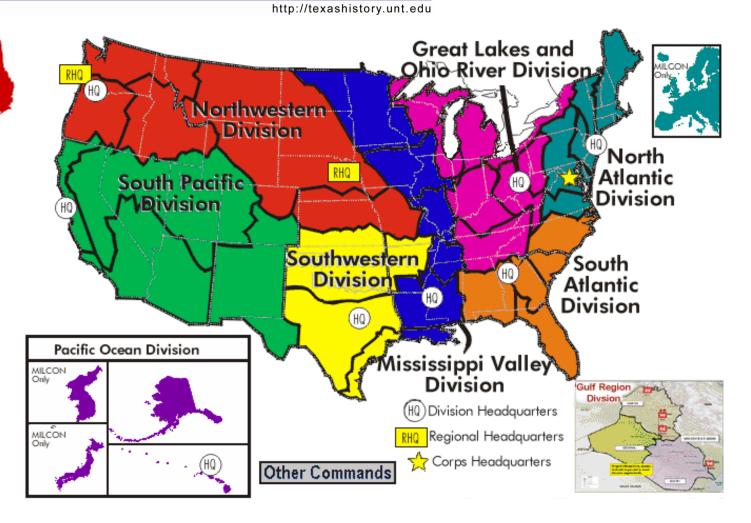
Primary
Source
Adventures:
The U.S.
Army Corps
of Engineers



U.S. Army Corps of Engineers, Map of USACE Engineer Divisions and Districts. http://www.usace.army.mil/divdistmap.html [Accessed 2/12/07]

## One of the many lakes in Texas created by the U.S. Army Corps of Engineers.

**Primary** Source Adventures: The U.S. **Army Corps** of Engineers



Squire Haskins. Aerial View of Lewisville Lake. (United States-Texas-Denton County, <a href="http://texashistory.unt.edu/permalink/meta-pth-15472">http://texashistory.unt.edu/permalink/meta-pth-15472</a>.)

Primary Source Adventures: The U.S. **Army Corps** of Engineers



Lieutenant General Arthur G. Trudeau, USA, Retired.

**Primary** Source Adventures: The U.S. Army Corps of Engineers

**U.S. Army Corps** of Engineers' efforts during the Depression.

He borrowed five officers from the Army Engineers, and then it occurred to somebody down in Washington that while these five had been sent up there cold, I was actually on the site and had been doing the work for four years. This was just an afterthought on somebody's part, so they asked General Johnson if he wanted my services, which he did, so I reported on the day he took over, August 1, 1935.

On the day I was put in charge of personnel we took over 75,000 people on the payroll from the state, and then the orders were that we employ 5,000 men a day until we reached a total of 225,000, which was quite a program. There weren't enough shovels and picks or anything else in New York City to do it, to say nothing about plans or programs existing to really put We had quite a problem. men to work. I remember about two weeks after we'd started that there was still insufficient work for them to do and that General Johnson received a check from Hopkins for \$1.3 We then had 130,000 people on the payroll, and while they hadn't really been put to work, each one of them was handed a check that week for \$10 as a little relief at the time. It didn't go far then, but think of where it wouldn't go now; it wouldn't do In any event, we pushed a lot of anything today. quickly through Mr. Hopkins down in programs Washington, and things did begin to move.

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Engineer Pamphlet 870-1-26, Engineer Memoirs: Lieutenant General Arthur G. Trudeau, USA, retired. Col. Calvin j. Landau interviewer (Washington, DC: Department of the Army US Army Corps of Engineers, 1971), 141.

#### The U.S. Army Corps of Engineers made many important river improvements.



**Primary** Source Adventures: The U.S. **Army Corps** of Engineers

> Brazos River: Lock and Dam #8. (U.S. Army Corps of Engineers Collection, 1917, courtesy of the Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4384">http://texashistory.unt.edu/permalink/meta-pth-4384</a>

Embark on a Voyage of Discovery

http://texashistory.unt.edu

Primary
Source
Adventures:
The U.S.
Army Corps
of Engineers

How the U.S. Army Corps of Engineers related to FDR's "alphabet agencies." In the ultimate success of these "alphabet agencies," the Army Corps of Engineers played a conspicuous role.

