

United States Government Accountability Office

Report to the Chairman, Committee on Transportation and Infrastructure, House of Representatives

September 2010

ARMY CORPS OF ENGINEERS

Organizational Realignment Could Enhance Effectiveness, but Several Challenges Would Have to Be Overcome





Highlights of GAO-10-819, a report to the Chairman, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The U.S. Army Corp of Engineers' (Corps) civil works mission has grown over the years, while its three-tiered headquarters, division, and district structure has remained the same since it was created in 1893. GAO was asked to examine for the Civil Works Program (1) over time, how the Corps has realigned its organization to take into account its changing mission, budget, staffing, and workload; (2) the challenges that the Corps has faced in realigning its organization; and (3) areas where officials and stakeholders believe changes to organizational alignment, if any, could enhance the Corps' civil works mission. Organizational alignment refers to, among other things, changes in structure, roles and responsibilities, and technical and policy guidance.

GAO completed a historical and legislative review of the Corps' mission and past realignment efforts, reviewed budget, staffing, and workload data, and interviewed current and former officials and stakeholders.

What GAO Recommends

To improve the effectiveness of the Corps, GAO recommends, among other things, that the Department of Defense direct the Corps to review and revise as necessary the roles and responsibilities of component levels of the organization, and determine the extent to which the agency's technical guidance needs to be updated. The Department of Defense generally agreed with the recommendations.

View GAO-10-819 or key components. For more information, contact Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

ARMY CORPS OF ENGINEERS

Organizational Realignment Could Enhance Effectiveness, but Several Challenges Would Have to Be Overcome

What GAO Found

Since 1893, the Corps has had mixed results in modifying its organizational alignment in response to its changing mission, budget, staffing, and workload, but the fundamental structure has remained the same. For example, the Corps has added capacity and staff in response to its expanding mission, which now includes nine functional areas. Additionally, from 1994 to 2003, the Corps experienced static funding levels and responded by launching an effort that realigned the agency roles, functions, and processes to improve the efficiency of the Civil Works Program. In contrast to these efforts, other past proposals for realignment have not been implemented. For example, in 1992, the Corps proposed reducing the number of district offices in response to a diminished workload and budget. However, Congress did not support the closing of any districts, and therefore, this, as well as other similar proposals, have not been implemented.

The Corps has faced and will likely continue to face three challenges to any realignment effort: (1) inability to gain congressional support, (2) limitations of its funding structure, and (3) the autonomous culture of its districts. Most current and former officials told GAO that past attempts to realign district offices have failed because of a lack of congressional support. They said that the perceived risk of service reductions and job losses has and will continue to generate congressional resistance to such realignment efforts. In addition, they said the Corps' annual incremental project-based appropriations and cost-sharing requirements create an impediment to realignment. For example, funding projects in increments hinders project efficiency by increasing costs and timelines. Finally, they said the autonomous culture of the districts has created a culture where they are reluctant to share resources and workload. This has impeded the Corps' efforts to realign its work and resources more efficiently.

Although many officials and stakeholders that GAO spoke with generally agreed that the Corps' structure is appropriate because it allows each level to focus on client and stakeholder needs at that level, some said that the current workload did not justify 38 districts. Officials and stakeholders also identified three areas where changes could result in enhanced effectiveness. First, they identified the need to redefine and clarify roles and responsibilities within the three levels so that Corps staff and managers are clear about the extent of their responsibilities. Second, there are opportunities to make better use of the Corps' Centers of Expertise, which were created to consolidate key skills and knowledge and improve the effectiveness of the overall Civil Works Program. Areas in which the centers could be improved include better information on the types of services available and qualifications of the experts in the centers. Finally, the majority of division and district commanders we interviewed said that the Corps' technical guidance is outdated and needs to be revised. Some of this technical guidance is between 10 and 15 years out of date and may result in divisions and districts executing projects differently.

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Abbreviations

BRAC	Base Realignment and Closure
CoP	Community of Practice
Corps	U.S. Army Corps of Engineers
DOD	Department of Defense
FTE	full-time equivalent
FUSRAP	Formerly Utilized Sites Remedial Action Program
O&M	operations and maintenance
WRDA	Water Resources Development Act

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United States Government Accountability Office Washington, DC 20548

September 1, 2010

The Honorable James L. Oberstar Chairman Committee on Transportation and Infrastructure House of Representatives

Dear Mr. Chairman:

The U.S. Army Corps of Engineers (Corps) is the federal agency responsible for, among other things, domestic civil works projects. In recent years the Corps has come under criticism from Members of Congress, stakeholders, and the public about the effectiveness of its Civil Works Program, including the length of time it takes to complete projects and the Corps' increasing backlog of congressionally authorized projects.

The Corps has a history dating back to the founding of the country. When the Continental Congress organized the Continental Army in 1775, it provided for a Chief Engineer to design and construct military batteries and fortifications. In 1802, the U.S. Congress authorized the establishment of the Corps and founded the U.S. Military Academy at West Point as an engineering school—the first in the nation—under the supervision of the Corps. The Corps started out as a small group, and in 1812 consisted of 17 officers and 19 enlisted men. The Corps' civil works mission was established in 1824, when Congress passed the General Survey Act, authorizing the President to use the Corps to survey road and canal routes "of national importance, in a commercial or military point of view."¹ Soon after, Congress appropriated \$75,000 to the Corps for improving the navigation of the Ohio and Mississippi rivers. As the nation grew, the Corps was given additional civil works responsibilities.

In general, the Corps receives "no-year" appropriations through the Energy and Water Development Appropriations Act—that is, there are no time limits on when the funds may be obligated or expended, and the funds remain available for their original purposes until expended. Projects are

¹The Corps has both a Military and a Civil Works Program. The Military Program provides, among other things, engineering and construction services to other U.S. government agencies and foreign governments, while the Civil Works Program is responsible for investigating, developing, and maintaining water resource projects. This report only discusses the Civil Works Program.

typically funded incrementally and often over many years. Since fiscal year 2006, the Corps has received appropriations of over \$5 billion per year for its Civil Works Program.² Currently, the Corps, through the Civil Works Program, employs approximately 25,000 civilian personnel and 650 military personnel and covers hundreds of civil works projects nationwide. The program comprises nine major functional areas, or business lines, which include not only navigation and flood risk management, but also a regulatory program, water supply, hydropower, recreation, environment, emergency management, and support for others.³ Since the late nineteenth century, the Corps has been structured into three tiers—headquarters, divisions, and districts.

Given your interest in the Corps' Civil Works Program and the longstanding history of the Corps' organizational structure, you requested that we examine the Corps' organizational alignment. For purposes of this report, organizational alignment refers to integration of various organizational components (headquarters, divisions, and districts), the roles and responsibilities of these components, or the funding and staff resources that are available to support the Corps' civil works mission.⁴ Specifically, our objectives were to examine (1) how, over time, the Corps has modified its organizational alignment to take into account its changing mission, budget, staffing, and workload; (2) the challenges the Corps has faced in realigning its organization and the extent to which these or other challenges are still relevant; and (3) what changes to the Corps' organizational alignment, if any, do officials and stakeholders believe could enhance the effectiveness of the civil works mission.

To examine how the Corps has modified its organizational alignment to take into account its changing mission, budget, staffing, and workload, we analyzed data on appropriations and obligations, full-time equivalent

²GAO, Army Corps of Engineers: Budget Formulation Process Emphasizes Agencywide Priorities, but Transparency of Budget Presentation Could Be Improved, GAO-10-453 (Washington, D.C.: April 2, 2010).

³The "support for others" business line covers the Corps' activities related to interagency and international support.

⁴Our definition of organizational alignment is based on previous GAO work including: GAO, *Small Business Administration: Current Structure Presents Challenges for Service Delivery*, GAO-02-17 (Washington, D.C.: Oct. 26, 2001), and *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, GAO-03-669 (Washington, D.C.: July 2, 2003).

(FTE) data,⁵ and project number and expenditures for the Civil Works Program. We also did a historical and legislative analysis of how the Corps' mission and organizational alignment has evolved over time using Corps historical documents and congressional committee and conference reports, and other congressional documents. We compiled appropriations and obligations data from the Budget of the United States Government for each of the Corps' civil works funding accounts for fiscal years 1980, 1990, and 2000 through 2009.⁶ We received and compiled FTE data from the Corps at the district level for fiscal years 2000 through 2009; division level for fiscal years 2000 through 2009; and Corps-wide for fiscal years 1980, 1990, and 2000 through 2009. According to Corps headquarters officials, reliable district-level FTE data were available for fiscal years 2000 through 2009, reliable division-level data were available back to 1990,⁷ and reliable Corps-wide data were available back to fiscal year 1980. We obtained the number of construction and operations and maintenance (O&M) projects for each district from cost and financial statements found in the Annual Report for Civil Works Activities for 1980, 1990, and 2000 through 2008. The construction account includes construction and major rehabilitation projects related to navigation, flood control, water supply, hydroelectric power, and environmental restoration. The O&M account focuses on preserving, operating, and maintaining river and harbor projects that have already been constructed. We restricted this analysis to construction and O&M projects because not all districts included information in the annual reports on the number of project investigations they conducted during the fiscal year.⁸ We also calculated expenditures on construction and O&M projects for each district in fiscal years 1980, 1990, and 2000 through 2008 based on data from the Corps.

⁷Although division-level FTE data are available back to 1990, we only report data from 2000 through 2009 because the alignment of divisions changed in 1997.

⁸The investigations account funds studies to determine the necessity, feasibility, and returns to the nation for potential solutions to water resource problems, as well as design, engineering, and other work.

⁵An FTE consists of one or more employed individuals who collectively complete 2,080 work hours in a given year. Therefore, both one full-time employee and two half-time employees equal one FTE.

⁶Issued by the Office of Management and Budget, the *Budget of the United States Government* is a collection of documents that contains the budget message of the President, information about the President's budget proposals for a given fiscal year, and other budgetary publications that have been issued throughout the fiscal year.

To examine the challenges the Corps has faced and may continue to face in realigning its organization, the opportunities for realignment that may exist, and past efforts to realign the Corps, we conducted semistructured interviews with the current and five former Chiefs of Engineers; the current and four former Assistant Secretaries of the Army for Civil Works; one former Acting Assistant Secretary of the Army for Civil Works; seven current and six former senior Corps officials; officials from the eight domestic civil works divisions; officials from a nonprobability sample of 10 of the 38 domestic civil works districts; and seven stakeholders, including three academics and four interest groups. We selected districts based on geographical representation and to ensure the inclusion of small, medium, and large districts. We conducted 50 interviews and performed a content analysis of these interviews to identify common themes. For the purposes of reporting our results, we used the following categories to quantify responses of officials and stakeholders: "some" refers to responses from two to five individuals, "several" refers to responses from six to eight individuals, "many" refers to responses from nine or more individuals, and "majority" refers to responses from over half of an interview group. In addition, to determine the challenges the Corps has faced in past realignment efforts, we also conducted a review of historical Corps documents, congressional hearings, and other reports on Corps realignment efforts. Appendix I contains a more detailed discussion of our scope and methodology, and appendix II contains a list of former Corps officials we interviewed.

We conducted this performance audit between August 2009 and August 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Background

The Corps is the world's largest public engineering, design, and construction management agency. Located within the Department of Defense (DOD), the Corps has both military and civilian responsibilities. The Military Program provides engineering, construction, and environmental management services to DOD, other U.S. government agencies, and foreign governments. Under its Civil Works Program, at the direction of Congress, the Corps plans, constructs, operates, and maintains a wide range of water resources projects. The Corps' Civil Works Program is organized into three tiers: a national headquarters in Washington, D.C., eight regional divisions, and 38 local district offices (see fig. 1). In fiscal year 2010, the Civil Works Program employed approximately 25,000 civilian personnel in numerous occupational classifications, including civil engineers, biologists, economists, architects, lock operators, mechanics, and foresters.



Figure 1: Locations of the U.S. Army Corps of Engineers' Civil Works Divisions and Districts

Source: GAO representation of U.S. Army Corps of Engineers data.

Corps headquarters primarily develops policies and plans the future direction of the organization. The Assistant Secretary of the Army for Civil Works, appointed by the President, establishes the policy direction for the Civil Works Program. The Chief of Engineers, a military officer, is responsible for execution of the civil works and military missions. The Chief of Engineers delegates day-to-day leadership and management of the Civil Works Program to the Deputy Commanding General for Civil and Emergency Operations, who is a general officer, and the Director of Civil Works, who is a civilian employee.

The primary role of the Corps' eight civil works divisions, which were established generally according to watershed boundaries, is to coordinate their districts' civil works projects. Each division office is headed by a division commander, who is a military officer. The role of the 38 civil works districts is to plan and execute projects. Each district office is headed by a district commander, who is also a military officer. Each district office performs the following seven functions that are relevant to executing its projects: (1) planning, (2) engineering, (3) construction, (4) operations, (5) program and project management, (6) resource management, and (7) regulatory functions. Furthermore, district offices are responsible for coordinating with project stakeholders such as state and local partners.

The Civil Works Program operates 50 Centers of Expertise and seven research laboratories, which assist Corps division and district offices in the planning, design, and technical review of civil works projects. The Centers of Expertise are designated individuals or organizations—located either in district offices, division offices, or research laboratories—with capability or expertise in a specialized area. The Corps designates employees at various levels within the organization to oversee, manage, and coordinate the centers. The Corps established the centers to consolidate expertise, improve consistency, reduce redundancy, and enhance institutional knowledge, among other things. The Corps' seven research laboratories support DOD and other agencies in military and civilian projects. For example, the Coastal and Hydraulics Laboratory performs ocean, estuarine, riverine, and watershed regional scale systems analyses research support work for the Corps and the DOD Task Force in support of the Ocean Commission.

The Centers of Expertise program is comprised of 10 mandatory centers and 40 nonmandatory centers. The Corps requires that district and division offices consult the mandatory Centers of Expertise that are relevant to their projects during project planning, formulation, or execution. For example, if a district is implementing a hydropower project, it must consult the Hydropower Analysis Center, a mandatory Center of Expertise, on project analysis or economic benefit evaluations. The set of 40 nonmandatory centers are known collectively as a Directory of Expertise, and their use is discretionary. Divisions and districts may seek out the expertise of the centers in the directory as needed. The Centers of Expertise, both mandatory and nonmandatory, are typically funded out of project budgets, and according to the Corps, collectively these centers have unique and unparalleled expertise that is critical to the functions of district and division offices.

The conference reports accompanying the annual Energy and Water Development Appropriations Acts generally lists individual projects and specific allocations of funding for each project. Through this report, the appropriations committees essentially outline their priorities for the Corps' water resource projects. Congress directs funds for many individual projects in increments over the course of several years. For example, a construction project to reduce flood damage in the Greenbrier River Basin of West Virginia has an estimated total cost of \$158 million. The conference reports directed \$1.5 million to this project in fiscal year 2009 and \$1.4 million in fiscal year 2010. Additional funding for this project will be contingent upon future congressional appropriations.

In fiscal year 2010, funding for civil works projects included annual appropriations of over \$5.4 billion through the Energy and Water Development Appropriations Act. The Energy and Water Development Appropriations Act provides funds for nine appropriation accounts, which support eight of the Civil Works Program's nine major business lines.⁹ In addition to the funding received through annual appropriations acts, the Corps received supplemental appropriations in 6 of the past 8 fiscal years. Also, as outlined in the Water Resources Development Act (WRDA) of 1986, the Corps typically receives funds, particularly for construction projects, from each project's local sponsor, which may be a state, tribal, county, or local agency or government. The degree of cost sharing required varies by, among other things, project purpose.

⁹The Corps' support for others business line provides interagency and international technical assistance and management expertise on a reimbursable basis so that funding does not appear in the Corps' annual appropriations.

The Corps Has Had Mixed Results in Modifying Its Organizational Alignment in Response to Changes in Its Mission, Budget, Staffing, and Workload	The Corps has faced significant changes in its mission, budget, staffing, and workload over the last several decades. As a result, the Corps has had mixed results in modifying certain aspects of its organizational alignment, such as the roles, responsibilities, and resources of its components in response to these changes. While the agency's fundamental structure has remained the same since 1893, it has made efforts to realign its organization within its three-tiered structure—some of which have been implemented, but others were not.
Changes in the Corps' Mission, Appropriations, Staffing, and Workload	The Corps' civil works mission started with navigation responsibilities in 1824 when Congress passed the General Survey Act, which authorized the President to use the Corps to survey road and canal routes of commercial or military importance. Since that time, the Corps' civil works mission has expanded to include the following additional responsibilities: flood risk management, regulatory program, water supply, hydropower, recreation, environment, emergency management, and support for others (see fig. 2). Appendix III contains a more detailed timeline of key events and legislation related to the Corps' civil works mission.



Figure 2: Selected Key Events Reflecting Changing Responsibilities of the U.S. Army Corps of Engineers Over Time

Source: GAO.

