

# LITTLE ROCK, ARKANSAS

The civil works portion of this District covers an area of approximately 36,414 square miles in northern, western, and southwestern Arkansas and a portion of Missouri. This area is within the Arkansas River, Little River, and White River basins. In the Arkansas River Basin, the District is responsible for planning, design, construction, operation, and maintenance of the navigation portion of the McClellan-Kerr Arkansas River Navigation System (MKARNS). The District is also responsible for the areas included in the Arkansas River drainage basin from above Pine Bluff, AR, to below the mouth of the Poteau River, near Fort Smith, AR. In Little River Basin, the

District is responsible for the portion of the Little River and its tributaries that are in the state of Arkansas above its mouth near Fulton, AR. In the White River Basin, the District is responsible for those portions in southern Missouri and northern and eastern Arkansas in the White River drainage basin and its tributaries above Peach Orchard Bluff, AR. The Memphis District is responsible for navigation maintenance on the White River below Newport, AR, to the mouth of Wild Goose Bayou, in Arkansas County, AR. The White River downstream from the mouth of Wild Goose Bayou is part of MKARNS.

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**ENVIRONMENTAL RESTORATION (SECTION**

## NAVIGATION

### 1. Arkansas River Basin, AR, OK, AND KS

**Location.** The headwaters for the Arkansas River are in the Rocky Mountains near Leadville, CO. The river flows southeastward 1,396 miles through Colorado, Kansas, Oklahoma, and Arkansas to join the Mississippi River 599 miles above Head of Passes, LA.

**Previous projects.** For details see page 1066, Annual Report for 1932, and pages 744, 864, and 881, Annual Report for 1943.

**Existing project.** The MKARNS provides navigation, hydroelectric power, flood control, water supply, sediment control, recreation, and fish and wildlife propagation improvements in the Arkansas River Basin. The MKARNS provides a navigation channel 9 feet deep and 444.8 miles long. The channel begins at the mouth of the White River, which enters the Mississippi River 599 miles above Head of Passes, LA, thence 9.8 miles upstream to the mouth of Wild Goose Bayou; thence 9.2 miles by a land cut, designated as Arkansas Post Canal to mile 42 (1943 survey) on the Arkansas River; thence 376.0 miles to the mouth of the Verdigris River at navigation mile 395.0; thence 49.8 miles up the Verdigris River to the head of navigation at Catoosa, OK. A 12 foot channel depth was authorized by Section 136 of PL 108-137 in 2004. Construction of the 12 foot channel depth began in 2006.

The waterway is canalized throughout its length by 18 locks and dams with a total lift of 420 feet. Dardanelle, Ozark-Jeta Taylor, Robert S. Kerr, and Webbers Falls are multiple purpose projects that include hydro-power. Lock chambers are 110 by 600 feet. A minimum channel width of 150 feet is provided for the Verdigris River, 225 feet for San Bois Creek, 250 feet for the Arkansas River, and 300 feet for Arkansas Post Canal and White River Entrance Channel.

Other coordinated developments consist of 15 lakes, of which 13 are in Tulsa District, in the states of Kansas and Oklahoma, and two are in the Little Rock District. Pertinent data and estimated Federal cost are summarized in Tables 37-H and 37-I, Navigation: Arkansas River Basin, AR, OK, and KS.

**Local cooperation.** For MKARNS, local interests must provide adequate terminal and transfer facilities and bear the increased costs of maintenance and operation of all altered rail and highway routes, including bridges and appurtenances, utilities, and other existing improvements, other than federally owned. For lakes see requirements for each individual lake.

**Terminal facilities.** Public port facilities are in operation at Pine Bluff (Jefferson County), Little Rock, and Fort Smith, AR, and Muskogee and Catoosa (Tulsa-Rogers County), OK. Port authorities have been organized to develop public facilities at North Little Rock, Dardanelle-Russellville, Morrilton, Clarksville, Ozark, and Van Buren, AR, and Sallisaw, OK. Terminal facilities are in operation or being built at 35 locations in Arkansas and at 25 locations in Oklahoma along the improved waterways.

#### Operations and results during fiscal year.

Flood damages prevented by Little Rock District levee projects in the Arkansas River Basin during FY08 are estimated at \$307,410,000; flood losses prevented through FY08 are estimated at \$1,365,460,200.

Approximately 11.3 million tons of commerce was moved on the Arkansas portion of the MKARNS during calendar year 2008. Details of the MKARNS and lakes in Arkansas are shown on the following pages.

FY'08 withdrawals for water supply purposes were 88.89 acre-feet from Nimrod Lake.

Annual dredging contract was awarded. Due to the flooding events in the spring months of 2008, both Little Rock and Tulsa districts developed serious shoaling. The dredge started in Little Rock District cleaning shoaling areas, moving upstream to Tulsa District. Temporary relief measures (clamming with in-house labor and pool deviations) helped both districts maintain navigation on the MKARNS.

An IDIQ Bank Stabilization contract was awarded in FY08 and work was completed in Pools 3, 7, 10 and 12 totaling about \$6.6 million.

Installation of the Motor Control Center (MCC) at Ormond Lock & Dam (No. 9) was completed in FY08. Replacement of the MCC for Murray Lock & Dam (No. 7), Toad Suck Ferry Lock & Dam (No. 8), Emmett Sanders Lock (No. 4), Charles Maynard Lock (No. 5), and D.D. Terry Lock (No. 6) is scheduled for award in FY09.. Continued work on the panel at James W. Trimble Lock & Dam (No 13). Replacement of the MCC at Ozark Lock & Dam (No. 12) is scheduled for FY 10. .

**Condition at end of fiscal year.** (See Tables 37-H and 37-I, Navigation: Arkansas River Basin; AR, OK, and KS, for status for individual items, navigation projects, lakes, and basin plan.) Work continues on the Arkansas River project in this District including a meander cutoff levee between the Arkansas and White Rivers.

**2. Arthur V. Ormond Lock & Dam (No.9), AR**

**Location, existing project, local cooperation, and terminal facilities.** (See section 1.)

**Operations and results during fiscal year.** Continued operation and maintenance. Rockefeller Lake (pool 9) has four developed parks that in FY08 experienced public visitation exceeding 950,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in April 1965 and the lock and dam was placed in operation in July 1969. Construction of Holla Bend closure structure (fish and wildlife mitigation) began in July 1986 and was completed in September 1987. Construction of a non-Federal hydropower project, under the authority provided by the Federal Energy Regulatory Commission, was completed and placed into operation in August 1993. Construction of a widened downstream entrance was completed in 1998. Installation of tow haulage equipment was complete in 1999.

**3. David D. Terry Lock And Dam (No. 6), AR**

**Location, existing project, local cooperation, and terminal facilities.** (See section 1.)

**Condition at end of fiscal year.** Construction began in January 1965 and the lock and dam project was placed in operation in August 1968. Tow haulage equipment was added in June 1994. Currently, the project has one developed park, which in FY08 experienced public visitation exceeding 3.3 million visitor-hours.

**4. Emmett Sanders Lock And Dam (No. 4), AR**

**Location, existing project, local cooperation and terminal facilities.** (See section 1.)

**Operations and results during fiscal year.** Continued operation and maintenance. Pool 4 has two developed parks, which in FY08 experienced public visitation exceeding 536,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in May 1964 and the lock and dam project was placed in operation in December 1968. Construction of a 40-foot wide, 9,600-foot long highway bridge crossing the lock and dam was completed in July 1995. The Corps of Engineers, as the Federal agency, has jurisdiction and custody of the dam (23 U.S.C. 320 [Public Law 2810]). The project was 100 percent funded by the Arkansas State Highway and Transportation Department. Tow haulage equipment was placed into operation in June 1994.

**5. James W. Trimble Lock And Dam (No. 13), AR**

**Location, existing project, local cooperation, and terminal facilities.** (See section 1.)

**Operations and results during fiscal year.** Continued operation and maintenance. In FY08, the project's three developed parks experienced public visitation exceeding 712,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in October 1965 and the lock and dam were placed in operation in April 1969. The bridge across the dam was completed in July 1968. Construction of a non-Federal hydropower facility at the project was completed in November 1988 under the authority provided by the Federal Energy Regulatory Commission. Tow haulage was placed into operation in 2000.

**6. Lock No. 2 And Wilbur D. Mills (No. 2), AR**

**Location, existing project, local cooperation, and terminal facilities.** (See section 1.)

**Operations and results during fiscal year.** Operation and maintenance continued. Wilbur D. Mills has four developed parks, which in FY08 experienced public visitation exceeding 3 million visitor-hours.

**Condition at end of fiscal year.** Construction began in May 1963. The lock was placed in operation in March 1968. Emergency repairs to the scour protection features and tainter gates at the dam that resulted from a barge accident in December 1982 were completed in FY85. The barges that clogged the dam gates during the December 1982 flood showed that, with a certain set of circumstances (higher than normal head combined with the clogged gates resulted in high current velocity that caused both upstream and downstream scouring), the structure could fail. This condition exists primarily because the structure was constructed on piling and designed for all of the gates to operate in unison.

A model study by the Waterways Experiment Station determined the most feasible solution to this problem is to extend the stilling basin downstream. A contract to extend the stilling basin was awarded in June 1990 and completed in FY94. Project costs are estimated at \$21.6 million. Tow haulage was placed into operation in 1997. Construction of a non-Federal hydropower project, under the authority provided by the Federal Energy Regulatory Commission is complete and was placed into operation in December 1999.

**7. Joe Hardin Lock And Dam (No.3), AR**

**Location, existing project, local cooperation, and terminal facilities.** (See section 1.)

**Operations and results during fiscal year.** Continued operation and maintenance. Pool 3 has one devel-

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oped park which in FY08 experienced public visitation exceeding 308,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in May 1963 and the lock and dam were placed in operation in December 1968. Tow haulage equipment was installed and operational in 1994.

### 8. Lock And Dam No. 5, AR

**Location, existing project, local cooperation and terminal facilities.** (See section I.)

**Operation and results during fiscal year.** Continued operation and maintenance. Pool 5 has two developed parks which in FY08 experienced public visitation exceeding 787,000 visitor-hours.

**Condition at end of fiscal year** Construction began in November 1964 and the lock and dam were placed in operation in December 1968. Tow haulage equipment was installed in June 1994.

### 9. Montgomery Point Lock And Dam, AR

**Location, existing project, local cooperation, and terminal facilities.** (See section I.)

**Operations and results during fiscal year.** Operation and maintenance continued.

**Condition at end of fiscal year .** Construction began in August 1997 and the lock and dam were placed in operation in February of 2005. Tow haulage equipment, maintenance equipment procurement, and docking facilities have not been completed.

### 10. Murray Lock And Dam (No. 7), AR

**Location, existing project, local cooperation, and terminal facilities.** (See section I.)

**Operations and results during fiscal year.** Operation and maintenance continued. Murray has five developed parks, which in FY08 experienced public visitation exceeding 4.3 million visitor-hours. .

**Condition at end of fiscal year.** Construction began in November 1964 and the lock and dam was placed in operation in October 1969. Construction of a non-Federal hydropower facility at the project was completed in May 1988 under the authority provided by the Federal Energy Regulatory Commission. Tow Haulage was completed and operational October 1999. The Pedestrian bicycle bridge project was completed in September of 2006. It is the longest bridge in the nation construction specifically for pedestrians and bicycles, not cars.

### 11. Norrell Lock And Dam (No. 1) And Entrance Channel, AR

**Location, existing project, local cooperation, and terminal facilities.** (See section I.)

**Operations and results during fiscal year.** Operation and maintenance continued. The project currently has one developed park which in FY08 experienced public visitation exceeding 33,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in May 1963, and the lock and dam were placed in operation in June 1967. A contract to add tow haulage equipment to the lock was completed in 1997.

### 12. Toad Suck Ferry Lock And Dam (No. 8), AR

**Location, existing project, local cooperation, and terminal facilities.** (See section I.)

**Operations and results during fiscal year.** Continued operation and maintenance. In FY08, the project's five developed parks experienced public visitation exceeding 1.2 million visitor-hours.

**Condition at end of fiscal year.** Construction began in July 1965 and the lock and dam was placed in operation in November 1969. The Conway water supply project was completed and transferred to the city for operation and maintenance in July 1983. Installation of tow haulage equipment was complete in 1999.

### 13. Maintenance And Repair Fleet And Marine Terminals, AR

**Location, existing project, local cooperation, and terminal facilities.** (See section I.)

**Operations and results during fiscal year.** Operation and maintenance continued.

**Condition at end of fiscal year.** Construction of Pine Bluff Marine Terminal began March 1968 and was placed in operation in April 1969. Construction of the Dardanelle Marine Terminal began June 1968 and it was placed in operation in November 1969.

### 14. Other Authorized Navigation Projects

(See Table 37-C for other authorized navigation projects.)

### 15. Navigation Work Under Special Authorization

Preauthorization studies under the small project continuing authorities program, navigation activities, Section 107, Public Law 86-645, as amended. Expenditures for Sec. 107 activities in FY08 totaled \$20,600. Coordi-

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nation account, \$8,6000; Little Rock Slack Water Harbor, AR; \$12,000..

### FLOOD CONTROL

#### 16. Blue Mountain Lake, AR

**Location.** (See Table 37-1: Arkansas River Basin, AR, OK, and KS: Lakes.)

**Existing project.** Construction cost was approximately \$5.1 million. For further information see pages 906 and 907 of the 1962 Annual Report.

**Local cooperation.** Section 2, Flood Control Act of 1938 applies.

**Operations and results during fiscal year.** Operation and maintenance of project continued. Flood damages prevented during FY08 are estimated at \$1,402,300; cumulative benefits through September 30, 2008, are estimated at \$35,142,600. The project's five developed parks experienced public visitation exceeding 1.5 million visitor-hours during FY08.

**Condition at end of fiscal year.** Project is complete except for additional recreational sanitary facilities. Construction of the project began in May 1940 and it was placed in operation in March 1947.

#### 17. Clearwater Lake, MO

**Location.** (See Table 37-K: White River Basin, AR & MO: Lakes.)

**Existing project.** Construction of the outlet works for the dam was initiated in May 1940 and completed in March 1942. Due to work stoppage during World War II, the earth embankment and uncontrolled spillway were not completed until December 1948. The spillway weir was completed in 1951. Cost of construction was approximately \$9,715,000. For further information, see pages 897 and 898 of 1962 Annual Report.

**Major rehabilitation.** See Item 41.

**Local cooperation.** Section 2, Flood Control Act of 1938 applies.

**Operations and results during fiscal year.** Operation and maintenance continued. Flood damages prevented during FY08 are estimated at \$6,782,200; cumulative benefits through September 2008 are estimated at \$235,311,500. Project currently has 6 developed parks, which in FY08 experienced public visitation exceeding 6.0 million visitor-hours.

**Condition at end of fiscal year.** Construction of the project began in June 1940 and was ready for beneficial

use in March 1948. A new water control plan is being considered that better meets the needs of the interests in the basin. In January 2003, a sinkhole developed in the upstream face of the dam initiating a major rehabilitation study. Construction on the Major Rehabilitation started in FY06 and is scheduled for completion in 2013. Phase Ia of the contract was completed in October 2007. A second contract was awarded for Phase Ib awarded in August 2007 and is scheduled to be completed in September 2009. Phase II, the cutoff wall, contract was awarded in September 2008 and is scheduled to start work in FY09.

#### 18. DeQueen Lake, AR

**Location.** On Rolling Fork River, RM 22.8, a tributary of the Little River, in Sevier County, about 4 miles northwest of DeQueen, AR.

**Existing project.** An earth-fill dam, 2,360 feet long, constructed to 160 feet above streambed. An uncontrolled spillway, 200 feet wide, is about 1,400 feet east of main embankment. Outlet works consist of a gated conduit, 12 feet in diameter; one 36-inch diameter low-flow pipe and a 42-inch diameter water supply pipe..

The lake controls 169 square miles of drainage area and provides a total storage of 136,100 acre-feet (101,200 acre-feet for flood control storage, 25,500 acre-feet for conservation storage, and 9,400 acre-feet for sedimentation reserve). Federal cost of the project is estimated at \$19,623,752.

**Local cooperation.** Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply.

**Operations and results during fiscal year.** Routine operation and maintenance continued. Flood damages prevented during FY08 are estimated at \$393,400; cumulative benefits through September 2008 are estimated at \$12,692,100. In FY08, the project's six developed parks experienced public visitation exceeding 982,000 visitor-hours.

**Condition at end of fiscal year.** Construction began April 1966. Project was placed in useful operation in August 1977.

#### 19. Dierks Lake, AR

**Location.** On Saline River, RM 56.6, a tributary of the Little River, about 5 miles northwest of Dierks, Howard County, AR.

**Existing project.** An earth-fill dam, 2,760 feet long, and about 153 feet above the streambed. An uncontrolled spillway 800 feet wide is in a saddle at the west end of the dam. Outlet works consisting of a gated 6- by

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9-foot oblong conduit, one 24 -inch low-flow pipe, and one 30-inch water supply pipe are provided. The lake controls a drainage area of 114 square miles and provides for storage of 67,100 acre-feet for flood control and 29,700 acre-feet for water supply, conservation, and sedimentation reserve, a total of 96,800 acre-feet. The Federal cost of the project was \$16,002,903.

**Local cooperation.** Section 2, Flood Control Act of 1938, and Water Supply Act of 1958, as amended, apply.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$912,300; cumulative benefits through September 2008 are estimated at \$8,369,000. In FY08, the project's three developed parks experienced 1.2 million visitor-hours.

**Condition at end of fiscal year.** Construction began in June 1968. The embankment closure was completed in May 1975, and the project was placed in useful operation.

### 20. Fourche Bayou Basin, Little Rock, AR

**Location:** On Fourche, Rock and Grassy Flat Creeks, Little Rock, AR. Fourche Creek enters the Arkansas River at mile 113.5.

**Existing Project:** This flood control project, consisting of 11.6 miles of channel improvement with railroad and road bridge widening (cost of \$30.7 million, non-Federal share \$9.6 million), had its operation and maintenance manual provided to the city of Little Rock in April 1998. The project authorization includes the acquisition of 1,750 acres of bottomlands (for flood storage and environmental preservation) with nature appreciation facilities; this work is remaining.

**Local Cooperation:** The city of Little Rock, the project sponsor, signed the local cooperation agreement in Aug 1987 according to the requirements of WRDA 1986. A new agreement is required for the remaining work. The estimated total project cost is \$36,612,000 with a Federal share of \$24,951,000 and a non-Federal share of \$11,661,000. Federal funds in the amount of \$3,536,000 would need to be appropriated to complete the project..

**Operations During Current Year:** CESWD is in the process of approving the Limited Reevaluation Report for ASA (CW) to determine whether to budget for the remaining work - acquisition of the bottomlands. In FY 2008, \$1,863 of CG funds were expended.

### 21. Gillham Lake, AR

**Location.** Dam site is on the Cossatot River, RM 49.0, in Howard County, about 5 miles northeast of Gillham in Sevier County, AR.

**Existing project.** The dam is an earth-filled structure, 1,750 feet long, 160 feet above the streambed. The controlled spillway is 875 feet long with four 50 feet by 42 feet tainter gates. Outlet works include a 10-foot diameter conduit, one low-flow pipe, 30 inches in diameter and a 24-inch water supply pipe. Federal cost of the project was \$17,827,111.

**Local cooperation.** Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply. Tri-Lakes Water District furnished a resolution of intent to repay costs allocated to water supply storage.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$1,333,700; total cumulative flood damages prevented are estimated at \$19,015,000. In FY08, the project's four developed parks experienced public visitation exceeding 931,000 visitor-hours.

**Condition at end of fiscal year.** Construction began in June 1968. The embankment closure was completed in May 1975, and the project was placed in useful operation.

### 22. Little River Basin, AR

**Location.** Improvements are on the Little River and tributaries in Arkansas. More definite locations of individual items are shown in Table 37-J.

**Existing project.** A six-lake system for flood control and other purposes in the Little River Basin. The system consists of four lakes in Arkansas: Millwood on the main stem, Dierks on the Saline River, DeQueen on the Rolling Fork River, and Gillham on the Cossatot River; and two lakes in Oklahoma: Broken Bow on the Mountain Fork River and Pine Creek on the Little River. Under a District boundary change, effective in October 1980, the four projects in this system in Arkansas were reassigned from the Tulsa District to the Little Rock District.

**Local cooperation.** Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply. Tri-Lakes Water District (DeQueen, Gillham, and Dierks) furnished a resolution of intent to repay costs allocated to water supply storage. The Southwest Arkansas Water District is currently repaying costs allocated to water supply storage at Millwood Lake.

**Operations and results during fiscal year.** Operation and maintenance of projects continued. See individual projects for details. Flood damages prevented by the Little River Basin reservoirs during FY08 are estimated at \$3,005,500; cumulative benefits through September 2008, are estimated at \$57,155,000.

Withdrawals for water supply purposes were approximately: Tri-Lakes Water District, AR, 1,221.48 acre-feet from Gillham Lake; Tri-Lakes Water District, AR, 305.77 acre-feet from Dierks Lake; Tri-Lakes Water District, AR, 451.83 acre-feet from DeQueen Lake, and Southwest Arkansas Water District, AR, 74,813.82 acre-feet from Millwood Lake.

**Condition at end of fiscal year.** Millwood, DeQueen, Gillham, and Dierks Lakes are complete and in operation.

### 23. Millwood Lake, AR

**Location.** On the Little River, RM 16.0, approximately 7 miles east of Ashdown, Little River County, AR, and about 2 miles northeast of Millwood, Little River County, AR.

**Existing project.** Millwood Dam is an earth-filled structure, 17,554 feet long, 88 feet above the streambed. Length of the spillway is 616 long, with 13 spillway crest gates, 40- by 32 feet. Outlet works include two outlet conduits 5.67- by 6 feet and a water supply pipe, 6.5 feet in diameter. The Federal cost of the project was \$46,087,382.

**Local cooperation.** Section 2, Flood Control Act of 1938 applies.

**Operations and results during fiscal year.** Routine operation and maintenance continued. Flood damages prevented during FY08 are estimated at \$366,100; cumulative benefits through September 2008 are estimated at \$17,078,900. Millwood Lake has 12 developed parks, which in FY08 experienced public visitation exceeding 2.4 million visitor-hours.

