissance Studies
   (2) Feasibility Studies
   (3) Preconstruction Engineering and Design (PED)
   (4) Coordination Activities
   (5) Remaining Items

TIME ALLOTTED: 3/4 hour, including time for Questions and Answers (PowerPoint Slide Presentation)

HANDOUTS:

H-5-1 CRS Report Water Resources Activities: Authorization and Appropriations

H-5-2 Reconnaissance Study Justification Sheet Example

H-5-3 Feasibility Study Justification Sheet

H-5-4 Universal Fact Sheet Template

H-4-5 Investigation Remaining Items

REFERENCES: EC 11-2-193 (Final Draft) Civil Works Program Development Guidance Fiscal Year 2010

Civil Works Orientation Course Overview Slide Presentation
http://www.usace.army.mil/civilworks/cecwp/cecwp_temp/cwproc.ppt

DETAILED OUTLINE

A. INTRODUCTION

1. Objective. To provide a general understanding of program development and budgeting for the various studies, projects, and programs in the Investigations account.

2. Items to be covered.

a. Background description of Investigations Appropriation Account
b. Guidance for programming specific studies and projects.
c. Remaining Items programs budgeted by HQUSACE.

B. BACKGROUND

1. A project passes through three phases before construction begins:
a. Reconnaissance study,
b. Feasibility study, and
c. preconstruction engineering and design (PED)

2. Congressional study authorization.

□All three are conducted under a single congressional study authorization. As part of a Water Resources Development Act (WRDA)

□**Or** in a survey resolution by an authorizing committee In accordance with the Rivers and Harbors Act of 1913 (33 U.S.C. 542) for the examination and review of an earlier Corps report.

□The length of each phase varies project by project,

□The size and the complexity of a project typically resulting in a longer process.

Reconnaissance Study

□Better understand the nature of problem

□Determine the likelihood of a plan that is in the federal government's interest.

□Determine interest of non-federal sponsors phases of project development.

□Corps policy complete most reconnaissance studies within 12 months

□Cost of reconnaissance studies and related *project study plans* are generally limited to $100,000

□Done entirely at federal expense.

□Around a third of reconnaissance studies lead to feasibility studies

□Only 16 of every 100 reconnaissance studies lead to constructed projects.

□**Authorization:** Expedited Reconnaissance Studies are authorized under Section 905(b) of the Water Resources Development Act of 1986.
Study Goal: Determine if the Corps should investigate a problem in more detail during the second phase of the study (the feasibility study).
□**Study Purpose:** Define water resource problems and identify solutions. Decide if there is Federal interest in implementing solutions to ecosystem degradation, flooding, and other related water resource problems. Identify a local sponsor.

- **Funding:** 100% Federal cost, not to exceed $ 100,000.
- **Schedule:** The study should be completed within 6-12 months from initial obligation of funds to signing of the Feasibility Cost Sharing Agreement (**FCSA**).

- Start - 6 Months Prepare Section 905(b) Analysis Report
- 6 Months - 12 Months
- Negotiation of Project Study Plan and
- FCSA Certification of FCSA (HQ Approval)
- Execution of FCSA

Reconnaissance Study Requirements:

- Determine if the water resource problem warrants Federal participation in a feasibility study;

- Define the Federal interest, consistent with Army policy, costs, benefits, and environmental impacts;

- Complete a 905(b) Preliminary Analysis Report;
Prepare a Project Study Plan;

- Assess the level of interest and support from non-Federal entities in cost-sharing of a feasibility study and project construction.

- Obtain a letter of intent from the local sponsor;

- Negotiate and execute a Feasibility Cost Sharing Agreement (FCSA).

Reconnaissance Phase Products:

- Section 905(b) Analysis Report - This report is used as a basis for making a decision to proceed or not to proceed into the feasibility phase. The report will be submitted to our headquarters for review and approval as early as possible in the recon phase.
- Study Authority
- Study Purpose
- Location of Project
- Discussion of prior studies, reports, and existing water projects
- Plan Formulation
  - Identified problems
  - Alternative plans
  Evaluation of alternatives
- Federal Interest
- Preliminary Financial Analysis
- Summary of Feasibility Study Assumptions
- Feasibility Study milestones
- Feasibility Study Cost Estimate
- Recommendations
- Issues
- Views of other Resource Agencies
- Project Area Map

- Project Study Plan (PSP) - The PSP is developed to guide the development and preparation of the feasibility study and is utilized in cost shared feasibility study negotiations. The plan is a collaboration between the Sponsor and the Corps.
- The PSP will include a detailed description of the project, a breakdown of feasibility study work activities and responsibilities, draft schedules and cost estimates, coordination procedures and a quality control plan.

- Letter of Intent -
The local sponsor declares its intent to cost share in the feasibility study and project construction costs.
- Feasibility Cost Share Agreement:

▫

Negotiable

- ▫Study Plan
- ▫Feasibility Study Schedule
- ▫Feasibility Study Cost
- ▫Mix of Cash/In-Kind

▫**Non-Negotiable Items**

- ▫Project Cost Sharing Percentage
- ▫Boilerplate Provisions

Peer Review Plan -
Can't start Feasibility phase without it.

Feasibility Study

▫If a non-federal sponsor is found and the Corps recommends proceeding, a feasibility study begins.

▫Cost of the feasibility and environmental studies is split equally between the Corps and the non-federal project sponsor.

▫Feasibilities (with Engineering Appendix) usually take about 3 years to complete

▫ Objective is to formulate and recommend solutions to the problem. Alternative plans,

▫Engineering feasibility,

▫Benefit-cost analyses,

▫Assess environmental impacts under the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321).8

□Evaluation of federal water resources projects, including Corps activities, is governed by *Principles and Guidelines for Water and Related Resources Implementation Studies. (P&S)*

□Feasibility analysis determinations whether the project warrants further federal investment

▫i.e., if the project has sufficient National Economic Development benefits. (NED)
▫Chiefs Report

▫The feasibility phase ends when the Chief of Engineers signs a final recommendation on the project,

▫Report to ASA(CW) and OMB

▫Informational copy of Report to Congress

▫Congress normally uses a favorable Chief's Report as the basis for authorizing projects.

▫Since the mid-1990s, Congress has authorized a significant number of projects based on these informational copies, prior to the projects receiving a full review by the Assistant Secretary and OMB.

Some recent WRDAs have also included authorizations for projects that were still undergoing feasibility analyses;

□Generally authorized contingent on a Chief's Report being available by December 31 of the year the WRDA was enacted.

Preconstruction Engineering and Design (PED)

- Cost shared 75%/25% during PED.
- Follows the feasibility analysis.
- Takes about three-four years, on average.
- Conducted while pursuing congressional authorization for the project and construction funding.
- PED Costs are ultimately distributed between the federal and non-federal sponsor in the same proportion as the cost-share arrangement for the construction phase and non-federal contributions during PED credited accordingly.
- Once the project receives congressional authorization and PED is complete, federal funds for construction are sought annually in the Energy and Water Development Appropriations Act.