Over time, the Corps has also seen fluctuations in its appropriations and obligations, staffing levels, and workload. For example, although the Corps had relatively stable appropriations and obligations for fiscal years 2000 through 2004, subsequent years have shown more variability in funding (see fig. 3 and fig. 4).¹⁰ In recent years, some of this variability is a result of supplemental funding that has been provided to the Corps for expenses related to the consequences of Hurricanes Katrina and Rita in 2005. According to a senior Corps budget official, funding has also been directed to expenses related to the consequences of hurricanes Gustav and Ike (both 2008 hurricanes), as well as the 2008 Midwest floods. In fiscal year 2009, the agency received supplemental funding of about \$5.8 billion for hurricane protection in Louisiana; and the Corps received \$4.6 billion in fiscal year 2009 through the American Recovery and Reinvestment Act.

¹⁰Appropriations provide legal authority for federal agencies to incur obligations and to make payments out of the Treasury for specified purposes. Because the Corps generally receives "no-year" appropriations through the Energy and Water Development Appropriations Act, we also included obligations, which is the definite commitment for the payment of goods and services.





Source: GAO analysis of the Budget of the United States for fiscal years 1980, 1990, and 2000 through 2009.





Source: GAO analysis of the Budget of the United States for fiscal years 1980, 1990, and 2000 through 2009.

At the same time, Corps-wide allocations for staff, measured in FTEs, has declined from over 28,000 in 1980 to fewer than 22,000 in 2009 (see fig. 5). However, the extent of the decline in FTEs has also varied by divisions and districts, and some offices have seen a slight increase in FTEs. For example, from fiscal year 2000 to fiscal year 2009, FTEs in the North Atlantic Division reduced by over 24 percent from 2,417 FTEs to 1,822 FTEs, while FTEs in the Northwestern Division reduced by about 7 percent from 3,840 FTEs to 3,557 during the same time period (see table 1). Similarly, while FTEs in the Seattle District increased by about 5 percent, from 539 FTEs in fiscal year 2000 to 567 FTEs in fiscal year 2009, FTEs in the Honolulu District reduced by about 57 percent, from 130 in fiscal year 2000 to 56 in fiscal year 2009.





Source: GAO analysis of Army Corps of Engineers data.

FTE allocation (in thousands)

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Great Lakes & Ohio River Division	4,348	4,321	4,274	4,222	4,014	3,672	3,490	3,363	3,347	3,605
Mississippi Valley Division	5,419	5,357	5,345	5,335	5,052	4,920	4,845	4,622	4,502	4,805
North Atlantic Division	2,417	2,352	2,334	2,284	2,186	2,075	2,009	1,809	1,889	1,822
Northwestern Division	3,840	3,830	3,908	3,920	3,771	3,695	3,685	3,541	3,453	3,557
Pacific Ocean Division	312	288	279	270	283	299	294	266	253	244
South Atlantic Division	2,715	2,807	2,860	2,903	2,798	2,681	2,538	2,398	2,327	2,397
South Pacific Division	1,818	1,782	1,763	1,750	1,683	1,597	1,623	1,579	1,522	1,559
Southwestern Division	2,375	2,369	2,388	2,285	2,203	2,099	2,065	1,985	1,915	1,973
Total	23,244	23,106	23,151	22,969	21,990	21,038	20,549	19,563	19,208	19,962

Table 1: U.S. Arm	y Corps of Engineers	' Civil Works D	ivision-Level Full-	Time Equivalents	by Fiscal Year
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Source: GAO analysis of Army Corps of Engineers data.

This variability has also been seen in the divisions' and districts' workload. For instance, between fiscal years 2000 and 2009, the Pacific Ocean Division's construction and O&M project expenditures have ranged from a low of \$18,756,845 to a high of \$73,960,902, while the Mississippi Valley Division ranged from a low of \$882,822,221 to a high of \$957,991,516 (see table 2). Similarly, in some districts like Seattle, construction and O&M project expenditures have ranged from a low of \$62,716,478 to a high of \$78,650,927, while Honolulu's has ranged from a low of \$2,583,263 to a high of \$13,884,393. Appendix IV contains detailed information on the Corps' budget, staffing, and workload for each of the 38 districts. Table 2: U.S. Army Corps of Engineers' Civil Works Division-Level Construction and Operations and Maintenance Project Expenditures, by Fiscal Year

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Great Lakes & Ohio River Division	\$614,397,498	\$614,651,369	\$643,798,386	\$635,618,634	\$671,317,336	\$643,281,196	\$646,526,223	\$675,702,409	\$797,172,303
Mississippi Valley Division	902,580,698	956,833,153	941,389,142	888,229,574	882,822,221	907,068,763	912,442,165	941,675,567	957,991,516
North Atlantic Division	345,927,512	385,668,081	467,094,476	479,435,366	438,366,931	412,668,844	361,250,465	346,530,582	385,204,656
North Western Division	502,968,081	542,736,190	560,833,780	579,812,242	538,507,914	520,345,809	521,653,889	553,288,048	647,570,935
Pacific Ocean Division	30,600,954	23,891,879	28,976,933	18,756,845	73,960,902	69,800,132	53,271,070	49,948,781	50,052,022
South Atlantic Division	555,452,249	646,437,347	678,710,812	646,686,974	600,466,667	660,365,584	592,725,244	621,775,881	596,660,567
South Pacific Division	309,619,743	269,824,728	295,678,282	364,371,009	352,955,994	307,148,019	330,262,063	412,120,321	452,440,115
Southwestern Division	422,592,426	436,801,061	434,192,094	433,878,716	431,146,142	350,127,301	363,590,688	434,000,725	443,425,099

Source: GAO analysis of Army Corps of Engineers data.

Past Efforts to Realign the Corps' Organizational Structure The Corps' three-tiered structure—headquarters, divisions, and districts has remained the same since 1893. However, in some instances, the number of divisions and districts and the roles and responsibilities have changed in response to changes in the agency's mission, workload, funding mechanisms, staffing levels, and budget. Some past efforts to realign the agency include the following:

• *Expanding mission*. The Corps has realigned as a result of its expanding mission. For example, in 1824 the Corps' primary mission was navigation, but as the Corps' mission expanded and as a result of the increased responsibility given to the Corps, it realigned into eight divisions largely based on watershed boundaries.¹¹ Also, because of its expanding mission, the Corps realigned its district offices in the 1970s by, for example, hiring environmental specialists. This came, in part, in response to the National Environmental Policy Act of 1969, which requires federal agencies to

¹¹Historical documents do not give information on the previous number of divisions or what the previous division boundaries were based upon.

consider the environmental impacts of proposed major federal actions that significantly affect the environment.

- *Specific workload needs.* In the past, the Corps has established temporary district offices to handle the work of a single large project. For example, in 1942, the Corps formed its Manhattan Engineer District to oversee and provide technical expertise for the planning and construction of facilities related to atomic research. The district remained open until the end of World War II. Similarly, in 1972, the Corps established the Susquehanna Engineer District to complete work related to the extensive damage caused by Hurricane Agnes in New York and Pennsylvania. The Susquehanna Engineer District was only open for 4 months.
- *Changes in funding mechanisms.* In the 1980s, the Corps implemented a realignment in response to its changing funding mechanisms. Specifically, the 1986 WRDA generally required the Corps to obtain cost-share agreements with local sponsors to share the federal burden of Corps projects. In response, the Corps expanded its district roles and responsibilities and implemented a project management process in 1989 to improve relationships with nonfederal partners and improve project costs and timelines. This new process assigned a project manager at the district level to each Corps project to work with project sponsors on a day-to-day basis and manage the progress of the project.
- Changes in staffing levels. The Corps has also implemented some realignments in response to changes in staffing—which have been reduced by over 22 percent over the past two decades. For example, the Federal Workforce Restructuring Act of 1994 required the President to reduce the number of FTEs in federal agencies, with the Corps' Civil Works Program assigned to reduce by 3,401. In response, in 1995 the Corps realigned division roles and responsibilities and the structure of the agency. Specifically, it regionalized human resource functions, transferred finance and accounting functions to a single location, and eliminated technical and policy review functions at the division level. In addition, in response to the reduced FTEs, in 1997 the Corps reduced the number of division offices from 11 to 8.
- *Static budget.* In 2003, the Corps implemented a realignment, in part, in response to its relatively static budget. Specifically, from 1994 to 2003, the Corps experienced a period of static administrative funding levels. In response to this situation, the Corps launched an organizational initiative in 2003—called USACE 2012—to realign the roles, functions, and processes of the three tiers with the goal of improving the efficiency of the

	Ciril Works Drogram, For grample UCACE 2012 grants day for all horizons
	Civil Works Program. For example, USACE 2012 created regional business centers at the division level to coordinate the activities of the districts within a region to ensure they shared resources and technical expertise, and improved project management and delivery. As part of their responsibilities, the regional business centers assign work to each of the districts according to each district's capabilities and available staff. USACE 2012 also created regional integration teams at the headquarters level to resolve regional issues. Regional integration teams provide a single point of contact for regional business centers to resolve concerns and issues that must be dealt with at the headquarters level.
Some Realignment Attempts Have Not Been Implemented	In the past, other attempts for organizational realignment of the Corps have been considered but not implemented for a variety of reasons. For example, in 1949, 1971, 1978, and the early 2000s, various members of the executive branch proposed to transfer the Corps' civil works functions to other federal agencies, but these proposals did not result in any changes. In 1949, the Hoover Commission recommended the transfer of all water resource functions of the federal government, including those of the Corps, to the Department of the Interior. ¹² Similarly, in 1971, President Nixon proposed a new Department of Natural Resources to bring together natural resources responsibilities scattered throughout the federal government, and President Carter made a similar proposal in 1978. More recently, former Corps officials we spoke with said that during his tenure, Secretary of Defense Rumsfeld had considered whether the Civil Works Program should be taken out of DOD and given to another agency. The Corps has also undertaken some past attempts to make its organizational structure more efficient by reducing the number of district offices. However, these attempts faced stiff resistance and were not implemented. For example, in 1989, the Senate Committee on Appropriations recognized the need for the Corps to examine every available opportunity to increase its efficiency and effectiveness and directed the Chief of Engineers to initiate a conceptual study of potential field organization structures. As a result of this study, the Corps proposed a reduction in the number of district offices in the contiguous United

¹²The Hoover Commission, officially named the "Commission on Organization of the Executive Branch of the Government," was a body established by Congress with members appointed by President Truman in 1947 to investigate the organization and method of operation of the executive branch and recommend what changes, in their opinion, are necessary. The commission was chaired by former President Herbert Hoover.

	States from 35 to 22 and a reduction in the number of division offices from 10 to 6, in response to the diminished workload and budget of the agency. In order to accomplish this realignment, the Corps chose to submit the plan as part of the Base Realignment and Closure (BRAC) process. However, in an amendment to the Defense Base Closure and Realignment Act of 1990, Congress specifically excluded the Corps' Civil Works Program from downsizing. Shortly after, in the fiscal year 1993 annual appropriation, Congress included funds to further a more efficient headquarters and division office structure but prohibited the Corps from closing any district offices as part of that reorganization plan. As a result of this study, the Corps proposed consolidating and downsizing division offices, reducing the number from 11 to 6, and removing technical and policy review functions from the division level. The proposal also added another district, for a total of 36, but consolidated planning and engineering functions in 15 districts. Congress did not approve this proposal, and it was not implemented.
The Corps Has Faced and Will Likely Continue to Face Challenges If It Undertakes Organizational Realignment in the Future	Inability to obtain congressional support has been and will continue to be the primary challenge to any organizational realignment, according to the officials and stakeholders we interviewed, as well as our analysis of records of past realignment attempts. Current and former Corps officials and other stakeholders also identified two additional challenges that could impede any realignment attempts. These include the Corps' funding structure and the autonomous culture of its districts.
Lack of Support Is the Primary Challenge to Realignment	Lack of support for the Corps realignment efforts by Members of Congress, as well as local officials and their constituents in the potentially affected divisions or districts, has been one of the challenges most often noted by current and former Corps officials and other stakeholders that we interviewed. According to former officials, the Corps districts have historically enjoyed a close relationship with their elected representatives in Congress. As a result, any closure of a district office as part of a realignment proposal is likely to meet strong opposition from elected officials because of congressional concerns, including (1) the perception that the district's needs will not be adequately served if the office is closed and (2) the potential loss of jobs in the district. For example, according to

a former Chief of Engineers, in response to a past realignment effort, he received calls from congressional delegations upset because he was proposing to take jobs away from their district. According to another senior Corps official, in 1997, the Corps was able to reduce the number of division offices from 11 to the 8 that it currently has, rather than reduce the number of district offices, because the divisions have a smaller number of employees than district offices. Therefore, reducing the number of division offices would result in fewer job losses in a congressional district, thus reducing the congressional concern.

Similarly, historical records indicate that past realignment efforts to reduce the number of Corps districts and divisions were unsuccessful or were delayed because of significant opposition from Members of Congress. For example, as mentioned earlier, in 1991 the Corps attempted to close 13 districts and four divisions using the BRAC process, which was intended to provide a fair process for the timely closure and realignment of military installations inside the United States. However, in response to concerns among Members of Congress, the Secretary of Defense decided against including the Corps' reorganization plan in the 1991 list of BRAC base closures. Four of the five former Chiefs of Engineers we interviewed provided examples of opposition from Members of Congress to past realignment efforts that included the closure or reorganization of districts. For example, one former Chief of Engineers said that a realignment proposal was delayed because Members of Congress were concerned about which division their Corps district would be incorporated into. A former senior Corps official faced a similar situation as a district engineer when he wanted to move a facility from his district to another district where the facility was better able to perform its work. However, the congressional Member representing the district opposed the move and, according to this former senior official, prevented it from happening. Several officials we interviewed told us that the inability to obtain congressional support for any Corps realignment efforts that include closing districts and divisions will continue to be a factor in the foreseeable future.

The Corps' FundingUnlike many other federal agencies that have budgets established forStructure Createsbroad program activities, most Corps civil works funds are appropriatedChallenges tofor specific projects and require nonfederal sponsors to share projectOrganizationalcosts. Current and former Corps officials and other stakeholders weRealignmentinterviewed said that these requirements have led to inefficiencies and

organizational realignment. Specifically, they identified the following challenges created by the Corps' funding structure:

- Incremental funding reduces efficiency and increases costs. According • to an academic stakeholder we interviewed, organizations need stable funding and a predictable workload to be efficient, but the Corps has neither. This sentiment was echoed by many former and current Corps officials who said that funding projects in increments hinders the Corps' ability to be efficient. For example, they said that incremental funding sometimes forces the Corps to stop projects because they do not have sufficient funding to complete the next stage of the project. This can cause project delays and the costs of projects to escalate. For example, according to a division commander, "What used to be \$1 million will be \$3 million by the time you get around to spending the money." Another current senior official said, "[T]his is one of the reasons that a civil works project takes 20 years to execute, instead of 3 if we were fully funded from the start." Our previous work has demonstrated that incremental funding can result in project delays and cost increases. For example, our work looking at hurricane protection projects in southeastern Louisiana found that taking an incremental approach that was based on funding and direction provided through specific appropriations had increased the overall cost to the federal government.¹³
- Cost-sharing requirements can delay projects and cause costs to escalate. According to the current Chief of Engineers, the Corps sometimes has to delay work on a project while local sponsors raise their portion of a civil works project's cost. For example, according to a division commander, recently some local sponsors have been unable to raise their portion of the funding due to the economic downturn, resulting in some projects having to be idled. Conversely, at times the local sponsor has been able to fund its portion of the project, but the Corps has not, according to some Corps officials that we spoke with. In such cases, the sponsor may have to raise more money as the price of the project increases due to delays, which they said can also be frustrating to the local sponsors.
- *The Corps' funding structure makes watershed planning difficult.* The Corps' organizational structure is built around the nation's watersheds.

¹³GAO, Hurricane Katrina: Strategic Planning Needed to Guide Future Enhancements Beyond Interim Levee Repairs, GAO-06-934 (Washington, D.C.: Sept. 6, 2006).

	Many current and former Corps officials and stakeholders that we spoke with said the Corps should plan projects based on feasibility studies conducted at the watershed level, but that the existing funding process, according to these officials and stakeholders, prevents them from doing so. Specifically, funding is directed for studies that are intended to lead to individual district-based projects, not for watershed-level studies. For example, according to a senior Corps official, Corps division and district boundaries are generally based on watersheds, but districts must complete individual project budgets that do not take into consideration the needs of the nation. In addition, feasibility studies—a necessary step leading up to every project—generally require cost sharing from local sponsors, and thus a watershed-level feasibility study would typically require multiple sponsors. However, some officials said that sponsors may be reluctant to fund such a study because it will not necessarily result in a project in their district. Many former and current Corps officials supported a watershed approach to civil works project planning and development, but recognized the difficulties in the current funding structure to conduct them.
The Culture in District Offices Has Inhibited Recent Realignment Efforts	The culture of the Corps district offices was cited by the majority of current and former officials as a challenge to realignment efforts. Because Corps districts receive project-based funding, they have an incentive to acquire and retain control over projects, according to some officials, and this has led to an autonomous culture in which some districts are reluctant to share resources. In particular, these officials said this is because a district's workload determines the amount of personnel it can employ, so some district officials believe that sharing work could lead to layoffs or reductions in force.
	Several former Corps officials cited examples of how this culture is an impediment to organizational realignment and may lead districts to resist sharing work with other districts. For example, one former Assistant Secretary of the Army for Civil Works said that there was tension among districts about sharing work, and there is nostalgia for the "full-service" district—a district that could carry out all aspects of a project. According to this Assistant Secretary, "It sets up a functional barrier to sharing work across districts." Another former senior Corps official said that districts' resistance to sharing work was compounded by the belief that other districts do not understand local needs, problems, and conditions, and therefore the local district must execute its own projects. Yet another former senior Corps official said that collaboration is difficult because the congressional boundaries and funding process force districts to only think locally. Some current Corps officials cited similar examples. For example,

a district commander told us that his district once had excess capacity to perform work, yet a neighboring district contracted out their excess work instead of sharing it with his. Similarly, a division commander confirmed that some districts use contractors instead of using other Corps capabilities. Additionally, some division commanders told us that district commanders may hesitate to share work because the commander loses control of the tasks that are shared but is still responsible for completing the project.