The design of Stabilize V-Ditch was started in FY07. Due to lack of funds for the construction, design was suspended at the 30% phase and placed on the shelf until additional funds were available. The funds for construction were required for the emergency electrical repair to the Millwood Project Office, which was damaged during a storm. The floods of FY08 caused considerable damage to the v-ditch and to the embankment. Project funds and flood supplemental funds were used and the repairs were completed in January 2009.

**Condition at end of fiscal year.** Construction began in September 1961 and the project was placed in full flood control operation in August 1966.

### 24. Nimrod Lake, AR

**Existing project.** Estimated cost is \$4,092,825. For further information see pages 908 and 909 of 1962 Annual Report.

**Local cooperation.** Section 2 of the 1938 Flood Control Act applies.

**Operations and results during fiscal year.** Operation and maintenance of project continued. Addition and improvement to existing recreation sanitary facilities continued. During FY08, flood damages prevented are estimated at \$1,421,000; cumulative benefits through September 2008 are estimated at \$27,128,400. In FY08, seven parks experienced public visitation exceeding 1.4 million visitor-hours.

**Condition at end of fiscal year.** Project is complete.

### 25. White River Basin (Little Rock District), AR & MO

**Location.** Improvements are on the White River and tributaries, Arkansas and Missouri. More definite location of individual items is shown in Table 37-K: White River Basin.

**Existing project.** A general comprehensive plan for flood control and other purposes in the White River Basin. The plan includes seven lakes; two are flood control only projects and five are multiple-purpose projects. Beaver, Table Rock, Bull Shoals, Norfork, Clearwater, Greers Ferry and Bell Foley lakes were selected and approved for construction by the Chief of Engineers, and individual reports on six of these seven lakes are presented on subsequent pages. The Bell Foley project, the remaining unbuilt authorized project, was reevaluated in FY 89; the project continues to have a favorable benefit-to-cost ratio since its formulation in 1968. .

**Local cooperation.** Section 2, Flood Control Act of 1938 applies, Water Supply Act of 1958, as amended, applies to Beaver, Greers Ferry, and Norfork projects.

**Operations and results during fiscal year.** Operation and maintenance of projects continued. Flood damages prevented by the White River Basin reservoirs during FY08 are estimated at \$94,165,200; cumulative benefits through September 2008, are estimated at \$791,886,500. Flood damages prevented by the White River Basin levees during FY08 are estimated at \$22,176,700; cumulative benefits through September 2008, are estimated at \$130,565,900.

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Electric energy delivered to Southwestern Power Administration for marketing during FY08 totaled 2,701,694 MWh.

FY08 water releases for fish hatcheries were: 29,038 acre-feet from Norfolk Lake for U.S. Fish and Wildlife Service trout hatchery; 14,519 acre-feet from Table Rock Lake for Missouri Department of Conservation trout hatchery; and, 14,519 acre-feet from Greers Ferry Lake for U.S. Fish and Wildlife Service trout hatchery.

FY'08 withdrawals for water supply purposes were: Beaver Water District, AR, 48,381.35 acre-feet, and Carroll-Boone Water District, AR, 8,397.80 acre-feet, from Beaver Lake; Madison County Water District, AR, 3,877.21 acre-feet, and Benton-Washington Counties Water District, AR, 8,420.64 acre-feet, from Beaver Lake; Kings River Country Club, 13.05 acre-feet, from Table Rock Lake; Marion County Regional Water District, AR, 1,084.72 acre-feet from Bull Shoals Lake; Water and Sewer Improvement District No.3 of Mountain Home, AR, 3,621.60 acre-feet from Norfolk Lake; and the city of Clinton, AR, 2,766.14 acre-feet; Higden., AR, 6,289.06 acre-feet; Red Apple Inn, AR, 71.39 acre-ft; Thunderbird Country Club, AR, 24.56 acre-ft, and, Tannenbaum, AR, 65.67 acre-ft from Greers Ferry Lake.

**Condition at end of fiscal year.** Beaver, Table Rock, Bull Shoals, Norfolk, Clearwater, and Greers Ferry lakes are complete and in operation. Progress on these lakes is shown in individual reports. Water Valley and Lone Rock lakes have been deauthorized. A new water control plan was approved and implemented in December 1998. This plan was developed in close coordination with the basins various interests and was recommended as their preferred plan of operation.

### 26. Inspection Of Completed Flood Control Projects

Approved regulations for operation and maintenance of flood control works, Part 208 of Title 33, Code of Federal Regulations, provide for periodic inspection of completed projects transferred to local interests for operation and maintenance. Inspections of local flood protection projects were made to determine extent of compliance with approved regulations for maintenance and operation of these projects. Responsible officials of improvement districts concerned were advised of inadequacies in maintenance and operation of local flood protection works under their jurisdiction where appropriate.

### 27. Other Authorized Flood Control Projects

(See Table 37-E: Other Authorized Flood Control Projects.)

### Multiple-Purpose Projects Including Power

### 28. Beaver Lake, AR

**Location.** (See Table 37-K: White River Basin.)

**Existing project.** Estimated cost is \$50,797,000. For further information see 788 and 789 of 1966 Annual Report. (For authorization see Table 37-B)

**Major rehabilitation.** Since the dam was constructed there has been a seepage problem below Dike No. 1. Based on detailed investigation, it was determined that the limestone foundation under Dike 1 and 200 feet of the north end of the main dam embankment is the main problem. The plan of improvement was a concrete seepage cutoff in Dike 1 and the north end of the main dam. A \$16.9-million contract to construct a concrete cutoff wall was awarded in June 1989; the notice to proceed was issued in October 1989. The contract period was estimated to be 760 days. However, the contractor ceased productive work due to inability to excavate rock and was placed in default. An \$18.8 reprourement contract was awarded in April 1992. Work began in May 1992 and all work was completed in Nov 1995.

The Beaver Dam Safety Assurance study was completed with FY 97 expenditures of \$1,359.61.

**Water Quality Enhancement.** Congress directed the Corps to implement best management practices (BMP's) in the Beaver Lake watershed and monitor the effects of these practices on water quality. A study was completed and a project report was approved in July 1989. The BMP's and water quality monitoring were concurrently implemented over a 5-year period, which began in May 1991 with a project completion date of July 1997.

The BMP's were implemented under the terms of a memorandum of agreement between the Corps and the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service, with the assistance of the Agricultural Stabilization and Conservation Service. The water quality monitoring was implemented under terms of a local cost-sharing agreement with the Arkansas Soil and Water Conservation Commission. Water quality monitoring was performed in consultation with the Environmental Protection Agency by a Corps administered contract. The water quality-monitoring contract was awarded on January 29, 1992. Water quality sampling began in May 1992 and was completed on July 1, 1996. BMP implementation was completed August 31, 1995. Cost in FY98 was \$67,897.93 Federal, and \$1,434.58 non-Federal. Total project cost was \$6,878,775.15

**Environmental Infrastructure Assistance.** The Water Resources Development Act of 1992 authorized the Corps of Engineers to provide design and construc-

## REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

tion assistance to appropriate non-Federal interests for a water transmission line from the northern part of Beaver Lake, Arkansas, into Benton and Washington Counties. This project is part of a \$40 million project, which includes a water intake, treatment and storage facilities, and transmission lines. The Little Rock District and the project sponsor, Benton/Washington County Water Association, executed a Memorandum of Agreement in June 1997. The Little Rock District then transferred \$3 million to the sponsor for construction of a segment of the water transmission line.

**Local cooperation.** Section 2 of the 1938 Flood Control Act, and the 1958 Water Supply Act, as amended, apply.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$15,583,700; cumulative benefits are estimated at \$68,157,900. During the year 160,486 MWh of electrical energy were delivered to the Southwestern Power Administration for marketing. The project has eleven developed parks, which in FY08 experienced public visitation exceeding 17.0 million visitor-hours. An agreement to provide 21,972.14 acre-feet of storage at no charge to the Arkansas Game and Fish Commission for fish production facilities was sent to HQ for approval in July 2000.

**Condition at end of fiscal year.** Project is complete. Alterations to existing parks to enhance fee collections, improve efficiency, and reduce the maintenance effort or rehabilitate the 26-year old park operation through operation and maintenance and SRUF funds, as appropriate. Construction of the project began in October 1959 and was placed in operation for flood control in December 1963, hydroelectric power generation with both units in May 1965, and water supply in January 1966. Work on a dam seepage problem is complete.

### 29. Bull Shoals Lake, AR

**Location.** (See table 37-K: White River Basin, AR & MO.)

**Existing project.** Cost with eight generating units was \$88,858,711. For further information see pages 725 and 726 of 1965 Annual Report. (For authorization see table 37-B.)

**Local cooperation.** Section 2, Flood Control Act of 1938 applies.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$25,307,700; total cumulative flood damages prevented are estimated at \$215,291,300. During the year, more than 1,158,210

MWh of electrical energy were delivered to Southwestern Power Administration for marketing. The project has eighteen developed parks, which in FY08 experienced public visitation exceeding 15.6 million visitor-hours.

**Condition at end of fiscal year.** Project is complete. Alterations to existing parks are needed to enhance fee collections, to improve efficiency, to reduce maintenance effort or to rehabilitate the 37-year-old park facilities through operations and maintenance or SRUF funds, as appropriate. Low dissolved oxygen readings in the downstream area of Bull Shoals Dam in October 1990 have resulted in ongoing studies to be undertaken to minimize harmful effects on the trout fishing of the White River.

Un-guaranteed short-term solutions to the problem, consisting of limiting generation, will sustain the existing fishery, but long-term guaranteed changes will require congressional authorization. Construction of the project began in April 1946 and was ready for beneficial flood control use in June 1951 and generation of electrical energy in September 1952. Units 1 through 8 were placed in operation September 1952, December 1952, June 1953, January 1962, February 1962, August 1963, and September 1963, respectively.

**Major rehabilitation (Powerhouse).** A major rehabilitation study was initiated in October 1995. The study was to investigate a solution to the environmentally induced reliability problem (low dissolved oxygen) of these units. Potential solutions include new auto-venting turbines, a down stream weir, turbine venting, or forced-air. Following preliminary study results, the turbines were modified in 1997 to increase downstream aeration. The study is a high priority for the division, but has been suspended due to the Major Rehabilitation Program being suspended.

### 30. Dardanelle Lock And Dam (No. 10), AR

**Location.** (See Table 37-H: Arkansas River Basin; AR, OK, and KS: Navigation.)

**Existing project.** Project is a unit of MKARNS. Dam is 2,683 feet long and 68 feet high. It has a spillway with 20 tainter gates 50 feet long and 39 feet high. Navigation lock is 110 by 600 feet with a lift of 54 feet. Powerhouse originally contained four 31,000-kilowatt generators. Lake has a storage capacity of 486,200 acre-feet. Estimated cost was \$84,270,124.

**Local cooperation.** (See section 1.)

**Operations and results during fiscal year.** Continued operation and maintenance. Power generation continued. During FY08, 838,136 MWh of electrical

## LITTLE ROCK, AR DISTRICT

energy were delivered to the Southwestern Power Administration for marketing. In FY08, the project's thirteen developed parks experienced public visitation exceeding 6.7 million visitor-hours.

**Condition at end of fiscal year.** Project is complete. Construction began June 1957. Power units were placed on line in April, May, and September 1965, and January 1966. The lock became operable in December 1969. The Visitors Center and resident office were completed in May 1985. The contract to install tow haulage equipment was completed in 1999.

**Major rehabilitation.** Major Rehabilitation of the power plant was completed in August 2000. Turbines were replaced and generators were rewound to increase plant capacity by 13 percent. Cost of the Major Rehabilitation was \$28.8 million.

### 31. Greers Ferry Lake, AR

**Location.** (See Table 37-K: White River, AR & MO.)

**Existing project.** Estimated cost is \$55,125,000. For further information see page 740 of 1964 Annual Report.

**Local cooperation.** Section 2, 1938 Flood Control Act and 1988 Water Supply Act, as amended, apply.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$2,122,700; total cumulative flood damages prevented are estimated at \$37,878,200. In FY08, 319,391 MWh of electrical energy were delivered to the Southwestern Power Administration for marketing. The project has seventeen developed parks, which in FY08 experienced public visitation exceeding 27.0 million visitor-hours. The project's operational management plan provides means by which the natural resources, including water quality, aesthetic value, forestry, fish and wildlife are managed and protected for future generations. In FY08 the project released 14,519 acre-feet for U.S. Fish and Wildlife Service trout hatchery. An all-volunteer environmental program (annual cleanup) has been most successful and serves as a model for the Nation. During the past 27 years the program has won more than 26 national awards.

**Condition at end of fiscal year.** Project is complete. Construction of the project began in June 1957 and was ready for beneficial flood control use in January 1962. Power units 1 and 2 were operable in March and May 1964, and water supply was operable in April 1971. The Visitors Center was completed in June 1983 at a cost of \$813,000.

### 32. Norfolk Lake, AR

**Location.** (See Table 37-K: White River Basin, AR & MO.)

**Existing project.** The total estimated cost is \$70,701,629, including highway bridge construction. This does not include an estimate for the addition of power units 3 and 4, which were authorized, but never built. For further information see page 896 of 1962 Annual Report.

**Local cooperation.** Section 2, Flood Control Act of 1938 and Water Supply Act of 1958, as amended, applies.

**Operations and results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$6,265,000; total cumulative flood damages prevented through September 2008, are estimated at \$65,638,000. During the year, more than 228,249 MWh of electrical energy were delivered to the Southwestern Power Administration for marketing. In FY08 the project released 29,038 acre-feet for a U.S. Fish and Wildlife Service trout hatchery. The project's 18 developed parks experienced public visitation exceeding 10.6 million visitor-hours during FY08.

**Condition at end of fiscal year.** Construction of project began in October 1940, ready for beneficial flood control use in June 1943, and for generation of electrical energy with one unit in June 1944. Second unit was added in February 1950. Water supply was added as a purpose in December 1969. Construction of two highway bridges over Norfolk Lake to replace ferries was completed in November 1982. The bridges were transferred to the Arkansas Highway and Transportation Department for operation and maintenance in July 1984.

### 33. Ozark-Jeta Taylor Lock And Dam (No. 12), AR

**Location.** (See Table 37-H: Arkansas River Basin, AR, OK, and KS: Navigation.)

**Existing project.** Project is a unit of MKARNS. The dam is 2,480 feet long and 58 feet above streambed; spillway has 15 tainter gates, each 50 feet long and 46 feet high. Navigation lock is 110 by 600 feet with a lift of 34 feet. Powerhouse contains five 20,000 kilowatt generators. Lake has a storage capacity of 148,400 acre-feet. In addition, one foot of power pondage is provided in Pool 13 between elevations 391.0 and 392.0. Cost was \$85,629,412. (For authorization see table 37-B.)

**Local cooperation.** *(See section 1.)*

**Operations and results during fiscal year.** Continued operation and maintenance. Delivered 306,495 MWh of electrical energy to Southwestern Power Administration for marketing. Ozark Lake has 10 developed parks, which in FY08 experienced public visitation exceeding 1.3 million visitor-hours.

**Condition at end of fiscal year.** Construction began in December 1964. Project is complete. Lock and dam was placed in operation in November 1969. Power units were placed on line as follows: unit 1, November 1972; unit 2, August 1973; unit 3, October 1973; unit 4, December 1973; and unit 5, May 1974. Tow Haulage was installed in 1999.

A major rehabilitation study was initiated in October 1996. The power plant has experienced numerous mechanical problems and major repair requirements since its construction. The study describes the condition of the power plant and reviews alternative solutions. The Rehabilitation Study Report was submitted in March 1999. Little Rock received Construction General funding in FY03 to start construction on the Major Rehabilitation Project. Construction General was received in FY08 and work continues on the project.

**34. Table Rock Lake, MO**

**Location.** *(See Table 37-K: White River Basin, AR & MO.)*

**Existing project.** Cost was \$119,491.90. For further information see page 893 of 1962 Annual Report. *(For authorization see table 37-B.)*

**Local Cooperation.** Section 2 of the 1938 Flood Control Act applies.

**Operations and Results during fiscal year.** Continued operation and maintenance. Flood damages prevented during FY08 are estimated at \$38,103,900; total cumulative flood damages prevented are estimated at \$169,609,600. During the year, about 835,358 MWh of electrical energy were delivered to the Southwestern Power Administration for marketing. The District and the Waterways Experiment Station are investigating the possibilities of improving the quality of Table Rock releases with a hypolimnetic oxygenation system. Table Rock Lake has fifteen developed parks, which in FY08 experienced public visitation exceeding 15.9 million visitor-hours. This project's operational management plan provides means by which the natural resources, including forestry, fish and wildlife. In FY08 the project released 14,519 acre-feet for a Missouri Department of Conservation Trout Hatchery.

**Condition at end of fiscal year.** Project is complete. Construction of project began in October 1954. The project was ready for beneficial flood control use in November 1958, and for generation of electrical energy with units 1 and 2 in May 1959. Units 3 and 4 were added in April and June 1961. The Auxiliary Spillway was completed in October of 2003.

**GENERAL INVESTIGATIONS**

**35. May Branch, Fort Smith, AR**

**Location.** May Branch, Fort Smith, Arkansas, enters the Arkansas River at mile 307.5.

**Existing Project.** The Chief of Engineers final report was signed 19 December 2006. It recommends the construction of a flood reduction project consisting of a new 2.77-mile long open channel to convey flood waters from the May Branch basin to the Arkansas River. The channel alignment would require 15 structure relocations, 5 rail and 9 road crossings, a gated hydraulic control structure at the Fort Smith (Arkansas River) Levee. The estimated project cost is \$30.85 million including two upstream reaches to be constructed at non-Federal expense. The project was authorized by WRDA 2007.

**Local Cooperation:** The City of Fort Smith, Arkansas, is the non-Federal sponsor. The non-Federal cost is estimated to be \$15.8 million based on WRDA 1986, as amended. The PED Design agreement was negotiated and signed on 21 October 2008 for \$2,116,000.

**Operation and Results During Fiscal Year:** In FY 2008, GI funds of \$69,540 were expended. The Report of the Chief of Engineers was delivered to Congress on July 8, 2008.

**36. Pine Mountain Lake, AR**

**Location:** The project was authorized in the Flood Control Act of 1965, for a dam site at mile 35.7 on Lee Creek 12 miles north of Van Buren, Arkansas, in Crawford County.

**Existing Project:** Existing authorization provides for construction of a lake for flood control, water supply, recreation and fish and wildlife enhancement. Under Arkansas Department of Environmental Quality's "Extraordinary Resource Waters" (ERW) regulation, the construction of a dam on a streams with that designated was not allowed. Lee Creek, the stream on which Pine Mountain Dam is proposed for construction, is designated as an ERW stream. The ERW regulation was re-

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vised by the Arkansas Pollution Control and Ecology Commission on 28 September 2007 to allow dams to be constructed on ERW streams if (1) the sole purpose for the funding and construction of the reservoir is to provide a domestic water supply; and (2) there are no feasible alternatives to constructing a reservoir in order to meet the domestic water needs of the citizens of the state of Arkansas. Due to regulations in the State of Arkansas, the only purpose for the project will be water supply. A General Reevaluation Report is being prepared to comply with NEPA requirements and to update the project economic analysis.

Height of Dam: 204.5 feet above streambed  
Type of Structure: Rock fill Embankment  
Capacity: 261,000 acre-feet

**Local Cooperation:** The River Valley Regional Water District has opted to proceed at 100 percent federal financing of Preconstruction Engineering and Design (PED) activities in accordance with SWD guidance provided on September 26, 2003. The sponsor will pay their share of PED costs during the first year of construction.

**Operations and Results During Fiscal Year:** Congress added \$461,000 in the FY08 budget for continuing the general reevaluation report of Pine Mountain Dam. The initial archeology contract was awarded to reexamine sites that were previously identified. A contract for aerial photography and a survey of Lee Creek was awarded to gather information in formulating the hydrology and hydraulic models.

### 37. Springfield, MO

**Location:** Jordan Creek and its tributaries is located in Springfield MO. It drains into Wilson Creek in the southern end of the city.

**Existing Project:** A \$3,000,000 urban flood control and ecosystem restoration feasibility study initiated 12 May 2004 with the signing of the feasibility cost sharing agreement with the City of Springfield. The study is scheduled to be completed in 2012.

**Local Cooperation:** The city of Springfield, MO is the sponsor.

**Operations and Results during Fiscal Year:** GI funds of \$160,576 were expended in FY 2008.

### 38. Southwest Arkansas Study

**Location:** The study area includes parts or all of four

counties in Southwest Arkansas in the Red River and Little River basins.

**Existing Project:** Construction of the four projects (Millwood, Dierks, DeQueen, and Gillham Lake) resulted in the loss of 25,000 acres of bottomland wildlife habitat. About 9,000 acres of wetlands were lost due to reservoir operations. There is a significant opportunity to reallocate storage to increase flood reduction benefits and to restore fish and wildlife habitat. Water releases from the four lakes could aid navigation on the Red River, which has been extended to Shreveport/Bossier City. Important economic factors are agriculture, poultry, and livestock operations. Accelerated runoff, sedimentation, and possible water quality problems need to be addressed.

Water supply storage could be used to make releases, especially out of Dierks and Gillham lakes, for kayaking with a resulting growth in recreational businesses. The watershed study would evaluate flooding, irrigation, restoration of fish and wildlife habitat, water quality, recreation and water releases for navigation.

**Local Cooperation:** The Reconnaissance study identified Federal interest. Non-Federal sponsors have been identified as Little River County, the Arkansas Natural Resources Commission and the Arkansas Game and Fish Commission. Next steps in the study are to initiate the Project Management Plan (PMP), clearly define the project scope, and negotiate the feasibility cost sharing agreement (FCSA) with the NF sponsors.

**Operations and Results During Fiscal Year:** Carry-over funding (\$45,000 FY03 and \$99,000 FY06) will be used to prepare a Project Management Plan and negotiate a feasibility cost sharing agreement.

### 39. White River Minimum Flows, AR

**Location:** The area involved is the cold water trout fisheries on the White River, the North Fork River, below the Corps' high head dams at Bull Shoals and Norfolk Lakes. Bull Shoals Dam is on the White River 7 miles upstream of Cotter, AR. Norfolk Dam is located on the North Fork River 4.8 miles northeast of Norfolk, AR.