READY FOR CONSTRUCION

- Handoff to Construction, General
  Project has been authorized for Construction OR Project has completed Preconstruction Engineering and Design including P&S on first contract.

PROGRAMS MATERIALS

- **JUSTIFICATION SHEETS**
  - **See Referenced Program EC**
- **P2 AND INPUT (Automated Info - Database)**
  - **CECW-I**
- **FACT SHEETS & ISSUE PAPERS**
  - **Issue Papers for Congressional Hearings**
  - **Fact Sheets during Mark-up**

JUSTIFICATION SHEETS

- Critical Elements
  - Authorization
  - Financial Data
    - Costs should be accurate and add up
  - What are you doing with the budget year funding
  - Issues

MEMBERS FACT SHEETS

- Authorization
- Financial Data - should be accurate
  - Include the capability for the project, not the amount requested
- Describe what the money will be used for
- Administrations position
  - Specifically - is this project within the Corps high priority outputs
- Issues and policy concerns
- Report/Act language, if necessary
  - If work is egregious or not authorized, provide language

Preparation Guidance

PROJECT NAME AND STATE: Some projects/studies cover multiple states i.e., Mississippi River Levees; Merrimack River Comprehensive Basin Study; John Glenn Great Lakes Program. It would be helpful to denote which state the project should be placed in for the budget tables.

AUTHORIZATION: Shorthand for the authorization is acceptable, i.e. FCA 1928, R&HA 1968; however, it would also be helpful to include the appropriate section, i.e. Section 455, WRDA 86. If the project/study

authorization is through one of the standing authorizations, CAP, PAS, etc, the section and the standing authorization citation should be stated in the authorization line.

SUMMARIZED FINANCIAL DATA: Could be reduced to these lines:
- Estimated Federal Cost
- Estimated Non-Federal Cost
- Total Estimated Project Cost
- Allocation thru BY-1 (i.e., FY 2006)
- Allocation for BY (i.e., FY 2007)
- (Budget Request for BY+1 (i.e., FY 2008)
- Balance to Complete After BY+1
- Amount that could be used in BY+1 (This should be the total amount that could be used, not just the additional capability, in other words budget amount plus capability)

LOCATION AND DESCRIPTION: A more useful location and description would read as follows --- the project consists of a 15 mile levee along the left descending bank of the XYZ River providing flood protection to 15,000 acres of farmland as well as two small municipalities.

PROPOSED ACTIVITIES FOR CURRENT FY: Describe major items of work that are ongoing or scheduled.

APPLICATION OF THE AMOUNT THAT COULD BE USED IN THE BUDGET FISCAL YEAR: Distinguish between budgeted work and added items. If several items are listed, show dollars for each.

ISSUES AND OTHER INFORMATION: Indicate economics, where applicable, and state whether it is justified or not with a clear and succinct statement; if the project is reimbursable, make it clear it is; indicate whether authorization is needed to implement request; state other discussions as necessary.

DMINISTRATION POSITION: Be direct, specific, and consistent (don't use terms like "seem to be"); be consistent for projects with the same purpose; be consistent for same project from previous year (if different, so state)

CONGRESSIONAL INTEREST: Show ALL members with a specific interest in the project, with their District number, but highlight by bolding the member's name where the project is located, and underline the member or members who submitted the request.

VTC FACT SHEETS
- Critical Elements - Congressional Adds
- Authorization
- Financial data
- Decision Document status
- State proposed plan to accomplish this work
- Add 905 (b) Statement

C. REMAINING ITEMS

- **Items Not Listed Under States:**
- Coordination Studies With Other Agencies:
  - Other Coordination Programs
  - Planning Assistance to States
- Collection and Study of Basic Data:
  - Coastal Field Data Collection
  - Environmental Data Studies
  - Flood Damage Data
  - Flood Plain Management Services
  - Hydrologic Studies
  - International Water Studies
  - Precipitation Studies (National Weather Service)
  - Remote Sensing/Geographic Information System Support
  - Scientific and Technical Information Centers
  - Stream Gaging (U.S. Geological Survey)
  - Transportation Systems
  - Tri-Service CADD/GIS Technology Center
- Research and Development

SUMMARY

☐Components or Phases of GI
☐Criteria for Inclusion in Budget
☐HQ Remaining Items
☐Sample Project / Budget Materials

ASK THE PROFESSOR

H 5-1

Order Code RL32064

Army Corps of Engineers Water Resources Activities: Authorization and Appropriations

Updated February 4, 2005

Nicole T. Carter
Analyst in Natural Resources Policy
Resources, Science, and Industry Division

H. Steven Hughes
Analyst in Natural Resources Policy
Resources, Science, and Industry Division

Army Corps of Engineers Water Resources Activities: Authorization and Appropriations

Summary

Project and Program Authorities. Congress authorizes and appropriates funds for the U.S. Army Corps of Engineers (Corps) to conduct water resources studies and projects for navigation, flood and storm protection, ecosystem restoration, and an array of other purposes. Congress authorizes Corps studies generally as part of the consideration of a Water Resources Development Act (WRDA) or in a survey resolution by an authorizing committee. Authorization to construct projects and changes to the policies guiding the Corps civil works program, such as cost-share requirements for projects, are also included in WRDAs. WRDAs are often considered biennially.

Funding of Line Items and Accounts. Federal funding is provided for the civil works activities of the Corps primarily through the annual Energy and Water Development Appropriations Act; although not encouraged in some instances, these acts also have authorized Corps studies and construction. Due in part to competition for limited funding, many authorized activities do not receive appropriations, resulting in a backlog of authorized construction and maintenance activities. Few new studies and new construction activities have been included in the President's budget request in recent years.

This report explains how the congressional authorization and appropriations process overlays the Corps' project development process. Special attention is given to initiating a water resources study, the WRDA process, and civil works appropriations. This report will be updated annually.

Contents

List of Tables

Army Corps of Engineers Water Resources Activities: Authorization and Appropriations

Army Corps of Engineers and Its Civil Works Program

The U.S. Army Corps of Engineers (Corps) is a unique federal agency located in the Department of Defense with military and civilian responsibilities. At the direction of Congress under its civil works program, the Corps plans, builds, operates, and maintains a wide range of water resources facilities.[1] The Corps attracts much congressional attention because its projects can provide significant economic stimulation, locally and regionally, in addition to their basic resource development purposes. Congress plays a significant role in the direction of the agency's civil works program, particularly through the authorization and appropriations of studies and projects.

Within the Corps, projects are largely planned at the district level and approved at the division and headquarters levels.[2] The civil works program is headed by a civilian Assistant Secretary of the Army for Civil Works. A military Chief of Engineers oversees the Corps' civil and military operations and reports on civil works matters to the Assistant Secretary for Civil Works. The agency's traditional civil responsibilities are creating and maintaining navigable channels and controlling floods. During the last decade, Congress has increased Corps responsibilities in the areas of ecosystem restoration, environmental infrastructure (e.g., municipal water and wastewater treatment systems), disaster relief, and other non-traditional activities. For more information on current issues related to the Corps and its civil works activities, see CRS Issue Brief IB10120, *Army Corps of Engineers Civil Works Program: Issues for the 109th Congress*, by Nicole T. Carter and Pervaze A. Sheikh, and CRS Issue Brief IB10133, *Water Resources Development Act (WRDA): Army Corps of Engineers Authorization Issues in the 109th Congress*, coordinated by Nicole T. Carter.