As a result of this culture, the Corps has also been slow to implement aspects of USACE 2012, its most recent realignment effort, according to some Corps officials we spoke with.¹⁴ USACE 2012 is intended, in part, to promote the sharing of work by the districts within each division, thereby providing a steadier workload for each district and more stability for the workforce. However, two former Chiefs of Engineers said that districts were used to being in control of the resources within their boundaries, and it was a big cultural shift for the districts to give up some of their control. Furthermore, USACE 2012 was undertaken, in part, because the funding the Corps was receiving at that time was not enough to support an organizational structure with 38 full-service districts.¹⁵ According to the current Chief of Engineers, while he recognizes that some of the districts would rather be independent and "full-service," the reality is that this level of effort cannot be sustained in each district.

¹⁴GAO has identified key practices that can help enhance and sustain federal agency collaboration in its prior report, GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, GAO-06-15 (Washington, D.C.: Oct. 21, 2005).

¹⁵The USACE 2012 realignment plan refers to 41 districts. However, this report refers only to the 38 districts that carry out the Corps' domestic Civil Works Program.

Officials and Stakeholders Agree That the Corps' Three- Tiered Structure Is Appropriate, but Some Changes to Alignment Could Enhance Its Effectiveness	While many current and former Corps officials and stakeholders generally agreed that the Corps' three-tiered structure was appropriate to meet its mission, some believe that the number of districts could be reduced as part of a comprehensive organizational realignment. In addition, these officials and stakeholders identified opportunities to clarify roles and responsibilities, enhance expertise and policy guidance, as well as modify the Corps' funding structure that could lead to improved effectiveness without resorting to a complete realignment.
The Corps' Structure Is Appropriate, but the Number of Districts Could Be Reduced	Many current and former Corps officials and stakeholders agreed that the Corps' three-tiered structure was appropriate to accomplish the agency's civil works mission. Specifically, according to the officials and stakeholders we spoke with, the Corps' three-tiered structure allows each tier to focus on the client and stakeholder needs at that level. For example, according to some current Corps officials, including the Chief of Engineers, the division level provides supervision for districts that headquarters alone would not be able to provide. Some former and current Corps officials also told us the district level is important because it provides a presence in the local community. For example, one former senior Corps official said that "having people [districts] at the local level is a strength of the Corps because it brings local understanding, relationships, contacts, and an appreciation for local problems." However, some interview participants told us that the Corps was not well structured. For example, one current senior Corps official said it takes too much of an investment to sustain 38 districts and eight divisions. Although many favored the three-tiered structure, some former and current officials and stakeholders said that the Corps could consolidate some of its districts—including some of the smaller districts that do not have sufficient work. However, these officials and stakeholders also recognized that any kind of realignment plan that reduces the number of districts would require congressional support and could not be accomplished by the Corps alone. Some officials and stakeholders suggested that Congress would have to consider establishing a process similar to the BRAC process to facilitate congressional approval of a reduction in the number of districts. According to one former official, a

BRAC-like process to close a district would involve choosing districts to close based on objective criteria. However, as mentioned earlier, past attempts to include district closures as part of the BRAC process were not successful.

Corps Officials and Stakeholders Said That Roles and Responsibilities Could Be Clarified or Modified to Improve the Corps' Effectiveness Several current Corps officials identified the need to redefine and clarify the roles and responsibilities within the Corps' three-tiered structure to help improve its effectiveness. In particular, the roles and responsibilities of division and district commanders need to be clarified, according to some division commanders. For example, one division commander new to the Corps said that he was unsure where he could locate specific guidance to accomplish tasks necessary for his role. Another division commander said that although new district commanders receive an orientation course, a capstone document for commanders would be helpful, as would a published doctrine that explains the roles and responsibilities for each level within the Corps. Some division and district commanders said that while USACE 2012 was the Corps' overall foundational doctrine, it needed more details to be helpful to commanders in understanding their roles and responsibilities. Our past work shows that clearly defined roles and responsibilities are necessary for an organization to be most effective.¹⁶

Many current division and district commanders also said that the Corps should clarify the roles and responsibilities of its Communities of Practice (CoP). The Corps created CoPs to build, maintain, and provide expertise and capability and develop best practices, and considers them a central part of the USACE 2012 realignment. For example, the environmental CoP develops and delivers solutions and provides advice on technical management, design, and execution of a full range of sustainability, cleanup, and environmental protection activities. However, some current division and district commanders said that the CoPs' roles and responsibilities need to be clarified because some CoP members were taking actions that were not consistent with their level of responsibility. For example, one commander said that CoPs members were generating policies that had resource implications, which is a responsibility of commanders—not the CoPs. Another commander said that a CoP ordered a job description in his division to be revised without his consent. However, according to this official, CoPs are not in the chain of command

¹⁶GAO, Human Capital: A Self-Assessment Checklist For Agency Leaders, GAO/GGD-99-179 (Washington, D.C.: September 1999).

and are therefore not allowed to give orders on personnel-related matters. One division commander said that this confusion was a result of a failure within the agency to understand the difference between a CoP, which is a forum to exchange best practices, and a functional board, which focuses on specific disciplines.

Many current and former Corps officials and stakeholders also identified opportunities to alter roles and responsibilities within the project review process. For example, according to some officials we spoke with, Corps projects receive multiple reviews at the headquarters, division, and district levels, as well as an external review, without regard to project size. In 1995, the Corps began implementation of a realignment plan that removed review functions from the divisions. According to a former Assistant Secretary of the Army for Civil Works, a previous effort to streamline the review process by removing division-level reviews further slowed the process because headquarters did not have the capacity to handle more review responsibilities. In 2003, USACE 2012 established a concurrent project review process. The goal of this was for all levels of the organization to provide input early in the project planning process rather than waiting until later on to identify problems, which can result in timeconsuming repetition of the planning process. However, according to some current Corps officials that we spoke with, the Corps has not fully embraced this concept. For example, one division commander said the agency still performs two levels of review because headquarters is concerned that policy will not be applied consistently across the agency. Similarly, all four of the interest groups we interviewed told us that the Corps' review process was slow. For example, one group said that the multiple reviews between the various Corps levels is time-consuming.

Many current Corps officials identified two specific areas that need to be addressed to enhance the review process: (1) re-examine the roles and responsibilities within the three tiers and (2) reassess the criteria that dictate the level of review a project receives. With regard to the first area, the role of the division in the review process was questioned by some officials we spoke with. For example, according to a deputy district commander, divisions should only be doing an administrative review to make sure planning documents are complete for headquarters review. Similarly, a district commander suggested transferring all review functions from the division to headquarters because the division review did not add value to project plans. Another area identified by current officials where

	roles and responsibilities need to be clarified, was that review bodies at the headquarters level need to be integrated earlier into the project review process. ¹⁷ These officials said that it is time-consuming to fix a project plan if flaws are discovered during the final review because they must then be sent back through the review process. With regard to the second area of concern, current Corps officials cited the opportunity to revise criteria that determine the level of review a project receives. Some district commanders told us that currently small projects are required to receive the same level and number of reviews as large projects, and this is inefficient and costly. For example, a district commander told us that a \$5 billion hurricane project receives the same level of review as a \$1 million ecosystem restoration project. He and others said that, instead, the level of risk should determine the level of review.
Corps Officials Suggested Changes to Better Utilize Expertise to Improve Effectiveness	Many current and former Corps officials, including the current Chief of Engineers, said that the Corps' Centers of Expertise were useful because they help to optimize the use of specialized expertise, but they noted opportunities to make better use of the centers. First, some former and current officials agreed that the centers need a stable source of funding to remain viable. Centers are typically funded by performing work for districts and being reimbursed from a district's project funds. According to these officials, districts may be reluctant to use the centers because they take resources away from their civil works projects. For example, this leads to centers being under-funded and asking for work from others, according to a former senior Corps official. In order to ensure better utilization of the centers. For example, two officials suggested centrally funding the centers. For example, two officials suggested fully funding the centers from the Corps' general expense account, which currently funds headquarters and divisions.
	Second, several current Corps officials told us that districts and divisions need more information about the centers, including information on their capabilities and their roles and responsibilities. For example, some of the officials we interviewed said that they needed more information on the

¹⁷The Office of Water Project Review conducts the policy compliance review and analysis on decision documents such as draft and final feasibility reports; documents not delegated for approval at the division or district; and other documents that require Washington-level review. The Institute for Water Resources provides analysis and research for developing planning methodologies to aid the Civil Works Program and provides assistance to Corps headquarters by helping to scope review requirements and procedures.

differences between mandatory centers and directories of expertise. During our interviews, one district commander was unable to distinguish between the two, and another was unaware of the centers altogether. In addition, other officials said there was not enough information on the mandatory Centers of Expertise. For example, one division commander said that while it may be mandatory to send work to a center, it is generally unclear that districts must do so, and he believed that the centers are not being used consistently across the agency. Another division commander said centers could better publicize themselves with brochures and outreach to other divisions and districts. Some officials also said the centers should provide more information on how long it will take for projects to receive services, so that districts can better manage their projects' timelines.

Third, several current and former Corps officials suggested that more information should be available on the certification and training that the experts at the centers receive, so that the centers can assure district offices that they have the qualified staff necessary to do the job. For example, one division commander said that, in the case of one of his own centers, he was not sure it had the level of expertise that he would want or that he would recommend its services to other commanders. In addition, a current deputy district commander said certain centers have bad reputations, so he would not send work to them without assurance that they had quality staff. In this regard, he suggested the centers should have some kind of requirements or certification for experts to demonstrate that they are qualified in their area of expertise. Other current and former officials also said that the centers vary in the quality of work they provide to districts and that the level of expertise needed to be standardized.

Although many current and former Corps officials and other stakeholders said that the best way to maintain expertise was to keep it concentrated in the centers, others disagreed. For example, one former Chief of Engineers said that it is difficult for a subject matter expert within a district to maintain expertise if they only work on a subject occasionally, whereas in a center they can work on it regularly. Furthermore, an academic expert that we spoke with said that grouping experts together allows them to interact, creating a collective expertise that as a whole exceeds the sum of the parts. In contrast, some current and former officials questioned the usefulness of the centers and said that the Corps could better use expertise if it were kept in the districts. For example, one former Chief of Engineers said national centers may not know the local area as well as the district and that districts may be able to purchase expertise in their own area, such as at a local university. This was echoed by a current division commander who said that experts from the centers may not understand the local projects, politics, or environment as well as district experts.

Current and Former Officials Identified the Need for Updated Guidance to Improve the Corps' Effectiveness	In addition to identifying ways of improving the use of expertise, the majority of current division and district commanders we interviewed, as well as a former senior Corps official, said that the Corps' technical guidance is outdated and needs to be revised. According to some Corps division and district commanders, on average Corps technical guidance is between 10 and 15 years out of date, and some guidance dates back to the 1970s. According to a former senior Corps official, this means that each division and district may be executing projects differently because they lack current guidance. This has also resulted in confusion for Corps project managers and has led local sponsors to question the feasibility of constructing projects without current guidance, according to a Corps district official. Some Corps officials told us that historically, the Corps had been noted by industry officials and around the world as the place to go to get technical guidance. Now, according to one Corps official, the Corps has to go to the industry for such information, and another official told us that the New Orleans District is using manuals from other nations for some of its work because their technical guidance is more advanced than the Corps'. Furthermore, the current Assistant Secretary of the Army for Civil Works agreed that technical guidance is outdated and added that the Corps has limited resources dedicated to address such updates.
Modifying the Corps' Funding Structure Can Improve Its Effectiveness According to Officials and Stakeholders	Current and former Corps officials, including the current and former Assistant Secretaries of the Army for Civil Works, and stakeholders that we interviewed identified opportunities to change how the Corps is funded to better enable it to execute its mission. First, several officials suggested providing a steadier stream of funding, such as full funding for projects or funding them in multiyear increments. As mentioned previously, the Corps receives "no-year" funding and Congress currently funds projects in 1-year increments, which, according to these officials may delay or increase the
	¹⁸ WRDA 2007 includes many nonproject specific requirements for many aspects of the Civil

¹⁸WRDA 2007 includes many nonproject specific requirements for many aspects of the Civil Works Program, such as planning, independent peer review of certain Corps projects, and mitigation for fish and wildlife and wetlands losses. According to recent testimony by the Assistant Secretary of the Army for Civil Works, the Corps is approaching 80 percent completion of WRDA implementation guidance.

costs of projects. One current Corps official told us that the fully funded projects authorized in response to Hurricane Katrina gave the Corps an opportunity to involve contractors earlier in the building process, which has allowed the Corps to be more timely and efficient in carrying out these projects. A former Assistant Secretary suggested funding civil works projects in multiyear increments, as the Corps' military construction projects are now funded. According to a division commander, this would provide a predictable funding stream that would allow the Corps to execute civil works projects in more a timely manner.

Second, several former and current officials and stakeholders suggested that Congress fund civil works projects that take into account an entire watershed, which they said would better address the nation's water resources. As previously mentioned, funding is currently provided for specific projects at the district level, and the needs of the whole region or watershed are not taken into account. One stakeholder said, "[T]he Corps does not often receive funds for watershed studies because Congress wants to appropriate funds that benefit their own local districts rather than the whole watershed." Some current and former officials and stakeholders advocated that Congress dedicate a stream of funding for watershed programs, then let the Corps decide how best to use the funds. However, some of these officials and stakeholders acknowledged that changes to how the Corps is funded would be difficult in a fiscally constrained budget environment and would require changes in congressional authorizations and a significant increase in appropriations, which they recognize is highly unlikely.

Conclusions

Since 1824, the Corps has been responsible for civil works projects of national importance, and its mission has expanded over time to include such responsibilities as navigation, emergency response, and environmental restoration. Organizational alignment of the Corps is crucial because it establishes the framework within which the Corps' large workforce can most effectively and efficiently carry out these diverse and important missions. In this regard, clearly defined roles and responsibilities are necessary for management to exercise control over an organization. However, the Corps does not have clear guidance on the roles of division and district commanders, and as a result, some Corps staff indicated that commanders and CoPs are confused about the scope of their responsibilities. Without clearly defined roles and responsibilities, Corps officials are left to determine, on their own, what their job requires, which increases the risk that they might complete tasks inconsistently. In addition, the alignment of the Centers of Expertise within the Corps'

	organization is important if the Corps is to optimize the use of specialized expertise, eliminate redundancy, and increase standardization across the agency. However, without a stable source of funding, lack of information on how the centers are to be used, and without adequate assurance that the centers have the appropriate quality of experts, it is unlikely that the districts will use them in a systematic fashion. Moreover, up-to-date technical guidance is crucial to the Corps' civil works mission, since it helps determine how the Corps executes projects. However, much of the Corps' technical guidance is outdated and needs to be revised and the Corps has limited resources available to complete this task. As a result, districts may not be following the best available practices because they lack current guidance. Finally, even though the Corps receives "no-year" funding, a more stable funding approach could improve the overall efficiency and effectiveness of the Civil Works Program.
Recommendations for Executive Action	To improve the effectiveness of the Corps' Civil Works Program, we recommend that the Secretary of Defense direct the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers to take the following four actions:
•	Review and revise as necessary the roles and responsibilities of each component level of the organization and ensure that they are clearly articulated in agency guidance;
•	re-evaluate the Centers of Expertise and develop a process to help ensure that they are consistently used across the agency;
•	determine the extent to which the agency's technical guidance needs to be updated, create a schedule for completing these updates, and if additional funding is needed to accomplish these updates, provide this information to Congress; and
•	work with Congress to develop a more stable project funding approach that facilitates project implementation and that provides more efficient and effective use of funds.
Agency Comments and Our Evaluation	We provided a draft of this report to the Department of Defense for review and comment. The department generally agreed with the recommendations in our report. Specifically, the department concurred with our recommendation that the Corps re-evaluate the Centers of Expertise and develop a process to help ensure that they are consistently

used across the agency. The department agreed that the Centers of Expertise need to be periodically reviewed and that the agency should improve its guidance and information on the types of services available and qualifications of the experts in the Centers. The department partially concurred with our other three recommendations. Specifically, with regard to our recommendation that the Corps review and revise as necessary the roles and responsibilities of each component level of the organization and ensure that they are clearly articulated in agency guidance, the department believes that the roles and responsibilities of each component are appropriate, but agreed to work to increase the understanding of the roles of the components, both within and outside of the organization. The department also agreed that confusion exists about the roles and responsibilities of the Communities of Practice, particularly with regard to reviewing decision documents, and will review and clarify as necessary all existing guidance, corporate governance documents, and other publications.