**Existing Project:** The SEC. 132(A) of 2006 Energy and Water Development Appropriations Act (EWDAA) (Public Law 109-103), modifies the operation of the White River lakes to include specific amounts of project storage for the tail water trout fisheries; before this, water management decisions affecting lake levels and downstream flows were based primarily on flood control

and hydropower needs. The act directs the Corps to re-allocate the following amounts of storage: Bull Shoals Lake, 5 feet; and Norfolk Lake, 3.5 feet. A reallocation study was completed in FY05, but did not recommend a project for construction. Section 132 of the FY 2006 Energy and Water Resources Development Act (P.L. 109-103) authorizes the implementation of plans BS-3 at Bull Shoals and NF-7 at Norfolk lakes at full Federal expense in accordance with section 906(e) of WRDA 86. Section 132 also repealed the previous project authorities in WRDA 99 and WRDA 00, resulting in a new project.

**Local Cooperation:** The Federal Government will fully fund all design, construction, and maintenance of minimum flows facilities, the SWPA offset, and the FERC Licensee 2221 compensation. The State of Arkansas will fully fund relocations and/or modifications to lake-side facilities to allow reasonable continued use with respect to the storage reallocations. Section 132 of the FY 2006 Energy and Water Resources Development Act (P.L.109-103) authorizes the implementation of BS-3 at Bull Shoals and NF-7 at Norfolk Lakes.

**Terminal Facilities:** BS-3, Bull Shoals option 3, will require a 5-foot increase in conservation pool, and modification of the SCADA remote operating language for minimum flows implementation. BS-3 minimum flows releases will be through the existing main turbines. NF-7, Norfolk Lake option 7, will require a 1.75-foot increase in conservation pool, modification to bulk heads, modification of SCADA remote operating language, connection of the existing station service units to the power grid, and design and construction of a siphon and valve system. NF-7 minimum flows releases will be through the existing station service units and the new siphon system.

**Operations During Fiscal Year:** Environmental Impact Statement completed and publicly reviewed, resulting in a signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on 13 January 2009. The PED portion of Construction has been initiated; however, actual construction will not be implemented until the PPA is signed, and necessary funds are appropriated. The Minimum Flows operation will not be implemented until the necessary lake facility modifications are completed and the hydropower buyout for the non-Federal hydropower plant at Lake Taney-commo is compensated.

## CONSTRUCTION GENERAL

### 40. Clearwater Major Rehabilitation Project, Clearwater Lake, MO

**Location:** Clearwater Dam, in Southeast Missouri on the Black River is an earthen dam 4,225 feet long and 154 feet high. The project was built for flood control and recreation.

**Existing Project:** Authorization for the Clearwater Dam project is the Flood Control Act of 1938 (Public Law 761, 75<sup>th</sup> Congress, 3<sup>rd</sup> Session); Authorization for the current project is a Major Rehabilitation Evaluation Report Approved by the ASA(CW) in August 2004. A Major Rehabilitation Study concluded that a new seepage cutoff wall is necessary to solve the seepage problem at Clearwater Dam. The total project cost estimate is currently approximately \$248.5M. A sinkhole developed in January 2003 on the upstream face of the dam, and investigations indicate seepage is the likely cause. Seasonal pool deviation requests have been denied because of the sinkhole and the overall condition of the dam. Until the dam is rehabilitated, the pool deviations are likely to be denied. The reservoir is being operated in accordance with the approved operating plan. Results from a limited seismic analysis conducted during FY05 indicate that the dam passes the operating basis earthquake criteria, but more detailed seismic analysis is underway. Additional studies on the spillway capacity and erosive potential may also be conducted in the future.

**Local Cooperation:** This is a 100 percent Federally funded project. No cost sharing is applicable, however there is extensive public interest.

**Operations During Fiscal Year:** FY08 activities consisted primarily of drilling and grouting operations for the Phase I project. Phase I consists of a close-spaced exploratory drilling and grouting program to find and treat subsurface features that would impact the Phase II cutoff wall construction. Two separate contracts, Phase I and Ib, have been awarded to conduct the exploratory drilling and grouting program. Phase I has helped define the parameters of the cutoff wall to be constructed in Phase II, as well as pretreat the rock to allow construction of the cutoff wall. The condition of the subsurface rock has required extensive grouting to facilitate construction of the cutoff wall during Phase II, extending the duration of Phase I.

The Phase Ib contract is anticipated to be completed by the end of FY09. The Phase II Cutoff Wall contract was awarded in September 2008. Pre-construction activities are expected to be performed and construction is expected to start on Phase II concurrent with completion of Phase I. The completion of the overall project is currently scheduled for 2013.

**41. Arkansas-White Cutoff Containment Structure, AR, General Reevaluation Study**

**Location:** The Arkansas/White Cutoff is an element of the MKARNS project. The project is located in Arkansas County, Arkansas, from RM 0.0 to approximately RM 10.0 on the White River.

**Existing Project:** Authorization for the project is the 1946 River and Harbor Act. A natural cutoff between the lower White and Arkansas Rivers was closed during the development of the McClellan-Kerr Arkansas River Navigation System (MKARNS). During the 1970's and 1980's, a new cutoff began to develop upstream in the Melinda Channel-Owens Lake corridor and in 1989, construction of a more extensive set of structures, known as the Arkansas/White Cutoff Containment Structure, was initiated in an attempt to prevent continued development of the cutoff. However, cutoff development has continued and threatens to breach the land between the two rivers. Since the headcut containment structure was completed in 1992, the Corps has continued to expend construction funds to reduce the possibility of a cutoff.

**Local Cooperation:** This is a 100 percent Federally funded study, under the authorization for the MKARNS. No cost sharing is involved. However, close coordination with and active participation by environmental and private landowner interests is critical to successful completion of the project.

**Operations During Fiscal Year:** Activities during FY08 consisted primarily of report preparation and decision-making process to complete the General Reevaluation Report. Funding for FY08 activities was obtained from O&M funding. Re-construction of the south end of Jim Smith Lake was initiated. Funding has not appropriated for this project since FY05.

**42. McClellan-Kerr Arkansas River Navigation System (MKARNS) 12-Foot Channel, AR AND OK**

**Location:** The project area includes the entire 445 miles of the McClellan-Kerr Arkansas River Navigation System in Arkansas and Oklahoma (See Section 1).

**Existing Project:** The existing McClellan-Kerr Arkansas River Navigation System begins at the mouth of the White River at the Mississippi River; runs up the White River for approximately 10 miles and then enters the Arkansas Post Canal. The Arkansas Post Canal is approximately 9 miles long and connects the White River and the Arkansas River. The system proceeds up the Arkansas River to approximate navigation mile 395 where it enters the Verdigris River. The system contin-

ues up the Verdigris River to the Head of Navigation at navigation mile 444.8 at the Port of Catoosa. There are 18 existing locks and dams on the system. This project will increase the minimum depth of the system from 9 feet up to 12 feet and make changes to the flow management plan.

**Local Cooperation:** Because this project is part of the inland navigation system, study costs were 100 percent Federal costs. It was determined that all remaining construction activities will be cost shared 50/50 with the Inland Waterway Trust Fund.

**Operations During the Fiscal Year:** Work was initiated on Preconstruction Engineering & Design (PED, Construction, and Mitigation in FY 2006. The FY 05 Senate request for OM appropriation of \$7M in O&M funds were received in FY 05 and carried over for FY 06, FY07, and FY08 efforts. In FY09 remaining funds will be expended on adding three stone structures near Navigation Mile 146, and design of upland dredge disposal sites in Oklahoma .

**43. Ozark Powerhouse Major Rehabilitation Project, Arkansas River, AR**

**Location:** The project is located on the Arkansas River at River Mile 256.8 near Ozark, Arkansas.

**Existing Project:** A Major Rehabilitation Study was completed in 1999, which recommended replacement of the existing turbines with modern, state-of-the-art units. Funds were appropriated in FY 2003, FY 2004, and 2005. There were no appropriations in FY 2006 or FY 2007. This project consists of redesigning and replacing the turbines, rehabilitation of the powerhouse cranes, and replacement and rehabilitation of supporting systems and equipment. The project restores the Ozark Powerhouse output capacity and power output to the original as-built conditions. Allocations through FY08 were \$22,695,000. The Current Project Estimate is \$88,370,000.

**Local Cooperation:** In 2005, the Southwest Power Pool hydropower customers agreed to supply supplemental funding through a Memorandum of Agreement between the Corps of Engineers, Southwestern Power Administration and the City of Jonesboro (representing the Federal power customers), which was signed in 1999. This supplemental funding was used to prevent contract shutdown due to shortage of appropriated funds in FY 2006 and FY 2007. Construction General funding was received in FY08 and work continues on the project.

**Operations During Fiscal Year:** Efforts in FY 08 included ongoing fabrication of the turbine units, onsite mobilization, and removal of the first unit in preparation for installation of the new turbine. Estimated Completion date is October 2013. Project is approximately 33% complete.

**44. Beaver Dam Trout Production Facilities, White River, AR**

**Location:** The Trout Production Facility is to be located just below Beaver Dam in Carroll County to annually grow out 150,000 pounds of trout for environmental restoration to mitigate for the loss of the warm water fishery in the Beaver tailwater.

**Existing Project:** Section 132, EWDA 2006, directed that losses to hydropower shall be offset by a reduction in Federal hydropower costs as determined by Southwestern Power Administration based on the present value of the estimated replacement cost of the energy and capacity when the hatchery operation begins.

**Local Cooperation:** By letter dated Sept. 27, 2001, ASA (CW) stated that the legislative intent for the trout production facility, including a source of water supply, would be at Federal expense up to \$6 million. On 27 November 2007, ASA (CW) made a determination that the 21,972 acre-feet of conservation pool storage and its OMRR&R for the trout production facility is to be at no cost to the state of Arkansas.

**Operations During Fiscal Year:** The reallocation report efforts are conducted using Federal Operation and Maintenance funds.

**CONTINUING AUTHORITY PROGRAM NAVIGATION ACTIVITIES (SECTION 107)**

**45. Slack Water Harbor, Russellville, AR**

**Location:** The project area is located along the McClellan-Kerr Navigation System approximately 75 miles northwest of Little Rock. The local sponsor is the River Valley Regional Inter-model Facility Authority.

The plans and specifications were initiated in October 2002 and were put on hold in September 2003 at the 90% design per the sponsor's request. The Corps was sued by environmental groups in the spring of 2004 with the major complaint being an EIS should have been done on the whole intermodal facility. FHWA, the lead agency for the intermodal facility's EIS, prepared the

Draft EIS dated February 2006 and a Supplemental Draft EIS (SDEIS) dated July 2007. The Corps has been a cooperating agency in the preparation of the EIS and will adopt this EIS for the harbor, but we prepare a separate ROD. The schedule to finalize the SDEIS continues to slip. The holdup in the schedule is FHWA legal POC's did not grant legal sufficiency of the document. FHWA stated their need for an evaluation of an additional alternative, especially as related to the avoidance of the numerous archeological sites identified on the preferred project location. The Port Authority is in the process of working with their contractor to decide how to complete the EIS to satisfy FHWA's concerns. HQ's provided comments on the draft PCA package in July 2007 with guidance to update the PCA and resubmit for approval once the EIS for the intermodal facility is complete

The total project cost of the harbor is estimated at \$7,116,000, and the benefit-to-cost ratio is 1.3 to 1. The total federal share will be limited to the amount named, or \$3,350,000. The total non-federal share was estimated at \$3,876,000.

**Fiscal Year Cost:** Congressional adds in the amount of \$1 million for FY01, \$1 million for FY02, \$500K in FY03, \$851K in FY04, and \$150k in FY06, have been included in the appropriations bills. Administration policy is total federal project costs are limited to the total amount named, \$3.5M. FY06 funds of \$200,000 were used to complete the plans and specs in September 2006. Payback funds in the amount of \$2,839, 000 were received in FY07 for construction

Funds Spent Thru FY06:	\$ 511,000
Funds Received in FY07:	\$2,839,000
Federal Share	\$3,350,000

**EMERGENCY BANK PROTECTION (SECTION 14)**

**46. BATESVILLE WASTEWATER TREATMENT PLANT, BATESVILLE, AR**

**Location:** Batesville, Arkansas is located approximately 90 miles northeast of Little Rock, Arkansas.

**Fiscal Year Cost:**

Funds spent through FY07:	\$ 253,400
Funds spent in FY08:	\$300,600

**47. Fourche Creek Sewer Main, Little Rock, AR**

**Location:** Fourche Creek is a tributary of the Arkansas River. Project location is at the Little Rock National

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Airport in Little Rock, Arkansas.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 0  
Funds spent in FY08: \$ 36,809

**48. Highway 71 @ Red River, Ogden, AR**

**Location:** Ogden, Arkansas is located approximately 150 miles southwest of Little Rock, Arkansas. The project was under construction during FY08.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 76,319  
Funds spent in FY08: \$ 52,014

**49. Little Piney Creek, Highway 164**

**Location:** The project is located at the bridge over Little Piney Creek on State Highway 164 near Hagarville, Johnson County, Arkansas. The project was successfully constructed. It will be closed out in FY09.

**Fiscal Year Cost:**

Funds spent thru FY 07: \$141,995  
Funds spend in FY 08: \$256,127

**50. Southside Water, White River, Batesville, AR**

**Location:** The project is located along the south bank of the White River in the vicinity of Southside Water Treatment Plant. The public water authority maintains a 16" ductile iron raw water line extending parallel to the river for approximately 1500' to 2000' carrying water from the river intake facility to the water treatment plant. The high water events of March and April 2008 further intensified the deterioration of the streambank at this site. Funds of \$35k were received in Sept 2008 to initiate a feasibility milestone report to determine project eligibility.

**Fiscal Year Cost:**

Funds spent thru FY 08: \$35,000

**51. Highway 58, Guion, AR**

**Location:** The Arkansas Highway and Transportation Department (AHTD) requested the Little Rock District to conduct a streambank study on the right descending bank of the Highway 58 bridge located near Guion, Arkansas. The AHTD is concerned that the bridge abutment would be compromised if erosion continues. The high water events of March and April 2008 further in-

tensified the deterioration of the streambank at this site. Funds of \$25k were received in Sept 2008 to initiate a feasibility milestone report to determine project eligibility.

**Fiscal Year Cost:**

Funds spent thru FY 08: \$25,000

**FLOOD CONTROL ACTIVITIES  
(SECTION 205)**

**52. Archey Fork Creek, Clinton, AR**

**Location:** Archey Fork Creek is located in Clinton, Arkansas, approximately 75 miles north of Little Rock, Arkansas. The FCSA was negotiated and will be sent to division in FY09.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 56,907  
Funds spent in FY08: \$ 14,854

**53. Hester, Heartsill, and Adamson Greenwood, AR**

**Location:** Greenwood, Arkansas is located approximately 20 miles south of Ft. Smith in western Arkansas. We are working on the FCSA.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 51,446  
Funds spent in FY08: \$

**54. High School Branch, Neosho, MO**

**Location:** High School Branch is located in Neosho, Missouri, approximately 17 miles south of Joplin, Missouri. This study was terminated in September 2008 due to lack of support from the sponsor.

**Fiscal Year Cost:**

Funds spent through FY08: \$ 100,000

**55. Howell Creek, West Plains, MO**

**Location:** West Plains, Missouri is located approximately 100 miles east of Branson in southern Missouri. Howell Creek flows through the town. The milestone was completed.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 62,995  
Funds spent in FY08: \$ 13,288

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Funds spent in FY08: \$ 0

**56. Jam Up Creek, Mountain View, MO**

**Location:** Mountain View is located in south central Missouri in Howell County approximately 100 miles east of Springfield. This study was terminated in FY08 due to lack of support from sponsor.

**Fiscal Year Costs:**

Funds spent through FY07: \$194,800  
Funds spent in FY08: \$14,700

**57. Sulphur Creek, Tributary 10, Heber Springs, AR**

**Location:** Heber Springs is located about 65 miles north of Little Rock. The milestone report was completed. The project area is too small. This project will be terminated in FY09.

**Fiscal Year Costs:**

Funds spent through FY07: \$ 31,865  
Funds spent in FY08: \$ 13,074

**58. Town Branch, Newark, AR**

**Location:** Newark is located about 15 miles west of the city of Newport. Funds were received in FY07. The project was terminated due to insufficient flood damages.

**Fiscal Year Costs:**

Funds spent through FY07: \$82,462  
Funds spent in FY08: \$ 17,521

**59. White River, Oil Trough, MO**

**Location:** Oil Trough is located about 90 northeast of Little Rock. This project has never received any funds and is on the project backlog.

**ENVIRONMENTAL RESTORATION  
(SECTION 1135)**

**60. AR River Environmental Restoration Project**

**Location:** The area to be restored is between Russellville and Fort Smith. No funds were received in FY07. This project is on hold.

**Fiscal Year Costs:**

Funds spent through FY07: \$5,000

**61. Bull Shoals Lake Tail Water Restoration**

**Location:** This project is located below Bull Shoals Dam in Arkansas. The PPA was signed. The project will be constructed in FY09.

**Fiscal Year Costs:**

Funds spent through FY07: \$150,265  
Funds spent in FY08: \$35,674

**62. Bull Shoals Nursery Pond**

**Location:** Bull Shoals Dam is located at river mile 418.6 on the White River in the Ozark Mountains of north central Arkansas (near the Arkansas-Missouri border) approximately 10 miles northwest of Mountain Home, Arkansas, and 115 miles north of Little Rock, Arkansas..

**Fiscal Year Costs:**

Funds spent through FY07: \$1,520,600  
Funds spent in FY08: \$4,000

**63. Millwood Lake, Grassy Lake, AR**

**Location:** Grassy Lake, a pristine wetland, is just downstream of Millwood Dam along Yellow Creek in southwest Arkansas. The Red River Basin dams reduced the beneficial flooding of Grassy Lake. Study was initiated in 2004 with a Congressional earmark.

**Fiscal Year Costs:**

Funds spent through FY07: \$104,379  
Funds spent in FY08: \$69,699

**64. Norfolk Tailwater Habitat**

**Location:** The Lake Norfolk Tailwater approximately 5 miles in length below the dam in Baxter County, AR.

This project was terminated in FY08.

**Fiscal Year Costs:**

Funds spent through FY07: \$10,000  
Funds spent in FY08: \$0

**65. Rock Creek At Boyle Park, Little Rock, AR**

**Location:** The area of concern on Rock Creek is located in and surrounding the vicinity of Boyle Park in Little Rock, AR.

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The park is an approximately 250-acre tract of largely unimproved woodland donated to the city by Dr. John F. Boyle in 1929. The area is a mix of residential and commercial activity. It was determined by the project delivery team that the study area should encompass the area between Kanis Park and 36<sup>th</sup> street in Little Rock, AR., roughly 2 miles.

**Fiscal Year Costs:**

Funds spent through FY07: \$10,000  
Funds spent in FY08: \$0

**66. Taylor Bay, Woodruff County, AR**

**Location:** Taylor Bay is located in Woodruff County, Arkansas, immediately north of Augusta or approximately 60 miles northeast of Little Rock.

This project has been terminated in FY08.

**Fiscal Year Cost:**

Funds spent through FY07: \$ 56,700  
Funds spent in FY08: \$ 0

**ENVIRONMENTAL RESTORATION  
(SECTION 206)**

**67. Fourche Creek At Hindman Park, LR, AR**

**Location:** The Project is located on Fourche Bayou in Little Rock AR.

The City of Little Rock, the Audubon Society and the Arkansas Game and Fish Commission have requested that the Little Rock District Corps of Engineers initiate a Section 206 ecosystem restoration study on Fourche Creek in the area of Hindman Park in southwest Little Rock. The stream in this area is experiencing bank erosion problems probably as a result of altered hydrology caused by development in the upstream watershed. In FY03, \$10,000 was allocated for development of a Preliminary Restoration Plan (PRP). The sponsors along with the Corps are currently working on defining the scope of the project since much of the upstream watershed is in private ownership. The PRP was completed in summer 2004. The Arkansas Highway Department and Federal Highway Administration have also expressed an interest in purchasing mitigation property adjacent to Fourche Creek in this area for added restoration and enhancement. Current work is suspended pending funding.

**Fiscal Year Costs:**

Funds spent through FY07: \$ 8,514

Funds spent in FY08: \$ 0

**68. Galla Creek, AR**

**Location:** The project area is located along the McClellan-Kerr Navigation System approximately 75 miles northwest of Little Rock. The local sponsor is the River Valley Regional Inter-model Facility Authority. The project was terminated since the sponsor decided to do the project themselves.

Funds Spent Thru FY07: \$121,624  
Funds Spent in FY08: \$ 0

**69. Shirey Bay Rainey Brake Wildlife Management Area (WMA)**

**Location:** The WMA is a 10,500-acre tract set between the Strawberry and Black Rivers in Lawrence County, Arkansas

The Arkansas Game and Fish Commission requested an ecosystem restoration study to address the impacts to wintering waterfowl associated with riverbank erosion and water level management within a green tree reservoir. Bank erosion is threatening a portion of the levee system. In FY03, \$10,000 was allocated for development of a PRP which was forwarded to SWD in December 2004. No additional funding has been received. The project sponsor is still interested.

**Fiscal Year Costs:**

Funds spent through FY07: \$10,909  
Funds spent in FY08: \$ 0

**ENVIRONMENTAL RESTORATION  
PROJECTS IN CONNECTION WITH  
DREDGING (SECTION 204)**

**70. Little Rock Slackwater Harbor, Arkansas River, AR**

The Little Rock Port Authority requested the Little Rock District to conduct an ecosystem restoration project in connection with dredging along the Arkansas River, in the vicinity of the Little Rock Slack Water Harbor. The study will look at ways to provide protection, restoration, and creation of aquatic and wetland habitats in connection with the maintenance dredging along the Arkansas River of the Little Rock Slack Water Harbor project. Funds in the amount of \$200,000 were received in Sept 2008 to initiate the feasibility study.