Initiating a Corps Project: Study Authorization

A Corps project often begins with a request for assistance from a community (e.g., citizens or businesses) or a local or state government entity with a water resource need (e.g., navigation, flood or storm protection, or ecosystem restoration) beyond its capability. Congressional sponsorship is generally necessary to

---

[1] For more information on the Corps, its civil works program, and the types of projects that it undertakes, see CRS Report RS20866, *The Civil Works Program of the Army Corps of Engineers: A Primer*, by Nicole T. Carter and Betsy A. Cody.

[2] The Corps has 8 divisions and 41 districts. A division and district map is available at [http://www.usace.army.mil/divdistmap.html].

successfully initiate a study. The Corps generally requires two types of congressional authority to initiate a study — study authorization, then appropriations.[3]

A study authority allows the Corps to investigate a problem and determine if there is a federal interest in proceeding further. If the Corps has performed a study in the geographic area before, a new study can be authorized by a resolution (known commonly as a "survey resolution") of either the House Transportation and Infrastructure Committee or the Senate Environment and Public Works Committee.[4] If the Corps has not previously investigated the area, the study needs to be authorized in an act of Congress, typically a Water Resources Development Act, which is often considered biennially.[5] The majority of Corps studies are currently authorized by survey resolutions. Once authorized, appropriations for Corps studies are sought through the annual Energy and Water Development Appropriations Acts. The objective of Corps studies is to guide the decision to authorize a Corps project for construction. Early in the study process, the Corps assesses the level of interest and support of non-federal entities that may be potential sponsors. Non-federal sponsors are state, tribal, county, or local agencies or governments that join the Corps in the effort. The authorizations of Corps studies generally are not time-limited; however, there is a process to begin deauthorization of studies that have not received appropriations for five years.

Corps Project Development Process

Non-federal sponsors are involved in not only identifying the water resources needs, but also contributing to each phase of the development process. Since WRDA 1986 (P.L. 99-662), non-federal sponsors are responsible for a significant portion of the financing of studies, construction, and operation and maintenance (O&M) of most projects. Moreover, non-federal support is useful in shepherding a project through the many stages from study initiation to final project construction.

---

[3] Technical assistance and some small projects can be conducted under the Corps' Continuing Authorities Programs without obtaining a study authorization or specific appropriations. They are performed at the Corps' discretion based on the availability of funds. The Continuing Authorities Programs include beach erosion, navigation, flood control, streambank and shoreline protection, snagging and clearing, modifications to existing projects for the benefit of the environment, and aquatic ecosystem restoration.

[4] To request a study's inclusion in a resolution, a Member of Congress may send a letter to the Chairman of the House Committee on Transportation and Infrastructure or the Senate Committee on Environment and Public Works. House resolutions authorizing studies may occur numerous times annually; Senate resolutions have been less common. The number of studies authorized by resolution varies by Congress. The 105th Congress authorized 93 studies via survey resolutions; the 106th Congress authorized 92, and the 107th Congress authorized 66. A survey resolution is permitted under the Rivers and Harbors Act of 1913 (33 U.S.C. 542) for the examination and review of an earlier Corps report. To be eligible for authorization in a resolution, the new study must stay within the scope of the authorization of the original report.

[5] These acts are commonly distinguished from each other by including a reference to the year of enactment; for example, WRDA 1986 refers to the act passed in 1986.

There are three phases that a project passes through before construction begins: reconnaissance study, feasibility study, and preconstruction engineering and design, as shown in **Table 1**.[6] All three are conducted under a single congressional study authorization. The length of each phase varies project by project, with the size and the complexity of a project typically resulting in a longer process.

Table 1. Project Phases, Duration, and Federal Cost

	Recon-naissance	Feasibility	Preconstruction & Engineering Design	Construction	O&M
Duration (years)	1	2-3	approx. 2	varies	authorized project duration
Federal Share of Costs*	100%	50%**	varies by project purpose	varies by project purpose	0% with some exceptions

* For more information on federal and non-federal cost-share responsibilities for various project purposes, see CRS Report RS20866, *The Civil Works Program of the Army Corps of Engineers: A Primer*, by Nicole T. Carter and Betsy A. Cody.

** Inland waterways feasibility studies are a 100% federal responsibility (33 U.S.C. 2215). These projects are not considered to be "local" by their nature, and therefore, do not require a non-federal sponsor for the feasibility study.

The reconnaissance study is used to better understand the nature of the water resources problem and to determine the likelihood of a plan that the Corps can eventually implement that is in the federal government's interest. The reconnaissance study also examines the interest of non-federal sponsors who are involved in all phases of project development. Corps policy is to complete most reconnaissance studies within 12 months; the cost of reconnaissance studies and their related *project study plans* are generally limited to $100,000 and done entirely at federal expense. Around a third of the reconnaissance studies eventually lead to feasibility studies; only 16 of every 100 reconnaissance studies undertaken by the Corps lead to constructed projects.[7]

If a non-federal sponsor is found and the Corps recommends proceeding, a feasibility study begins. Its objective is to formulate and recommend solutions to the

---

[6] More information on the planning process is available in the *Planning Guidance Notebook* (Engineer Regulation 1105-2-100), at [http://www.usace.army.mil/inet/usace-docs/eng-regs/er1105-2-100/toc.htm], and the *Project Partnership Kit* (IWR Report 96-R-10), at [http://www.iwr.usace.army.mil/iwr/pdf/ppkit.pdf]. Corps policies are available in its *Digest of Water Resources Policies and Authorities* (EP 1165-2-1), at [http://www.usace.army.mil/inet/functions/cw/cecwp/digest/index.htm].

[7] 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. The hearing is hereafter referred to as Reform of Feasibility Studies hearing, March 15, 2001. The testimony is available at [http://www.senate.gov/~epw/stm1_107.htm#03-15-01].

water resources problem. During the first few months of a feasibility analysis, the local Corps district formulates alternative plans, investigates engineering feasibility, conducts benefit-cost analyses, and assesses environmental impacts under the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321).[8] The evaluation of federal water resources projects, including Corps activities, is governed by *Principles and Guidelines for Water and Related Resources Implementation Studies*. An important outcome of the feasibility analysis is the determination of whether the project warrants further federal investment (i.e., if the project has sufficient National Economic Development benefits).

The cost of the feasibility and environmental studies is split equally between the Corps and the non-federal project sponsor. The feasibility phase ends when the Chief of Engineers signs a final recommendation on the project, known as the Chief's Report. In recent years, the Congress has used a favorable Chief's Report as the basis for authorizing projects.