Engineer officers, trained for war emergencies and experienced in civil works, were "naturals" for key administrative posts. Along with hundreds of Engineer reservists who took command at CCC camps, dozens of Corps regulars served as New Deal soldiers. Among the most prominent were Colonel Philip B. Fleming, deputy administrator of Harold Ickes' PWA; Colonel Francis C. Harrington, who was Harry Hopkin's deputy and eventual successor in WPA; and Colonel Brehon B. Somervell, who headed WPA in New York City. Many Corps civilian employees were also enlisted as members of the work-relief recovery team.

A major combatant in the war against unemployment was the Engineer Department-the nationwide field organization for civil works. In the first two years of the New Deal, almost half a billion dollars was allotted to the Engineers. An organization in being, with a backlog of worthwhile projects, the Corps proved equal to the challenge. From scores of sites across the country, the call went out for workers. At Fort Peck Dam on the Missouri River, some 10,000 workers and their families flocked to the construction site. In 1935 the Corps employed 5,000 men on a tidal power dam at Passamaquoddy, Maine. The list of going projects grew steadily longer: the Bonneville Dam, the great hydropower project on the Columbia River; 14 flood control reservoirs on the Muskingum in Ohio; enlargements of the Chesapeake & Delaware and Cape Cod Canals; improvements to the Intracoastal Waterways; canalization of the Upper Mississippi; Washington National Airport; the Mount Vernon Memorial Highway; and many, many more. The program created some 70,000 jobs each year.

46

Lenore Fine and Harold Kanarek. "Building A Better America: Combating Unemployment in the Great Depression." *Historical Vignettes, Vol. 2.* (Washington, DC: Department of the Army U.S. Army Corps of Engineers, 1988) http://www.usace.army.mil/publications/eng-pamphlets/ep870-1-1/toc.htm

#### The construction of a Brazos River lock and dam.

Primary Source Adventures: The U.S. **Army Corps** of Engineers



Brazos River: Lock and Dam #1. (U.S. Army Corps of Engineers Collection, 1916, courtesy

of the Dallas Historical Society)

Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4458">http://texashistory.unt.edu/permalink/meta-pth-4458</a>

**Primary** Source Adventures: The U.S. Army Corps of Engineers

**How the Corps** of Engineers contributed to the development of hydroelectric power.

During the 1960s and the 1970s, the Corps continued to expand upon the 27 projects with hydroelectric capabilities that it had built the preceding decade. Power was added at 17 multipurpose sites in the 1960s and planned at 20 new locations by 1980. total electric output from Corps generators rose from 27.9 billion kilowatt hours in 1960 to 61.1 billion in 1970 and to more than 80 billion in 1975. The electricity generated at 53 Corps reservoirs in fiscal year 1970 represented 23 percent of the total U.S. hydroelectric power production for that year.

In statistics released by the Federal Power Commission in 1970, Corps hydroelectric power facilities represented the largest segment of installed capacity at federal hydroelectric projects (13,000 megawatts). Bureau of Reclamation and TVA projects accounted for all but a trace of the remaining 10,000 megawatts of installed federal hydroelectric capacity. While the Corps is the largest single producer hydroelectric power and of total hydroelectric power capacity nearly equals nonfederal hydroelectric position of the federal government significantly when total electric energy capacity from all sources is considered. Hydroelectric power actually accounts for a small portion of total power capacity. Privately owned facilities clearly dominate the nonhydroelectric power field. For example, in 1970 power systems owned by private investors (at the time there were approximately two hundred major utilities) accounted for 77 percent of the nation's generating capacity and served 78 percent of the The federal segment accounted for about 12 percent of capacity and 13 percent of output.

Ruess, Martian and Walker Paul K. Engineer Pamphlet 870-1-13, Financing Water Resources Development-A Brief History. (Washington, DC: Historical Division Office of Administrative Services Office of the Chief of Engineers, July 1983. http://www.usace.army.mil/publications/eng-pamphlets/ep870-1-13/toc.htm

#### A photo of stockpiled construction material.



Primary Source Adventures: The U.S. Army Corps

Brazos River: Lock and Dam#1 (U.S. Army Corp of Engineers Collection, 1917,

courtesy of The Dallas Historical Society)