In addition, the department also partially concurred with our recommendation that the Corps determine the extent to which the agency's technical guidance needs to be updated, create a schedule for completing these updates, and if additional funding is needed to accomplish these updates, provide this information to Congress. The department stated that development and maintenance of technical guidance is identified by technical experts within the Corps; however, budget decisions regarding this development and maintenance must be made within the framework of all of the needs and priorities of the Civil Works Program. The department also noted that it is not appropriate for the agency to inform Congress of requirements for funding beyond those included in the President's budget, unless that information is specifically requested by Congress. While we believe that it is important to recognize individual agency needs within the framework of all of its priorities when making budget decisions for the Civil Works Program, we continue to believe that, if additional funding is needed to accomplish these updates, that information should be provided to Congress.

Finally, the department partially concurred with our recommendation that the Corps work with Congress to develop a more stable project funding approach that facilitates project implementation and a more efficient and effective use of funds. The department agreed and believes the administration and Congress are generally aware that many studies and some projects are not funded for the most efficient execution. The department stated that the Corps will continue to promote efficient funding during the budget process, but will support budget decisions made
by the administration. While we acknowledge that there are constraints to the budgeting and appropriation of funds for the efficient execution of projects, we continue to believe that the Corps should work with Congress to develop a more stable project funding approach that would allow for a more efficient and effective use of funds and execution of projects in a more timely manner.

A copy of the department's letter commenting on the draft report is reprinted in appendix V.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the appropriate congressional committees, the Secretary of Defense, the Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers, and other interested parties. In addition, this report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions regarding this report, please contact me at (202) 512-3841 or mittala@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix VI.

Sincerely yours,

Ann K. Mettal

Anu K. Mittal Director, Natural Resources and Environment

Appendix I: Scope and Methodology

We were asked to examine (1) how, over time, the U.S. Army Corps of Engineers (Corps) has modified its organizational alignment to take into account its changing mission, budget, staffing, and workload; (2) the challenges the Corps has faced in realigning its organization and the extent to which these or other challenges are still relevant; and (3) what changes to the Corps' organizational alignment, if any, do officials and stakeholders believe could enhance the effectiveness of the civil works mission.

To examine the Corps' changing civil works mission over time, we conducted a review of the legislative history of the Corps' civil works mission. We also conducted a review of historical Corps literature, studies, and congressional hearings and committee reports. To examine the Corps' civil works budget, we obtained appropriations and obligations data from the Budget of the United States Government, by the nine appropriations funding accounts, for the following fiscal years: 1980, 1990, and annually between 2000 and 2009. We chose these years because data were electronically available and the appropriations funding accounts remained relatively constant over those years. To examine the changes over time for the staffing of the Civil Works Program, we obtained full-time equivalent (FTE) data, by district for fiscal years 2000 through 2009, from the Corps based on data from the Corps of Engineers Financial Management System. We also obtained FTE allocations by division for fiscal years 2000 through 2009¹ and Corps-wide FTE allocations for fiscal years 1980, 1990, and annually between 2000 and 2009. According to the Corps, Corps-wide staffing data were found for prior fiscal years; however, it was unknown how these data were collected and counted and therefore they were deemed not reliable. Additionally, FTE data pertain only to Corps civilian employees, because, according to the Corps, military personnel are considered to be on duty all day, every day and, therefore, the Corps does not track the time they spend on civil works projects. To examine the Corps' changing workload, we obtained the number of construction and operations and maintenance (O&M) projects each district listed in its cost and financial statements included in the Corps' Annual Report on Civil Works Activities for fiscal years 1980, 1990, and annually between 2000 and 2008. According to the Corps, the districts only report construction and O&M projects in this table. We also obtained project expenditure data for construction and O&M projects for fiscal years 1980, 1990, and annually between 2000 and 2008. These were the only years the Corps was

¹While we received division-level FTE data back to 1990, divisions were realigned in 1998, and therefore FTE data was not comparable from 1990 to 2000 to 2009.

able to supply us with project expenditure data, so we also restricted our analysis of the number of projects to those years.

To determine how the Corps has modified its organizational alignment throughout its history, we reviewed Corps documentation, congressional hearings, and committee reports related to past realignment efforts. We also spoke with former and current Corps officials and stakeholders about efforts that they were involved with or had knowledge of. Based on the documentation and testimonial evidence, and to the extent possible, we linked these efforts with changes in the Corps' mission, budget, staffing, and workload.

To determine the challenges the Corps has faced and would face in modifying its organizational alignment, and the changes to organizational alignment needed to enhance its effectiveness, we conducted semistructured interviews with the current and five former Chiefs of Engineers; the current and four former Assistant Secretaries of the Army for Civil Works; one former Acting Assistant Secretary of the Army for Civil Works; seven current and six former senior Corps officials; officials from the eight domestic civil works divisions; officials from a nonprobability sample of 10 of the 38 domestic civil works districts; and seven stakeholders, including three academics and four interest groups. During these interviews, we discussed whether the Corps was aligned to accomplish its mission, opportunities to realign roles and responsibilities of the three-tiers, advantages and disadvantages to the number and location of districts and divisions, opportunities to realign expertise and the sharing of best practices, realignment of and challenges associated with the way in which the Corps is funded, and challenges associated with past and any future realignment of the Corps' Civil Works Program.

The semistructured interviews were transcribed and coded to identify the challenges to modifying the Corps' alignment and changes in alignment that would enhance effectiveness. The coding was based upon themes in the interviews and was verified by a second reviewer. For the purposes of reporting our results, we used the following categories to quantify responses of officials and stakeholders: "some" refers to responses from two to five individuals, "several" refers to responses from six to eight individuals, "many" refers to responses from nine or more individuals, and "majority" refers to responses from over half of an interview group.

We attempted to contact all Chiefs of Engineers and Assistant Secretaries of the Army for Civil Works that were in office in 1988 or later. One former Chief of Engineers declined our interview, one former Assistant Secretary is deceased, and another was unavailable to speak with us. We identified other former senior Corps officials, interest groups, and two of the three academic stakeholders using a snowball sampling technique, in which we selected interviewees after two of our previous interviewees had mentioned them as important contacts. Finally, we spoke with one of the academic stakeholders based upon previous GAO work on organizational alignment. Additionally, academic stakeholders had to meet the following criteria: (1) the academics' recognition in the professional or academic community and (2) relevance of his or her published work or research to organizational alignment.

To choose the nonprobability sample of districts, we gathered 2009 civil works FTE data from the Corps and divided it into three categories: (1) large districts with more than 800 FTEs; (2) medium districts with 400 to 799 FTEs, and; (3) small districts with 399 or fewer FTEs. We sorted all districts by their FTE size category and chose three districts in each of the FTE size categories, ensuring that at least one district from each of the eight domestic civil works divisions was chosen. We then plotted these nine districts on a map of the Corps districts and divisions, and based on the geographical spread of those nine districts, chose an additional district from an area that was not geographically represented.

We conducted this performance audit from August 2009 through August 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Former Corps Officials GAO Interviewed

	This appendix includes former senior-level Corps officials that we spoke to, including former Assistant Secretaries of the Army for Civil Works, former Chiefs of Engineers, and former senior-level officials.
Former Assistant Secretaries of the Army for Civil Works	Dr. G. Edward Dickey Acting Assistant Secretary of the Army for Civil Works, 1990-1991, 1993-1994
Civil Works	H. Martin Lancaster Assistant Secretary of the Army for Civil Works, 1996-1997
	Dr. Joseph W. Westphal Assistant Secretary of the Army for Civil Works, 1998-2001
	Mike Parker Assistant Secretary of the Army for Civil Works, 2001-2002
	John Paul Woodley, Jr. Assistant Secretary of the Army for Civil Works, 2003-2009
Former Chiefs of Engineers	Lieutenant General Elvin R. Heiberg III Chief of Engineers, 1984-1988
	Lieutenant General Henry Hatch Chief of Engineers, 1988-1992
	Lieutenant General Joe N. Ballard Chief of Engineers, 1996-2000
	Lieutenant General Robert B. Flowers Chief of Engineers, 2000-2004
	Lieutenant General Carl Strock Chief of Engineers, 2004-2007

Other Former Senior-Level Corps Officials	Fred Caver Deputy Director of Civil Works, 2000-2005
	Don Cluff Chief of Programs Management Division, Director of Civil Works, 1985-1996
	Brigadier General (Ret.) Gerald Galloway Member of the Mississippi River Commission, 1988-1995
	Tim Sanford Chief of Staff, 1998-2000
	Bory Steinberg Chief of Project Management Division, 1989-1992
	Major General (Ret.) Hans Van Winkle Deputy Commander, 2001-2003

Appendix III: Timeline of Select Laws and Events Related to the Civil Works Mission

This appendix includes legislation and events that have led to the current responsibilities of the Corps under its civil works mission. Legislation and events are listed by the Corps' nine business lines. While many of these laws and events affected more than one of the Corps' nine responsibilities, we have grouped the laws and events discussed in this appendix under nine headings describing the responsibilities for illustrative purposes.

Navigation

April 30, 1824, General Survey Act of 1824: This act outlined the initial definition of the Corps' civil works mission. The act authorized the President to employ "two or more skilful civil engineers, such as officers of the corps of engineers" to survey road and canal routes that facilitated national commercial, military, or postal service activities.¹

May 24, 1824, Navigation Act: This act appropriated funds (\$75,000) for improvement of inland waterways navigation (removal of sand bars in the Ohio River and removal of snags in the Ohio and Mississippi Rivers).²

May 20, 1826, Rivers and Harbors Act of 1826: This act authorized both surveys and construction projects within the same act (a practice continued to today).³

January 21, 1927, Rivers and Harbors Act of 1927: This act gave congressional authorization for the Corps to conduct surveys to devise the most comprehensive and effective strategy for improving navigation on navigable streams and their tributaries, and the most efficient development of flood control, potential water power, and irrigation needs.⁴

¹Act of Apr. 30, 1824, ch. xlvi, § 2, 4 Stat. 22, 23.

²Act of May 24, 1824 ch. cxxxix, 4 Stat. 32.

³Act of May 20, 1826, ch. 47, 4 Stat. 175, ch. xccviii.

⁴Act of Jan. 21, 1927, ch. 47, § 1, 44 Stat. 1010, 1015 (1927); Act of Mar. 3, 1925, § 3, ch. 467, 43 Stat. 1186, 1190.

Flood Risk Management (Flood and Storm Damage Reduction)	September 30, 1850: Congress commissioned the first planning study from the Corps to determine the best way to control flooding on the lower Mississippi River. ⁵
	June 28, 1879, Establishment of Mississippi River Commission: Federal flood control activity took form with the establishment of the Mississippi River Commission, a seven-member organization including three members from the Corps. The commission was responsible for directing and completing surveys of the lower Mississippi River and taking into consideration plans to prevent destructive flooding. ⁶
	March 1, 1917, Flood Control Act of 1917: This is act established the Corps' flood damage reduction role and gave authority for federal construction of flood control improvements beyond the Mississippi Valley. It also notably prescribed that all plans for flood control should include a comprehensive study of the relevant watershed and report on potential other uses for the project, such as water power, navigation improvements, and "such other uses as may be properly related to or coordinated with the project." ⁷
	January 21, 1927, Rivers and Harbors Act of 1927: This act gave congressional authorization for the Corps to conduct surveys to devise the most comprehensive and effective strategy for improving navigation on navigable streams and their tributaries and the most efficient development of flood control, potential water power, and irrigation needs. ⁸
	May 15, 1928, Flood Control Act of 1928: This act authorized the Corps' Mississippi River and Tributaries Project. ⁹
	June 22, 1936, Flood Control Act of 1936: This act declared flood control as a "proper activity" of the federal government and established the Corps as the agency responsible for flood control throughout the nation, in cooperation with the Bureau of Reclamation. The act also
	⁵ Act of Sept. 30, 1850, ch. xc, § 1, 9 Stat. 523, 539.
	6 Act of June 28, 1879, ch. 43, 21 Stat. 37 (codified as amended at 33 U.S.C. §§ 641-647.

⁷Act of Mar. 1, 1917, ch. 144 § 3, 39 Stat. 948, 950.

 $^{^{8}\}mathrm{Act}$ of Jan. 21, 1927, ch. 47, § 1, 44 Stat. 1010, 1015; Act of Mar. 3, 1925, § 3, ch. 467, 43 Stat. 1186, 1190.

⁹Act of May 15, 1928, ch. 569, 45 Stat. 534 (codified as amended at 33 U.S.C. § 702a).

	effectively required submission of all Corps flood control projects to a cost-benefit test (the federal government should only sponsor projects where the benefit of a project exceeds its cost). ¹⁰
	August 18, 1941, Flood Control Act of 1941: This act rescinded certain local contribution requirements for reservoir construction, ¹¹ spurring their construction.
	July 14, 1960, Flood Control Act of 1960: Section 206 of this act authorizes floodplain management studies. The Corps begins its Flood Plain Management Services Program in response to this act. ¹²
	March 7, 1974, Water Resources Development Act of 1974: This was the first Water Resources Development Act. Prior to 1974, Corps projects were authorized and funded through Rivers and Harbors and Flood Control Acts. ¹³
Regulatory Program	September 19, 1890 and March 3, 1899, Rivers and Harbors Act of 1890 and 1899: The acts prohibit unauthorized obstructions in navigable waterways and authorizes the Secretary of the Army to remove wrecks or other obstructions from navigable waterways and to issue permits for construction, excavation, or disposition of materials in, over, or under navigable waters. Provisions of the 1899 act superseded the provisions of the 1890 act. ¹⁴
	October 18, 1972, Federal Water Pollution Control Act Amendments of 1972: This act amended the Federal Water Pollution

¹⁰Act of June 22, 1936, ch. 688, 49 Stat. 1570.

 $^{^{11}\!\}mathrm{Act}$ of Aug. 18, 1941, ch. 377, § 2, 55 Stat. 638, 650.

¹²Pub. L. No. 86-645 § 206, 74 Stat. 480, 500 (1960).

¹³Pub. L. No. 93-251, 88 Stat. 12 (1974).

 $^{^{14}\!\}mathrm{Act}$ of Mar. 3, 1899, ch. 425 §§ 10, 11, 15, 19, 30 Stat. 1121, 1151, 1152, 1154, 1155; Act of Sept. 19, 1890, ch. 907 §§ 7, 8, 10, 26 Stat. 426, 454.

	section 404. Section 404 authorizes the Corps to issue permits for discharging dredged or fill materials into "the waters of the U.S." ¹⁵
	October 23, 1972, Marine Protection, Research, and Sanctuaries Act of 1972: Authorizes the Corps to issue permits for the transportation of dredged materials for the purpose of dumping in the ocean. ¹⁶
Hydropower	March 3, 1909, Rivers and Harbors Act of 1909: This act authorized the Corps to report data concerning the development and utilization of hydroelectric power in project plans. ¹⁷
	March 3, 1925, Rivers and Harbors Act of 1925: This was one of earliest acts (together with 1909 Rivers and Harbors Act, above) that called for a multipurpose approach to water resources development. It authorized the Corps and the Federal Power Commission to conduct survey cost estimates of navigable streams and tributaries "whereon power development appears feasible and practicable." ¹⁸
Recreation	December 22, 1944, Flood Control Act of 1944: This act gave the Corps a recreation role that was added as part of flood control projects at Corps reservoirs. ¹⁹
	October 23, 1962, River and Harbor Act of 1962: This act expanded the Corps' recreation role by authorizing the agency to build recreational facilities as part of all water resource development projects. ²⁰

 $^{^{15}}$ Pub. L. No. 92-500 \S 2, 86 Stat. 816, 884, amending Act of June 30, 1948, ch. 758, adding $\S324$ (codified as amended at 33 U.S.C. \S 1344).

 $^{^{16}\}mathrm{Pub.}$ L. No. 95-535 \$ 103, 86 Stat. 1052, 1055 (codified as amended at 33 U.S.C. \$ 1413).

 $^{^{17}\!\}mathrm{Act}$ of Mar. 3, 1909, ch. 264, § 13, 35 Stat. 815, 822.

¹⁸Act of Mar. 3, 1925, ch. 467, § 3, 43 Stat. 1186, 1190.

¹⁹Act of Dec. 22, 1944 § 4, 58 Stat. 887, 889.

²⁰Pub. L. No. 87-874 § 207, 76 Stat. 1173, 1195 (1962).