The Corps sends an informational copy of the Chief's Report to Congress when it transmits the report to the Assistant Secretary and the Office of Management and Budget (OMB). Since the mid-1990s, Congress has authorized a significant number of projects based on these informational copies, prior to the projects receiving a full review by the Assistant Secretary and OMB. Some recent WRDAs have also included authorizations for projects that were still undergoing feasibility analyses; these projects generally were authorized contingent on a Chief's Report being available by December 31 of the year the WRDA was enacted.[9]

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

A project is likely to undergo some changes after authorization. If project features or the estimated project cost changes significantly, an additional congressional authorization may be necessary. Authorization of a significant

---

[8] Generally, the district produces an environmental impact statement (EIS) for a project during the feasibility phase; however, projects, conducted under continuing authorities programs may undergo a more limited environmental assessment. An important part of the feasibility phase are public meetings that are normally held to determine the view of local interests on the extent and type of improvement desired.

[9] For more information on concerns that Corps projects are being authorized before a complete review by the Assistant Secretary and OMB and that project planning is being rushed by contingent authorizations, see CRS Report RL30928, *Army Corps of Engineers: Civil Works Reform Issues in the 107th Congress*, by Nicole T. Carter.

modification is typically sought in a WRDA. For less significant modifications, however, additional authorization is often not necessary. Section 902 of WRDA 1986 allows for increases in total project costs of up to 20% due to modifications that do not *materially* change the project's scope or function without requiring additional authorization. The authorization of Corps construction projects generally are not time-limited; however, there is a process to begin deauthorization of projects that have not received appropriations for seven years.

Water Resources Development Act

WRDAs are legislative vehicles that typically are exclusively dedicated to authorizing Corps activities and establishing policies for Corps civil works activities, such as cost-share requirements. Authorizations in WRDA usually fall under three general categories: studies, projects, and modifications to existing authorizations.

Beginning in 1986, a biennial WRDA cycle has loosely been followed, with WRDAs enacted in 1988 (P.L. 100-676), 1990 (P.L. 101-640), 1992 (P.L. 102-580), 1996 (P.L. 104-303), 1999 (P.L. 106-53), and 2000 (P.L. 106-541).[10] Recent WRDAs have each authorized projects whose potential federal appropriations could reach between $3 billion and $4.3 billion; many of these WRDAs authorized or modified the authorization of more than a hundred projects.[11] Pressure to authorize new projects, increase authorized funding levels, and modify existing projects is often intense, thus promoting a fairly regular (if not always biennial) consideration of WRDA. Controversial projects and policy changes have complicated the passage of some WRDAs, or even derailed them until the next Congress. For example, some Members of the 107th Congress were interested in including provisions in a proposed WRDA 2002 to change how the Corps evaluates and undertakes projects (i.e., "Corps reform"). A lack of Corps reform measures reportedly contributed to the bill not being voted on by the House. The debate over whether or not to include Corps reform provisions reportedly also played a role in the 108th Congress not enacting a WRDA. For more information on current WRDA development, see CRS Issue Brief IB10133, *Water Resources Development Act (WRDA): Army Corps of Engineers Authorization Issues in the 109th Congress*, coordinated by Nicole T. Carter. (For more information on the evolution of the Corps reform debate, see CRS Report RL30928, *Army Corps of Engineers: Civil Works Reform Issues in the 107th Congress*, by Nicole T. Carter).

Once the House Committee on Transportation and Infrastructure or the Senate Committee on Environment and Public Works decides to consider a WRDA,

---

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

[11] For example, WRDA 2000 authorized the construction of 155 projects, and 56 studies, and modified the authorizations for almost 50 projects.

Members of Congress may send a letter to the appropriate Committee Chair requesting the inclusion of a study authorization, project authorization, or project modification.[12] If the WRDA has been introduced in February or early March (according to a traditional WRDA cycle), Committee staff generally recommend that letters be sent by late spring; however, no formal deadline exists. The bill reported by the Committee generally passes that chamber with few changes. Although the appropriations process determines which studies and projects receive federal funds, the essential character of a project is established during the authorization process and is seldom modified substantially during appropriations.

Although Congress has historically authorized Corps projects as part of a WRDA, authorizations have also been included in appropriations bills, especially in years when passage of a WRDA has been delayed. Authorizations in appropriations bills, however, are generally not encouraged as standard procedure and may be subject to a point of order on the floor.

Appropriations: Energy and Water Development

Each Congress, through a WRDA and survey resolutions, typically authorizes dozens of new projects; however, many of these new studies and new construction projects will not receive appropriations. Fiscal priorities and public attitudes in recent decades have resulted in declining federal funding for water resources activities, thus increasing competition for funding among authorized activities.[13] Moreover during the 1990s and in 2000, Congress authorized not only navigation and flood control projects, but also ecosystem restoration, environmental infrastructure assistance, and other non-traditional activities. The Corps now has a "backlog" of more than 500 authorized projects that have not received construction appropriations.[14]

To concentrate limited resources and to move projects through construction, the Bush Administration has focused its budget request on funding priority projects and those projects near completion that are for flood and storm damage reduction, navigation, and environmental restoration. It has also substantially reduced appropriation requests for new studies and eliminated the start of most new construction projects.

Funding for the civil works program has often been a contentious issue between the Administration and Congress, with final appropriations typically providing more funding than requested, regardless of which political party controls the White House

---

[12] Congress generally receives the Administration's WRDA proposal during February of the second year of a Congress, at the same time as the President's budget.

[13] For example, the civil works budget has experienced a substantial decline in *real dollar* amounts; the annual funding (in 1999 dollars) for the Corps' construction account fell from an average of $4 billion in the 1960s and 1970s to $1.4 billion in the 1990s.

[14] How many of these projects remain viable and desirable is unclear. Some may no longer have a non-federal sponsor ready to share project financing. A recommendation by the Administration for federal appropriations is generally based on evidence of financial support by the non-federal sponsor to provide its share of project costs.

and Congress. Given the backlog of authorized Corps activities and the limited federal budget resources, Congress and the Administration are sometimes forced to make difficult choices among competing authorized activities as they prepare annual appropriations. One consequence of limited resources may be that the appropriated funds for an individual study or project are insufficient to permit the optimum programming of work by the Corps. Members of Congress may request that appropriations for a Corps activity be included (or altered) in an Energy and Water Development appropriations bill by sending a letter to the subcommittee chair or the ranking member of the Appropriations Subcommittee on Energy and Water Development. In recent years, recommended deadlines for these requests have been in March or April for both the House and Senate. Once appropriations have been allocated for a Corps activity, funding requests for subsequent years are typically accorded priority until the study or construction is complete. However, fiscal constraints and Administrative priorities in recent years have resulted in deviations from this pattern.