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**Fiscal Year Costs:**

Funds spent through FY08: \$200,000

LITTLE ROCK, AR DISTRICT  
APPENDIX A  
REQUIRED TABLES FOR THE  
ANNUAL REPORT OF THE SECRETARY OF THE ARMY  
ON CIVIL WORKS ACTIVITIES

TABLE 37-A COST AND FINANCIAL STATEMENT

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2008
			FY05	FY06	FY07	FY08	
1-15	Arkansas	New Work					
42	River	Approp	1,199,000	569,000	300,000		630,254,000
	Basin	Cost	1,176,059	507,572	571,628	166,207	630,253,988
	AR, OK, And KS	Maint					
		Approp	31,913,885	32,855,249	26,339,000	28,635,500	
		Cost	25,708,214	25,983,885	28,609,960	23,612,965	
9.	Montgom. Point L&D	New Work					
		Approp	8,738,000	18,910,000	20,000,000		266,498,980
		Cost	8,407,139	1,986,829	5,098,929	2,205,153	236,445,284
		Maint					
		Approp					
		Cost					
16.	Blue Mountain Lake	New Work					
		Approp					5,069,974
		Cost					5,069,974
		Maint					
		Approp	1,138,000	1,138,000	1,158,000	1,785,000	
		Cost	1,138,000	1,135,735	1,341,839	1,443,538	
17.	Clearwater Lake, MO	New Work					
		Approp					10,406,300
		Cost					10,406,300
		Maint					
		Approp	2,535,001	2,359,000	2,546,000	3,607,000	3,607,000
		Cost	2,803,055	2,416,249	2,345,773	3,482,898	3,482,898
40.		Major Rehabilitation					
		Approp	1,050,000	18,825,000	22,650,000	22,745,000	65,420,000
		Cost	1,044,525	4,684,916	14,283,116	29,520,033	49,579,743
18.	Dequeen Lake, AR	New Work					
		Approp					19,629,753
		Cost					19,629,752
		Maint					
		Approp	915,000	1,050,951	1,281,000	1,274,000	
		Cost	913,046	1,005,669	1,240,579	1,237,805	
19.	Dierks Lake, AR	New Work					
		Approp					16,002,903
		Cost					16,002,781
		Maint					
		Approp	969,000	1,023,895	1,149,000	1,440,000	
		Cost	967,105	990,115	1,072,770	1,237,830	

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

TABLE 37-A COST AND FINANCIAL STATEMENT (cont'd)

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2007
			FY05	FY06	FY07	FY08	
20.	Fourche Bayou Basin Little Rock, AR	New Work					
		Approp	26,000			35,000	21,415,000
		Cost	23,182	6,082		1,863	21,413,772
		Maint					
		Approp Cost					
21.	Gillham Lake, AR	New Work					
		Approp					17,827,111
		Cost					17,827,111
		Maint					
		Approp Cost	830,000 829,523	962,477 760,385	1,022,000 1,059,481	1,197,000 1,053,490	
23.	Millwood Lake	New Work					
		Approp					46,087,382
		Cost					46,087,382
		Maint					
		Approp Cost	1,505,310 1,504,988	1,567,322 1,470,496	1,840,000 1,795,243	2,433,000 2,414,676	
24.	Nimrod Lake, AR	New Work					
		Approp					4,092,826
		Cost					4,092,826
		Maint					
		Approp Cost	1,384,000 1,343,000	1,459,560 1,500,000	1,692,000 1,573,631	2,298,000 1,797,371	
26.	Insp. Of Completed Flood Ctrl. Projects	New Work					
		Approp					
		Cost					
		Maint					
		Approp Cost	124,858 117,561	114,296 108,495	188,000 157,106	124,000 135,082	
28.	Beaver Lake, AR	New Work					
		Approp					46,183,033
		Cost					46,183,033
		Maint					
		Approp Cost	4,809,471 4,809,676	4,779,261 4,796,133	4,889,240 4,580,432	4,990,900 4,938,357	
29.	Bull Shoals Lake, AR	New Work					
		Approp					88,857,611
		Cost					88,857,611
		Maint					
		Approp Cost	4,585,378 4,448,643	5,599,878 5,109,587	6,577,000 5,355,510	6,600,000 6,343,131	

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TABLE 37-A COST AND FINANCIAL STATEMENT (cont'd)

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2008
			FY05	FY06	FY07	FY08	
30.	Dardanelle L&D 10	New Work					
		Approp	_____	_____	_____	_____	84,270,124
		Cost	_____	_____	_____	_____	84,261,240
		Maint					
		Approp	5,216,610	5,835,734	6,107,500	6,287,000	_____
	Cost	5,023,553	5,607,903	5,879,080	6,194,683	_____	
31.	Greers Ferry Lake, AR	New Work					
		Approp	_____	_____	_____	_____	48,987,512
		Cost	_____	_____	_____	_____	48,987,511
		Maint					
		Approp	5,370,297	4,921,000	5,540,088	6,275,000	_____
	Cost	5,561,539	4,844,584	5,194,240	5,432,365	_____	
32.	Norfolk Lake, AR	New Work					
		Approp	_____	_____	_____	_____	74,578,929
		Cost	_____	_____	_____	_____	74,578,929
		Maint					
		Approp	3,345,094	4,378,692	3,966,500	5,060,000	_____
	Cost	3,302,466	3,775,321	4,422,036	4,043,253	_____	
33.	Ozark-Jeta Taylor L&D 12	New Work					
		Approp	_____	_____	_____	_____	85,629,412
		Cost	_____	_____	_____	_____	85,629,412
		Maint					
		Approp	3,632,090	4,733,375	4,290,000	4,586,000	_____
		Cost	3,371,141	3,797,692	4,929,251	4,275,808	_____
		Major Rehab					
	Approp	4,442,000	_____	_____	22,632,000	27,997,000	
	Cost	2,168,240	1,949,583	452,634	9,820,160	14,952,779	
34.	Table Rock Lake, MO	New Work					
		Approp	3,107,000	290,000	600,000	_____	142,596,875
		Cost	1,663,025	1,570,760	640,520	112,186	142,535,154
		Maint					
		Approp	5,740,288	7,417,491	6,903,000	6,833,000	_____
	Cost	5,733,133	7,089,156	6,425,618	6,763,129	_____	
35.	May Branch	New Work					
		Approp	45,000	8,000	_____	107,000	1,095,000
		Cost	29,182	21,448	2,801	69,540	1,057,536
36.	Pine Mountain Lake	New Work					
		Approp	79,000	99,000	200,000	461,000	1,231,965
		Cost	62,521	74,603	52,207	57,665	633,636

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TABLE 37-A COST AND FINANCIAL STATEMENT (cont'd)

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2008
			FY05	FY06	FY07	FY08	
37.	Springfield MO	New Work Approp Cost	372,000 260,799	371,000 177,777	250,000 149,885	348,000 160,576	1,594,000 993,776
38.	Southwest Arkansas Study	New Work Approp Cost	<u>      </u> 7,329	99,000 31,967	<u>      </u> 25,940	<u>      </u> 25,902	144,000 130,801
39.	White River Minimum Flows	New Work Approp Cost	119,000 72,044	51,000 105,895	750,000 112,862	<u>      </u> 524,314	2,077,000 1,947,031
45.	Russellville Slackwater Harbor	New Work Approp Cost	38,000 37,405	207,000 120,704	2,839,000 19,756	<u>      </u> 30,343	3,450,000 574,151
46.	Batesville Wastewater Treatment Plant	New Work Approp Cost	<u>      </u> 20,613	557,000 20,347	77,000 48,605	<u>      </u> 188,627	758,400 228,822
47.	Fourche Creek Sewer Main	New Work Approp Cost	<u>      </u> <u>      </u>	<u>      </u> <u>      </u>	100,000 <u>      </u>	<u>      </u> 36,809	100,000 36,809
48.	Highway 71 @ Red River	New Work Approp Cost	1,000 7,072	494,000 1,904	99,000 3,568	192,000 52,014	865,500 128,333
49.	Little Piney Creek	New Work Approp Cost	2,000 25,134	225,000 4,676	235,000 58,832	<u>      </u> 256,127	546,800 398,122
50.	Southside Water, White River	New Work Approp Cost	<u>      </u> <u>      </u>	<u>      </u> <u>      </u>	<u>      </u> <u>      </u>	30,000 <u>      </u>	30,000 <u>      </u>
51.	Highway 58, Guion, AR	New Work Approp Cost	<u>      </u> <u>      </u>	<u>      </u> <u>      </u>	<u>      </u> <u>      </u>	20,000 <u>      </u>	20,000 <u>      </u>
52.	Archey Fork Creek	New Work Approp Cost	(7,700) 2,144	<u>      </u> <u>      </u>	50,000 14,907	<u>      </u> 14,854	92,300 72,053
53.	Hester, , Adamson Grwd, AR	New Work Approp Cost	25,425 26,832	<u>      </u> 5,374	66,000 8,446	<u>      </u> 21,623	106,425 70,473

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TABLE 37-A COST AND FINANCIAL STATEMENT (cont'd)

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2008
			FY05	FY06	FY07	FY08	
54.	High School Branch	New Work Approp Cost	2,800 22,592	_____ _____	31,000 6	_____ 24,837	98,800 92,637
55.	Howell Creek	New Work Approp Cost	_____ 25,957	_____ _____	50,000 12,995	_____ 13,288	100,000 71,743
56.	Jam Up Creek	New Work Approp Cost	12,000 12,546	38,000 16,206	375,000 25,639	_____ 14,677	558,000 198,144
57.	Heber Springs AR Sulphur Creek	New Work Approp Cost	4,000 10,824	_____ 362	76,000 7,897	_____ 13,074	100,000 44,957
58.	Town Branch	New Work Approp Cost	_____ 21,703	_____ 257	50,000 41,176	_____ 17,521	100,000 99,983
59.	White River Augusta, AR	New Work Approp Cost	_____ _____ Cost	70,000	(65,000) 1,875	_____ 3,837	12,000 11,301
60.	AR River Environ. Restor.	New Work Approp Cost	_____ _____	5,000	_____ _____	_____ _____	10,000 0
61.	Bull Shoals Lake Tailwater Restoration	New Work Approp Cost	_____ 12,653	1,520,000	_____ 265	_____ 35,674	1,664,900 180,567
62.	Bull Shoals Nursery Pond	New Work Approp Cost	891,000 640,380	200,000 439,400	_____ 9,004	_____ 13,196	1,473,000 1,419,269

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TABLE 37-A COST AND FINANCIAL STATEMENT (cont'd)

See Sec. in Text	Project	Funding	<u>Last preceding 3 FYs + Current</u>				Total to Sep 30, 2007
			FY05	FY06	FY07	FY08	
63.	Millwood Lake Grassy Lake	New Work Approp Cost	71,000 27,911	99,000 26,696	75,000 45,654	350,000 69,699	600,000 174,078
64.	Norfolk Tailwater Habitat	New Work Approp Cost	_____	_____	_____	_____	10,000 9,714
65.	Rock Creek At Boyle Park	New Work Approp Cost	_____	_____	_____	_____	10,000 8,886
66.	Taylor Bay	New Work Approp Cost	_____	11,746	3,075	_____	60,000 59,743
67.	Fourche Creek at Hindman Park	New Work Approp Cost	_____	_____	_____	_____	10,000 8,514
68.	Galla Creek	New Work Approp Cost	_____	1,224	276	_____	130,000 130,000
69.	Shirey Bay Rainy WMA	New Work Approp Cost	_____	909	941	9	9,600 9,600
70.	Little Rock Slackwater Harbor, Arkansas River	New Work Approp Cost	_____	_____	_____	_____	_____

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TABLE 37-B

AUTHORIZING LEGISLATION

See Section	Date of Authorizing Act	Project and Work Authorized	Documents
1.	Nov 28, 1990	Arkansas River Levees	WRDA 1990
43.	Sep 30, 2004 as amended	ARKANSAS RIVER NAVIGATION STUDY PED & construction to deepen the navigation system.	Sec 136, PL 108-137 Authorized by Chief of Engineers, Sep. 2005.
20.	Nov 17, 1986	FOURCHE BAYOU BASIN Flood Control, Environmental Protection, & Recreation	Sec 401, PL 99-662. Report by Chief of Engineers, Sep. 4, 1981
35.	Nov 8, 2007	MAY BRANCH Flood Control	Sec 1001, WRDA 2007 Report by Chief of Engineers, Dec. 19, 2006
36.	Aug 17, 1999 as amended	NORTH LITTLE ROCK (DARK HOLLOW) Reevaluate replacement of Redwood tunnel, environmental impact, and economic benefits	Sec 576, PL 106-53.
37.	Oct 27, 1965 as amended	PINE MOUNTAIN LAKE Flood Protection on Lee Creek, Arkansas & Oklahoma	Sec 209, PL 89-298.
38.	May 11, 1962 Not an Authorized Project	SPRINGFIELD, MO Multipurpose Water Resources	Committee on Public Works Resolution.
39.	Jul 30, 1983 as amended	SOUTHWEST ARKANSAS STUDY Flood Damage Reduction, Navigation, & Ecosystem Restoration	PL 98-63.
40.	Nov 19, 2005	WHITE RIVER MINIMUM FLOWS Reallocation of storage and modification of facilities	Sec 132, FY 06 Energy and Water Development Appropriations Act

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TABLE 37-B

AUTHORIZING LEGISLATION (cont'd)

See Section	Date of Authorizing Act	Project and Work Authorized	Documents
9.	Aug 6, 2004	CLEARWATER MAJOR REHABILITATION Construction Major Rehabilitation Project (Seepage Correction)	Authorized by Chief of Engineers, Jun 2004
10.	Jul 24, 1946 as amended	ARKANSAS-WHITE CUTOFF GRR Multipurpose Project Arkansas River & Tributaries	Sec 1, PL 79-525.
12.	Jul 24, 1946	MONTGOMERY POINT LOCK & DAM Reduce high flows and deepen the navigation channel.	Rivers and Harbors Act
13.	Jul 24, 1946 as amended	OZARK-JETA TAYLOR POWERHOUSE MAJOR REHAB Navigation, Hydropower, Recreation and Betterment of Roads	PL 79-525.
45.	Oct 22, 1974 As amended	Beaver Dam Trout Production Measures Compensation for loss of fish resources	Section 105 PL 94-587

LITTLE ROCK, AR DISTRICT

TABLE 37-C

OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2007	
			Construction	Operation and Maintenance
Black River, AR & MO	Complete	1950	80,000	930,324
Current River, AR & MO	Complete	1964	17,000	132,178
Upper White River, AR <sup>1</sup>	Complete	1952	813,197	1,788,374
White River, AR (above Peach Orchard Bluff) <sup>2</sup>	Complete	1950	--	785,666
White River, Jacksonport, AR	Complete	1987	277,600	--

1.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

TABLE 37-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2007	
			Construction	Operation and Maintenance
Black River, Butler County Road 607, MO	Completed	1995	44,500	--
Black River, Poplar Bluff, MO, to Knobel, AR	Completed	1958	84,315	--
Black River Floodwall, Poplar Bluff, AR	Completed	1999	300,000	--
Black River Obstruction Removal Butler County, MO	Completed	1995	--	--
Bull Shoals Aquatic Macrophyte, AR	Completed	2005	394,600	--
Bull Shoals Nursery Pond, AR	Completed	2006 (repair work, 2008)	1,511,600	--
Butler County Drainage District 3, MO	Completed	1983	42,172	--
Carden's Bottom Drainage District No. 2, Arkansas River, AR	Completed	1951	919,955	--
Cato Springs, Fayetteville, AR	Completed	1996	426,000	--
Clarksville, AR	Completed	1962	271,717	--
Collins Creek, AR	Completed	2004	230,000	--
Conway County Drainage & Levee District No. 1 Arkansas River, AR	Completed	1959	187,440	--
Conway County Levee Districts Nos. 1, 2 & 8, Arkansas River, AR	Completed	1952	1,018,840	--
Conway County Levee Districts No. 6, Arkansas River, AR	Completed	1952	390,952	--
Crawford County Levee District, AR	Completed	1983	53,506	--

LITTLE ROCK, AR DISTRICT

TABLE 37-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS (cont'd)

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2007	
			Construction	Operation and Maintenance
Crawford County Levee District, Arkansas River, AR	Completed	1954	2,001,820	--
Crooked Creek, Harrison, AR	Completed	1995	1,245,000	--
Curia Creek Drainage District, Independence County, AR	Completed	1983	117,898	--
East Poplar Bluff & Poplar Bluff, MO	Completed	1958	304,699	--
Faulkner County Levee District No. 1, Arkansas River, AR	Completed	1941	99,511	--
Fort Smith, Arkansas River, AR	Completed	1951	1,077,546	--
From North Little Rock to Gillett, AR (above Plum Bayou)	Completed	1954	845,300	--
Fourche Creek, Little Rock, AR <sup>1</sup>	Cancelled	1973	22,890	--
Highway I-430, Little Rock, AR	Completed			--
Jackson County Levee District 2 White River, AR	Completed	1986	131,699	--
Little Massard Creek, Fort Smith, AR	Completed	1983	198,096	--
Little Red River District 1, AR	Completed	1988	28,968	--
Little Red River, White County Road Bridge, Judsonia, AR	Completed	1983	63,355	--
Little Rock Levee, AR, East End Fourche Bayou, AR	Completed	1975	1,901,899	--

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

TABLE 37-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS (cont'd)

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2008	
			Construction	Operation and Maintenance
Little Rock Slackwater/ Harbor, Little Rock, AR	Completed	2005	718,000	--
Massey-Alexander Levee White River, Jacksonport AR	Plans and Specs		376,000	
McLean Bottom Levee District No. 3, Arkansas River, AR	Completed	1950	422,549	--
Mill Creek, Fort Smith, AR	Completed	2004	9,199,000	--
Millwood Lake, AR	Completed	1966		
Near Dardanelle, Arkansas River, AR	Completed	1953	198,096	--
Newport, White River, AR	Completed	1941	314,276	--
Nimrod Fisheries Restoration, Nimrod Lake, AR	Completed	2000	200,000-	--
Nimrod Waterfowl Levee, Nimrod Lake, AR	Completed	1998	38,000	--
Morgan Point Bendway Closure Structure, Ark River	Completed	2000	2,603,515	--
North Little Rock, Arkansas River, AR	Completed	1958	512,001	--
Otter Creek & Tributaries, Shannon Hills, AR	Completed	1987	162,204	--
Petit Jean River, AR	Completed	1966	84,350	--
Petit Jean River, AR	Completed	1991	88,379	--
Pine Mountain Lake, AR	PED	1985	1,432,331	--
Point Remove Levee &	Completed	1983	86,943	--

LITTLE ROCK, AR DISTRICT

Drainage District,  
Conway County, AR

TABLE 37-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS (cont'd)

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2008		
			Construction	Operation and Maintenance	
Red River, I-30, Little River County, AR	Completed	1992	119,897	--	
Red River, Hwy. 31, Little River Co., AR	Completed	1992	144,828	--	
Rockaway Beach, MO	Completed	2004	351,000	--	
Roland Drainage District, Arkansas River, AR	Completed	1950	269,907	--	
Rolling Fork River, Sevier County, AR	Completed	1983	64,500	--	
Skaggs Ferry, Black River, AR	Completed	1941	81,023	--	
South Bank, Arkansas River (Head Fourche Island to Pennington Bayou), AR	Completed	1964	1,404,852	--	
South Bank, Arkansas River Little Rock to Pine Bluff, AR, Tucker Lakes	Completed	1961	409,115	--	
Swan Creek Bank Stab., Taney County, MO	Completed	1986		76,800	--
Van Buren, Arkansas River, AR	Completed	1952	438,222	--	
Village Creek, White River, & Mayberry Levee Districts, AR <sup>2</sup>	Completed	1972	1,567,156	--	
West of Morrilton, Arkansas River, AR	Completed	1962	1,269,959	--	
White River, at Hwy 14, ¼ mile east of Oil Trough, AR	Completed	1981	214,308	--	
White River Bank Stab., Batesville, AR	Completed	1986	101,100	--	

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

White River, Batesville Water Tower, Sec 14, AR	Completed	1999	473,000	--
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TABLE 37-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS (cont'd)

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2007	
			Construction	Operation and Maintenance
White River, Jacksonport, AR	Completed	1987	293,567	--
White River, Newport, AR	Completed	1989	93,929	--
White River, St. Paul, AR	Completed	1990	22,400	--

<sup>1</sup> Construction of project cancelled because local interest failed to provide right of way for construction and maintenance. Later addressed as Fourche Bayou Basin project.

<sup>2</sup> See H Doc 577.87<sup>th</sup> Cong for description.

<sup>3</sup> Design deficiency correction to be completed 30 December 1996.

LITTLE ROCK, AR DISTRICT

TABLE 37-F

MULTIPLE PURPOSE PROJECTS INCLUDING POWER

Project	Status	For Last Full Report see Annual Report For:	Cost to Sep 30, 2007	
			Construction	Operation and Maintenance
Beaver Lake, AR	Complete	1963	46,195,000	4,580,432
Bull Shoals Lake, AR	Complete	1952	75,260,000	5,355,510
Dardanelle L&D, AR	Complete	1969	79,000,000	5,879,080
Greers Ferry Lake, AR	Complete	1962	46,700,000	5,194,240
Norfolk Lake, AR & MO	Complete	1943	28,602,000	4,422,036
Ozark-Jeta Taylor L&D, AR	Complete	1969	86,156,000	4,929,251
Table Rock Lake, AR & MO	Complete	1958	66,100,000	6,425,618

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

TABLE 37-G

DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For:	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Crooked Creek Lake & Levee, AR	1969	--	--	--
Lone Rock, Buffalo River, AR	1959		130,653	--
Prosperity Lake, MO			864,000	--
Water Valley, Eleven Point River, AR & MO	1959		414,011	--
Bell Foley Lake, White River, AR	1975		1,432,116	--
Village Creek, Jackson And Lawrence Counties, AR	1977		510,217	--



# TULSA, OKLAHOMA, DISTRICT

The civil works boundary of the Tulsa District includes an area of approximately 160,000 square miles covering Oklahoma and parts of Kansas and Texas within the Arkansas and Red River Basins. The District's responsibilities within the Arkansas River Basin cover southern Kansas, northern Oklahoma, and the Texas Panhandle. These areas are included in the drainage basin of the Arkansas River and its tributaries above the mouth of the Poteau

River, extending to the Kansas-Colorado State line, exclusive of that portion of the South Canadian River Basin and its tributaries west of the Texas-New Mexico State line. The District's responsibilities within the Red River Basin cover the northern portion of Texas, and the southern portion of Oklahoma. These areas are embraced in the drainage basin of the Red River and its tributaries above Index Arkansas.