Permalink: http://texashistory.unt.edu/permalink/meta-pth-4504

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http://texashistory.unt.edu

### A nearly completed lock and dam.

Primary
Source
Adventures:
The U.S.
Army Corps
of Engineers



Brazos River: Lock And Dam #1 (U.S. Army Corps of Engineers Collection, 1916, courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4461">http://texashistory.unt.edu/permalink/meta-pth-4461</a>

**Primary** Source Adventures: The U.S. Army Corps of Engineers



Interview. Engineer Memoirs. Lieutenant General Walter K. Wilson, Jr. USA, Retired. Interviewer, Paul Walker. (Historical Division, Office of the Chief of Engineers, 1978)

Clarke:

**Primary** Source Adventures: The U.S. Army Corps

of Engineers

Criticism of Corps of Engineers' cost estimates.

You know, many of these criticisms, particularly the underestimation of costs, you can refute, but you have to go back -- it's very difficult to talk about these things in generalities. You have to go back to a specific project and trace the history and indicate what happened on it. Now, you could rationalize in general. The thing that I used to say was that many of the projects of the Corps for which they are currently being criticized were projects that were conceived back in the 1930s. They were authorized by Congress at that time based on an estimate in the 1930s but not built until the late 1940s or 1950s or 1960s. By that time, things had changed and the requirements were a little different.

Interview. Engineer Memoirs. Lieutenant General Walter K. Wilson, Jr. USA, Retired. Interviewer, Paul Walker. (Historical Division, Office of the Chief of Engineers, 1978)

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#### Construction of lock and dam #3



Brazos River: Lock and Dam #3. (U.S. Army Corps of Engineers Collection, 1917. courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4295">http://texashistory.unt.edu/permalink/meta-pth-4295</a>

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Adventures:
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The U.S.
Army Corps
of Engineers

The cost of replacing old engineering structures.

Lock and dam twenty-six on the Mississippi went through the same pattern. That original lock and dam, I think, was built in the 1930s for \$38 million. Now we're going to replace it, or want to replace it. And I think the costs are pretty well up around \$500 million to replace a \$38 million structure. again, it isn't quite the same type of thing. There has been tremendous industrial development along the edges of it, the railroads in there have to be bought and moved, and the costs have gone higher. We are now talking about much bigger locks than we had. We're talking about dual locks. This sort of thing creeps into it.

Interview. Engineer Memoirs. Lieutenant General Walter K. Wilson, Jr. USA, Retired. Interviewer, Paul Walker. (Historical Division, Office of the Chief of Engineers, 1978)

Note the bridge in the background and how the river has been diverted to allow construction of lock and dam #3.

**Primary** Source Adventures: The U.S. **Army Corps** of Engineers



Brazos River: Lock and Dam #3. (U.S. Army Corps of Engineers Collection, 1917, courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4329">http://texashistory.unt.edu/permalink/meta-pth-4329</a>

#### Environmentalists criticized the U.S. Army Corps of Engineers' river projects.

The 12-foot channel was going on. Q:

A: That's right. I tried to dismiss that and succeeded. We had a study on the navigation of the upper Mississippi River. We issued an interim report saying that the 12-foot channel was not justified.

That's an interesting example of the way these things work. There was one theory that it was a mistake to issue this report because the navigation interests would be upset if we did. The other side of it—and the reason I issued it—was that it was a phony issue and I wanted to put it to bed. It was pretty evident that it would never be economically justified. It wasn't all that important to the navigation interests. They knew it was never going to happen.

But it was a lightning rod. It was attracting all kinds of strikes from the environmentalists. They were using that to paint the Corps black. They still tried to, even after I issued the report. But that was an example of one of many things we did to try to come to terms with the environmental groups.

Engineer Pamphlet 870-1-52. Engineer Memoirs: Lieutenant General Ernest Graves. Frank N. Schubert interviewer (Washington, DC: Department of the Army US Army Corps of Engineers, 1997), 140. http://www.usace.army.mil/publications/eng-pamphlets/ep870-1-52/toc.htm

**Primary** Source Adventures: The U.S. Army Corps of Engineers Embark on a Voyage of Discovery

http://texashistory.unt.edu

### Concrete being poured to create a river lock on the Brazos River.

Primary
Source
Adventures:
The U.S.
Army Corps
of Engineers



Brazos River: Lock and Dam #3. (U.S. Army Corps of Engineers Collection, 1917, courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4314">http://texashistory.unt.edu/permalink/meta-pth-4314</a>