ILLUSTRATION A-2.1
NEW START RECONNAISSANCE PHASE STUDY

APPROPRIATION TITLE: Investigations, Fiscal Year (PY) Division:_____

Study	Total Estimated Federal Cost $	Allocation Prior to FY (PY-1) $	Allocation FY (PY-1) $	Tentative Allocation FY (PY) $	Additional to Complete After FY (PY) $
SURVEYS - NEW (Insert Type)					
Study Name	100,000	0	0	100,000	0
EFG District					

Furnish a brief description of the study area, water resource development problems, and principle purposes of the study. For example, for flood damage prevention studies any information available on recent flood history. (dates, physical and dollar losses, etc), or for navigation studies include information on use (commercial vs. recreation) cargo types and quantities if known. For ecosystem restoration studies, include information that addresses the performance components in Appendix II (do not enter the scores) and information about the physical area involved.. For all purposes, provide any pertinent information concerning coordination with Federal and state resource agencies.. Identify relationship to other project purposes if appropriate. Do not include irrelevant data such as "mild summers or harsh winters"; do include all the data that would tell why this study should be selected out of the many recommended. Also cite any matters known to be of concern to the Congress and identify the tentative local sponsor who has indicated intent to share equally in the feasibility phase cost that may follow the reconnaissance study. (There may be multiple sponsors for watershed and multi-purpose studies) Describe briefly the general scope and key areas of concern that are to be addressed in the reconnaissance study, probable solutions if this type of information is available, and the work to be performed in the program year. This paragraph should present specific arguments and evidence that it is important to initiate the study in the program year and similar evidence that makes it clear that the study and its anticipated outputs are in accord with Administration policy. The reconnaissance phase is scheduled to be completed in (Month xxxx), which is (12 or less) months after initiating the study. It is acceptable to budget for reconnaissance studies that exceed $100,000. **The Justification sheet should state the date of CECW-P or RIT approval if it shows a cost above $100K or a schedule beyond 12 months.**

Cite study authority. (In the event that sufficient study authority is not available to accomplish study purpose it should be so noted and a request for appropriate authority must be in progress.)

H 5-2

ILLUSTRATION A-2.2
COST-SHARED FEASIBILITY STUDY

APPROPRIATION TITLE: Investigations, Fiscal Year (PY)

Division: _____

Study	Total Estimated Federal Cost	Allocation FY (PY-3)	Prior to Allocation FY (PY-3)	Allocation FY (PY-2)	Allocation FY (PY-1)	Allocation (PY)	Tentative Allocation to Complete After FY (PY)	Additional $
	$	$	$	$		$	$	$
ABCD River & Tributaries, Nothing Wash EFG District	1,200,000	170,000	150,000	200,000	130,000	200,000	350,000	

Furnish a brief description of the study area, water resource development problems, and principle purposes of the study. For example, for flood damage prevention studies any information available on recent flood history (dates, physical and dollar losses, etc), or for navigation studies include information on use (commercial vs. recreation) cargo types and quantities if known. For ecosystem restoration studies address the approximate area to be restored to the extent this is known. For all purposes, address the performance criteria for the purpose as described in Appendices I-VIII. For ecosystem restoration studies do not enter the performance component scores, instead provide data reflecting the basis for the scores. Do not include irrelevant data such as "mild summers or harsh winters"; do include all the data that would tell why this study should be selected out of the many recommended. Also cite any matters known to be of concern to the Congress. Describe briefly the general scope and key areas of concern that were or are being addressed in the reconnaissance study, probable solutions, and the work to be performed in the Program year. This paragraph should present specific arguments and evidence that it is important to fund the study in the Program year and similar evidence that makes it clear that the study and its anticipated outputs are in accord with Administration policy. Provide best available sponsor information. (Name of potential or actual sponsor, dates of verbal or written commitments, scheduled or actual FCSA signing.)

Fiscal Year (PY-1) funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year (PY) will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,200,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,400,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,100,000
Feasibility Phase (Non-Federal)	1,100,000

The reconnaissance phase is scheduled for completion in September (Month and Year) (Date of signing of FCSA). The feasibility study is scheduled for completion in September (Month and Year) (Date of Division Engineer's Transmittal Letter).

EC 11-2-187
10 May 06

ILLUSTRATION 1
FACT SHEET
(Identify INVESTIGATIONS, CONSTRUCTION, OR FC, MISSISSIPPI RIVER AND TRIBUTARIES, OPERATION & MAINTENANCE account)
Enacted Studies and Projects

BUSINESS LINE: (Identify Navigation, Flood and Coastal Storm Damage Reduction, Environment, Recreation, Hydropower, or Environmental Infrastructure)

PROJECT/STUDY NAME:

AUTHORIZATION:

LOCATION:

DESCRIPTION:

SUMMARIZED FINANCIAL DATA ($000)	FY 2007 ($000) Study/PED/Construction (Identify one)
Estimated Federal Cost	$ x,xxx
Estimated Non-Federal Cost	x,xxx
Cash	x,xxx
Other	x,xxx
Total Estimated Cost	$ x,xxx
Allocation thru 2004	$ x,xxx
Allocation for FY 2005	x,xxx
Allocation for FY 2006	x,xxx
Conference Amount for FY 2007	x,xxx
Allocation for FY 2007	x,xxx
Balance to Complete after FY 2007	x,xxx
Benefit to Cost Ratio Applicable rate (____%)	
Remaining Benefits Remaining Costs Ratio (7%)	

FY 2007 ACTIVITIES: (Describe Recon/Feas/PED/ Construction activities, draft reports, agreements, contract award dates (mm/yy), etc.)

EARLIEST ATTAINABLE COMPLETION FY FOR PHASE: (Indicate earliest attainable completion FY for feasibility study, PED, or construction phase, as applicable.)

OTHER INFORMATION: (Address changes in study/PED/project cost, authorization issues (e.g. 902 limit), status of agreement, any difference from work specified in budget documents or appropriations committee reports.)

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
1. Surveys	**10,100,000**	**28,598,000**
c. Special Studies	***375,000***	***20,375,000***
Flood Infrastructure (HQ-contract - Districts) ◆ Interagency effort to improve management of the Nation's flood and storm damage reduction infrastructure ◆ Conduct a national database of all flood and storm damage reduction projects ◆ Funded for $30 million in FY 06 by Emergency Supplemental - FY 07 will continue this effort. ➢ Gaps -- Identifications and assessment of flood and storm damages reductions projects owned and operated by other Federal Agencies and projects not previously included in the PL 84-99 program. At the FY06 funding level additional projects would be found, inventoried, and assessed. ➢ Capability amount -- $30,000,000 would provide funding for inclusion of projects owned and operated by other Federal agencies and a start at including non-Federal projects not included in the PL 84-99 program.	**0**	**20,000,000**
National Shoreline Study (IWR) ◆ Congressionally directed study ◆ To determine the extent and cause of shoreline erosion on all the coasts of the US ◆ To assess the economic and environmental impacts of that erosion ➢ Gap - n/a ➢ Capability - $2,000,000 to start regional studies, to collect data from the states and start the preparation national assessment of the state of the shores.	**375,000**	**375,000**
e. Coordination with Other Federal Agencies, States, and Non-Federal Interests	***9,725,000***	***8,223,000***
(1) Planning Assistance to States (Districts) ◆ 50-50 cost shared ◆ Small scale, study-only authority ◆ To assist States, local governments, Indian tribes and other non-Federal entities ◆ Prepare plans for the development, utilization and conservation of water and related land resources ◆ Popular program - 50 states and territories -- 28 tribes ➢ Gap - increase in the backlog of study requests ➢ Capability - $9,000,000 - This amount would reduce the large backlog of severely underfunded activities that are being slowed down and activities for which agreements have been executed and funds deficient to initiate activities ➢ Congressional Adds - all the adds were fully funded less the amount required for rescission	**5,727,000**	**4,550,000**
(2) Other Coordination Programs	***3,998,000***	***3,673,000***