## IMPROVEMENTS

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**Navigation**

**1. McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM (Tulsa District Portion), OK**

**Location.** The Tulsa District portion of the McClellan-Kerr Arkansas River Navigation System provides a navigation route up the Arkansas River from the Oklahoma-Arkansas State line to the head of navigation at Catoosa, OK, near Tulsa, OK. The total length of the Tulsa District portion of the system is 137 navigation miles. Descriptions and costs for the entire navigation system can be found in Little Rock District’s entry in this Annual Report.

**Existing projects.** The McClellan-Kerr Arkansas River navigation project is a component of the multiple-purpose plan for the Arkansas River Basin, which provides for the improvement of the basin through the construction of coordinated developments for navigation, hydroelectric power, flood control, water supply, water quality control, sediment control, recreation, and fish and wildlife propagation. The McClellan-Kerr project also includes bank stabilization, channel straighten-

ing, and cutoffs as required. The navigation channel has a minimum depth of 9 feet and minimum widths of 250 feet on the Arkansas River and 150 feet on the Verdigris River. The Tulsa District portion of the navigation system consists of Arkansas River Bank Stabilization and Channel Rectification, Chouteau Lock and Dam, Newt Graham Lock and Dam, Robert S. Kerr Lock and Dam and Reservoir, Robert S. Kerr Marine Terminal, Sans Bois Navigation Channel, W.D. Mayo Lock and Dam, Webbers Falls Lock and Dam, and the pool in Oklahoma which was created by Lock and Dam 13 in Arkansas. The other parts of the multiple-purpose plan for the Arkansas River Basin are listed in Table 29-H. Public Law 108-137 authorized a 12-foot channel on the McClellan-Kerr Arkansas River Navigation System. The Corps is now positioning itself to operate and maintain the system as a 12-foot channel. Deepening the remainder of the channel to 12 feet will allow carriers to place 43% more cargo on barges, which will reduce the amount of fuel consumed and emissions released. Funds in the amount of \$7M were allocated in FY05 for this deepening project with \$1.5M used to complete the feasibility study and

Environmental Impact Statement with the other \$5.5M used on engineering, design and construction activities in Tulsa and Little Rock Districts. In conjunction with the deepening project, the Corps is preparing a Basin Wide Master Plan that will include an integrated major maintenance construction and operation maintenance prioritized list for investment opportunities. Other environmental benefits include the creation of new aquatic habitat through new dike construction and the construction of Least Tern islands through beneficial use of dredged material.

**Local cooperation.** Fully complied with.

**Terminal facilities.** Public port facilities are in operation at Muskogee and Catoosa, OK, and Fort Smith, AR. Other private commercial port facilities are complete and in operation at eight Oklahoma locations.

**Operations and results during fiscal year.** Routine operation and maintenance continued. Utilized innovated sedimentation excavation methods to remove shoaling deposited in the Navigation Channel during the 2007 Flood Event. Routine operation and maintenance dredging was performed at various locations on the system (MKARNS - to include McClellan Kerr locations) to remove shoaling from the 2007 Flood Event. Routine operation and maintenance continued.

## 2. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 38-C.

### Flood Control

## 3. ARCADIA LAKE, OK

**Location.** On the Deep Fork River, at river mile 218.3, in the metropolitan area of Oklahoma City and Edmond, OK, about 1.5 miles west of Arcadia, in Oklahoma County, OK. (See Arcadia, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** The plan of improvement provides for flood control, water supply, and recreation by construction of an earth fill dam approximately 102 feet high and 5,250 feet long

with a high-level uncontrolled spillway. Outlet works consist of a gated tower and conduit. The lake has a total capacity of 92,000 acre-feet (27,380 for conservation, 64,430 for flood control, and 190 for sedimentation reserve), and controls a 105-square-mile drainage area. Construction began in October 1980, and the project became operational for flood control in November 1986.

**Local cooperation.** The city of Edmond, Oklahoma and the Edmond Public Works Authority has not met the repayment obligations in its water storage agreement as required by the Water Supply Act of 1958 and the Consent Decree between the city of Edmond, Edmond Public Works Authority and the United States Government. PL 87-88, Section 10 which amended Section 301 (b) of the Water Supply Act of 1958, required the city of Edmond to enter into an agreement to repay 100 percent of the water storage costs before the Arcadia Lake project was constructed. Issues relating to the water supply storage were litigated in United States of America v. City of Edmond and Edmond Public Works Authority. Edmond entered into a Consent Decree with the United States Government on February 10, 1992 agreeing to repay all costs associated with present and future use water storage costs as required in the water storage agreement and Consent Decree. The agreement was developed under the Water Supply Act of 1958 that states that no payment need be made on future water supply storage until such supply is first used, but in no case shall the interest-free period exceed 10 years. The city of Edmond activated the future use storage in 1999; however, the 10-year interest free period expired on November 30, 1996. The city of Edmond disagrees with payment of accrued interest from the end of the 10-year interest free period, November 30, 1996 to the date it placed the future use storage into an active status, September 1999. The Water Resources Development Act of 2007 contained language that provides that the payments made by the city of Edmond, Oklahoma to the Secretary in October 1999 of all costs associated with present and future water storage costs at Arcadia Lake, Oklahoma, under Arcadia Lake Water

Storage Contract Number DACW56-79-C-0072 shall satisfy the obligations of the city under that contract. The city of Edmond will continue to be responsible for their pro rata share of the joint-use operation and maintenance costs plus any repair, rehabilitation or replacement costs as stipulated in the contract .

**Operations and results during fiscal year.**  
Routine operation and maintenance continued.

#### **4. ARKANSAS CITY, KS**

**Location.** Arkansas City is located approximately 4 miles north of the Kansas-Oklahoma state line at the crossroads of U.S. Highway's 77 and 166, in Cowley County, KS, immediately northwest of the confluence of the Arkansas and Walnut Rivers.

**Existing project.** The project consists of raising and extending approximately 6 miles of levee along the Arkansas and Walnut Rivers, and rechanneling approximately 2-1/2 miles of the Walnut River. Structural steel gates will be constructed at two railroad/river crossings and stop log structures will be constructed at two U.S. Highway/river crossings.

**Local cooperation.** A Project Cooperation Agreement was signed on September 4, 1996. The city of Arkansas City, the local sponsor, is currently fulfilling their requirements.

**Operations and results during fiscal year.**  
Routine operation and maintenance.

#### **5. ARKANSAS-RED RIVER BASINS CHLORIDE CONTROL PROJECTS, KS, OK, AND TX**

**Location.** On certain tributary streams of the Arkansas and Red Rivers in the western half of the Tulsa District.

**Existing project.** The project was initiated as a result of studies involving the control of water pollution caused by 15 natural salt sources identified in 1957 by the U.S. Public Health Service. The Arkansas and Red Rivers are major national and regional water resources, which are severely limited due to poor water quality primarily caused by the natural pollutant, sodium chloride. The Arkansas River is polluted by five

naturally occurring salt sources located in northwestern Oklahoma and southwestern Kansas. The Red River Basin is polluted by 10 naturally occurring salt sources located in northwestern Texas and southwestern Oklahoma. Preliminary Feasibility Studies included the construction and subsequent maintenance of an injection well and a ring dike used for data collection. Preauthorization studies completed in 1966 and 1970 recommended construction of project features at 13 of the 15 chloride emission areas. For a detailed discussion of the chloride control projects, see page 19-4 of the Annual Report for 1983. The Water Resources Development Act (WRDA) of 1986 (PL 99-662) authorized the Red River Basin and the Arkansas River Basin as separate projects with separate authority under Section 203 of the Flood Control Act of 1966. The Arkansas River portion of the project was deferred in 1982 (not economically justified).

#### **5a. AREA V, ESTELLINE SPRINGS, TX**

**Location.** Chloride Control Area V is located about 0.5 miles east of Estelline, TX, on the Prairie Dog Town Fork of the Red River.

**Existing project.** For a description of the completed improvement, see the Annual Report for 1987. Construction started in 1963, and the structure was completed in 1964.

**Local cooperation.** Descriptive text concerning local cooperation requirements is given on page 19-5 of the Annual Report for 1983.

**Operations and results during fiscal year.**  
Routine operation and maintenance continued.

#### **5b. AREA VIII, TX**

**Location.** Chloride Control Area VIII is located at river mile 74.9, of the South Fork of the Wichita River, in King County, TX, about 5 miles east of Guthrie, TX.

**Existing project.** The plan of improvement consists of a low-flow brine collection dam (the Bateman Low-Flow Dam) with attendant pumping station and pipeline facilities. The collected brine is pumped to the storage reservoir behind the Truscott Brine Dam. This brine dam, located at river mile 3.6 on Bluff Creek (a tributary of the North Fork of the Wichita River) about 3 miles northwest of Truscott, TX, contains collected brine from Area VIII and will contain brine collected in the future from Areas X and VII. Construction was initiated at Area VIII and Truscott Brine Dam in 1976. The Bateman Low-Flow Dam was completed and put into full operation in May 1987.

**Local cooperation.** Descriptive text concerning local cooperation requirements is given on page 19-5 of the Annual Report for 1983.

**Operations and results during fiscal year.** Installed additional storage capacity (surge tanks-one each at Peak Surge and Valve Bldg) to enhance control features of Area VIII pipeline. Pulled/rehabbed mainline pump at Bateman Pump station. Improved slope protection at Bateman Pump station. Routine operation and maintenance continued.

### **5c. RED RIVER BASIN CHLORIDE CONTROL, TX & OK**

**Location.** The project is located in Cottle, Hall, and King Counties, TX, and Harmon County, OK, along the Wichita and Red Rivers. Area VI is located on the Elm Fork of the Red River in Harmon County, OK; Area VII is on the North Fork of the Wichita River, Cottle County, TX; Crowell Brine Dam is on Canal Creek, a tributary of the Pease River; Area IX is on the Middle Pease River, Cottle County, TX; Area X is on the Middle Fork of the Wichita River, King County, TX; and Areas XIII-XIV are on the Jonah and Salt Creeks of Prairie Dog Town Fork of the Red River, Hall County, TX.

**Existing project.** The plan of improvement consists of one deep-well injection system, three brine storage reservoirs, four low-flow brine collection dams, two well collection facilities, six pumping plants, and 56.3 miles of pipeline. Construction was completed at Estelline Springs, Area VIII (low-flow dam, pump station and

pipeline), Area X (low-flow dam and pump station) and Truscott Lake. In 1987, Area VIII began operation, pumping brines to Truscott Lake.

**Local Cooperation.** Section 1107 of the Water Resources Development Act of 1986 authorized the project at full Federal expense. The Red River Authority of Texas has signed a 221 Agreement as the non-Federal sponsor.

**Operation and results during fiscal year.** A draft Supplement to the Final Environmental Impact Study (SFEIS) was submitted for public review in May 1995. Finalization of the SFEIS has been put on hold indefinitely and the Assistant Secretary of the Army for Civil Works directed that a reevaluation of the Wichita River Basin be performed with available funding. The Wichita Basin Reevaluation effort was completed and a Record of Decision (ROD) was executed in March 2004. Efforts are underway to complete the Wichita Basin portion of the project. Reevaluation efforts have been initiated for Area VI, Elm Fork Basin, OK.

### **6. BIRCH LAKE, OK**

**Location.** On Birch Creek at river mile 0.8, about 1.5 miles south of Barnsdall, in Osage County, OK. (See Barnsdall, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see the Annual Report for 1979. Construction began in November 1973, and the project was placed in useful operation in March 1977.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### **7. BOWIE COUNTY LEVEE, TX**

**Location.** Bowie County is located in northeastern Texas, along the Red River, near Texarkana, Texas. The Bowie County Levee is situated on the south side of the Red

River and extends almost 9 miles from the Kansas City Southern Railroad embankment westward to an area near Wamba, Texas. (See Wamba, TX, Geological Survey map, scale 1:24,000.)

**Existing project.** The project, as authorized under the Flood Control Act of 1946, provides for the rehabilitation of the existing Bowie County, Texas, Levee. The levee was constructed in 1913 by the Bowie County Levee District No. 1. The Bowie County Levee is part of a levee system, which includes the Miller County Levee that extends downstream approximately 35 miles. The existing Bowie County Levee does not meet current design standards and has not received proper maintenance. Studies completed in 1994 indicated that no economically feasible flood control alternative was identified and Federal interest in pursuing detailed design and project construction was not warranted. Legislation passed in FY 01 re-authorized the project to include rehabilitation of approximately 6 miles of the existing levee and construction of approximately 4 miles of new levee. This project will be constructed at an estimated cost of \$15,500,000.

**Local cooperation.** The Government has determined that this project will be cost-shared in accordance with the Flood Control Act of 1936.

**Operations and results during fiscal year.** Plans and specifications were completed. Coordination on the revised wildlife habitat mitigation plan was undertaken as part of the drafting of a Environmental Assessment. A new Regional Variance for vegetation was drafted and accepted.

## 8. CANDY LAKE, OK

**Location.** On Candy Creek, a tributary of Bird Creek in the Verdigris River Basin, at river mile 1.9. The damsite is about 1.5 miles northeast of Avant in Osage County, OK. (See Avant, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** The plan of improvement provides for an earthfill dam about 4,200 feet long, including an uncontrolled concrete spillway, with a maximum height of 103 feet

above the streambed. Outlet works will consist of a gated intake structure, a 10x11.25-foot conduit, and a stilling basin. An 18x24-inch low-flow pipe and an 18-inch water supply pipe will be provided. The lake will have a total capacity of 75,420 acre-feet (44,160 for conservation and sediment reserve and 31,260 for flood control). The drainage area above the damsite is 43 square miles. Candy Lake will be operated as a unit of a seven-lake system for flood control in the Verdigris River Basin in Oklahoma. Funds were not provided to complete construction and in 1996 deauthorization of Candy Lake was published in the Federal Register.

**Local cooperation.** Section 2 of the Flood Control Act of 1938, the Water Supply Act of 1958, and Section 221 of the Flood Control Act of 1970, apply.

**Operations and results during fiscal year.** WRDA 99 mandated selling deauthorized project lands back to the former owners or their descendants. With funds of \$360,000 provided in FY 03, the sale of land will be completed. Transfers have been completed on 20 of the 27 tracts have been sent to ASA(CW) for signature. The remaining tracts were investigated for presence of CR. .

## 9. CANTON LAKE, OK

**Location.** On the North Canadian River at river mile 394, about 2 miles north of Canton in Blaine County, OK. (See Canton, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 590 of the Annual Report for 1969. Construction began in December 1940, and the project was placed in useful operation in April 1948. A Dam Safety Report was submitted to HQUSACE in March 2001. The purpose of the report was to evaluate and select an alternative to address the inability of the project to safely pass the Probable Maximum Flood (PMF). In 2005, Canton was included in a HQ's Screening Portfolio Risk Assessment on the 10% highest risk dams within the Corps.

**Local cooperation.** The Canton Lake Committee was established to improve coordination and communication between the multi-purpose users of Canton Lake. The committee coordinates Oklahoma City's water supply release schedule with interested parties to minimize impacts.

**Operations and results during fiscal year.** Continued Dam Safety construction activities. FY08 activities include awarding the \$1,500,000 road relocation contract, project office renovation contract for \$690,000 and the Quonset hut removal contract, as well as working on the design and plans and specifications for the channel excavation contract, and the project office remodel contract. Additional activities include design activities for the FY08 road relocation project. Routine operation and maintenance continued.

#### 10. COPAN LAKE, OK

**Location.** On the Little Caney River, a tributary of the Caney River, in the Verdigris River Basin, at river mile 7.4, about 2 miles west of Copan in Washington County, OK. (See Copan, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-7 of the Annual Report for 1983. Copan Lake is operated as a unit of a seven-lake system for flood control in the Verdigris River Basin in Oklahoma. Construction began in November 1972, and the project was placed in useful operation in April 1983.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** The reallocation study to identify water supply for the city of Bartlesville was approved by HQ in September 2007. Bartlesville postponed signing the water storage agreements associated with the reallocation until a Planning Assistance to States study to identify alternative sources of water supply was completed. On December 31, 2007, the study was completed and a draft was forwarded to Bartlesville. The city will make a decision on the water supply after carefully considering all of its options. A decision by the city is expected in the spring of 2008. The draft reallocation report and water supply contracts

were submitted to HQ in April 2006. Approval by HQ could take up to a year. Routine operation and maintenance continued.

#### 11. COUNCIL GROVE LAKE, KS

**Location.** On the Grand (Neosho) River at river mile 450, about 1.5 miles northwest of Council Grove, in Morris County, KS. (See Council Grove Lake, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 519 of the Annual Report for 1969. Construction began in June 1959, and the project was placed in useful operation in July 1964.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** The Kansas-Oklahoma Conference of the United Church of Christ requested a land exchange involving property they currently lease. A Congressional Add in 2004 provided \$80,000 to the Corps for administrative costs associated with the land exchange. All preliminary real estate actions for the exchange were completed in 2004. The exchange of property was delayed in the late 2004 due to the discovery of an archaeological National Historic Preservation Act of 1966, the site must be investigated to determine if it is eligible for listing on the National Register. Routine operation and maintenance continued.

#### 12. EL DORADO LAKE, KS

**Location.** On the Walnut River, a tributary of the Arkansas River, at river mile 100.2, about 4 miles northeast of El Dorado in Butler County, KS. (See El Dorado, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-7 of the Annual Report for 1983. El Dorado Lake was authorized as a unit of a three-lake system for flood control in the Walnut River Basin. Construction began in October 1973, and impoundment began in June 1981. Project is complete.

**Local cooperation.** By payment of \$8.17 million on May 18, 1997, the Kansas Department of Wildlife and Parks has fully complied with the Recreation Local Cooperation Agreement.

**Operations and results during fiscal year.** WRDA 99 mandated the transfer without consideration of 51.98 acres of land to the state of Kansas for use as Honor Camps. The state of Kansas must pay for the administrative costs of the land transfers. A letter was sent to the state of Kansas informing the state of the administrative costs. The state of Kansas is not interested in paying the administrative costs and is not pursuing the land transfer. Routine operation and maintenance continued.

### 13. ELK CITY LAKE, KS

**Location.** On the Elk River at river mile 8.7, about 7 miles northwest of Independence, in Montgomery County, KS. (See Table Mound, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 593 of the Annual Report for 1969. Construction began in February 1962, and the project was placed in useful operation in March 1966.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 14. FALL RIVER LAKE, KS

**Location.** On the Fall River at river mile 54.2, about 4 miles northwest of Fall River, in Greenwood County, KS. (See Severy, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 953 of the Annual Report for 1969. Construction began in May 1946, and the project was placed in full operation in April 1949.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 15. FORT SUPPLY LAKE, OK

**Location.** On Wolf Creek, a tributary of the North Canadian River, at river mile 5.5, about 12 miles northwest of Woodward, in Woodward County, OK. (See Fort Supply, OK, Geological Survey Map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 594 of the Annual Report for 1969. Construction began in October 1938, and the project was placed in full flood control operation in May 1942.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 16. FRY CREEKS, BIXBY, OK

**Location.** In the northern part of the city of Bixby, in Tulsa County, OK.

**Existing project.** The project consists of enlarging both Fry Creeks, diverting Fry Creek 1 into Fry Creek 2 and then diverting the combined creeks into the Arkansas River. The total length of the modified channels would total 4.3 miles, with bottom widths of 30 to 225 feet and depths of 6 to 12 feet. Three bridges were replaced and 20 acres of land acquired for mitigation of fish and wildlife losses. Estimated total cost of the project is \$14,513,000.

**Local Cooperation.** The Project Cooperation Agreement was signed with the city of Bixby, OK, in January 1995.

**Operations and results during fiscal year.** Construction efforts were completed in FY00. Routine operation and maintenance continued.

### 17. GREAT BEND, KS

**Location.** In Barton County, KS, on the north bank of the Arkansas River about 4.5 miles above its confluence with Walnut Creek. (See Great Bend, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** The plan, authorized by the Flood Control Act of 1965, provides for

6.2 miles of leveed channel to divert Walnut Creek flood flow around Great Bend into the Arkansas River upstream from the city; a 1.5-mile leveed channel to divert Little Walnut Creek flood flow into the Walnut Creek diversion levees along the Arkansas River; a tie-back levee 4.3 miles long on the Arkansas River left bank upstream from the junction of the Walnut diversion channel; and appurtenant facilities.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Financial closeout on this project was completed during FY 97. This project has been fully operational since June 1994. Estimated total cost of the project is \$36,350,000 (October 1994 price level base). The project sustained some damages during the flooding that occurred in May and June of 2007. The flood damages are scheduled to be repaired in FY 08 under the Corps Flood Control and Coastal Emergency (FCCE) Program (RIP) at 100% Federal funding.

## 18. GREAT SALT PLAINS LAKE, OK

**Location.** On the Salt Fork of the Arkansas River at river mile 103.3, about 12 miles east of Cherokee, in Alfalfa County, OK. (See Jet, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 594 of the Annual Report for 1969. Construction of the project began in September 1938, and was completed in July 1941. The project was placed in full flood control operation in May 1941.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

## 19. HALSTEAD, KS

**Location.** In the city of Halstead, in Harvey County, KS, along the Arkansas River. (See Halstead, KS, Geological Survey Map, scale 1:24,000.)

**Existing project.** Provides for channel modification and construction of about 4 miles of levee in combination with straightening and

widening approximately 3.6 miles of the Little Arkansas River channel to a 50-foot-bottom width in the vicinity of Halstead. Channel modification will be restricted to one side of the channel except in transition areas. Tree planting and re-vegetation will be done and ten pool riffle areas will be established to minimize environmental impacts.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operations and maintenance continued.

## 20. HEYBURN LAKE AND POLECAT CREEK, OK

**Location.** On Polecat Creek, a minor tributary of the Arkansas River, at river mile 48.6, about 11 miles west of Sapulpa, in Creek County, OK. (See Lake Heyburn, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 599 of the Annual Report for 1969. Construction started in March 1948, and the project was placed in useful operation in October 1950. Channel improvements below the lake were completed in September 1952.