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Source
Adventures:
The U.S.
Army Corps
of Engineers

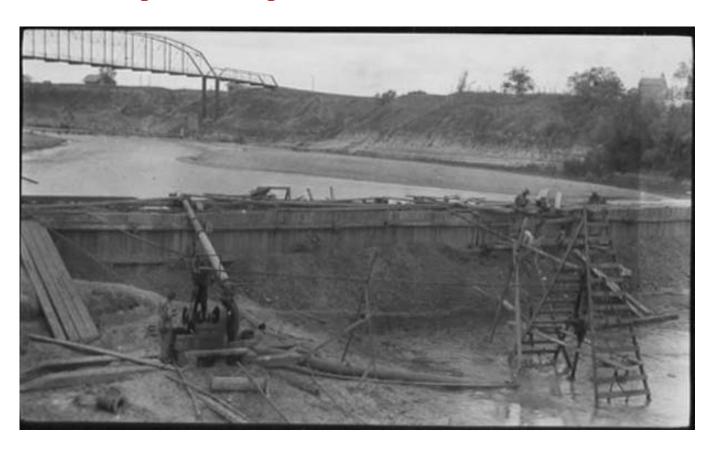
#### Environmentalists criticized the U.S. Army Corps of Engineers' river projects.

- Q: What groups caused you the most trouble?
- A: The Sierra Club was the most aggressive group. They may not have been at the national level. But they had a good organization, and they were everywhere, helping to organize the people that were opposed to these projects. They are the ones I remember that were most effective.
- Q: How did you fare at the hands of the press in the region?
- A: It was a mixed bag. We got good credit for some of the things we did. We got criticized. We got some good coverage, not so much in Chicago because not a lot was going on in Chicago. But in Detroit we got some good coverage.

Engineer Pamphlet 870-1-52. Engineer Memoirs: Lieutenant General Ernest Graves. Frank N. Schubert interviewer (Washington, DC: Department of the Army US Army Corps of Engineers, 1997), 141. http://www.usace.army.mil/publications/eng-pamphlets/ep870-1-52/toc.htm

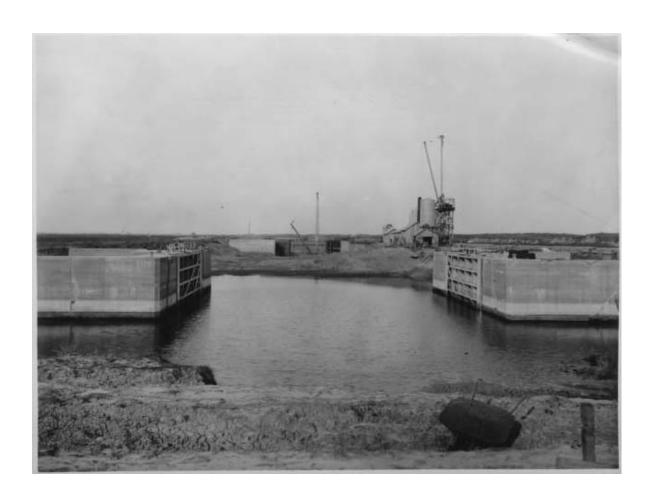
#### Rerouting and blocking of the river to construct a lock and dam.

**Primary** Source Adventures: The U.S. **Army Corps** of Engineers



Brazos River: Lock and Dam #3. (U.S. Army Corps of Engineers Collection, 1917, courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4342">http://texashistory.unt.edu/permalink/meta-pth-4342</a>

Primary Source Adventures: The U.S. Army Corps of Engineers



Guard Lock in Sabine-Neches Canal, Texas. (U.S. Army Corps of Engineers Collection, 1915, courtesy of The Dallas Historical Society) Permalink: <a href="http://texashistory.unt.edu/permalink/meta-pth-4222">http://texashistory.unt.edu/permalink/meta-pth-4222</a>

**Primary** Source Adventures: The U.S. Army Corps of Engineers The role of the U.S. Army Corps of **Engineers** after Hurricane Katrina.