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
a. Special Investigations, including FERC Licensing - (Districts)	**1,698,000**	**1,600,000**
◆ FERC - Review of preliminary permit and licenses applications for non-Federal hydroelectric power development ◆ Reports of nominal scope prepared pursuant to Congressional and other requests from outside the Corps of Engineers for information relative to projects or activities which have no funds. ◆ Outside agency planning documents are evaluated for impacts to existing Corps projects ➢ Gap - n/a ➢ Capability - $3,500,000 to allow sufficient coordination with other Federal agencies for watershed study proposals, watershed efforts, rapid resource assessment as well as to respond to Congressional and other non-Federal information requests concerning unfunded studies and projects.		
b. Gulf of Mexico Program - (District)	**131,000**	**100,000**
◆ To infuse COE input/influence regional direction into entire spectrum of actions of Gulf of Mexico Program ◆ Connect with local interests ◆ Execute limited number of identified Gulf of Mexico Alliance Plan action items with COE role/responsibility ◆ Identification of New Orleans District scope/opportunities in regional sediment management ◆ Sustain Coastal America involvement ➢ Gap - impact to the Corps involvement in Gulf of Mexico Alliance/Governor's Action Plan ➢ Capability - $205,000 to sustain our current partnership roles in developmental meetings, plan workshops, etc. Currently, Corps GMP funds allows Corps participation in workshops and meetings.		
c. Chesapeake Bay Program - (District)	**75,000**	**75,000**
◆ This is an interagency program initiated by the US Environmental Protection Agency (EPA) ◆ For the protection and restoration of the bay's natural resources. ➢ Gap - none ➢ Capability - none		
d. Pacific Northwest Forest Case Study - (District)	**75,000**	**50,000**
◆ An interagency program, initiated by the White House's Council of Environmental Quality ◆ For ecosystem management of watersheds within the public lands in the Pacific Northwest ➢ Gap - If we go to a 25k decrease, we should be able to complete our coordination requirements. However, technical services we provide will be reduced or eliminated. Currently, we work on projects with the USDA, FS and BLM within the major watersheds. This will be curtailed next year if we are cut. ➢ Capability - Capability is 100k for the Pacific Northwest Forest Case study. NWD would continue providing its technical and engineering services in important projects on the ground.		
e. Interagency Water Resources Development - (Districts)	**900,000**	**905,000**
◆ Corps of Engineers district activities that require coordination effort with non-Federal interests primarily in support of cost-shared planning studies; funds American Heritage River Navigators ◆ Help solve water resources problems when they have sought advice or to determine whether Corps programs are available and may be used to address the problems ➢ Gap - n/a ➢ Capability - $1,500,000 Will provide sufficient coordination of District activities, particularly coordination with non-Federal interests		

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
f. Interagency and International Support, including Dutch MOA - (HQ MIPR'd) ◆ Allow the Corps of Engineers to participate with other Federal agencies and international organizations ◆ To address problems of national significance to the United States. ➢ Gap - FY 07 will further limit USACE ability to support other Federal agencies and international organizations on matters of national significance to the United States. We often get requests to use our talents to support others who do not have a ready funding source to reimburse our costs. Some of these requests come from the State Department, our embassies overseas. At this critical time in our history the U.S. needs to be doing more to help other nations develop and hence lessen the root causes of terrorism. Since water resources cooperation with the Netherlands was not funded in FY06, the requested amount provides funding for a meaningful program of technology with a country with advanced capabilities in water resources management. ➢ Capability. - Total capability is $430,000 ($250,000 for IIS and $180,000 for the Dutch MOA). For IIS, $250,000 which is the annual authorized amount, would position USACE to be a more useful player in furthering the national security interests of the United States by assisting the US Ambassadors, the State Department including the Office of the Coordinator for Reconstruction and Stabilization, international organizations such as the World Bank and the United Nations and the World Water Council. For the Dutch MOA the capability is the same as the requested amount of $180,000.	**113,000**	**255,000**
g. Inventory of Dams - (ERDC) ◆ Funds are used for continued maintenance and publication of the National Dam Inventory. ◆ (Public Law 104-303) authorized $500,000 to be appropriated each fiscal year for the maintenance and publication of the National Dam Inventory ◆ This funding level will provide a minimum level of maintenance of the inventory but does not assure completeness of the inventory for public safety and security purposes. ➢ Gap -- Update of state data with new projects will not occur at the FY07 funding level. ➢ Capability -- $500,000 would provide full maintenance of the National Inventory of Dams and would provide funding for coordination of the National Inventory of Dams with the database of all flood and storm damage reduction projects.	**222,000**	**200,000**
h. National Estuary Program - (Districts) ◆ To participate with Federal and State agencies in the National Estuary Program (NEP) to develop management plans for nationallysignificant estuaries ◆ Administered by the Environmental Protection Agency under the Water Quality Act of 1987 ➢ Gap - limited activities ➢ Capability - $100,000 to actively participate in interagency coordination meetings & information transfer	**75,000**	**50,000**
i. North American Waterfowl Management - (Districts) ◆ Cooperation with Federal and State agencies, and non-Federal interests in support of the NAWMP ◆ Administered by the Department of the Interior, Fish and Wildlife Service ◆ Reverse downward trends in North America's waterfowl populations by protecting & improving waterfowl habitats nationwide ➢ Gap - limited activities ➢ Capability - $100,000 to participate in Interagency coordination meetings and information transfer	**75,000**	**50,000**