**Local cooperation.** The channel improvement project below the lake was never maintained by the sponsor, Joint Drainage District No. 1, Tulsa and Creek Counties, OK. For this reason, the channel returned to its pre-project condition and does not provide flood protection for the affected area. The Corps of Engineers discontinued maintenance inspections of the channel project in 1982, due to the condition of the project and lack of cooperation on the part of the sponsor. Stakeholders have identified a need for a reallocation study.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

## 21. HUGO LAKE, OK

**Location.** On the Kiamichi River at river mile 17.6, about 7 miles east of Hugo, in Choctaw County, OK. (See Hugo Dam, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-12 of the Annual Report for 1977. Construction began in October 1967, and the project was placed in useful operation in January 1974.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** WRDA 99 mandated the sale of approximately 250 acres of project lands at Hugo Lake to the Choctaw County Industrial Authority at fair market value. Tulsa District completed NEPA documentation, surveys and other activities needed for the land transfer. The Deed of Transfer was submitted and signed by the Secretary of the Army execution. Routine operation and maintenance continued.

## 22. HULAH LAKE, OK

**Location.** On the Caney River at river mile 96.2, about 15 miles northwest of Bartlesville, near Hulah, in Osage County, OK. (See Bowring, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 595 of the Annual Report for 1969. Construction began in May 1946, and was completed in June 1950. The project was placed in full flood control operation in September 1951.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** The reallocation study to identify water supply for the city of Bartlesville. The draft reallocation report and water storage contracts were forwarded to HQ for review in April 2006 and were approved in September 2007. Bartlesville postponed signing the water storage agreements associated with the reallocation until a Planning Assistance to States study to identify alternative sources of water supply was completed. The study was completed and a draft was forwarded to Bartlesville on December 31, 2007. The city will make a decision on the

water supply after carefully considering all of its options. A decision by the city is expected in the spring of 2008. The review and approval process could take up to one year. Routine operation and maintenance continued.

## 23. JOHN REDMOND DAM AND RESERVOIR, KS

**Location.** The dam is located on the Grand (Neosho) River at river mile 343.7, about 2 miles northwest of Burlington, in Coffey County, KS. (See John Redmond Dam, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 581 of the Annual Report for 1970. Construction was initiated in July 1959, and was completed in December 1965. The project was placed in flood control operation in July 1964.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** A reallocation study and associated environmental impacts have been conducted at John Redmond Reservoir to determine impacts of raising the top of the conservation pool elevation from 1039.9 feet NGVD to elevation 1041.0 feet NGVD. This action is being taken to make an equitable redistribution of the remaining storage due to uneven sediment deposition. Review comments have been received from HQUSACE. The local sponsor requested the action and is prepared to complete mitigation and replacement requirements due to this action. Response to comments should be completed by early spring. The District is in the process of working with the local sponsor to set up an escrow agreement to pay for the associated costs. Routine operation and maintenance continued.

## 24. KAW LAKE, OK

**Location.** On the Arkansas River at river mile 653.7, about 8 miles east of Ponca City, in Kay County, OK. (See Charley Creek West, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-13 of the Annual Report for 1977. Construction began in June 1966, and the project was placed in operation in May 1976.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

## **25. LAKE KEMP, TX**

**Location.** On the Wichita River at river mile 126.7, about 40 miles southwest of Wichita Falls, TX. (See Northeast Lake Kemp, TX, Geological Survey Map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-14 of the Annual Report for 1977. Construction began in May 1970, and the project was placed in useful operation in October 1972.

**Local cooperation.** Fully complied with. Stakeholders have identified a need for a reallocation study.

**Operations and results during fiscal year.** Customer funds have been provided and initial phases of the reallocation study are ongoing. Routine operation and maintenance continued.

## **26. LAKE WICHITA, HOLLIDAY CREEK, TX**

**Location.** The project is located in Wichita and Archer Counties, TX. The Lake Wichita dam and the Holliday Creek channel are located in the city of Wichita Falls, TX. (See Wichita Falls, TX, Geological Survey Map, scale 1:24,000.)

**Existing project.** The existing Lake Wichita dam was replaced with an earthen dam approximately 16,000 feet long with a concrete spillway, an auxiliary spillway, and low-flow outlet works. Channel improvements along Holliday Creek from the new spillway to the Wichita River, a distance of 9.3 miles, were also constructed.

**Local cooperation.** Fully compiled with.

**Operations and results during fiscal year.** The project was completed October 1, 1996, and is fully operational. Estimated total project cost is \$48,789,000 (October 1995 price level base).

## **27. MARION RESERVOIR, KS**

**Location.** On the Cottonwood River at river mile 126.7, about 3 miles northwest of Marion, in Marion County, KS. (See Pilson, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 597 of the Annual Report for 1969. Construction began in June 1964, and the project was placed in flood control operation in February 1968.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

## **28. MCGRATH CREEK, WICHITA FALLS, TX**

**Location.** The project is located in the northern central portion of Texas, in the city of Wichita Falls.

**Existing project.** McGrath Creek is approximately 3,900 feet long and connects Sikes Lake and the recently constructed Holliday Creek project. The project involves realigning and concrete lining the McGrath Creek Channel, and constructing a new spillway to pass flows through Sikes Lake.

**Local cooperation.** The city of Wichita Falls, TX, is the non-Federal sponsor. The Project Cooperation Agreement was executed in November 1994.

**Operations and results during fiscal year.** Project construction is completed. Estimated total project cost is \$14,500,000.

## **29. MINGO CREEK, OK**

**Location.** On the right-bank tributary of Bird Creek in the city of Tulsa, in Tulsa

County, OK. (See Tulsa, OK, Geological Survey Map, scale 1:24,000.)

**Existing project.** The project consists of 23 detention sites to capture peak flows and hold them temporarily until downstream flows subside. There are approximately 9.4 miles of channelization in selected locations on the tributaries and main stem of Mingo Creek. Estimated total project cost is \$123,960,725.

**Local cooperation.** The local sponsor is the city of Tulsa, OK, and has been fully complied with. The city has constructed 4.75 miles of channel and placed two excavated detention facilities into flood control operation prior to initiation of Federal construction in September 1988. Reimbursement for work completed by the city of Tulsa is \$19,000,000.

**Operations and results during fiscal year.** Construction efforts were complete in FY 01. Routine operation and maintenance continued.

### 30. OOLOGAH LAKE, OK

**Location.** On the Verdigris River at river mile 90.2, about 2 miles southeast of Oologah, in Rogers County, OK. (See Oologah, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-15 of the Annual Report for 1972. Construction began in July 1950, but the project was placed in standby status in October 1951. Construction resumed in December 1955, and was completed in May 1963 for initial development. Construction for ultimate (second stage) development was initiated in July 1967, and was completed in 1974.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 31. OPTIMA LAKE, OK

**Location.** On the North Canadian River at river mile 623.2, about 4.5 miles northeast of Hardesty, in Texas County, OK. (See Optima Dam, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the existing improvement, see page 19-16 of the Annual Report for 1979. Construction began in March 1966, and impoundment began in October 1978. Construction was completed in 1981.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 32. PARKER LAKE, OK

**Location.** On Muddy Boggy Creek, a tributary of the Red River, about 23 miles east of Ada, in Coal County, OK. (See Parker, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** Parker Lake, if constructed, would be a multipurpose element in a plan of improvement for the Upper Muddy Boggy Creek Basin, OK. The project would consist of an earth fill dam about 2,200 feet long, a gated outlet works for flood control and water supply, and a 100-foot-wide spillway. The lake created would have a total storage capacity of 220,240 acre-feet and would yield 42 million gallons per day for municipal and industrial water supply. The project was authorized by WRDA of 1986, however the project has not been funded for construction. Federal accomplishment of single purpose municipal and industrial water supply projects is not a current Administration priorities.

**Local cooperation.** The Oklahoma Water Resources Board, the sponsor, has agreed to cost share in the flood control portion of the project and the water supply provided enough interested users for the water supply can be identified.

**Operation and results during fiscal year.** Estimated total project cost is \$71,400,000 (October 1992 price level base).

### 33. PAT MAYSE LAKE, TX

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**Location.** On Sanders Creek, a tributary of the Red River, at river mile 4.6, about 12 miles north of Paris, in Lamar County, TX. (See Grant, TX, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 584 of the Annual Report for 1970. Construction began in March 1965, and the project was placed in full flood control operation in September 1967.

**Local cooperation.** The Water Resources Development Act of 2007 directed the Secretary to accept from the local sponsor, the city of Paris, Texas \$3,461,432 as payment in full of monies owed to the United States for water supply storage space in Pat Mayse Lake, including accrued interest. The local sponsor will still be responsible for its pro rata share of the joint-use operation and maintenance costs and any repair, rehabilitation, and replacement costs.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 34. PEARSON-SKUBITZ BIG HILL LAKE, KS

**Location.** On Big Hill Creek at river mile 33.3, about 4.5 miles east of Cherryvale, KS. (See Dennis, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-11 of the Annual Report for 1983. Construction began in April 1974, and impoundment began in March 1981.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 35. PINE CREEK LAKE, OK

**Location.** On the Little River at river mile 145.3, about 5 miles northwest of Wright City, in McCurtain County, OK. (See Wright City, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 584 of the Annual Report for 1970. Construction began in February 1963, and the project was placed in useful operation in June 1969.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 36. SARDIS LAKE, OK

**Location.** On Jackfork Creek, a tributary of the Kiamichi River, at river mile 2.8, about 2.5 miles north of Clayton, in Pushmataha County, OK. (See Yanush, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-11 of the Annual Report for 1983. Sardis Lake is operated as a unit of a two-lake system for flood control in the Kiamichi River Basin. (The other lake in the system is Hugo Lake). Construction began in August 1975, and the project became operational in January 1983.

**Local cooperation.** The Oklahoma Water Resources Board (OWRB) failed to make satisfactory arrangements to pay for the Sardis Lake water supply storage as agreed to in a letter exchange of September 1997. On July 2, 1998, the state of Oklahoma was declared in default under the contract. On July 14, 1998, the Department of Justice (DOJ) filed suit in the Northern District Court of Oklahoma. The litigation has not moved forward because of a taxpayer "qui tam" (Fent case) suit filed in January 1998 in the Western District Court of Oklahoma against the OWRB and the United States. The suit between OWRB and the United States was postponed until a decision was reached on the taxpayer "qui tam" suit. On March 4, 1999, the Western District Court dismissed OWRB and the United States from the suit. The Fent case was appealed to the Tenth Circuit U.S. Court of Appeals. The dismissal was upheld and the case was remanded. The Fent case was appealed to the Oklahoma Supreme Court (OSC) and the OSC accepted the case for review. The qui

tam lawsuit was settled when the OSC ruled that the water storage contract between the state of Oklahoma and the United States Government is a legally binding contract. Since that decision, the Federal government has re-opened its lawsuit and it is now in litigation in the U.S. District Court for the Northern District of Oklahoma. The United States filed a motion for summary judgment on December 14, 2003. The state of Oklahoma filed its response on January 23, 2004. The United States filed their Reply on February 20, 2004. On November 9, 2004, the United States filed a Memorandum of Law pursuant to the Order of the Court dated October 22, 2004. The Memorandum addressed issues related to the validity of the Sardis Lake contract No. DACW56-74-C-0134 under state law and the preemption of state law by Federal law. The state of Oklahoma was also directed to file a Memorandum of Law on these issues. On May 19, 2005, the Court entered an order granting the Summary Judgment Motion of the United States. The state of Oklahoma appealed to the U.S. Court of Appeals for the Tenth Circuit. Briefs have been filed by the state of Oklahoma and the United States. The U.S. Court of Appeals for the Tenth Circuit reviewed the briefs and issued an Order upholding the lower court's ruling. The state of Oklahoma filed a Petition for a Writ of Certiorari with the Supreme Court. The U.S. Supreme Court denied the Petition on January 8, 2007. The contract was declared to be valid and binding and may now be enforced by the U.S. Tulsa District is working with DOJ to collect the monies owed to the U.S. Work is ongoing.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 37. SKIATOOK LAKE, OK

**Location.** On Hominy Creek, a tributary of Bird Creek in the Verdigris River Basin, at river mile 14.3, about 5 miles west of Skiatook, in Osage County, OK. (See Avant S.E., OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see Page 19-8 of the Annual Report for 1987. Construction began in January 1974, impoundment began in October 1984, and the project became operational in November 1984.

**Local cooperation.** Fully complied with. Stakeholders have identified a need for a reallocation study.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 38. TORONTO LAKE, KS

**Location.** On the Verdigris River at river mile 271.5, about 4 miles southeast of Toronto, in Woodson County, KS. (See Fredonia, KS, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 600 of the Annual Report for 1969. Construction began in November 1954, and the project was placed in full operation in March 1960.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** WRDA 99 mandated the transfer, without consideration, of 31.98 acres of project lands to the state of Kansas for use as an Honor Camp. The state of Kansas must pay for the administration costs of the land transfer. A letter was sent to the state of Kansas informing the state of the administrative costs, however, the state is not interested in paying the costs and is not pursuing the land transfer. Routine operation and maintenance continued.

### 39. TULSA AND WEST TULSA LEVEES, OK

**Location.** On the banks of the Arkansas River near Tulsa, OK. On the left bank, the levee extends from river mile 531.0 near Sand Springs, OK, downstream to river mile 521.4 at Tulsa. On the right bank, the levee extends from near river mile 526.7 downstream to river mile 521.3 and is adjacent to the major portion of the business and residential districts in West Tulsa, Tulsa County, OK.

**Existing project.** The Tulsa and West Tulsa Levees were completed by the Tulsa District in 1945. The project was turned over to the

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Tulsa County Drainage District No. 12 for operations and maintenance. The project consists of 3 levees with a total length of about 20 miles and an average height of 10 feet. The levees provide protection from flooding to property valued at approximately \$1 billion dollars. Rehabilitation of the drainage pipes thru the existing levee were completed in FY 02.

**Local cooperation.** Fully complied with..

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 40. WAURIKA LAKE, OK

**Location.** On Beaver Creek, a tributary of the Red River, at river mile 27.0, about 6 miles northwest of Waurika, in Jefferson County, OK. (See Hastings, OK-TX, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-12 of the Annual Report for 1983. Waurika Lake is operated as a unit of a coordinated lake system for flood control in the Red River Basin. Construction began in July 1971, and impoundment began in August 1977.

**Local cooperation.** Fully complied with. The Water Resources Development Act of 2007 included language that set the remaining obligation of the Waurika Project Master Conservancy District payable to the United States in the amounts, rates of interest, and payment schedules that existed on June 3, 1986 and stipulated they could not be adjusted, altered, or changed without a specific, separate, and written agreement between both parties.

**Operations and results during fiscal year.** Routine operations and maintenance continued.

### 41. WINFIELD, KS

**Location.** Winfield is located approximately 15 miles north of the Kansas-Oklahoma state line on U.S. Highway 77 in Cowley County, KS. The city is located immediately southeast of the confluence of the Walnut River and Timber Creek.

**Existing project.** The project consists of raising and extending approximately 4 miles of levee along Timber Creek and the Walnut River. Road ramps will be constructed at two locations where city streets cross the Walnut River.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance performed.

### 42. WISTER LAKE, OK

**Location.** On the Poteau River at river mile 60.9, about 2 miles south of Wister, in LeFlore County, OK. (See Wister, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 601 of the Annual Report for 1969. Construction began in April 1946, and was completed in May 1949. The project was placed in full flood control operation in October 1949.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued

### 43. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 38-E.

### 44. INSPECTION OF COMPLETED LOCAL FLOOD PROTECTION PROJECTS

Inspections of completed, Federally constructed local flood protection projects which are owned, operated, and maintained by local interests are made to determine the extent of compliance with approved regulations for operations and maintenance. The inspections assist the Corps of Engineers in determining if the project provides the flood protection for which it was constructed. See Table 38-I for a list of

projects inspected in FY 08. Fiscal year cost was \$432,643.

**45. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS**

The Tulsa District Corps of Engineers is responsible for flood control operations at 12 non-Corps projects. These include nine Bureau of Reclamation lakes, two Grand River Dam Authority lakes, and one city-county owned lake. All of these projects were constructed wholly or in part with Federal funds. Routine flood control releases were required at several of the projects. Fiscal year costs for scheduling flood control reservoir operations totaled \$957,021.

**46. EMERGENCY RESPONSE ACTIVITIES - FLOOD CONTROL AND COASTAL EMERGENCIES**

**a. Disasters.** The Emergency Operations Center (EOC) was activated for what proved to be a record setting number of times for the District, a total of 4 times during FY 07. The first of these was for the January Ice Storm in support of 2 FEMA Mission Assignments issued under 3272-EM-OK. The 2nd EOC operational period was to provide support for what eventually was a total of 8 FEMA Mission Assignments issued for execution in support of the Greensburg, KS Tornado and Flooding in KS under 1699-DR-KS. Those EOC operations were then extended for a 3<sup>rd</sup> time in mid-May due to PL-84-99 supported flood fighting in the Tulsa District southern KS area. The 4th EOC Operational period was from late June thru late August for PL 84-99 supported flood fighting across the entire District AOR and this operational period was extended to support another 8 FEMA Mission Assignments issued for Post-Flooding support under 1711-DR-KS.

These extended EOC operational periods continued at the end of the FY primarily in support of the on going FEMA mission assignments as well as to support the initiation of 6 separate PL 84-99 Levee Rehabilitation projects from the May and July flooding which will continue into FY 08.

**b. Operational Program Areas.** Fiscal year cost for catastrophic disaster preparedness was

\$12,276; \$0 for anti-terrorism force protection; \$328,160 for disaster preparedness; \$124,287 for the emergency operations; and \$6,347,277 for the rehabilitation and inspection.

**c. Emergency Work in Support of Other Federal Agencies.** The Tulsa District Power PRT was called on for deployment in FY 07 for the January Ice Storm. In addition members of the PRT also participated in the USACE National Emergency Power Exercise conducted at Ft. Belvoir in May of 2007. Emergency Management Unit personnel also deployed in support of ESF #3 missions for the North Atlantic Division Nor'Easter Storm in April, the Greensburg 1699-DR-KS disaster in May, and supported virtually ongoing PL 84-99 Flood Damage Reduction Project Rehabilitation work in Sacramento District (CESPK). Approximately 30 other District employees deployed in support of various FEMA mission assignments received by the Tulsa District during the FY and another 20 in support of flood fight activities under PL 84-99.

**47. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION**

See Table 38-J for FY 08 expenditures for Small Flood Control Projects Not Specifically Authorized by Congress (Section 205); Emergency Streambank and Shoreline Projects (Section 14).

**Multiple-Purpose Projects Including Power**

**48. BROKEN BOW LAKE, OK**

**Location.** On the Mountain Fork River at river mile 20.3, about 9 miles northeast of Broken Bow, in McCurtain County, OK. (See Broken Bow, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvements, see page 29-17 of the Annual Report for 1971. Construction began in November 1961, and the project was placed in useful operation in October 1969. Power units 1 and 2 were placed in

## TULSA, OK, DISTRICT

operation in January and June 1970, respectively.

**Local cooperation.** The development of a trout fishery in the Mountain Fork River below Broken Bow Lake was implemented in 1989, in cooperation with the Corps of Engineers (Corps), Southwestern Power Administration, Oklahoma Department of Wildlife Conservation, and OWRB. The operation of the trout stream has been cooperatively managed by a Memorandum of Understanding. WRDA of 1996, Sec. 338, modified the project to provide for the reallocation of sufficient quantity of water supply storage space to support the Mountain Fork trout fishery at no expense to the state of Oklahoma. WRDA 1999 allowed for a 3-foot seasonal pool to offset losses to hydropower caused by the trout fishery. The study to determine the impacts of these actions identified 16 cultural resource sites that would be adversely impacted due to the 3-foot seasonal pool raise. The State Historic Preservation Office (SHPO) wanted every site mitigated, which would have cost about \$2.4M. After a trip to the project in October 2005 by Tulsa District and SHPO personnel, SHPO identified 8 sites it wants mitigated. Also, a Memorandum of Agreement will have to be developed between the two agencies outlining the resolution of the adverse effects on the sites which are eligible for listing in the National Register for Historic Places. The reallocation study cannot be completed until all cultural resource issues are worked out. Work is on-going.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 49. EUFAULA LAKE, OK

**Location.** On the Canadian River at river mile 27.0, about 12 miles east of Eufaula, in McIntosh County, OK. (See Porum, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 588 of the Annual Report for 1970. Construction began in December 1956, and the project was placed in full flood control operation in February 1964. There are numerous areas along the shoreline where private property is subject to flooding and erosion as a result of the construction and

operation. Erosion problems in numerous subdivisions bordering the lake were studied in 1989 and 1993. At this time, it is estimated that there are approximately 22 miles of shoreline in need of attention. Estimated costs for repair is approximately \$15 million.

**Local cooperation.** Fully complied with. The Water Resources Development Act of 2007 recognizes recreation as a project purpose and directs the Secretary to establish an advisory committee for Lake Eufaula. The purpose of the committee is advisory only to provide information and recommendations regarding operations. The act also authorized a reallocation study subject to appropriation of funds to develop a recommendation concerning the best value while minimizing ecological damages for current and future use of storage capacity for the authorized project purposes and for the District to take into consideration recommendations for a pool management plan. Work to accomplish the provisions of this act will be ongoing.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

### 50. FORT GIBSON LAKE, OK

**Location.** On the Grand (Neosho) River at river mile 7.7, about 5 miles north of Fort Gibson, in Muskogee County, OK. (See Fort Gibson Dam, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 604 of the Annual Report for 1969. Construction began in March 1942, but was held in abeyance during World War II. Construction resumed in May 1946, and was completed in June 1950. The fourth generator was installed and the project placed in full operation in September 1953.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

## 51. KEYSTONE LAKE, OK

**Location.** On the Arkansas River at river mile 538.8, near Sand Springs, OK, and about 15 miles west of Tulsa, OK. (See Keystone Dam, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 589 of the Annual Report for 1970. Construction began in January 1957, and the project was placed in flood control operation in September 1964.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** A dam safety study was initiated in response to an inspection which revealed a seep in both abutments. The study will also address the potential need to add a cut-off trench at the downstream side of the embankment. During the late June and early July flood event, project personnel were on 24-hour structure surveillance for approximately three weeks. Recovery from damage caused by the pool level going above the top of the flood pool continued thru the end of the FY and into FY 09. Routine operation and maintenance continued.