	July 9, 1965, The Federal Water Project Recreation Act of 1965: This act provided for development of recreational opportunities at federal water resources projects. ²¹
Emergency Management	May 11, 1882: In the winter of 1882, floods on the Mississippi forced thousands of people from their homes. The Army Quartermaster Department had relief supplies for the refugees, but they were unable to deliver them. Congress authorized the Corps of Engineers to use their engineer vessels to dispense supplies and rescue victims along the river. ²²
	December 10, 1896: In Circular #18, the Chief of Engineers, by authority of the Secretary of the Army, gave Army Engineers standing authority to use or loan government equipment to save life and property in cases of sudden emergency without prior headquarters approval.
	August 18, 1941, Flood Control Act of 1941: Section 5 of this act authorized the Secretary of War to allot up to \$1 million per year to be used for rescue work or repair or maintenance of damaged or threatened flood control works. ²³
	May 17, 1950, The Flood Control Act of 1950 (Title II of the River and Harbor Act of 1950): Section 210 of this act further amended the 1941 Flood Control Act to increase the annual authorized funding level (for rescue work and repair, restoration, or maintenance of damaged or threatened flood control projects) from \$2 to \$15 million, and authorized the Secretary of the Army to allot funds from other flood control appropriations for immediate works until appropriations are made. ²⁴

²¹Pub. L. No. 89-70 § 1, 79 Stat. 213, 213 (1965).

²²H.J.R. 9, 47th Cong., 22 Stat. 378 (1882).

 $^{^{23}\!\}mathrm{Act}$ of August 18, 1941, ch. 377 \S 5, 55 Stat. 638, 650 (codified as amended at 33 U.S.C. \S 701n).

 $^{^{24}\!\}mathrm{Act}$ of May 17, 1950, Tit. II, § 210, 64 Stat. 170, 183 (codified as amended at 33 U.S.C. § 701n).

	Sept. 30, 1950, Disaster Relief Act of 1950: The act authorizes the President to direct any federal agency to assist states and local governments to alleviate suffering and damage caused by major disasters. ²⁵
	June 28, 1955, Flood Control and Coastal Emergencies Act of 1955: This act amended section 5 of the 1941 Flood Control Act giving the Corps its emergency management mission. The act directed the Corps to spend funds in emergency preparation and in rescue operations. This led to the establishment of the Corps' Flood Control and Coastal Emergencies Program. ²⁶
	May 22, 1974, Disaster Relief Act of 1974: This act authorizes the President to establish a program of disaster preparedness that utilizes services of all appropriate agencies. ²⁷
	November 23, 1988, Robert T. Stafford Disaster Relief and Emergency Assistance Act: The Stafford Act authorizes federal agencies to provide assistance during certain emergencies, expanding the Corps' disaster preparedness role. The act, as subsequently amended, authorizes agencies, including the Corps, to support the Federal Emergency Management Agency in carrying out the Federal Response Plan (now the National Response Plan) to provide coordinated disaster relief and recovery operations. ²⁸
Water Supply and Storage	1850s to 1860s: The Corps developed and continues to maintain permanent water supply systems to the District of Columbia and Georgetown (today known as the Washington Aqueduct division of the Corps' Baltimore District).
	July 3, 1958, Water Supply Act of 1958: This act gave the Corps the authority to include water storage in new and existing reservoir projects for municipal and industrial uses. ²⁹
	²⁵ Act of September 30, 1950, ch 1125, 64 Stat. 1109.
	²⁶ Act of June 28, 1955, ch. 194, 69 Stat. 186 (codified as amended at 33 U.S.C§ 701n).
	²⁷ Pub. L. No. 93-288, § 201, 88 Stat. 143.
	²⁸ Pub. L. No. 100-707, 102 Stat. 4689 (1988) (codified as amended at 42 U.S.C. §§ 5121-5208).

²⁹Pub. L. No. 85-100, tit. III, § 301, 72 Stat. 319 (codified as amended at 43 U.S.C. § 3906).

Environmental Restoration and Protection	September 19, 1890 and March 3, 1899, Rivers and Harbors Act of 1890 and 1899: The 1890 act, later superseded by provisions of the 1899 act, prohibits unauthorized obstructionsin navigable waterways and authorizes the Corps to permit certain activities. It lays the foundation of the Corps' environmental mission to protect, restore, and manage the environment through the regulation of dredging and the dumping of dredged materials given in the 1972 Clean Water Act. ³⁰
	August 12, 1958, Fish and Wildlife Coordination Act: This act authorized the Secretary of the Interior to coordinate with federal agencies concerning wildlife, stating that "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation." ³¹
	1966: U.S. Army Chief of Staff assigns the Corps supervision over all engineering responsibilities related to the Army's growing environmental protection and pollution reduction in the construction and operation of the Army's military activities.
	January 1, 1970, National Environmental Policy Act of 1969 (NEPA): This act requires federal agencies to include in every recommendation or report on a major federal action that significantly affects the quality of the human environment, a detailed statement on the environmental impact on, any unavoidable adverse environmental effects of, and alternatives to the proposed action, among other things. ³²
	October 18, 1972, Federal Water Pollution Control Act Amendments of 1972: This act amended the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act), adding section 404. Section 404 authorizes the Corps to issue permits for discharging of dredged or fill materials into "the waters of the U.S." ³³
	³⁰ Act of Mar. 3, 1899, ch. 425 §§ 10, 11, 15, 19, 30 Stat. 1121, 1151, 1152, 1154, 1155; Act of Sept. 19, 1890, ch. 907 §§ 7, 8, 10, 26 Stat. 426, 454.

 $^{31}\mbox{Pub. L. No. 85-624},$ 72 Stat. 563 (codified as amended at 16 U.S.C. 661).

³²Pub. L. No. 91-190, § 102, 83 Stat. 852, 853 (codified as amended at 42 U.S.C. § 4332).

 33 Pub. L. No. 92-500 \S 2, 86 Stat. 816, 884, amending Act of June 30, 1948, ch. 758, adding $\S324$ (codified as amended at 33 U.S.C. \S 1344).

	November 17, 1986, Water Resources Development Act of 1986: This act further expanded the Corps' environmental role to include enhancing and restoring natural resources at certain new and existing projects. ³⁴
	November 28, 1990, Water Resources Development Act of 1990: This act mandates that environmental protection be included as one of the Corps' primary missions. ³⁵
	October 13, 1997, Energy and Water Resources Appropriations Act of 1998: Congress for the first time directs funding for the Formerly Utilized Sites Remedial Action Program (FUSRAP) to the Corps. The Corps is to conduct cleanup activities of early atomic energy program sites under the Comprehensive Environmental Response, Compensation and Liability Act and National Oil and Hazardous Substances Pollution Contingency Plan. The FUSRAP Program was started in the 1970s under the predecessor to the Department of Energy. ³⁶
Support for Others	March 4, 1915, Rivers and Harbors Act of 1915: Section 4 of this act authorizes the Secretary of the Army to receive contributions from private parties on expenditures of public funds in connection with authorized river and harbor improvements. ³⁷
	September 4, 1961, Foreign Assistance Act of 1961: This act established the United States Agency for International Development (USAID). Also, Section 607 provided for the furnishing of services and commodities to foreign countries on a reimbursable basis. ³⁸
	October 27, 1965, River and Harbor Act of 1965: This act authorized the Chief of Engineers, under supervision of the Secretary of the Army, to accept orders from federal departments and agencies for work or services and to perform all or any part of such work by contract. This provision
	³⁴ Pub. L. No. 99-662, 100 Stat. 4082.
	³⁵ Pub. L. No. 101-640 § 306, 104 Stat. 4604, 4635 (codified at 33 USCA § 2316).
	³⁶ Pub. L. No. 105-62, 111 Stat. 1320, 1326 (1997).
	³⁷ Act of Mar. 4, 1915, ch. 142, § 4, 38 Stat. 1049, 1053.

³⁸Pub. L. No. 87-195 § 607, 75 Stat. 424, 441.

was later repealed and re-enacted as an amendment to the codification of Title 10 of the United States Code at 10 U.S.C. § 3036(d).³⁹ This work includes flood control, the improvement of rivers and harbors, research, and support to private engineering and construction firms competing for, or performing, work outside the United States. The Support for Others program (now named the Interagency and International Services program) engages the Corps in reimbursable work that is determined to be in America's best interests.

October 16, 1968, Intergovernmental Cooperation Act of 1968:

Provides authority for federal agencies to provide specialized or technical services to state and local governments. This section was later repealed and re-enacted as an amendment to the codification of Title 31 of the United States Code at 31 U.S.C. 6506.⁴⁰

³⁹Pub. L. No. 89-298 § 219, 79 Stat. 1073, 1089 (1965) superseded by Pub. L. No. 92-295 § 1(38), 96 Stat. 1287, 1296 (1982).

⁴⁰Pub. L. No. 90-577 § 301, 82 Stat. 1098, 1102 superseded by Pub. L. No. 92-295 § 1(38), 96 Stat. 1287, 1296 (1982).

Appendix IV: Army Corps of Engineers' Budget, Staffing, and Workload

Table 3: Army Corps of Engineers' Civil Works Total Appropriations (Annual and Supplemental), by Appropriations Funding Account and by Fiscal Year

(Dollars in millions)												
	FY1980	FY1990	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Investigations	\$142	\$129	\$165	\$166	\$154	\$134	\$116	\$144	\$204	\$171	\$167	\$193
Construction	1,660	960	1,272	1,617	1,591	1,608	1,610	1,671	2,859	2,214	3,675	6,791
Flood Control, Mississippi River and Tributaries	211	330	309	366	346	342	322	328	574	397	487	759
Flood Control and Coastal Emergencies	170	20		52	-25	77	3	383	5,344	1,561	642	3,680
Operations & Maintenance	941	1,239	1,167	1,401	1,419	1,431	1,327	1,621	1,527	1,087	2,572	3,583
Regulatory Program		68	117	131	127	138	139	144	158	159	180	208
Formerly Utilized Sites Remedial Action Program			150	141	140	144	139	164	139	140	140	240
Expenses	77	142	150	157	153	154	159	166	154	167	177	179
Secretary of the Army (Civil Works)							0	4	4	4	5	5
Total appropriations	3,201	2,888	3,330	4,031	3,905	4,028	3,815	4,625	10,963	5,900	8,045	15,638
Total appropriations (FY2009 dollars)	7,516	4,427	4,140	4,896	4,666	4,715	4,354	5,111	11,714	6,126	8,164	15,638

Source: GAO analysis of the Budget of the United States Government for fiscal years 1980, 1990, and 2000 to 2009.

Note: This figure only includes the Corps' nine appropriations funding accounts. Other accounts may have been included in the *Budget of the United States Government*.

Table 4: Army Corps of Engineers' Civil Works Annual Obligations, by Appropriations Funding Account and by Fiscal Year

(Dollars in millions)												
	FY1980	FY1990	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
Investigations	\$140	\$132	\$190	\$192	\$203	\$176	\$160	\$173	\$183	\$219	\$209	\$214
Construction	1,684	1,521	2,021	2,288	2,426	2,578	2,376	2,391	2,803	3,413	5,161	5,404
Flood Control, Mississippi River and Tributaries	219	322	334	405	377	365	350	348	493	460	439	634
Flood Control and Coastal Emergencies (FCCE)	240	105	35	82	76	86	459	1,705	4,884	1,378	2,314	1,754
Operations & Maintenance	931	1,381	1,963	1,583	1,721	1,757	1,562	1,617	1,723	1,357	2,663	4,453
Regulatory Program		64	112	129	134	143	142	144	157	163	186	202
Formerly Utilized Sites Remedial Action Program			181	170	151	151	143	161	141	141	151	203
Expenses	76	128	150	171	162	154	181	174	179	184	202	227
Office of Assistant Secretary of the Army (Civil Works)							0	4	4	4	5	5
Total obligations	3,290	3,653	4,986	5,020	5,250	5,410	5,373	6,717	10,567	7,319	11,330	13,096
Total obligations (FY2009 dollars)	7,725	5,599	6,199	6,097	6,273	6,332	6,131	7,423	11,291	7,600	11,498	13,096

Source: GAO analysis of the Budget of the United States Government for fiscal years 1980, 1990, and 2000 to 2009.

Note: This figure only includes the Corps' nine appropriations funding accounts. Other accounts may have been included in the *Budget of the United States*.

Table 5: Army Corps of Engineers' District- and Division-Level Civil Works Full-Time Equivalent Data, by Fiscal Year

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Great Lakes & Ohio River Division	4,348	4,321	4,274	4,222	4,014	3,672	3,490	3,363	3,347	3,605
Division Office	97	86	88	83	79	73	68	64	68	70
Huntington	916	909	900	896	862	821	792	759	730	802
Louisville	760	770	763	768	744	703	673	620	619	667
Nashville	761	760	764	755	733	697	669	659	653	686
Pittsburgh	882	863	824	789	692	534	547	544	573	629
Buffalo	264	278	278	278	279	260	249	229	225	233
Chicago	196	203	207	204	198	178	149	153	154	167
Detroit	474	452	450	449	427	406	343	335	325	351
Mississippi Valley Division	5,419	5,357	5,345	5,335	5,052	4,920	4,845	4,622	4,502	4,805
Division Office	142	140	134	132	105	94	90	89	86	86
Memphis	560	560	542	520	493	488	490	455	438	449
New Orleans	1,276	1,284	1,293	1,310	1,283	1,235	1,140	1,140	1,179	1,311
St Louis	715	678	682	670	612	601	609	587	575	638
Vicksburg	1,187	1,172	1,168	1,169	1,117	1,083	1,107	981	901	941
Rock Island	867	855	858	850	814	809	816	805	779	828
St. Paul	674	668	668	684	628	610	593	565	544	552
North Atlantic Division	2,417	2,352	2,334	2,284	2,186	2,075	2,009	1,809	1,889	1,822
Division Office	75	79	76	74	72	51	60	57	79	52
Baltimore	655	634	633	610	545	493	465	387	361	354
New York	471	456	459	475	458	443	424	405	377	361
Norfolk	230	224	242	243	233	216	221	184	166	170
Philadelphia	523	509	481	442	446	451	422	388	380	360
New England	463	447	438	434	425	413	392	383	376	376
Europe	0	3	5	6	7	8	25	5	2	5
Washington Aquaduct									148	144
Northwestern Division	3,840	3,830	3,908	3,920	3,771	3,695	3,685	3,541	3,453	3,557
Division Office	156	147	144	156	149	147	137	130	107	106
Portland	1,163	1,162	1,181	1,195	1,128	1,108	1,088	1,059	1,051	1,075
Seattle	539	557	588	591	564	552	584	548	545	567
Walla Walla	618	642	654	672	682	682	683	650	625	671

Appendix IV: Army Corps of Engineers' Budget, Staffing, and Workload

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Kansas City	578	579	589	594	569	553	528	509	508	512
Omaha	787	743	752	712	679	653	665	645	617	626
Pacific Ocean Division	312	288	279	270	283	299	294	266	253	244
Division Office	15	17	19	19	20	19	17	16	18	19
Honolulu	130	97	82	82	83	91	85	70	59	56
Alaska	167	174	178	169	180	186	179	178	172	167
Japan	0	0	0	0	0	3	3	0	1	1
Korea	0	0	0	0	0	0	10	2	3	1
South Atlantic Division	2,715	2,807	2,860	2,903	2,798	2,681	2,538	2,398	2,327	2,397
Division Office	72	73	76	76	65	66	60	57	54	54
Charleston	132	134	139	139	134	122	100	99	105	119
Jacksonville	745	823	851	890	884	845	793	735	725	765
Mobile	971	983	973	989	930	899	861	808	771	775
Savannah	420	419	418	405	402	385	350	326	302	295
Wilmington	375	375	403	404	383	364	374	373	370	389
South Pacific Division	1,818	1,782	1,763	1,750	1,683	1,597	1,623	1,579	1,522	1,559
Division Office	94	99	95	90	67	56	52	55	53	57
Los Angeles	553	540	527	523	504	471	471	437	407	423
Sacramento	663	640	619	600	581	545	541	545	540	572
San Francisco	273	265	279	295	297	283	289	286	276	275
Albuquerque	235	238	243	242	234	242	270	256	246	232
Southwestern Division	2,375	2,369	2,388	2,285	2,203	2,099	2,065	1,985	1,915	1,973
Division Office	93	88	85	75	61	59	59	71	60	59
Ft Worth	499	498	516	498	507	482	504	466	455	482
Galveston	351	364	376	394	399	381	364	337	310	309
Little Rock	726	717	721	705	668	627	620	598	581	599
Tulsa	705	702	690	613	568	550	518	513	509	524
Total	23,244	23,106	23,151	22,969	21,990	21,038	20,549	19,563	19,208	19,962

Source: GAO analysis of Army Corps of Engineers data.