#### Task Force Guardian

Task Force Guardian was established on Sept. 19, 05, with the mission to repair the damages to the greater New Orleans federal hurricane and flood protection system, and restore the system to pre-storm conditions by 1 Jun 06. TF Guardian is a team of specialists from the Corps' New Orleans District, supported by other U.S. Army Corps of Engineers personnel and Architect/Engineer contractors.

The Hurricane and Flood Protection system within the Orleans, St. Bernard and Plaquemines parishes in southeast Louisiana was damaged by Hurricanes Katrina and Rita. Within these parishes, the hurricane and flood protection system comprises over 300 miles of levees and floodwalls, 48 pump stations, and a number of floodgates and control structures. There were multiple severe damages to the system including overtopping, breaches, and washouts in both walls and earthen levees. There were also a number of minor scour areas throughout the system. Task Force Guardian has been rapidly moving forward with the restoration of the hurricane protection system within the hurricane affected area around New Orleans. The area has been divided into five geographical areas. There are Project Managers for each area coordinating and managing the recovery effort. Recovery effort has included assessing damages, preparing and submitting project information reports, requesting authority and funding, preparing plans and specifications, awarding contracts, and managing the construction. To date, a number of areas are under construction. Please visit the individual project information pages for further information.

> Construction is 49% complete All 59 contracts worth \$770 million have been awarded 54 contracts to Louisiana companies 22 contracts awarded to small business and 8a firms Total Obligations = \$480 million Total Large Business Obligations = \$306 million Total Louisiana Large Business Obligations = \$241 million Total Small Business Obligations = \$174 million Total Louisiana Small Business Obligations = \$145 million Total Obligation to Small Disadvantaged Businesses = \$22 million Total Obligation to Small Woman Owned Businesses = \$24 million Total Obligation to Hub Zone = \$53 million

US Army Corps of Engineers: Mississippi Valley Division. Corps Hurricane Response: Task Force Guardian. Accessed 4-16-07. http://www.mvn.usace.army.mil/tfh/Fact%20Sheets/Task%20Force%20Guardian.htm

**Primary** Source Adventures: The U.S. Army Corps of Engineers

The role of the U.S. Army Corps of **Engineers** after Hurricane Katrina.

Task Force Guardian welcomes the results of the IPET report. We are using, and will continue to use, that information to make sure the restoration work is done using the best engineering expertise, the best materials and the best construction methods.

We want the people of New Orleans, and the United States, to have confidence in the work of the Army Corps of Engineers. That we invite advice and counsel – and criticism – to make sure we're using the best engineering, materials and construction practices. No matter the project. June 1 is attainable – not only will we attain it – the system will be better and stronger.

The amount of work underway is immense. It would ordinarily take years to do what we are doing in months. And no corners are being cut. We are accelerating the work and compressing without jeopardizing the science, the engineering or the best construction practices.

Task Force Guardian has awarded all 59 reconstruction contracts and is committed to completing the \$770 million reconstruction of the hurricane protection system to pre-Katrina levels by June 1.

Task Force Guardian is using the best soil possible to rebuild the levees and floodwalls. No inferior or substandard! We are performing extensive on-site inspections and frequent lab work to ensure only quality materials are being used. High quality clay material from as far away as Mississippi is being brought in to ensure the levees are better and stronger.

The flood walls that failed are being replaced with new designs that use deeper sheet piles and are anchored with giant I-beams driven 80 feet into the ground.

The project to complete the reconstruction of 109 miles of Mississippi River levee is complete. About 41 miles of levees and floodwalls were damaged along the system protecting New Orleans.

The work to restore previous levels of protection include repairing damaged levees and floodwalls and correcting any design and construction flaws that may be found as a result of the investigations.

In addition, Congress appropriated funds to accelerate the completion of the New Orleans to Venice, Lake Pontchartrain & Vicinity, West Bank in the Vicinity of New Orleans, Grand Isle, and the Larose to Golden Meadow hurricane projects, as well as the Southeast Louisiana (SELA) Urban Flood Control Project.

These funds will ensure that all the projects have design-level protection and substantial progress is made toward completing drainage improvements initially approved under SELA.

Corps leadership expects this work will be substantially complete by September 2007.

US Army Corps of Engineers: Mississippi Valley Division. Corps Hurricane Response: Task Force Guardian. Accessed 4-16-07. http://www.mvn.usace.army.mil/tfh/Fact%20Sheets/Task%20Force%20Guardian.htm