## 52. LAKE TEXOMA (DENISON DAM), OK AND TX

**Location.** On the Red River at river mile 725.9, about 5 miles northwest of Denison, TX. (See Denison Dam, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 603 of the Annual Report for 1969. Lake Texoma is operated as a unit of a coordinated lake system for flood control in the Red River Basin. Construction started in August 1939, and was completed in February 1944. Commercial power generation was started in March 1945. Authorized work is complete except for installation of the third, fourth, and fifth power units.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** WRDA 99 mandated the sale, at fair market value, of approximately 1,580 acres of project

lands to the state of Oklahoma. The administrative costs of the land transfer must be paid by the state of Oklahoma. An estimate of administrative costs, \$187,000, was provided by Oklahoma Commissioners. Transfer of  $\pm$  525 acres completed. A study to reallocate an additional 105,000 acre-feet of storage from hydropower to water supply is underway and a draft reallocation report and Final Environmental Assessment was forwarded to HQUSACE for review in the May 2007. Review comments were received around the 1st of December 2007. Comments will be addressed and an Issue Resolution Conference (IRC) will be required to work out issues with stakeholders. Work is ongoing. Routine operation and maintenance continued.

## 53. ROBERT S. KERR LOCK AND DAM AND RESERVOIR, OK

**Location.** On the Arkansas River at navigation mile 336.2, about 8 miles south of Sallisaw, in LeFlore County, OK. (See Robert S. Kerr, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-21 of the Annual Report for 1972. The Robert S. Kerr Lock and Dam and Reservoir is a unit of the McClellan-Kerr Arkansas River Navigation System. Construction began in April 1964, and closure was completed in October 1970. The lock and dam became operational for navigation in December 1970. Generating units 1, 2, 3, and 4 were placed in operation in October, July, September, and November 1971, respectively.

**Local cooperation.** See section 1 of this report.

**Terminal facilities.** Five sites have been developed for handling coal, grain, construction aggregates, and miscellaneous cargo. The facilities are considered adequate for present traffic.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

#### **54. TENKILLER FERRY LAKE, OK**

**Location.** On the Illinois River at river mile 12.8, 7 miles northeast of Gore, in Sequoyah County, OK. (See Gore, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 606 of the Annual Report for 1969. Construction began in June 1947, and was completed in July 1953.

**Local cooperation.** Fully complied with. Stakeholders have identified a need for a reallocation study.

**Operations and results during fiscal year.** A project to build an auxiliary spillway and to modify the existing spillway was authorized February 22, 1994, by the Acting Assistant Secretary of the Army, under the Dam Safety Assurance Program. Phase I was awarded in FY 00. Phase II was awarded in FY 04 and completed in FY 07. Fiscal closeout was initiated in late FY 08 and is scheduled for completion during FY 09. Routine operation and maintenance continued.

#### **55. WEBBERS FALLS LOCK AND DAM, OK**

**Location.** On the Arkansas River at navigation mile 366.6, about 5 miles northwest of Webbers Falls, in Muskogee County, OK. (See Webbers Falls, OK, Geological Survey map, scale 1:24,000.)

**Existing project.** For a description of the completed improvement, see page 19-23 of the Annual Report for 1977. The Webbers Falls Lock and Dam is a unit of the McClellan-Kerr Arkansas River Navigation System. In January 1965, construction began and the project was placed in useful operation in November 1970. The lock and dam became operational for navigation in December 1970. Generating units 1, 2, and 3 were placed in operation in August, September, and November 1973, respectively.

**Local cooperation.** See section 1 of this report.

**Terminal facilities.** Facilities at the Port of Muskogee include: a cargo pier, mooring dolphins, warehouse, terminal building, and fuel

facility built by the Muskogee City-County Port Authority; a liquid cargo loading facility and a steel unloading facility built by Frontier Steel Company; grain holding facilities built by Conagra, Inc.; and a general-purpose private dock built by the Fort Howard Paper Company. The facilities are considered adequate for present traffic.

**Operations and results during fiscal year.** Routine operation and maintenance continued.

#### **Environmental Infrastructure**

#### **56. LAWTON, OK**

**Location.** Lawton is located approximately 80 miles southwest of Oklahoma City on Highway 44.

**Existing project.** The project consists of upgrading the existing wastewater distribution facilities to include piping and the associated appurtenances.

**Local cooperation.** Cost sharing on this project will be 75% Federal and 25% non-Federal. The city will be responsible for provision of LERRD and cash as necessary.

**Operations and results during fiscal year.** The Project Cooperation Agreement was signed and real estate acquisition initiated.

#### **57. TAR CREEK CLEANUP, OK**

**Location.** Tar Creek is located in northeast Oklahoma, in Ottawa County.

**Existing project.** The project consists of technical planning, design and construction assistance to non-Federal interests to remedy adverse environmental and human health impacts. Projects demonstrate practicable alternatives and activities which include measures to address lead exposure and other environmental problems related to historical mining activities in the area. Projects include capping of areas where surface materials containing high levels of lead are easily wind-dispersed in local communities, plugging of open mineshafts, and a

subsidence potential evaluation.

**Local cooperation.** Cooperating non-Federal interests are responsible for LERRD.

**Operations and results during fiscal year.** In FY05, establishment of a grass cover was completed on the Boys and Girls Club Project in Picher, OK, and open mineshafts were plugged. The draft subsidence evaluation was completed, and additional mine shaft planning work began.

## 58. YUKON, OK

**Location.** Yukon is located immediately adjacent to Oklahoma City's western boundary on Highway 66.

**Existing project.** The project consists of constructing approximately 9 miles of domestic water line and associated facilities which will connect the city's well field to the city water system. Also to be constructed is a one million gallon storage facility.

**Local cooperation.** Cost sharing on this project will be 75% Federal and 25% non-Federal. The city will be responsible for provision of LERRD and cash as necessary.

**Operations and results during fiscal year.** The Project Cooperation Agreement was signed. The sponsor has opted to delay real estate acquisition until the Federal project funds, which were previously programmed off of the project, are reprogrammed back onto the project.

## General Investigations

### 59. SURVEYS

Fiscal year cost was \$1,167,548, which included six special studies, one watershed comprehensive study; miscellaneous activities - special investigations, and Interagency Water Resources Development; North American Waterfowl Management Plan, Coordination with other Agencies, and four planning assistance to states studies. Table 38-K provides a specific list and respective fiscal year expenditures.

## 60. COLLECTION AND STUDY OF BASIC DATA

Fiscal year cost was \$385,255, which includes floodplain management services. Table 38-K provides a specific list and respective fiscal year expenditures.

TULSA, OK, DISTRICT

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
1.	McClellan-Kerr Arkansas River Navigation System, OK, (Tulsa District Portion)	New Work					
		Approp	-	-	-	-	130,936,638 <sup>2</sup>
		Cost	-	-	-	-	130,936,638 <sup>2</sup>
		Maint					
		Approp	8,309,000	4,039,000	5,063,000	5,583,000	215,163,524
		Cost	7,391,364	4,880,202	4,888,708	5,039,621	214,369,371
3.	Arcadia Lake, OK	New Work					
		Approp	-	-	-	-	82,958,218
		Cost	-	-	-	-	82,944,906
		Maint					
		Approp	333,000	380,000	402,000	774,000	7,865,353
		Cost	333,000	355,148	416,118	703,738	6,974,357
4.	Arkansas City, KS  (Contributed Funds)	New Work					
		Approp	889,000	2,484,000	-435,000	-	24,915,279
		Cost	901,840	1,077,228	201,226	9,984	24,145,820
		Contrib.	400,000	-	-	-	2,309,000
		Cost	765,812	325,707	-	-	2,308,993
5.	Arkansas-Red River Basins Chloride Control, KS, OK, and TX	New Work					
		Approp	-	-	-	-	25,705,208
		Cost	-	-	-	-	25,705,208
		Maint					
		Approp	-	-	-	-	2,316,354
		Cost	-	-	-	-	2,316,354
5a.	Area V, Estelline Springs, TX	New Work					
		Approp	-	-	-	-	300,028
		Cost	-	-	-	-	300,028
		Maint					
		Approp	15,000	5,000	6,000	1,000	185,576
		Cost	14,993	4,986	6,011	1,009	185,575
5b.	Area VIII, TX	New Work					
		Approp	-	-	-	-	46,681,242
		Cost	-	-	-	-	46,670,992
		Maint					
		Approp	1,268,000	933,000	1,134,000	1,305,000	22,948,074
		Cost	1,273,126	810,645	1,159,613	1,137,436	22,683,768

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**Table 38-A**

**COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
5c.	Red River Basin Chloride Control, TX & OK	New Work					
		Approp	1,332,000	1,429,000 <sup>13</sup>	1,300,000	936,000	40,761,805 <sup>13</sup>
		Cost	1,022,243	1,192,572 <sup>13</sup>	1,054,589	1,018,598	39,651,151 <sup>13</sup>
6.	Birch Lake, OK	New Work					
		Approp	-	-	-	-	13,549,170
		Cost	-	-	-	-	13,549,170
		Maint					
		Approp	426,000	418,000	660,000	559,000	17,424,128
		Cost	426,001	396,964	624,445	570,103	17,378,640
7.	Bowie County Levee, TX	New Work					
		Approp	-	-	-	-	7,195,000
		Cost	565,380	101,278	262,516	171,032	3,557,998
8.	Candy Lake, OK	New Work					
		Approp	-	-	-	-	4,927,922
		Cost	-	-	-	-	4,927,922
		Maint					
		Approp	64,000		-	-	747,459
		Cost	59,573	-713,468	357,553	28,437	415,551
9.	Canton Lake, OK	New Work					
		Approp	133,000	5,940,000	6,000,000	17,023,000	43,738,234 <sup>11</sup>
		Cost	69,778	5,204,105	2,373,036	6,194,937	28,469,909 <sup>11</sup>
		Maint					
		Approp	2,111,000	1,510,000	1,644,000	1,489,000	53,360,255
		Cost	2,111,650	1,365,261	1,632,910	1,536,256	53,251,680
10.	Copan Lake, OK	New Work					
		Approp	-	-	-	-	83,799,189
		Cost	-	-	-	-	83,799,189
		Maint					
		Approp	959,200	1,336,000	924,000	1,037,000	21,265,641
		Cost	948,484	1,251,248	930,254	1,066,289	21,205,716
11.	Council Grove Lake, KS	New Work					
		Approp	-	-	-	-	11,810,509
		Cost	-	-	-	-	11,810,509
		Maint					
		Approp	1,668,000	1,362,000	1,152,000	1,479,000	33,481,333
		Cost	1,667,765	1,265,605	1,203,325	1,175,219	33,125,819

TULSA, OK, DISTRICT

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
12.	El Dorado Lake, KS	New Work					
		Approp	-	-	-	-	92,413,344
		Cost	-	-	-	-	92,413,344
		Maint					
		Approp	602,000	301,000	603,000	651,000	11,543,439
		Cost	575,461	324,274	594,051	373,548	11,254,252
13.	Elk City Lake, KS	New Work					
		Approp	-	-	-	-	19,052,990
		Cost	-	-	-	-	19,052,990
		Maint					
		Approp	584,000	612,000	643,000	949,000	21,212,163
		Cost	585,753	523,747	634,759	818,789	20,985,458
14.	Fall River Lake, KS (Federal)	New Work					
		Approp	-	-	-	-	10,550,873
		Cost	-	-	-	-	10,550,873
		Maint					
		Approp	1,999,964	1,847,000	1,055,000	2,418,000	30,728,110
		Cost	1,985,597	1,580,248	1,111,685	1,445,657	29,531,272
	(Contrib. Funds)	Contrib.	-	-	-	-	6,120
		Cost	-	-	-	-	6,120
15.	Fort Supply Lake, OK	New Work					
		Approp	-	-	-	-	7,723,134
		Cost	-	-	-	-	7,723,134
		Maint					
		Approp	740,000	645,000	675,000	738,000	25,963,467
		Cost	782,758	591,790	636,943	753,501	25,887,701
16.	Fry Creeks, Bixby, OK	New Work					
		Approp	-	-266,000	-	-	10,286,508
		Cost	-	-262,762	-	-	10,285,617
	(Contrib. Funds)	Contrib.	-	262,762	-	-	902,762
		Cost	-	262,762	-	-	902,762
17.	Great Bend, KS (Federal)	New Work					
		Approp	-	-	-	-	19,968,073
		Cost	-	-	-	-	19,968,073
	(Contrib. Funds)	Contrib.	-	-	-	-	4,259,254
		Cost	-	-	-	-	4,259,254

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**Table 38-A**

**COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
18.	Great Salt Plains Lake, OK	New Work					
		Approp	-	-	-	-	4,626,270
		Cost	-	-	-	-	4,626,270
		Maint					
		Approp	111,000	147,000	367,000	235,000	9,666,880
		Cost	110,992	140,842	330,637	249,975	9,639,327
19.	Halstead, KS (Federal)	New Work					
		Approp	300,000	-	-	-	8,738,000
		Cost	306,906	-	201	-	8,737,741
	(Contributed Funds)	Contrib.	-16,015	-	-	-	923,985
		Cost	-2,352	-	-	-	923,985
20.	Heyburn Lake and Polecat Creek, OK	New Work					
		Approp	-	-	-	-	2,560,572
		Cost	-	-	-	-	2,560,572
		Maint					
		Approp	796,000	464,000	535,000	792,000	18,704,278
		Cost	796,000	388,670	526,027	754,201	18,582,164
21.	Hugo Lake, OK	New Work					
		Approp	-	-	-	-	41,195,762
		Cost	-	-	-	-	41,195,762
		Maint					
		Approp	1,685,000	1,276,000	1,287,000	1,261,000	44,896,443
		Cost	1,676,063	1,237,744	1,302,029	1,187,892	44,790,710
22.	Hulah Lake, OK	New Work					
		Approp	-	-	-	-	11,388,150
		Cost	-	-	-	-	11,388,150
		Maint					
		Approp	1,271,468	665,000	411,000	901,000	17,986,853
		Cost	1,058,372	885,412	427,310	879,267	17,928,201
		Minor Rehab					
		Approp	-	-	-	-	135,718
		Cost	-	-	-	-	135,718
23.	John Redmond Dam and Reservoir, KS	New Work					
		Approp	-	-	-	-	28,151,470
		Cost	-	-	-	-	28,151,470

TULSA, OK, DISTRICT

**Table 38-A**

**COST AND FINANCIAL STATEMENT**

<b>See Section in Text</b>	<b>Project</b>	<b>Funding</b>	<b>FY 05</b>	<b>FY 06</b>	<b>FY 07</b>	<b>FY 08</b>	<b>Total Cost To Sep. 30, 2008<sup>1</sup></b>
	John Redmond Dam and Reservoir, KS (Cont'd)	Maint					
		Approp	1,341,000	1,013,000	1,219,000	2,492,000	44,774,287
		Cost	1,309,236	855,681	1,241,243	1,886,151	43,994,705
24.	Kaw Lake, OK (Federal)	New Work					
		Approp	-	-	-	-	109,430,750
		Cost	-	-	-	-	109,430,750
		Maint					
		Approp	3,553,000	2,005,400	2,125,000	1,993,000	54,536,610
		Cost	2,945,648	2,458,321	2,107,569	1,884,647	54,254,890
	(Contributed Funds)	Contrib.	-	-	-	-	43,934
		Cost	-	-	-	-	43,934
25.	Lake Kemp, TX	New Work					
		Approp	-	-	-	-	7,637,702
		Cost	-	-	-	-	7,637,702
		Maint					
		Approp	223,000	375,000	176,000	571,000	5,717,994
		Cost	223,000	338,702	207,734	216,408	5,358,818
26.	Lake Wichita, Holliday Creek, TX (Federal)	New Work					
		Approp	-	-	-	-	3,963,211
		Cost	-	-	-	-	3,963,211
	(Contributed Funds)	Contrib.	-	-	-	-	7,748,134
		Cost	-	-	-	-	7,748,134
27.	Marion Reservoir, KS	New Work					
		Approp	-	-	-	-	13,415,274
		Cost	-	-	-	-	13,415,274
		Maint					
		Approp	2,346,254	1,366,000	1,322,000	1,551,000	38,642,867
		Cost	2,247,000	1,247,499	1,412,518	1,423,423	38,387,420
		Minor Rehab					
		Approp	-	-	-	-	68,924
		Cost	-	-	-	-	68,924
28.	McGrath Creek, Wichita Falls, TX (Federal)	New Work					
		Approp	-	-	-	-	8,538,349
		Cost	-	-	-	-	8,538,349
	(Contributed Funds)	Contrib.	-	-	-	-	3,086,860
		Cost	-	-	-	-	3,086,860

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**Table 38-A**

**COST AND FINANCIAL STATEMENT**

<b>See Section in Text</b>	<b>Project</b>	<b>Funding</b>	<b>FY 05</b>	<b>FY 06</b>	<b>FY 07</b>	<b>FY 08</b>	<b>Total Cost To Sep. 30, 2008<sup>1</sup></b>
29.	Mingo Creek, OK (Federal)	New Work Approp	-	262,000	-	-	77,815,726
		Cost	9,337	221,728	-	14,355	77,781,169
	(Contributed Funds)	Contrib.	-	-	-	-	16,253,400
		Cost	19,490	5,400	-	92	15,974,970
30.	Oologah Lake, OK	New Work Approp	-	-	-	-	37,029,928 <sup>3</sup>
		Cost	-	-	-	-	37,029,928 <sup>3</sup>
		Maint Approp	1,697,000	1,719,000	2,264,000	1,936,000	48,930,783
		Cost	1,697,247	1,528,329	2,356,387	1,958,521	48,855,018
31.	Optima Lake, OK	New Work Approp	-	-	-	-	47,173,438
		Cost	-	-	-	-	47,173,438
		Maint Approp	64,000	77,600	109,000	214,000	8,144,332
		Cost	64,000	50,534	128,850	200,860	8,123,976
32.	Parker Lake, OK	New Work Approp	-	-	-	-	585,326
		Cost	-	-	-	-	584,973
33.	Pat Mayse Lake, TX	New Work Approp	-	-	-	-	9,310,661
		Cost	-	-	-	-	9,310,661
		Maint Approp	1,068,000	1,114,000	1,261,000	974,000	28,741,493
		Cost	1,074,213	1,046,166	1,273,507	960,187	28,702,243
34.	Pearson-Skubitz Big Hill Lake, KS	New Work Approp	-	-	-	-	16,879,166
		Cost	-	-	-	-	16,879,166
		Maint Approp	1,031,000	923,000	1,005,000	971,000	23,203,726
		Cost	1,031,000	898,990	949,939	942,001	23,095,655
35.	Pine Creek Lake, OK	New Work Approp	-	-	-	-	20,628,049
		Cost	-	-	-	-	20,628,049

TULSA, OK, DISTRICT

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See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
	Pine Creek Lake, OK (Cont'd)	Maint					
		Approp	985,000	753,000	908,000	1,110,000	29,589,228
		Cost	985,580	700,790	928,897	1,069,295	29,517,110
36.	Sardis Lake, OK	New Work					
		Approp	-	-	-	-	68,518,439
		Cost	-	-	-	-	68,518,429
		Maint					
		Approp	906,000	1,052,000	860,000	980,000	21,314,503
		Cost	905,685	940,928	900,857	923,925	21,187,899
37.	Skiatook Lake, OK	New Work					
		Approp	-	-	-	-	116,314,038 <sup>10</sup>
		Cost	2,418	-	-	-	116,313,762 <sup>10</sup>
		Maint					
		Approp	1,607,040	1,021,000	1,357,000	1,618,000	27,296,995
		Cost	1,601,156	960,744	1,199,457	1,626,323,	27,080,260
38.	Toronto Lake, KS	New Work					
		Approp	-	-	-	-	13,896,324
		Cost	-	-	-	-	13,896,324
		Maint					
		Approp	460,567	357,000	455,000	1,222,000	13,696,445
		Cost	460,590	329,591	466,095	1,102,412	13,560,535
39.	Tulsa & West Tulsa, OK (Federal)	New Work					
		Approp	-	-4,000	-23,000	-	1,542,000
		Cost	-46,366	-	-	-	1,518,460
		Minor Rehab					
		Approp	-	-	-	-	1,118,111
		Cost	-	-	-	-	1,110,444
	(Contributed Funds)	Contrib.	-18,847	-	-	-	524,129
		Cost	46,366	-	-	-	524,129
40.	Waurika Lake, OK	New Work					
		Approp	-	-	-	-	69,729,461
		Cost	-	-	-	-	69,729,281
		Maint					
		Approp	1,253,000	1,347,000	1,420,000	1,273,000	34,683,555
		Cost	1,241,544	1,222,501	1,350,630	1,311,798	34,516,331

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**Table 38-A**

**COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
41.	Winfield, KS	New Work					
		Approp	-	-	-1,000	-	8,223,517
		Cost	4,257	-	3,850	-	8,222,428
	(Contributed Funds)	Contrib.	-	-	-	-	54,460
		Cost	-	-	-	-	54,460
42.	Wister Lake, OK	New Work					
		Approp	-	-	-	-	10,690,751
		Cost	-	-	-	-	10,687,439
		Maint					
		Approp	1,704,000	407,000	1,420,000	704,000	24,826,763
		Cost	1,692,815	377,361	1,350,630	639,764	24,648,639
		Major Rehabilitation					
		Approp	-	-	-	-	11,131,529
		Cost	-	-	-	-	11,131,529
48.	Broken Bow Lake, OK	New Work					
		Approp	-	-	-	-	41,222,692
		Cost	-	-	-	-	41,222,692
		Maint					
		Approp	1,366,000	1,325,000	1,732,000	2,005,000	46,023,744
		Cost	1,366,033	1,257,591	1,651,077	2,010,293	45,879,542
	(Contributed Funds)	Maint					
		Approp	17,527	-	86,476	-	525,761
		Cost	142,053	56,608	-	26,586	455,629
49.	Eufaula Lake, OK	New Work					
		Approp	-	-	-	-	123,795,907 <sup>4</sup>
		Cost	-	-	-	-	123,795,907 <sup>4</sup>
		Maint					
		Approp	4,844,000	4,643,000	4,727,000	4,731,000	129,475,121
		Cost	4,649,084	4,433,668	4,379,010	5,046,600	129,030,580
	(Contributed Funds)	Contrib.	161,030	-	248,800	-115	2,041,438 <sup>12</sup>
		Cost	354,645	-	18,637	211,248	1,791,439 <sup>12</sup>
50.	Fort Gibson Lake, OK	New Work					
		Approp	-	-	-	-	43,821,405 <sup>5</sup>
		Cost	-	-	-	-	43,821,405 <sup>5</sup>