Table 6: Army Corps of Engineers' Civil Works Construction and Operations and Maintenance Project Expenditures, by Fiscal Year

PY 1990 PY 2000 PY 2001 PY 2000 PY 2001 PY 2006 PY 2006 PY 2007 PY 2007 Dinlato 53.810.02 16.408.844 65.508.110 58.28.232 68.007.887 65.28.01.30 75.48.66.16 52.21.145 56.14.65.01 68.28.244 Datiotal 59.35.63.63 45.56.31.97 63.28.29.66 63.78.7.26 65.18.0.10 65.28.0.13 57.37.08 61.062.457 57.05.00 71.44.651 14.407.63 13.49.80.01 12.19.1.686 12.21.98.08 12.21.98.08 12.21.98.08 12.21.98.08 12.21.98.08 12.21.98.08 14.98.99.01 14.97.67.01 10.49.77.09 14.407.24.21 14.97.7.09.97 12.91.98.08 14.99.99.02 14.98.99.01 14.97.20.87 17.97.99.07 19.91.17.00 19.89.97.20 19.91.17.00 19.89.97.20 19.90.79.25 19.91.17.00 19.89.97.20 19.91.17.00 19.89.97.20 19.90.79.25 19.91.17.90 19.89.97.20 19.91.17.00 19.89.97.20 19.91.17.00 19.89.97.20 19.91.17.00 19.89.97.20 19.91.17.00 19.89.97.20 19.91.17.00												
Chicago 5,380.002 16,409,894 55,506,110 59,323,236 69,07,897 65,283,134 71,575,810 75,448,517 66,444,80 73,386,504 99,034,025 Dartoti 59,935,163 45,565,197 63,828,966 63,767,276 65,182,010 65,272,450 87,370,386 16,024,84 15,129,006 13,072,592 145,633,118 153,744,511 150,181,718 154,301,619 161,812,655 Nambule 169,773,697 76,881,417 91,20,566 91,277,625 90,172,423 140,422,477 150,450,817 153,301,619 161,812,655 Nishwig 153,451,417 91,20,566 90,272,423 90,119,449 147,052,817 100,803,99 141,410,72,427 150,301,517 151,574,518 158,774,538 23,311,71 129,523,334 01,179,066 Memphe 54,052,767 93,054,448 20,854,867 107,853,01 101,577,427 190,828,99 90,808,888 32,474,299 33,311 112,826,55 115,774,721 190,828,99 90,808,888 52,77,761 102,673,647 101,656,214 90,656,244		FY1980	FY 1990	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Detoxt 59,935,163 45,563,197 63,828,966 63,796,725 65,188,019 65,225,033 85,737,038 61,052,468 57,065,707 48,998,013 66,022,04 Huntingtion 67,713,227 119,127,437 110,425,060 121,019,063 160,022,847 151,022,000 103,075,157 150,193,015 115,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 165,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,115 163,112,113 163,112,113 163,112,113 163,112,113 163,112,113 163,112,113 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,013,013 111,112,111,111 111,111,111,111,111,111						. , ,					. , ,	
Huntington 67,713,272 118,127,437 110,425,066 121,019,663 160,023,847 151,829,800 150,1751 150,189,902 141,748,331 134,497,083 132,654,183 Lauisvillio 199,773,087 76,881,477 91,771,907 128,251,158 127,259,965 130,722,928 161,194,44 94,766,578 100,701,4234 140,701,4234 140,701,4234 150,711,70 Pithaburgh 192,755,857 76,881,417 91,102,802 101,517,424 101,228,449 102,885,151 115,874,389 90,884,889 93,464,204 86,779,76 New Orleans 281,054,252 251,160,643 324,266,52 362,041,102 324,476,399 31,873,640 300,063,935 32,470,335 30,802,266 551,852,24 80,185,268 83,113,113 112,228,440 126,861,17 102,863,114 100,852,48 91,803,887 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,152,968 91,1						, ,		, ,	, ,		, ,	
Louisville 71,860,847 48,885,472 137,719,071 128,921,158 127,250,996 130,732,992 145,633,118 153,734,511 150,181,718 154,301,619 161,812,655 Nashville 169,775,087 76,381,417 99,120,982 80,15,669 91,227,655 90,272,823 66,119,449 44,762,978 107,014,224 145,033,464 118,843 142,200,01 00,333,426 78,933,228 78,933,228 78,933,228 78,933,228 78,933,228 78,933,228 78,933,228 78,933,228 78,933,228 79,933,446 118,184,129 23,834,807 103,734,949 115,873,399 108,015,808 83,934,113 112,323,530 124,267,767 102,673,848 91,172,340 94,567,960 81,163,141 71,17,898 Rock Island 54,397,1973 164,4102,21 90,903,839 95,126,704 102,673,848 91,172,340 94,567,960 81,163,141 112,23,530 124,267,767 102,673,844 91,172,340 94,567,960 11,63,873,987,979 103,988,426 93,138,161 17,75,897 84,139,141 112,263,3507 81,133,111 <	Detroit	59,935,163	45,563,197	63,828,966	63,796,725	65,188,019	65,225,033	85,737,038	61,052,458	57,605,707	48,998,013	66,692,204
Nashville 169,773,087 76,981,417 99,120,982 99,127,823 96,119,494 94,768,978 107,014,234 144,072,427 185,079,205 Pirtsburg 29,236,084 70,738,446 118,185,833 114,429,020 104,989,372 100,337,275 77,852,823 101,003,983 94,314,755 103,334,445 Vicksburg 113,641,289 238,259,444 209,944,682 263,858,663 216,374,751 100,825,95 103,874,424 82,381,1701 226,523,834 201,171,9066 New Orkens 261,064,252 251,160,643 321,426,652 82,041,02 24,478,999 31,367,600 90,008,383 91,152,964 91,171,781 New Orkens 261,064,252 281,180,102 80,172,275 95,003,998 91,152,964 66,071,425 91,33,414 100,802,855 85,164,813 112,323,530 124,267,767 100,267,553 89,126,168 91,326,164 91,422,91 94,567,960 81,983,544 87,117,898 Baltmore 44,252,007 83,109,113 112,324,300 93,133,114 100,3265,652 81,914,304	Huntington	67,713,272	118,127,437	110,425,806	121,019,663	160,023,847	151,929,600	153,075,157	150,169,902	141,748,531	134,497,083	132,654,183
Pittsburgh 29.236.084 70.738.446 118.185.833 114.929.020 104.969.372 100.533.727 87.863.828 78.522.213 101.003.983 94.314.575 103.934.645 Vicksburgh 113.641.299 238.259.444 209.588.663 216.385.818 216.274.751 190.829.951 105.755.38 223.111.701 226.523.83 201.1779.061 Memphils 54.062.762 73.677.869 85.166.014 027.963.019 015.177.424 101.264.801 102.663.151 115.874.369 99.068.866 93.452.04 86.779.771 New Orleans 261.064.522 251.160.043 221.246.652 382.044.102 324.784.99 31.377.361 93.036.73.62 91.162.046 91.722.76 93.138.73.648 91.172.340 94.567.960 81.985.44 75.17.898 Rock Island 54.390.738 98.115.806 63.103.547 139.496.437 103.255.652 86.914.204 72.07.335 79.865.965 75.553.114 74.590.398 New York 33.361.622 57.152.971 82.668.679 00.288.175 139.496.472 142.743.066 <t< td=""><td>Louisville</td><td>71,860,847</td><td>48,885,472</td><td>137,719,071</td><td>128,921,158</td><td>127,250,996</td><td>130,732,992</td><td>145,633,118</td><td>153,734,511</td><td>150,181,718</td><td>154,301,619</td><td>161,812,655</td></t<>	Louisville	71,860,847	48,885,472	137,719,071	128,921,158	127,250,996	130,732,992	145,633,118	153,734,511	150,181,718	154,301,619	161,812,655
Vicksburg 113,641,299 238,259,444 209,944,628 206,586,663 216,385,818 216,274,751 190,829,599 169,795,538 223,811,701 226,523,84 201,179,066 Memphis 54,052,766 73,677,660 85,166,014 107,863,019 101,157,424 101,226,480 102,663,151 115,874,369 99,068,868 39,454,204 86,778,776 New Orleans 261,064,252 251,160,643 321,246,622 324,747,501 93,163,7360 300,063,363 324,772,249 94,555,760 81,663,524 75,117,869 Rock Island 54,396,179 68,041,042 99,060,389 95,260,406 36,109,543 93,456,204 96,062,245 102,283,716 177,968 Bellmore 49,735,960 34,130,445 56,595,860 60,109,302 68,335,970 87,175,589 74,300,364 61,775,887 46,190,030 51,215,542 55,202,149 New Kingland 49,332,816 63,359,771 82,468,774 124,240,474 127,200,733 78,865,87 75,858,94 61,775,887 46,190,030 51,215,542 55,202	Nashville	169,773,087	76,981,417	99,120,962	98,015,669	91,267,655	90,727,823	96,119,494	94,766,978	107,014,234	144,072,427	185,079,205
Memphis 54,052,765 73,677,869 85,166,014 107,963,019 101,517,424 101,226,480 102,663,151 115,674,369 99,068,866 93,454,204 86,779,761 New Orleans 861,054,252 251,160,643 321,246,652 362,044,102 324,740,999 31,673,009 300,0333 332,470,235 301,802,265 361,163,252 303,852,402 363,852,404 302,770,801 81,863,584 75,117,889 74,2340 94,567,900 81,963,584 75,117,908 81,963,584 75,117,908 81,963,584 75,117,908 74,500,389 91,526,540 100,656,214 50,652,44 100,628,214 55,653,184 74,590,386 Baltimore 64,250,003 48,179,105 93,101,144 119,023,754 119,456,457 103,255,562 86,914,204 72,007,355 79,865,865 75,553,184 74,590,984 117,040,030 61,215,642 55,202,149 New York 33,6162 71,52,971 82,685,679 100,282,682 57,553,184 74,500,984 150,942,744 142,743,060 150,611,890 141,700,050 161,819,411,819,411,81	Pittsburgh	29,236,084	70,738,446	118,185,833	114,929,020	104,969,372	100,533,727	87,863,628	78,522,213	101,003,983	94,314,575	103,934,645
New Orleans 261,054,252 251,160,643 312,246,652 362,044,102 324,748,999 313,673,609 300,063,935 332,470,235 301,802,266 351,163,252 363,852,408 St. Paul 44,225,287 89,185,686 88,350,898 88,133,113 112,323,500 124,267,767 102,673,848 91,172,240 95,065,204 100,656,214 95,065,204 100,635,84 75,117,898 Rock Island 54,396,137 80,017,802 99,172,275 99,500,388 91,52,066 86,015,440 93,458,074 97,000,088 98,86407 100,779,068 Baltimore 64,250,003 48,179,105 93,101,144 119,023,754 139,466,437 103,255,652 86,914,204 72,007,335 79,865,965 75,553,184 74,590,398 New Findiand 49,735,980 34,100,414 51,852,656 66,109,302 68,338,970 87,175,588 74,30,044 11,774,005 104,189,407 139,696,704 130,986,714 120,977,976,88 30,81,6582 30,81,682 34,306,999 34,700,974 Kanasa City 103,173,940	Vicksburg	113,641,299	238,259,444	209,944,628	208,588,663	216,385,818	216,274,751	190,829,599	169,795,538	223,811,701	226,523,834	201,179,066
St. Paul 44.225.287 89,185,686 83,590,898 89,131.11 112,323,530 124,267,767 102,673,848 91,172,340 94,567,960 81,963,584 75,117,898 Rock Island 54,396,137 86,031,082 98,172,275 99,500,385 96,677,425 93,133,614 100,662,214 95,065,204 100,602,2867 122,283,314 St. Louis 102,397,996 128,190,783 104,460,231 90,603,385 96,260,406 36,109,543 93,458,074 97,100,068 98,126,158 87,968,407 108,779,088 Baltimore 49,735,960 34,130,444 56,555,860 60,109,302 68,335,970 87,175,587 44,00,030 51,215,542 55,202,149 New York 33,361,622 57,152,971 82,666,279 100,281,75 139,088,204 156,204,724 142,743,060 150,411,800 141,704,005 141,804,005 141,804,005 141,804,005 141,804,005 141,804,005 141,804,005 141,804,005 142,854,578 87,538,89 95,527,116 134,586,808 Omaha 38,007,523 48,886,522 </td <td>Memphis</td> <td>54,052,765</td> <td>73,677,869</td> <td>85,166,014</td> <td>107,963,019</td> <td>101,517,424</td> <td>101,226,480</td> <td>102,663,151</td> <td>115,874,369</td> <td>99,068,886</td> <td>93,454,204</td> <td>86,779,761</td>	Memphis	54,052,765	73,677,869	85,166,014	107,963,019	101,517,424	101,226,480	102,663,151	115,874,369	99,068,886	93,454,204	86,779,761
Rock Island 54,396,137 86,031,082 98,172,275 99,500,398 91,152,965 96,677,425 93,133,614 100,666,214 95,065,204 100,602,285 122,283,314 St. Louis 102,397,996 128,190,783 104,460,231 90,603,859 95,260,406 36,109,543 93,456,074 97,100,068 98,126,158 87,968,407 108,779,068 Baltimore 64,250,003 48,179,105 93,101,144 119,023,754 139,088,207 103,255,652 85,914,204 72,007,387 79,665,965 75,553,184 74,590,389 New York 33,361,622 75,152,978 82,668,79 100,288,175 139,088,204 155,204,724 142,743,006 150,641,890 150,641,890 150,641,890 150,641,890 150,641,890 150,641,890 150,641,890 126,640,411,90,041 142,742,006 150,641,890 150,741,161 112,663,401 142,742,064 112,764,064 112,661,401 126,7410 142,742,108 142,462,040 151,765,771,162 86,399,338 63,599,219 73,756,152 77,753,758 96,644,851 144,7119 <td< td=""><td>New Orleans</td><td>261,054,252</td><td>251,160,643</td><td>321,246,652</td><td>362,044,102</td><td>324,748,999</td><td>313,673,609</td><td>300,063,935</td><td>332,470,235</td><td>301,802,256</td><td>351,163,252</td><td>363,852,408</td></td<>	New Orleans	261,054,252	251,160,643	321,246,652	362,044,102	324,748,999	313,673,609	300,063,935	332,470,235	301,802,256	351,163,252	363,852,408
St. Louis 102,397,996 128,190,783 104,460,231 90,603,859 95,260,406 36,109,543 93,458,074 97,100,068 98,126,158 87,968,407 108,779,068 Ballimore 64,250,003 48,179,105 93,101,144 119,023,754 139,496,437 103,255,552 86,914,204 72,007,335 79,865,965 75,553,184 74,509,398 New Fork 33,361,622 57,152,971 82,668,679 100,288,175 139,088,204 165,204,724 142,743,060 150,641,890 141,70,005 104,189,407 139,800,710 Nordik 22,116,444 28,416,221 48,386,226 56,393,38 63,599,219 73,735,155 75,253,641 88,245,658 74,758,152 97,535,829 95,527,116 134,686,898 Omaha 38,807,523 48,866,326 83,993,34 98,667,944 103,447,119 109,221,861 146,270,203 103,973,23 163,892,211 214,491,533 Orditar 28,003,284 84,866,322 93,751,849 96,679,441 103,447,119 109,221,861 146,770,203 100,976,231	St. Paul	44,225,287	89,185,686	83,590,898	88,133,113	112,323,530	124,267,767	102,673,848	91,172,340	94,567,960	81,963,584	75,117,898
Baltimore 64,250,003 48,179,105 93,101,144 119,023,754 139,496,437 103,255,652 86,914,204 72,007,335 79,865,965 75,553,184 74,590,398 New England 49,735,960 34,130,446 56,595,860 60,109,302 68,335,970 87,175,589 74,30,003 61,775,887 46,190,030 51,215,542 55,202,149 New York 33,361,622 57,152,971 82,666,679 100,288,175 139,082,024 156,204,724 142,743,060 150,641,890 141,704,005 104,189,407 139,807,104 Norlok 22,116,484 29,416,231 48,368,228 37,020,269 49,266,518 57,041,309 45,309,875 34,452,085 30,815,862 34,306,999 36,740,425 Pinladelphia 31,007,523 48,886,322 93,751,849 98,667,944 103,447,119 109,221,981 124,622,408 116,766,855 107,415,151 112,653,440 124,681,888 Cmaha 38,807,523 48,886,322 93,751,849 98,667,944 103,447,119 109,221,981 124,622,408 116,776,875 </td <td>Rock Island</td> <td>54,396,137</td> <td>86,031,082</td> <td>98,172,275</td> <td>99,500,398</td> <td>91,152,965</td> <td>96,677,425</td> <td>93,133,614</td> <td>100,656,214</td> <td>95,065,204</td> <td>100,602,285</td> <td>122,283,314</td>	Rock Island	54,396,137	86,031,082	98,172,275	99,500,398	91,152,965	96,677,425	93,133,614	100,656,214	95,065,204	100,602,285	122,283,314
New England 49,735,960 34,130,446 56,595,860 60,109,302 68,335,970 67,175,589 74,300,364 61,775,887 46,190,030 51,215,542 55,202,149 New York 33,361,622 57,152,971 82,668,679 100,288,175 139,088,204 156,204,724 142,743,060 150,641,890 141,704,005 104,189,407 139,800,710 Nordak 22,116,484 29,416,231 48,868,228 37,020,269 49,268,518 57,041,309 45,309,875 34,452,085 30,815,862 34,306,999 36,740,425 Philadelphia 34,100,311 51,852,666 65,193,601 69,226,582 70,905,348 75,758,092 89,099,427 93,716,475 62,676,404 81,265,451 76,870,974 Kansas City 103,173,940 46,3936,222 93,751,849 98,667,944 109,21,981 124,622,408 116,470,032 160,988,583 163,692,211 211,491,523 Seattle 54,917,572 64,303,161 78,650,927 67,622,595 72,221,821 71,755,968 66,348,297 62,716,478 64,738,096 <td>St. Louis</td> <td>102,397,996</td> <td>128,190,783</td> <td>104,460,231</td> <td>90,603,859</td> <td>95,260,406</td> <td>36,109,543</td> <td>93,458,074</td> <td>97,100,068</td> <td>98,126,158</td> <td>87,968,407</td> <td>108,779,068</td>	St. Louis	102,397,996	128,190,783	104,460,231	90,603,859	95,260,406	36,109,543	93,458,074	97,100,068	98,126,158	87,968,407	108,779,068
New York 33,361,622 57,152,971 82,668,679 100,288,175 139,088,204 156,204,724 142,743,060 150,641,890 141,704,005 104,189,407 139,800,710 Norloik 22,116,484 29,416,231 48,368,228 37,020,269 49,268,518 57,041,309 45,309,875 34,452,085 30,815,862 34,306,999 36,740,425 Philadelphia 34,100,311 51,852,565 65,193,601 69,226,582 70,905,348 75,758,092 89,099,427 93,751,447 62,674,604 81,265,451 78,870,974 Kansas City 103,173,940 46,936,286 58,399,338 63,599,219 73,761,155 75,253,641 88,245,685 74,758,152 87,535,829 95,527,116 124,586,689 Gmaha 260,324,486 102,166,404 176,311,113 201,370,825 79,886,312 124,159,302 169,389,548 164,707,032 160,988,583 163,692,211 121,491,523 Seattle 54,917,572 64,303,161 78,650,927 67,622,595 72,21,821 17,1755,968 66,348,297 62,716,478 <td>Baltimore</td> <td>64,250,003</td> <td>48,179,105</td> <td>93,101,144</td> <td>119,023,754</td> <td>139,496,437</td> <td>103,255,652</td> <td>86,914,204</td> <td>72,007,335</td> <td>79,865,965</td> <td>75,553,184</td> <td>74,590,398</td>	Baltimore	64,250,003	48,179,105	93,101,144	119,023,754	139,496,437	103,255,652	86,914,204	72,007,335	79,865,965	75,553,184	74,590,398
Nortolk 22,116,484 29,416,221 48,368,228 37,020,269 49,268,518 57,041,309 45,309,875 34,452,085 30,815,862 34,306,999 36,740,425 Philadelphia 34,100,311 51,852,565 65,193,601 69,226,582 70,905,348 75,758,092 89,099,427 93,791,647 62,674,604 81,265,451 78,870,974 Kansas City 103,173,940 46,936,286 58,399,338 63,599,219 73,736,155 75,253,641 88,245,858 74,758,152 87,535,829 95,527,116 134,586,898 Omaha 38,807,523 48,886,322 93,751,849 98,667,944 103,447,119 109,221,981 124,622,408 116,786,855 107,415,151 112,653,840 124,381,582 Seattle 54,917,572 64,303,161 78,650,927 67,622,595 72,221,821 71,155,698 66,348,297 62,716,478 64,738,096 67,903,779 68,262,184 Walla Walla 56,806,828 59,575,887 95,864,854 1,427,609 15,934,356 70,316,246 60,558,841 13,151,102	New England	49,735,960	34,130,446	56,595,860	60,109,302	68,335,970	87,175,589	74,300,364	61,775,887	46,190,030	51,215,542	55,202,149
Philadelphia 34,100,311 51,852,565 65,193,601 69,226,582 70,905,348 75,758,092 89,099,427 93,791,647 62,674,604 81,265,451 78,758,092 Kansas City 103,173,940 46,936,286 58,399,338 63,599,219 73,736,155 75,253,641 88,245,858 74,758,152 87,535,829 95,527,116 134,586,898 Omaha 38,807,523 48,866,322 93,751,849 98,667,944 103,447,119 109,221,981 124,622,408 116,786,855 107,415,151 112,653,840 124,381,582 Portland 260,322,486 120,166,404 176,311,113 201,370,825 198,862,373 221,569,302 169,398,548 164,707,032 160,988,583 163,692,211 211,491,523 Seattle 54,917,572 64,033,161 76,622,597 72,221,817 110,51350 89,892,803 101,377,293 100,976,231 113,511,102 108,858,749 Malaka 22,711,443 26,953,551 27,787,414 21,308,616 24,775,699 15,944,365 70,316,244 0,556,614 41,316,532 <td>New York</td> <td>33,361,622</td> <td>57,152,971</td> <td>82,668,679</td> <td>100,288,175</td> <td>139,088,204</td> <td>156,204,724</td> <td>142,743,060</td> <td>150,641,890</td> <td>141,704,005</td> <td>104,189,407</td> <td>139,800,710</td>	New York	33,361,622	57,152,971	82,668,679	100,288,175	139,088,204	156,204,724	142,743,060	150,641,890	141,704,005	104,189,407	139,800,710