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
j. Coordination With Other Water Resources Agencies - (Districts) ◆ COE is the agency responsible for the flood control features of basin program ◆ Provide the Department of Agriculture with information on proposed Corps projects, including their effect on contemplated watershed programs ➢ Gap - reduced ability to coordinate with Federal agencies ➢ Capability - $400,000 to support Federal Interagency collaboration	246,000	200,000
k. CALFED - (District) ◆ CALFED Bay-Delta Program is a three-phased solution process for the development of a long-term comprehensive plan ◆ Restore ecological health and improve water management for beneficial uses of the Bay-Delta system ➢ Gap - None ➢ Capability - FY 07 capability amount is $300K. The additional $206K over the $94K budget would allow additional team members from more disciplines to participate in more depth in the CALFED meetings and report review according to responsibility and discipline	94,000	94,000
l. Lake Tahoe - (District) ◆ The Federal Interagency Partnership is working with state and local agencies and public interest groups ◆ To arrest further deterioration of Lake Tahoe while maintaining a viable economic climate ➢ Gap - Budgeted level of funding of $94K would reduce the level of participating in both formal and informal partnerships to sporadic attendance of meetings. The budgeted level would also prevent participating by Corps technical subject matter experts in solving problems directly related with restoration project implementation in the basin. ➢ Capability - FY 07 capability of $500K would allow the Corps to maintain an active leadership role in the Lake Tahoe Federal Interagency Partnership, as well as the many state and local interagency program and project groups. These include the Storm Water Quality Committee, the Tahoe Wastewater Infrastructure Partnership, the Tahoe Source Water Protection Partnership and in the allocation of Southern Nevada Public Lands Management Act restoration funds. Technical subject matter experts would continue collaboration on storm water design issue, precipitation and runoff design standards, and public participating issues. ➢ Congressional Add: SPK $294,000 FY 06 congressional add. Funds are being used to continue work associated with the Lake Tahoe Federal Interagency Partnership as directed in Executive Order 13057. The Federal Interagency Partnership is working with Federa, state and local agencies and public interest groups to arrest further deterioration of Lake Tahoe while maintaining a viable economic climate. Efforts will include active participation in partnership activities, completion of regional hydrology study of Lake Tahoe Basin, program project planning for water quality projects in the Lake Tahoe Basin and program management in conjunction with Federal, state and local agencies.	294,000	94,000
2. Collection and Study of Basic Data	13,306,000	9,470,000

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
a. Flood Plain Management Services - (Districts)	**6,407,000**	**5,625,000**
◆ 100% Federal for States, local governments, tribes -- 100% non-Fed for other Fed agencies, private citizens		
◆ To compile and disseminate data on floods and flood damage potential		
◆ Provide guidance in flood related planning to State and local agencies		
◆ Supports planning and implementing actions that reduce the flood hazard through wise use of flood plains		
◆ Limited flood mapping (areas FEMA doesn't cover)		
➢ Gap - Reductions in FY07 will only exacerbate the current situation in this program, as studies which have been delayed and stretched out due to insufficient funding will be further delayed, with unfunded backlogs increasing as requests for assistance continue to come in.		
➢ Capability - $12,500,000 - This amount would reduce the large backlog of severely underfunded activities that are being slowed down and activities for which agreements have been executed and funds deficient to initiate activities. Needs to be addressed as well include more intensive collaboration with FEMA in the areas of levee safety, outdated mapping to delineate changed floodplains, hurricane evacuation studies, and more attention to other risks, including other natural disasters such as earthquakes and manmade disasters such as industrial explosions.		
➢ Congressional Adds - all the adds were fully funded less the amount required for rescission		
c. Other Programs	***6,899,000***	***3,845,000***
(1) Stream Gaging - (USGS)	**600,000**	**600,000**
◆ Corps of Engineers cooperates with the U.S. Geological Survey in this effort		
◆ Contributes funds for all or part of the cost of the operation and maintenance of about 2,500 stations		
◆ Established in March 1928, so that streamflow data would be available to meet special needs concerning the Corps water resources responsibilities		
◆ Used primarily to operate Federal flood reduction projects		
◆ In the past ten years these projects have reduced flood damages by an average of $21.1 billion annually		
➢ Gap - None		
➢ Capability is $1,000,000 - In recent years, there have been multiple notices to Congress concerning the loss of gages in the cooperative program due to decreases in funding by USACE Districts. The increased capabilities in this account would allow continuation of data collection at key locations of national interest in the system.		
(2) Precipitation Studies (NWS)	**225,000**	**225,000**
◆ National Weather Service performs analyses of storm rainfall and other meteorological data required to develop hydrologic criteria		
◆ Used by the Corps in planning, design and water control management of flood control and water resources development projects, and in floodplain management studies		
➢ Gap - None		
➢ Capability is $500,000. The funding in this program has decreased in recent years. Updates of the Technical Papers for frequesncy analysis and HMR documents for PMP determinations are critical to the Corps mission. With the additional funds, the NW region and California updates of the technical papers could be completed.		

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
(3) International Waters - (Districts)	**300,000**	**200,000**
◆ Boundary Waters Treaty of 1909, the Niagara River Treaty of 1950, the Columbia River Treaty of 1961, and other less formal agreements ◆ Agreements between the Governments of the United States and Canada ◆ Regulation, control, and use of boundary waters ◆ Corps of Engineers representatives serve on and chair the U.S. Sections of 12 IJC Boards ◆ IJC Boards - Saint Croix River, Champlain Richelieu, Lake Champlain, St. Lawrence River, Niagara, Lake Superior, Lake of the Woods, Rainy Lake, Souris Red Rivers Engineering, Souris River Control, Kootenay Lake, and Osoyoos Lake ➢ Gap - $100,000 The reduction greatly reduces the resources available to address the many international issues that must be dealt with this year. ➢ Capability is $500,000. The funding in this program has decreased in recent years and needs to be increased to meet current needs. Introduction of new biological opinions has resulted in the need for more analysis and coordination of operating requirements between the involved countries.. The coordination of operations agreements and implementation /coordination of operations dealing with competing demands and water issues requires additional resources.		
(4) Hydrologic Studies - (Districts)	**300,000**	**250,000**
◆ Collection and study of basic hydrologic data for major storm events or certain special hydrologic processes ◆ Improve hydrologic engineering techniques for planning, design, construction, and operation of water resources projects ◆ Supports generalized hydrologic analyses (to local entities) of rainfall – runoff relationship, flood frequency, hydrograph development, model calibrations, prior years flooding, and other studies of hydrologic nature ➢ Gap - $50,000- The reduction limits the number of studies that can be performed. The requests for funding far exceeded the $300,000 that was originally requested. ➢ Capability $500,000. This program has been dramatically reduced over recent years There is significant needs in the areas of special H&H studies to support feasibility studies, etc. The significant storms of 2005 need to be investigated and incorporated in to the hydrologic recordand updated frequency analysi will be required. This work directly supports the leveee certification requirements and map modernization programs.		
(5) Scientific and Technical Information Centers - (ERDC)	**78,000**	**50,000**
◆ Five information analysis centers (coastal engineering, cold regions engineering, concrete technology, hydraulic engineering, and soil mechanics) located at ERDC ◆ Provide the major interface between the Corps of Engineers and the public and private sectors ◆ To gather and disseminate information as required by PL 99-802, Federal Technology Transfer Act of 1986 ➢ Gap - details to be covered by ERDC in separate brief ➢ Capability - $150,000 - details to be covered by ERDC in separate brief		

	Allocation for FY 2006	Request for FY 2007
(6) Coastal Field Data Collection - (IWR)	**4,125,000**	**1,400,000**

- Nationwide program designed to measure, analyze and assemble information required to accomplish the Corps mission
- Coastal navigation and storm damage reduction
- Designed for the collection of non-project-related data
- Is the Corps' contribution to the Integrated Ocean Observing System (sort of like a National Weather Service for the ocean)

➢ Gap - FY07 budget will result in termination of important programs including the only effort ever to improve typhoon innundation in the islands and major reduction and loss of fundamental infrastructure for the Corps' very popular role of collecting neashore wave data.