Kansas City103,173,94046,936,28658,399,33863,599,21973,736,15575,253,64188,245,85874,758,15287,535,82995,527,116134,586,898Omaha38,807,52348,866,32293,751,84998,667,944103,447,119109,221,981124,622,408116,786,855107,415,151112,653,840124,381,582Portland260,324,886120,166,404176,311,113201,370,825198,862,373221,569,302169,398,548164,707,032160,988,583163,692,211211,491,523Seattle54,917,57264,303,16178,650,92767,622,59572,221,82171,755,96866,348,29762,716,47864,738,09667,903,77968,252,184Walla Walla56,806,82859,575,88795,854,854111,475,607112,566,312102,011,35089,892,803101,377,293100,976,231113,511,102108,888,749Alaska22,711,64326,953,55127,787,41421,308,61624,776,69915,934,35670,316,24860,556,84141,316,53238,086,49536,167,629Honolulu13,097,3257,547,1842,813,5402,583,2634,200,2342,822,4893,644,6549,243,29111,954,53811,862,28612,676,948Jacksonville87,022,792104,229,340184,242,182236,143,015245,952,899222,718,597200,25,888278,334,003242,418,211245,620,072266,114,294Mobile210,933,774156,460,421173,278,783186,648,129211,525,91921	Norfolk	22,116,484	29,416,231	48,368,228	37,020,269	49,268,518	57,041,309	45,309,875	34,452,085	30,815,862	34,306,999	36,740,425
Omaha 38,807,523 48,886,322 93,751,849 98,667,944 103,447,119 109,221,981 124,622,408 116,786,855 107,415,151 112,653,840 124,381,582 Portland 260,324,886 120,166,404 176,311,113 201,370,825 198,862,373 221,569,302 169,398,548 164,707,032 160,988,583 163,692,211 211,491,523 Seattle 54,917,572 64,303,161 78,650,927 67,622,595 72,221,821 71,755,968 66,348,297 62,716,478 64,738,096 67,903,779 68,252,184 Walla Walla 56,806,828 59,575,887 95,854,854 111,475,607 112,566,312 102,011,350 89,892,803 101,377,293 100,976,231 113,511,102 108,858,749 Alaska 22,711,643 26,953,551 27,787,414 21,308,616 24,776,699 15,934,356 70,316,248 60,556,841 41,316,532 38,086,495 36,167,629 Honolulu 13,097,325 7,547,184 2,813,540 2,583,263 4,200,234 2,822,489 3,644,654 9,243,291	Philadelphia	34,100,311	51,852,565	65,193,601	69,226,582	70,905,348	75,758,092	89,099,427	93,791,647	62,674,604	81,265,451	78,870,974
Portland260,324,886120,166,404176,311,113201,370,825198,862,373221,569,302169,398,548164,707,032160,988,583163,692,211211,491,523Seattle54,917,57264,303,16178,650,92767,622,59572,221,82171,755,96866,348,29762,716,47864,738,09667,903,77968,252,184Walla Walla56,806,82859,575,88795,854,854111,475,607112,566,312102,011,35089,892,803101,377,293100,976,231113,511,102108,858,749Alaska22,711,64326,953,55127,787,41421,308,61624,776,69915,934,35670,316,24860,556,84141,316,53238,086,49536,167,629Honolulu13,097,3257,547,1842,813,5402,583,2634,200,2342,822,4893,644,6549,243,29111,954,53811,862,28613,884,393Charleston52,140,23938,288,90660,728,92248,954,51728,695,56635,400,03425,126,39133,419,24625,619,94426,648,93829,982,760Jacksonville87,022,792104,229,340184,242,182236,143,015245,952,889222,718,597220,025,898278,334,003242,418,211245,626,072266,114,294Mobile210,933,774156,460,421173,278,783185,648,219211,525,919219,040,858202,896,246199,944,011185,842,640170,173,386172,676,326Savannah91,655,92753,275,40973,857,53760,623,36659,715,40676	Kansas City	103,173,940	46,936,286	58,399,338	63,599,219	73,736,155	75,253,641	88,245,858	74,758,152	87,535,829	95,527,116	134,586,898
Seattle 54,917,572 64,303,161 78,650,927 67,622,595 72,221,821 71,755,968 66,348,297 62,716,478 64,738,096 67,903,779 68,252,184 Walla Walla 56,806,828 59,575,887 95,854,854 111,475,607 112,566,312 102,011,350 89,892,803 101,377,293 100,976,231 113,511,102 108,858,749 Alaska 22,711,643 26,953,551 27,787,414 21,308,616 24,776,699 15,934,356 70,316,248 60,556,841 41,316,532 38,086,495 36,167,629 Honolulu 13,097,325 7,547,184 2,813,540 2,583,263 4,200,234 2,822,489 3,644,654 9,243,291 11,954,558 11,862,286 13,884,393 Charleston 52,140,239 38,288,906 60,728,922 48,954,517 28,695,566 35,400,034 25,126,391 33,419,246 25,619,944 26,648,938 29,982,760 Jacksonville 87,022,792 104,229,340 184,242,182 236,143,015 245,952,889 202,18,96,246 199,944,011 185,842,640	Omaha	38,807,523	48,886,322	93,751,849	98,667,944	103,447,119	109,221,981	124,622,408	116,786,855	107,415,151	112,653,840	124,381,582
Walla 56,806,828 59,575,887 95,854,854 111,475,607 112,566,312 102,011,350 89,892,803 101,377,293 100,976,231 113,511,102 108,858,749 Alaska 22,711,643 26,953,551 27,787,414 21,308,616 24,776,699 15,934,356 70,316,248 60,556,841 41,316,532 38,086,495 36,167,629 Honolulu 13,097,325 7,547,184 2,813,540 2,583,263 4,200,234 2,822,489 3,644,654 9,243,291 11,954,538 118,62,286 13,884,393 Charleston 52,140,239 38,288,906 60,728,922 48,954,517 28,695,566 35,400,034 25,126,391 33,419,246 25,619,944 26,648,938 29,982,760 Jacksonville 87,022,792 104,229,340 184,242,182 236,143,015 245,952,889 222,012,588 278,334,003 242,418,211 245,626,072 266,114,294 Mobile 210,933,774 156,460,421 173,278,783 185,648,219 211,525,919 219,040,858 202,866,246 199,944,011 185,847,776	Portland	260,324,886	120,166,404	176,311,113	201,370,825	198,862,373	221,569,302	169,398,548	164,707,032	160,988,583	163,692,211	211,491,523
Alaska 22,711,643 26,953,551 27,787,414 21,308,616 24,776,699 15,934,356 70,316,248 60,556,841 41,316,532 38,086,495 36,167,629 Honolulu 13,097,325 7,547,184 2,813,540 2,583,263 4,200,234 2,822,489 3,644,654 9,243,291 11,954,538 11,862,286 13,884,393 Charleston 52,140,239 38,288,906 60,728,922 48,954,517 28,695,566 35,400,034 25,126,391 33,419,246 25,619,944 26,648,938 29,982,760 Jacksonville 87,022,792 104,229,340 184,242,182 236,143,015 245,952,889 222,718,597 20,025,898 278,334,003 242,418,211 245,626,072 266,114,294 Mobile 210,933,774 156,460,421 173,278,783 185,648,219 211,525,919 219,040,858 202,896,246 199,944,011 185,842,640 170,173,386 172,676,326 Savannah 91,655,927 53,275,409 73,857,537 60,623,356 69,912,573 69,812,080 76,024,629 70,014,767 53,854,776 86,135,108 49,439,723 Wilmington	Seattle	54,917,572	64,303,161	78,650,927	67,622,595	72,221,821	71,755,968	66,348,297	62,716,478	64,738,096	67,903,779	68,252,184
Honolulu13,097,3257,547,1842,813,5402,583,2634,200,2342,822,4893,644,6549,243,29111,954,53811,862,28613,884,393Charleston52,140,23938,288,90660,728,92248,954,51728,695,56635,400,03425,126,39133,419,24625,619,94426,648,93829,982,760Jacksonville87,022,792104,229,340184,242,182236,143,015245,952,889222,718,597220,025,898278,334,003242,418,211245,626,072266,114,294Mobile210,933,774156,460,421173,278,783185,648,219211,525,919219,040,858202,896,246199,944,011185,842,640170,173,386172,676,326Savannah91,655,92753,275,40973,857,53760,623,35665,912,57369,812,08076,024,62970,014,76753,854,77686,135,10849,439,723Wilmington47,361,70943,001,62563,344,825115,068,240126,623,86599,715,40676,393,50378,653,55884,989,67393,192,37778,447,465Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,51,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613 <td< td=""><td>Walla Walla</td><td>56,806,828</td><td>59,575,887</td><td>95,854,854</td><td>111,475,607</td><td>112,566,312</td><td>102,011,350</td><td>89,892,803</td><td>101,377,293</td><td>100,976,231</td><td>113,511,102</td><td>108,858,749</td></td<>	Walla Walla	56,806,828	59,575,887	95,854,854	111,475,607	112,566,312	102,011,350	89,892,803	101,377,293	100,976,231	113,511,102	108,858,749
Charleston52,140,23938,288,90660,728,92248,954,51728,695,56635,400,03425,126,39133,419,24625,619,94426,648,93829,982,760Jacksonville87,022,792104,229,340184,242,182236,143,015245,952,889222,718,597220,025,898278,334,003242,418,211245,626,072266,114,294Mobile210,933,774156,460,421173,278,783185,648,219211,525,919219,040,858202,896,246199,944,011185,842,640170,173,386172,676,326Savannah91,655,92753,275,40973,857,53760,623,35665,912,57369,812,08076,024,62970,014,76753,854,77686,135,10849,439,723Wilmington47,361,70943,001,62563,344,825115,068,240126,623,86599,715,40676,393,50378,653,55884,989,67393,192,37778,447,465Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San57,420,84124,850,27943,090,86442,267,27151,433,915	Alaska	22,711,643	26,953,551	27,787,414	21,308,616	24,776,699	15,934,356	70,316,248	60,556,841	41,316,532	38,086,495	36,167,629
Jacksonville87,022,792104,229,340184,242,182236,143,015245,952,889222,718,597220,025,898278,334,003242,418,211245,626,072266,114,294Mobile210,933,774156,460,421173,278,783185,648,219211,525,919219,040,858202,896,246199,944,011185,842,640170,173,386172,676,326Savannah91,655,92753,275,40973,857,53760,623,35665,912,57369,812,08076,024,62970,014,76753,854,77686,135,10849,439,723Wilmington47,361,70943,001,62563,344,825115,068,240126,623,86599,715,40676,393,50378,653,55884,989,67393,192,37778,447,465Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San Francisco57,420,84124,850,27943,090,86442,267,27151,433,91573,970,78965,532,61057,485,52886,237,57399,274,580103,328,297Fort Worth70,703,795106,674,53756,074,79864,057,440 <td>Honolulu</td> <td>13,097,325</td> <td>7,547,184</td> <td>2,813,540</td> <td>2,583,263</td> <td>4,200,234</td> <td>2,822,489</td> <td>3,644,654</td> <td>9,243,291</td> <td>11,954,538</td> <td>11,862,286</td> <td>13,884,393</td>	Honolulu	13,097,325	7,547,184	2,813,540	2,583,263	4,200,234	2,822,489	3,644,654	9,243,291	11,954,538	11,862,286	13,884,393
Mobile210,933,774156,460,421173,278,783185,648,219211,525,919219,040,858202,896,246199,944,011185,842,640170,173,386172,676,326Savannah91,655,92753,275,40973,857,53760,623,35665,912,57369,812,08076,024,62970,014,76753,854,77686,135,10849,439,723Wilmington47,361,70943,001,62563,344,825115,068,240126,623,86599,715,40676,393,50378,653,55884,989,67393,192,37778,447,465Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San Francisco57,420,84124,850,27943,090,86442,267,27151,433,91573,970,78965,532,61057,485,52886,237,57399,274,580103,328,297Fort Worth70,703,795106,674,53756,074,79864,057,44061,361,58666,010,98780,068,67963,311,80286,481,59589,291,65390,300,325Galveston52,800,94161,505,956168,357,758152,423,675145,6	Charleston	52,140,239	38,288,906	60,728,922	48,954,517	28,695,566	35,400,034	25,126,391	33,419,246	25,619,944	26,648,938	29,982,760
Savannah91,655,92753,275,40973,857,53760,623,35665,912,57369,812,08076,024,62970,014,76753,854,77686,135,10849,439,723Wilmington47,361,70943,001,62563,344,825115,068,240126,623,86599,715,40676,393,50378,653,55884,989,67393,192,37778,447,465Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San Francisco57,420,84124,850,27943,090,86442,267,27151,433,91573,970,78965,532,61057,485,52886,237,57399,274,580103,328,297Fort Worth70,703,795106,674,53756,074,79864,057,44061,361,58666,010,98780,068,67963,311,80286,481,59589,291,65390,300,325Galveston52,800,94161,505,956168,357,758152,423,675145,651,557165,378,505161,503,492121,154,850124,420,546175,764,015145,526,599Little Rock47,201,89570,126,377110,042,403130,699,30813	Jacksonville	87,022,792	104,229,340	184,242,182	236,143,015	245,952,889	222,718,597	220,025,898	278,334,003	242,418,211	245,626,072	266,114,294
Wilmington 47,361,709 43,001,625 63,344,825 115,068,240 126,623,865 99,715,406 76,393,503 78,653,558 84,989,673 93,192,377 78,447,465 Albuquerque 20,850,249 19,205,602 21,166,755 29,747,652 29,253,968 32,179,348 42,783,139 41,043,853 33,258,347 32,978,091 48,665,128 Sacramento 25,817,762 69,324,692 82,932,412 93,237,168 106,043,785 122,071,489 108,926,907 100,990,521 111,531,880 157,121,874 149,385,634 Los Angeles 39,615,132 64,047,455 162,429,712 104,572,636 108,946,613 136,149,383 135,713,338 107,628,117 99,234,264 122,745,776 151,061,055 San 57,420,841 24,850,279 43,090,864 42,267,271 51,433,915 73,970,789 65,532,610 57,485,528 86,237,573 99,274,580 103,328,297 Francisco 70,703,795 106,674,537 56,074,798 64,057,440 61,361,586 66,010,987 80,068,679 63,311,802<	Mobile	210,933,774	156,460,421	173,278,783	185,648,219	211,525,919	219,040,858	202,896,246	199,944,011	185,842,640	170,173,386	172,676,326
Albuquerque20,850,24919,205,60221,166,75529,747,65229,253,96832,179,34842,783,13941,043,85333,258,34732,978,09148,665,128Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San Francisco57,420,84124,850,27943,090,86442,267,27151,433,91573,970,78965,532,61057,485,52886,237,57399,274,580103,328,297Fort Worth70,703,795106,674,53756,074,79864,057,44061,361,58666,010,98780,068,67963,311,80286,481,59589,291,65390,300,325Galveston52,800,94161,505,956168,357,758152,423,675145,651,557165,378,505161,503,492121,154,850124,420,546175,764,015145,526,599Little Rock47,201,89570,126,377110,042,403130,699,308135,486,288108,597,863100,805,44283,192,13082,022,79197,690,890118,084,746	Savannah	91,655,927	53,275,409	73,857,537	60,623,356	65,912,573	69,812,080	76,024,629	70,014,767	53,854,776	86,135,108	49,439,723
Sacramento25,817,76269,324,69282,932,41293,237,168106,043,785122,071,489108,926,907100,990,521111,531,880157,121,874149,385,634Los Angeles39,615,13264,047,455162,429,712104,572,636108,946,613136,149,383135,713,338107,628,11799,234,264122,745,776151,061,055San Francisco57,420,84124,850,27943,090,86442,267,27151,433,91573,970,78965,532,61057,485,52886,237,57399,274,580103,328,297Fort Worth70,703,795106,674,53756,074,79864,057,44061,361,58666,010,98780,068,67963,311,80286,481,59589,291,65390,300,325Galveston52,800,94161,505,956168,357,758152,423,675145,651,557165,378,505161,503,492121,154,850124,420,546175,764,015145,526,599Little Rock47,201,89570,126,377110,042,403130,699,308135,486,288108,597,863100,805,44283,192,13082,022,79197,690,890118,084,746	Wilmington	47,361,709	43,001,625	63,344,825	115,068,240	126,623,865	99,715,406	76,393,503	78,653,558	84,989,673	93,192,377	78,447,465
Los Angeles 39,615,132 64,047,455 162,429,712 104,572,636 108,946,613 136,149,383 135,713,338 107,628,117 99,234,264 122,745,776 151,061,055 San Francisco 57,420,841 24,850,279 43,090,864 42,267,271 51,433,915 73,970,789 65,532,610 57,485,528 86,237,573 99,274,580 103,328,297 Fort Worth 70,703,795 106,674,537 56,074,798 64,057,440 61,361,586 66,010,987 80,068,679 63,311,802 86,481,595 89,291,653 90,300,325 Galveston 52,800,941 61,505,956 168,357,758 152,423,675 145,651,557 165,378,505 161,503,492 121,154,850 124,420,546 175,764,015 145,526,599 Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746	Albuquerque	20,850,249	19,205,602	21,166,755	29,747,652	29,253,968	32,179,348	42,783,139	41,043,853	33,258,347	32,978,091	48,665,128
San Francisco 57,420,841 24,850,279 43,090,864 42,267,271 51,433,915 73,970,789 65,532,610 57,485,528 86,237,573 99,274,580 103,328,297 Fort Worth 70,703,795 106,674,537 56,074,798 64,057,440 61,361,586 66,010,987 80,068,679 63,311,802 86,481,595 89,291,653 90,300,325 Galveston 52,800,941 61,505,956 168,357,758 152,423,675 145,651,557 165,378,505 161,503,492 121,154,850 124,420,546 175,764,015 145,526,599 Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746	Sacramento	25,817,762	69,324,692	82,932,412	93,237,168	106,043,785	122,071,489	108,926,907	100,990,521	111,531,880	157,121,874	149,385,634
Francisco Fort Worth 70,703,795 106,674,537 56,074,798 64,057,440 61,361,586 66,010,987 80,068,679 63,311,802 86,481,595 89,291,653 90,300,325 Galveston 52,800,941 61,505,956 168,357,758 152,423,675 145,651,557 165,378,505 161,503,492 121,154,850 124,420,546 175,764,015 145,526,599 Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746	Los Angeles	39,615,132	64,047,455	162,429,712	104,572,636	108,946,613	136,149,383	135,713,338	107,628,117	99,234,264	122,745,776	151,061,055
Galveston 52,800,941 61,505,956 168,357,758 152,423,675 145,651,557 165,378,505 161,503,492 121,154,850 124,420,546 175,764,015 145,526,599 Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746		57,420,841	24,850,279	43,090,864	42,267,271	51,433,915	73,970,789	65,532,610	57,485,528	86,237,573	99,274,580	103,328,297
Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746	Fort Worth	70,703,795	106,674,537	56,074,798	64,057,440	61,361,586	66,010,987	80,068,679	63,311,802	86,481,595	89,291,653	90,300,325
Little Rock 47,201,895 70,126,377 110,042,403 130,699,308 135,486,288 108,597,863 100,805,442 83,192,130 82,022,791 97,690,890 118,084,746	Galveston	52,800,941	61,505,956	168,357,758	152,423,675	145,651,557	165,378,505	161,503,492	121,154,850	124,420,546	175,764,015	145,526,599
Tulsa 110,400,901 92,154,486 88,117,468 89,620,637 91,692,664 93,891,360 88,768,529 82,468,519 70,665,755 71,254,168 89,513,429	Little Rock	47,201,895	70,126,377	110,042,403		135,486,288	108,597,863	100,805,442	83,192,130	82,022,791	97,690,890	118,084,746
	Tulsa	110,400,901	92,154,486	88,117,468	89,620,637	91,692,664	93,891,360	88,768,529	82,468,519	70,665,755	71,254,168	89,513,429

Source: GAO analysis of Corps of Engineers data.

Table 7: Army Corps of Engineers' Number of Civil Works Construction and Operations and Maintenance Projects, by Fiscal Year

Buffalo 38 34 33 34 34 33 31 33 34 34 Chicago 10 16 24 24 24 24 24 24 28 28 Detroit 83 67 74 80 71 73 63 70 55 38 Huntington 32 28 35 36 38 39 39 40 43 43 Louisville 36 27 35 40 41 41 38 38 38 Nashville 12 13 15 15 15 16 16 16 16 Pittsburgh 26 24 28 31 27 29 29 30 35 Vicksburg 9 13 9 9 9 1 N/A 1 New Orleans 39 10 15 15 16 13 13		EV(4000	E)(1000	E \/0000	E)/0004	E \/0000	E)(0000	E \/0004	E)(0005	E \/0000	51/0007	E V(2022
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Detroit 83 67 74 80 71 73 63 70 55 38 Hunfington 32 28 35 36 38 39 39 40 43 43 Louisville 36 27 35 40 41 41 38 38 38 Nashville 12 13 15 15 16 16 16 16 16 Pittsburgh 26 24 28 31 27 29 29 29 30 35 Vicksburg 9 13 4 4 8 8 9 1 1 N/A 1 New Orleans 39 10 15 16 13 13 12 13 13 St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 17 11 11			-							-		34
$\begin{array}{c c c c c c c c c c c c c c c c c c c $												28
Louisville 36 27 35 40 41 41 38 38 38 38 Nashville 12 13 15 15 15 16 16 16 16 Pittsburgh 26 24 28 31 27 29 29 29 30 35 Vicksburg 9 13 9 9 9 9 9 9 1 1 N/A 1 Memphis 13 4 4 8 8 9 1 1 N/A 1 New Orleans 39 10 15 15 16 13 13 12 13 13 St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53												58
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	-											43
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Vicksburg 9 13 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 10 7 Memphis 13 4 4 8 8 9 1 1 N/A 1 New Orleans 39 10 15 15 16 13 13 12 13 13 St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 17 11 11 12 11 10 10 9 St. Louis 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53 63 70 71 75 77 74 69 69 72												16
Memphis 13 4 4 8 8 9 1 1 N/A 1 New Orleans 39 10 15 15 16 13 13 12 13 13 St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 17 11 11 11 12 11 10 10 9 St. Louis 24 8 7 7 8 8 9 12 12 13 Baltmore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A					-							33
New Orleans 39 10 15 15 16 13 13 12 13 13 St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 17 11 11 12 11 10 9 St. Louis 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 48 48 28 28 26 Philadelphia 30 26 28 29												7
St. Paul 29 41 21 23 25 17 16 16 12 14 Rock Island 24 17 11 11 11 12 11 10 9 St. Louis 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 48 48 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kasas City 30 26 28 28 29 29 29 29 29 29 29 29												1
Rock Island 24 17 11 11 11 12 11 10 10 9 St. Louis 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 48 48 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kansas City 30 26 28 29 29 29 29 29 29 29 29 29 29 29												13
St. Louis 24 8 7 7 8 8 9 12 12 13 Baltimore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 84 88 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kansas City 30 26 28 28 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>19</td></td<>												19
Baltimore 53 53 63 70 71 74 72 66 61 54 New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 48 48 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kansas City 30 26 28 28 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>11</td></td<>											-	11
New England 70 62 76 71 75 77 74 69 69 72 New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A 48 48 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kansas City 30 26 28 28 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 23 33 <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18</td>						8						18
New York 37 26 33 34 36 47 47 47 45 47 Norfolk 25 32 N/A N/A N/A N/A 48 48 28 28 26 Philadelphia 30 24 28 29 31 34 37 37 36 35 Kansas City 30 26 28 28 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29 29								72				56
Norfolk2532N/AN/AN/A4848282826Philadelphia30242829313437373635Kansas City3026282829292929292929Omaha28264141434342404143Portland494344434343434343Seattle30243030293233343331Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile476453545353535353535353Savannah1212101011111112121212	•											79
Philadelphia30242829313437373635Kansas City3026282829292929292929Omaha28264141434342404143Portland49434443434343434343Seattle30243030293233343331Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212							47	47			47	46
Kansas City3026282829292929292929Omaha2826414143434342404143Portland4943444343434343434343Seattle30243030293233343331Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Norfolk	25	32	N/A	N/A	N/A	48	48	28	28	26	25
Omaha28264141434342404143Portland4943444343434343434343Seattle30243030293233343331Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Philadelphia	30	24	28	29	31	34	37	37	36	35	39
Portland4943444343434343434343Seattle30243030293233343331Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Kansas City	30	26	28	28	29	29	29	29	29	29	28
Seattle 30 24 30 30 29 32 33 34 33 31 Walla Walla 17 16 12 11 7 11 12 12 13 13 Alaska 14 12 18 16 16 19 20 20 21 21 Honolulu N/A N/A 3 2 3 4 5 5 5 Charleston 16 14 20 19 15 15 13 13 14 14 Jacksonville 39 49 65 71 71 72 72 73 73 Mobile 47 64 53 54 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53	Omaha	28	26	41	41	43	43	42	40	41	43	38
Walla Walla1716121171112121313Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Portland	49	43	44	43	43	43	43	43	43	43	43
Alaska14121816161920202121HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Seattle	30	24	30	30	29	32	33	34	33	31	34
HonoluluN/AN/A32345555Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Walla Walla	17	16	12	11	7	11	12	12	13	13	13
Charleston16142019151513131414Jacksonville39496571717272727373Mobile4764535453535353535353Savannah12121010111112121212	Alaska	14	12	18	16	16	19	20	20	21	21	21
Jacksonville39496571717272727373Mobile47645354535353535353Savannah12121010111112121212	Honolulu	N/A	N/A	3	2	3	4	5	5	5	5	4
Mobile 47 64 53 54 53 53 53 53 53 53 Savannah 12 12 10 10 11 11 12 12 12 12	Charleston	16	14	20	19	15	15	13	13	14	14	15
Savannah 12 12 10 10 11 11 12 12 12 12	Jacksonville	39	49	65	71	71	72	72	72	73	73	73
	Mobile	47	64	53	54	53	53	53	53	53	53	53
	Savannah	12	12	10	10	11	11	12	12	12	12	12
Wilmington 31 28 27 34 33 31 29 29 28	Wilmington	31	28	27	34	33	33	31	29	29	28	27
Albuquerque 17 17 19 19 18 18 18 19 20 20	Albuquerque	17	17	19	19	18	18	18	19	20	20	22
Sacramento 20 26 32 38 44 44 42 48 52 48	Sacramento	20	26	32	38	44	44	42	48	52	48	49
Los Angeles 26 66 40 46 52 54 54 50 53 53	Los Angeles	26	66	40	46	52	54	54	50	53	53	53
San Francisco 18 22 12 12 14 14 14 15 15 15	San Francisco	18	22	12	12	14	14	14	15	15	15	15
Fort Worth 34 29 31 31 29 29 28 30 30 34	Fort Worth	34	29	31	31	29	29	28	30	30	34	34
		25		25	25		26	26	25		22	22
Little Rock 15 23 28 24 24 24 24 26 49 48	Little Rock	15	23	28	24	24	24	24	26	49	48	49
												55

Source: GAO analysis of Annual Report of Civil Works Activities.

Appendix V: Comments from the Department of Defense

DEPARTMENT OF THE ARMY OFFICE OF THE ASSISTANT SECRETARY CIVIL WORKS 108 ARMY PENTAGON WASHINGTON DC 20310-0108 AUG 1 8 2010 Ms. Anu Mittal Director, Natural Resources and Environment U.S. Government Accountability Office 441 G Street, NW Washington, DC 20548 Dear Ms. Mittal, This is the Department of Defense response to the GAO draft report, GAO-10-819, 'ARMY CORPS OF ENGINEERS: Organizational Realignment Could Enhance Effectiveness, but Several Challenges Would have to Be Overcome,' dated July 21, 2010 (GAO Code 361125). Responses to the report recommendations report are enclosed. In summary, DoD concurs with recommendation two and concurs in part with recommendations one, three, and four. The Corps of Engineers will work to improve the effectiveness of its Centers of Expertise and to increase the overall efficiency of the Army Civil Works program, to the extent consistent with the program of the President and appropriations provided by Congress. Thank you for the opportunity to respond to your comments. Very truly yours, Claudia tornalom Jo-Ellen Darcy sistant Secretary of the Army (Civil Works) Enclosure Printed on Recycled Paper





Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact	Anu K. Mittal, (202) 512-3841 or mittala@gao.gov
Acknowledgments	In addition to the individual named above, key contributors to this report included Vondalee R. Hunt (Assistant Director), Kevin Bray, Jennifer Bryant, Kirsten Lauber, Justin L. Monroe, Anne Rhodes-Kline, Holly Sasso, and Ben Shouse.

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