Field Wave Gauging (FWG), which includes the Coastal Data Information Program (CDIP), along with the Wave Information Study (WIS) provide critical data essential to the cost-effective design of Corps' projects. For example, a 10% error in estimating the design wave conditions at a project site can result in a cost error of 25% for beach nourishment projects and 30% for breakwaters. Without adequate funding our districts will not be able to cost effectively design projects that provide an adequate level of safety or with a high degree of certainty of the risk involved.

The Southern California Beach Processes Study (SCBPS) is central to any shore protection, navigation or environmental restoration project in California because the Corps' beach processes models successfully used on the Atlantic coast do not adequately predict west coast predictions. This program uses state-of-the-art techniques examines coastal change and waves along a 100km stretch of southern California that includes 16 Corps projects. In FY07 this program will be terminated.

The PILOT (Pacific Island Land-Ocean Typhoon) program is the first major effort to capture wave and water level conditions in the Pacific Basin during typhoons and hurricanes. The SWIMS (Surge Wave Island Modeling System) program takes PILOT results and creates a wave and water level prediction system for the Pacific Island that existing model do for the Atlantic and Gulf of Mexico coastlines. This is the first significant effort into improving inundation prediction in the islands and it will be terminated in FY07.

The Corps has much to gain from the Integrated Ocean Observing System (IOOS), but there is no funding mechanism for District level participation in the design of regional elements of the IOOS. The IOOS funding line would allow Districts to help design the regional systems and the Coastal and Hydraulics Laboratory to design the national system.

➢ Capability - $4,500,000 - See notes for Gap funding reductions.

➢ Congressional Adds - PILOT (Pacific Island Land-Ocean Typhoon) - observation program of typhoon innundation in the islands (650k); SWIMS (Surge Wave Island Modeling System) - the computer modeling effort which uses PILOT data ($750k); SCBPS (Southern California Beach Processes Study) - Regional measurement and modeling of the southern California coast to examine changes and to relate them to processes ($650k); CDIP (Coastal Data Information Program), an element of the Corps' Field Wave Gauging (FWG) IOOS contribution to collect high resolution nearshore wave data nationwide ($500k).

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
(7) Transportation Systems - (IWR) ◆ Supports navigation project planning and evaluation responsibilities through the provision of integral information components and technical support ◆ The process of planning improvements for waterway system and harbor navigation projects necessitates consideration of needs, opportunities, benefits, and economic costs associated with placement of project improvements within the context of the project-specific areas as well as within context of the overall national transportation system. ➢ Gap - Represents a loss buying power for products\services totaling approximately $39,000 ($25,000 plus 4 percent inflation on $350,000) WHAT WILL BE LOST - NO CAPABILITY FOR TECHNICAL SUPPORT OF HQUASACE, DIVISIONS, OR DISTRICTS (which through this year we have provided) - GREAT LAKES CARRIER COSTS WILL NOT BE COMPILED\DEVELOPED (which are needed for Great Lakes Studies already in process) - OCEAN-GOING BARGE COSTS WILL NOT BE COMPILED\DEVELOPED Without vessel operating cost estimates, economic benefits for related types of vessels can not be readily measured for civile works engineering studies or justifcation. ➢ Capability - $519,000 - Provides minimal level of funding for coordination & support to the navigation centers of expertise; Covers shortfall for contract administration\supervisions for products or services; Covers shortfall in funds needed to support the navigation centers of expertise; Provides adequate funding for techical support to HQUSACE, Divisions, & Districts for products\purchases; Compilation of Great Lakes Carrier Vessel Costs could be completed (and would not require update for two years); Compilation of Ocean-Going\Integrated Tug Barge Vessel Operating Costs could be initiated (and with $43,000 to $54,000 the following year, completed).	375,000	350,000
(8) Environmental Data Studies - (Districts) ◆ Continue development of an Environmental Database System in support of Aquatic Ecosystem Restoration Performance Measures and CEQ wetland data calls ➢ Gap - seriously delay database development ➢ Capability - $200,000 to expedite database development	94,000	50,000
(9) Remote Sensing Systems Support - (ERDC) ◆ Supports the overall technology transfer requirement of the Corps Civil Works Program for Remote Sensing systems ◆ Responsibility of the Cold Regions Research and Engineering Laboratory (CRREL) through its Remote Sensing/Geographic Information Systems (GIS) Center of Expertise ➢ Gap - n/a ➢ Capability - $400K to develop unified, consistent approach to implementing GIS at District Offices across the Corps	152,000	150,000

INVESTIGATIONS - REMAINING ITEMS - FY 2007	Allocation for FY 2006	Request for FY 2007
(10) Automated Information Systems Support; Tri-Service CADD/GIS Technology Center - (ERDC)	**402,000**	**350,000**
◆ Provides technical support to engineers and scientists utilizing BIM, CADD, GIS, and facility management technologies ➢ Gap - The funding gap will delay the development of tools to implement Building information Modeling (BIM) in USACE. BIM technology represents the next generation of CAD (Computer Aided Design), and has been shown to have significant ROI (return ➢ Capability - The capability is $650, which would provide for completion of BIM contract language, and establishment of object libraries for reusable design components		
(11) Flood Damage Data Program - (IWR)	**248,000**	**220,000**
◆ Improve the technical quality and accuracy of flood damage data ◆ Improve the understanding of the interrelationships of the characteristics of flooding on property damage ◆ Improve the formulation of flood damage reduction projects, and reduce the costs of feasibility studies ➢ Gap - This cut would eliminate the collection of flood damage data from approximately 100 businesses. These data are essential to constructing empirically-based nonresidential damage functions. These generic nonresidential damage functions will save considerable time and money for Corps districts, while they increase the accuracy and reliability of project benefit estimation. ➢ Capability - $500,000 would allow collection of damage data from Hurricanes Katrina and Rita, while the data are still obtainable. This funding level will allow for a complete modernization of the floodplain inventory application to allow for incorporation of GIS and Corpsmap data in bulk entry and analysis procedures. The new system would include a nonresidential component that is not now available. The modernized system would allow for dramatically reduced costs by lessening the dependence on a single source of proprietary data.		
Research and Development		
3. Research and Development - (ERDC & IWR)	**26,583,000**	**15,200,000**
◆ R&D effort is a problem-solving process ◆ Examines new ideas, approaches, and techniques and develops field-ready products ➢ Gap - Reductions will be discussed in detail in separate brief with ERDC ➢ Capability - $35,000,000 - details in later brief ➢ Congressional Adds - details in later brief		
TOTAL INVESTIGATIONS REMAINING ITEMS Note: FY 07 includes $20 million to continue National Inventory of Flood/Storm Damage Reduction Projects study	**49,989,000**	**53,268,000**