TULSA, OK, DISTRICT

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
	Fort Gibson Lake, OK (Cont'd)	Maint					
		Approp	3,771,820	4,411,000	4,587,000	5,824,000	111,798,685
		Cost	3,735,172	4,172,289	4,317,799	5,693,066	111,079,941
	(Contributed Funds)	Contrib.	1,097,673	-	63,200	-218,882	3,745,421
		Cost	657,596	54,571	82,189	402,082	2,870,739
51.	Keystone Lake, OK	New Work					
		Approp	-	-1,000	206,000	1,300,000	124,674,813 <sup>6</sup>
		Cost	-	-	43,571	542,602	123,746,130 <sup>6</sup>
		Maint					
		Approp	2,982,887	3,795,000	3,842,000	3,875,000	101,953,946
		Cost	2,988,773	3,539,112	3,671,737	3,789,679	101,441,600
	(Contributed Funds)	Contrib.	75,000	-3,208	-6,342	105,000	3,129,282
		Cost	23,495	260,704	741,448	68,330	2,865,668
52.	Lake Texoma (Denison Dam), OK and TX	New Work					
		Approp	-	-	-	-	68,168,960 <sup>7</sup>
		Cost	-	-	-	-	68,157,390 <sup>7</sup>
		Maint					
		Approp	6,881,000	4,894,000	5,391,000	6,818,000	178,626,453
		Cost	6,846,168	4,519,511	5,166,390	6,424,401	177,589,737
		Minor Rehabilitation					
		Approp	-	-	-	-	46,237
		Cost	-	-	-	-	46,237
	(Contributed Funds)	Contrib.	250,000	-	-1,605	42,006	5,546,521
		Cost	1,711,397	2,928,796	28,596	118,306	5,150,973
53.	Robert S. Kerr Lock and Dam and Reservoir, OK	New Work					
		Approp	-	-	-	-	94,578,237
		Cost	-	-	-	-	94,578,237
		Maint					
		Approp	4,456,800	4,002,000	4,917,000	4,967,000	115,959,104
		Cost	4,309,241	3,638,461	4,782,042	5,022,365	115,350,221
	(Contributed Funds)	Contrib.	75,000	-	-12,714	175,000	2,168,852
		Cost	-	62,297	-11	-	1,993,852
54.	Tenkiller Ferry Lake, OK	New Work					
		Approp	3,609,000	4,992,000	469,000	-	63,867,581 <sup>8</sup>
		Cost	3,025,456	3,667,512	1,894,545	245,980	63,604,156 <sup>8</sup>

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**Table 38-A**

**COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>1</sup>
Tenkiller Ferry Lake, OK (Cont'd)	Maint						
	Approp		3,049,000	2,713,000	3,532,000	3,537,000	92,489,467
	Cost		3,032,082	2,341,458	3,363,296	3,369,413	91,752,890
(Contributed Funds)	Contrib.		189,940	-	195,000	-	732,897
	Cost		135,101	35,694	16,124	182,387	472,102
55. Webbers Falls Lock & Dam, OK	New Work						
	Approp		-	-	-	-	86,107,967
	Cost		-	-	-	-	86,107,967
	Maint						
	Approp		3,389,000	4,138,000	3,845,000	3,500,000	101,095,985
	Cost		3,389,753	4,025,152	3,680,241	3,438,056	100,753,214
(Contributed Funds)	Maint						
	Approp		3,337,728	97,166	-	-2,037	5,406,069
	Cost		8,853	14,010	463,250	733,739	3,074,754
56. Lawton, OK	New Work						
	Approp		503,000	-6,000	700,000	-	1,204,100
	Cost		5,846	2,901	18,122	8,262	39,000
57. Tar Creek Cleanup, OK	New Work						
	Approp		1,332,000	3,414,000	300,000	3,444,000	13,456,000
	Cost		3,878,458	1,832,303	124,184	6,988,733	8,945,220
58. Yukon, OK	New Work						
	Approp		30,000	-2,000	-	-	43,900
	Cost		3,432	3,033	9,140	996	25,090

1. Includes \$2,077,900 expended by the Jobs Act (P.L. 98-8 dated, March 24, 1983) for projects listed in Tables 29-M of the FY 85 Annual Report.
2. Includes \$12,700,038 for Bank Stabilization and Channel Rectification.
3. Excludes \$81,460 contributed funds and \$1,348,816 special funds.
4. Excludes \$299,803 contributed funds and \$13,211,728 special funds.
5. Excludes \$134,919 contributed funds. Includes \$49,581 Public Works acceleration funds; and \$1,058,500 Hydropower.
6. Excludes \$5,366,231 special funds.
7. Includes \$433,549 Emergency Relief funds. Exchange \$1,256,068 from special contributed funds.
8. Excludes \$946 contributed funds. Includes \$39,999 Public Works acceleration funds. Includes an appropriation of \$39,849,861 for Dam Safety and \$39,586,436 in Dam Safety expenditures.
9. Cost for Grand Lake O' the Cherokees are reported in paragraph 45, Scheduling Flood Control Reservoir Operations.
10. Includes an appropriation for Dam Safety of \$7,413,000, and Dam Safety expenditures of \$7,302,050.
11. Includes an appropriation for Dam Safety of \$750,000, and Dam Safety expenditures of \$40,304.
12. Contributed funds for Muddy Creek bridge replacement.

## TULSA, OK, DISTRICT

TABLE 38-B

## AUTHORIZING LEGISLATION

See Section In Text	Date of Authorizing Act	Project and Work Authorized	Documents
1.	July 24, 1946 October 22, 1976 November 17, 1986	McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM Big and Little Sallisaw Creeks Navigation Project W.D. Mayo Hydropower	HD 79-758 PL 79-525 PL 94-587 PL 99-662
3.	December 31, 1970 October 22, 1976	ARCADIA LAKE Changed water quality to water supply	HD 91-299 PL 94-587
4.	November 17, 1986	ARKANSAS CITY	PL 99-662
5.		ARKANSAS-RED RIVER BASINS CHLORIDE CONTROL	
5a.	October 23, 1962	Authorized Area V (Estelline Springs)	SD 87-107
5b.&5c.	November 7, 1966 December 31, 1970 November 17, 1986	Authorized Areas VII, VIII, and X Authorized Areas I, II-III, VI, IX, XIII, XIV, and XV Authorized the Red River Basin and the Arkansas River Basin as separate projects with separate authority.	PL 89-789 SD 110 PL 91-611 PL 99-662
6.	October 23, 1962	BIRCH LAKE	HD 87-563
7.	August 26, 1994	BOWIE COUNTY LEVEE	PL 103-316
8.	October 23, 1962	CANDY LAKE	HD 87-564
9.	June 28, 1938 July 24, 1946 June 30, 1948	CANTON LAKE Approved Irrigation Storage Approved Water Supply Storage	HD 75-569
10.	October 23, 1962	COPAN LAKE	HD 87-563
11.	May 17, 1950	COUNCIL GROVE LAKE	HD 80-442
12.	October 27, 1965	EL DORADO LAKE	HD 89-232
13.	August 18, 1941	ELK CITY LAKE	HD 76-440
14.	August 18, 1941	FALL RIVER LAKE	HD 76-440
15.	June 22, 1936	FORT SUPPLY LAKE	HD 74-308
16.	November 17, 1986	FRY CREEKS	PL 99-662
17.	November 17, 1986	GREAT BEND	PL 99-662

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 38-B** **AUTHORIZING LEGISLATION**

<b>See Section In Text</b>	<b>Date of Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
18.	June 22, 1936	GREAT SALT PLAINS LAKE	HD 74-308
19.	November 17, 1986	HALSTEAD	PL 99-662
20.	July 24, 1946	HEYBURN LAKE AND POLECAT CREEK	HD 80-290
21.	July 24, 1946	HUGO LAKE	HD 79-602
22.	June 22, 1936	HULAH LAKE	HD 74-308
23.	May 17, 1950 February 15, 1958	JOHN REDMOND DAM AND RESERVOIR Authorized name change	HD 80-442 PL 85-327
24.	October 23, 1962	KAW LAKE	HD 87-143
25.	October 23, 1962	LAKE KEMP	HD 87-144
26.	November 17, 1986	LAKE WICHITA, HOLLIDAY CREEK	PL 99-662
27.	May 17, 1950 March 14, 1990	MARION RESERVOIR Authorized name change	HD 80-442 PL 101-253
28.	November 17, 1988	MCGRATH CREEK WICHITA FALLS, TX	PL 100-676
29.	November 17, 1986	MINGO CREEK	PL 99-662
30.	June 28, 1938	OOLOGAH LAKE	Committee Doc. No. 1, 75th Cong., 1st Session
31.	June 22, 1936	OPTIMA LAKE	HD 74-308
32.	November 17, 1986	PARKER LAKE	PL 99-662
33.	October 23, 1962	PAT MAYSE LAKE	HD 88-71
34.	October 23, 1962 November 10, 1978	PEARSON-SKUBITZ BIG HILL LAKE Authorized name change	HD 87-472 PL 95-265
35.	July 3, 1958	PINE CREEK LAKE	HD 85-170
36.	October 23, 1962 December 4, 1981	SARDIS LAKE Authorized name change	SD 87-145 PL 97-88
37.	October 23, 1962	SKIATOOK LAKE	HD 87-563
38.	August 18, 1941	TORONTO LAKE PL 77-228	HD 76-440
39.	August 18, 1941	TULSA & WEST TULSA, OK	PL 77-228



**TABLE 38-C OTHER AUTHORIZED NAVIGATION PROJECTS**

Project	Status	For Last Full Report See Annual Report for	<u>Cost to September 30, 2008</u>	
			Construction	Operation and Maintenance
Big and Little Sallisaw Navigation Project	Inactive	-	-	3,163
Poteau River Navigation Project, OK and AR	Complete	1983	536,952	-
Red River from Fulton, AR, to Mouth of Washita River	Complete	1924	378,574	182,157

**TABLE 38-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	For Last Full Report See Annual Report For	<u>Cost to September 30, 2008</u>	
		Construction	Operation and Maintenance
Augusta LPP, KS <sup>1,2</sup>	1938		84,217
Boswell Lake, OK <sup>3</sup>	1952	-	-
Cherry and Red Fork Creeks LPP, OK <sup>2</sup>	1970	261,448	-
Crutcho Creek LPP, OK <sup>3</sup>	1972	213,016	-
Dodge City LPP, KS <sup>2</sup>	-	-	-
Enid LPP, OK <sup>2</sup>	1963	743,612	14,599
Flat Rock and Valley View Creeks LPP, Tulsa, OK <sup>2, 4</sup>	1975	1,741,000	-
Florence LPP, KS <sup>2</sup>	1965	369,782	-
Hutchinson LPP, KS <sup>2</sup>	1956	3,497,718	-
Iola LPP, KS <sup>2</sup>	1939	22,290	-
Jenks LPP, OK <sup>2</sup>	1950	344,797	-
Joe Creek LPP, OK <sup>2</sup>	-	308,041	-
Larned LPP, KS <sup>2</sup>	-	-	-
Lukfata Lake, OK <sup>3</sup>	1983	1,424,685	-
Marion, KS	1988	5,488,618	-
Oklahoma City LPP, OK <sup>2</sup>	1960	8,047,512	-
Red River Bank Stabilization Below Denison, OK and TX <sup>2, 6</sup>	1953	1,177,537	-
Red River Emergency Bank Protection	-	400,000	-
Sand Creek LPP, KS <sup>2</sup>	1968	545,996	-
Sand Lake, OK <sup>3</sup>	1963	-	-
Shidler Lake, OK <sup>3</sup>	1983	568,191	-
Tulsa and West Tulsa LPP, OK <sup>2</sup>	1954	3,592,432	-
Turtle Creek LPP, Yukon, OK <sup>3</sup>	1975	144,853	-
West Branch Chisholm Creek LPP, KS <sup>2</sup>	1965	364,200	-
Wichita and Valley Center LPP, KS <sup>2</sup>	1960	12,247,379	-

LPP - Local Protection Project.

1. Completed by Kansas Works Progress Administration.
2. Complete.
3. Deferred.
4. Federal cost limited to \$1,000,000.
5. Active with no current year expenditures.
6. FY 99 – FY 02 additional funds of \$955,432 were received for construction.

## TULSA, OK, DISTRICT

**TABLE 38-G DEAUTHORIZED PROJECTS**

<b>Project</b>	<b>For Last Full Report See Annual Report for</b>	<b>Date and Authority</b>	<b>Federal Funds Expended</b>	<b>Contributed Funds Expended</b>
Arcadia Lake (Uncompleted Recreation), OK		April 16, 2002 Public Law 99-662	0	0
Ark-Red Basins Chloride Control, Ark Basin, OK		April 16, 2002 Public Law 99-662	14,300,000	0
Big & Little Sallisaw Creeks, OK		April 16, 2002 Public Law 99-662	167,000	0
Big Pine Lake, TX	1984	November 1, 1997 Public Law 99-662	1,701,670	0
Boswell Lake, OK		April 16, 2002 Public Law 99-662	0	0
Candy Lake, OK	1996	July 9, 1995 Public Law 99-662	4,950,000	0
Cedar Point Lake, KS	1980	November 17, 1986 Public Law 99-662	0	0
Cow Creek, Hutchinson, KS	1971	November 17, 1986 Public Law 99-662	363,720	0
Crutch Creek, Oklahoma County, OK		April 16, 2002 Public Law 99-662	0	0
Denison Dam Power Unit 3, OK		April 16, 2002 Public Law 99-662	0	0
Douglass Lake, KS		April 16, 2002 Public Law 99-662	668,000	0
El Dorado, West Branch, Walnut River, KS	1977	November 17, 1986 Public Law 99-662	92,319	0
Lukfata Lake, OK		April 16, 2002 Public Law 99-662	0	0
Neodesha Lake, KS	1952	November 17, 1986 Public Law 99-662	97,910	0
Lake Texoma Perimeter Access Roads, Texas & Oklahoma		July, 9, 1995 Public Law 99-662	13,200	0
Sand Lake, OK		April 5, 1999 Public Law 99-662	0	0
Shidler Lake, OK		May 1, 1997 Public Law 99-662	568,000	0
Towanda Lake, KS	1981	November 17, 1986 Public Law 99-662	393,361	0
Tuskahoma Lake, OK	1963	July 19, 1992 Public Law 99-662	0	0
Upper Little Arkansas River Watershed, KS		April 16, 2002 Public Law 99-662	1,266,000	0

**TABLE 38-H ARKANSAS RIVER BASIN MULTIPLE-PUPOSE PLAN  
(See Section 1 of Text)**

<b>Feature</b>	<b>River</b>	<b>River Mile<sup>1</sup></b>	<b>Nearest Town</b>
<b>LAKES</b>			
Canton	North Canadian	394.3	Canton, OK
Elk City	Elk River	8.7	Elk City, KS
Eufaula	Canadian	27.0	Eufaula, OK
Fall River	Fall River	54.2	Fall River, KS
Fort Gibson	Grand (Neosho)	7.7	Fort Gibson, OK
Grand Lake O' the Cherokees	Grand (Neosho)	77.0	Disney, OK
Keystone	Arkansas	538.8	Sand Springs, OK
Lake Hudson (Markham Ferry)	Grand (Neosho)	47.4	Locust Grove, OK
Neodesha	Verdigris	222.8	Neodesha, KS
Oologah	Verdigris	90.2	Oologah, OK
Tenkiller Ferry	Illinois	12.8	Gore, OK
Toronto	Verdigris	271.5	Toronto, KS
Wister	Poteau	60.9	Wister, OK
<b>McClellan-Kerr Arkansas River Navigation System, OK (Tulsa District Portion)</b>			
Bank Stabilization and Channel Rectification	Verdigris and Arkansas	N/A <sup>2</sup>	Fort Smith, AR, to Catoosa, OK
Chouteau Lock and Dam (17), OK	Verdigris	401.5	Okay, OK
Newt Graham Lock and Dam (18), OK	Verdigris	421.6	Inola, OK
Robert S. Kerr Lock and Dam (15), OK	Arkansas	339.0	Sallisaw, OK
Robert S. Kerr Marine Terminal, OK	Arkansas	336.2	Cowlington, OK
Sans Bois Navigation Channel, OK	Sans Bois Creek	341.0	Keota, OK
W.D. Mayo Lock and Dam (14), OK	Arkansas	319.6	Redland, OK
Webbers Falls Lock and Dam (16), OK	Arkansas	366.6	Gore, OK

1. On the McClellan-Kerr Arkansas River Navigation System, these are navigation miles.

2. As required for a channel 9 feet deep.

TULSA, OK, DISTRICT

**TABLE 38-I INSPECTION OF COMPLETED LOCAL FLOOD PROTECTION PROJECTS  
(See Section 44 of Text)**

<b>Projects Inspected in Fiscal Year</b>	<b>Inspection Date</b>
Arkansas City Levee	25 March 2008
Bixby Creek, OK	3 July 2008
Cherry/Red Fork Creeks, OK	24 September 2008
Deep Fork Channel Clearing	15 July 2008
Dodge City, KS	27 February 2008
Enid Diversion Channel, OK	26 August 2008
Flat Rock/Valley View Creeks, OK	24 September 2008
Florence, KS	26 June 2008
Fry Creek, Bixby, OK	2 July 2008
Great Bend, KS	17 July 2008
Haikey Creek, OK	30 September 2008
Halstead, KS	29 June 2008
Hutchinson, KS	19 February 2008
Iola, KS	17 June 2008
Holliday Creek, Wichita Falls, TX	29 May 2008
Jenks, OK	7 August 2008
Joe Creek, OK	13 November 2008
Larned, KS	18 December 2007
Marion, KS	25 June 2008
Mingo Creek, OK	13 November 2007
North Canadian Waste Water Treatment Plant, OK	19 September 2008
Oklahoma City Floodway, OK	21 August 2008
Park City, KS	21 July 2008
Sand Creek, Newton, KS	September 2002
South Deer Creek, OK	18 July 2008
Tulsa and West Tulsa Levees, OK	4 December 2007
Wichita/Valley Center, KS	18 April 2008
Winfield, KS	25 September 2008







## FORT WORTH, TX, DISTRICT

District includes that portion of Texas south of Red River drainage basin exclusive of drainage basin of Rio Grande and its tributaries above and including Pecos River; exclusive of drainage basins to all short streams arising in coastal plain of Texas and flowing into the Gulf of Mexico, including entire basins of Buffalo Bayou, San Jacinto, San Bernard, Lavaca, Navidad, Mission, and Arkansas Rivers; exclusive of lower basins of major streams flowing into the gulf as follows: Sabine River, Texas and Louisiana, downstream from U.S. Highway 190 crossing at Bon Wier, Texas; Neches River downstream from Town Bluff gauging station; Trinity River downstream from Texas State Highway 45 crossing at Riverside, Texas; Brazos River downstream from confluence with Navasota River; Colorado River downstream from gauging station at Austin; Guadalupe River downstream from confluence with San Marcos River; San Antonio River downstream from confluence with Escondido Creek; Nueces River downstream from confluence with Frio and Atascosa Rivers; and exclusive of Agua Dulce, San Fernando, and Olmos Creek basins draining into Baffin Bay; coastal area south thereof to Rio Grande and south to the northern boundaries of Newton, Jasper, Tyler, Polk, Trinity, Walker, Waller, Austin, Fayette, Gonzales, Karnes, Live Oak, Jim Hogg, Zapata; the northern and western boundaries of McMullan; and the western boundaries of Montgomery and Duval Counties, Texas. District also includes those portions of the Sulphur River and Cypress Creek Watershed located in the State of Texas; that portion of western Louisiana in Sabine River drainage basin upstream from U.S. Highway 190 crossing at Bon Wier, Texas.

**IMPROVEMENTS**

**Navigation..... 3**  
 1. TRINITY RIVER PROJECT, TX .....3  
**Flood Control ..... 3**  
 2. AQUILLA LAKE, TX.....3  
 3. BARDWELL LAKE, TX. ....4  
 4. BELTON LAKE, TX.....4  
 5. BENBROOK LAKE, TX.....4  
 6. CANYON LAKE, TX .....5  
 7. CENTRAL CITY, FORT.....5  
 WORTH, UPPER TRINITY RIVER.....5  
 BASIN 5  
 8. DALLAS FLOODWAY .....6  
 EXTENSION 6  
 9. FERRELLS BRIDGE DAM - LAKE .....6  
 O' THE PINES, TX.....6  
 10. GRAHAM, TX (BRAZOS RIVER .....7  
 BASIN) 7  
 11. GRAPEVINE LAKE, TX .....7  
 12. HORDS CREEK LAKE, TX .....8  
 13. JIM CHAPMAN LAKE, TX .....8  
 14. JOE POOL LAKE, TX .....9  
 15. JOHNSON CREEK, ARLINGTON, .....9  
 TX 9  
 16. LAVON LAKE, TX.....10  
 17. LAVON LAKE MODIFICATION.....10  
 AND EAST FORK CHANNEL .....10  
 IMPROVEMENT, TX.....10  
 18. LEWISVILLE DAM, TX .....10  
 19. NAVARRO MILLS LAKE, TX.....11  
 20. O.C. FISHER DAM AND .....11  
 LAKE, TX 11  
 21. PROCTOR LAKE, TX .....12  
 22. RAY ROBERTS LAKE, TX .....12  
 23. SAN ANTONIO CHANNEL .....12  
 IMPROVEMENT, TX.....12  
 24. SAN GABRIEL RIVER, TX .....13  
 25. SOMERVILLE LAKE, TX .....14  
 26. STILLHOUSE HOLLOW .....14  
 DAM, TX 14  
 27. WACO LAKE, TX .....14  
 28. WRIGHT PATMAN DAM AND .....15  
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## Navigation

### 1. TRINITY RIVER PROJECT, TX

The project authorized by the River and Harbor Act of 1965 (H. Doc 276, 89th Cong., 1st Sess.) consists of five major components: Multiple-Purpose Channel, Tennessee Colony Lake, Dallas Floodway Extension, West Fork Floodway and Water Conveyance Facilities. For the last full report on the project as authorized, see Annual Report of 1978. The project information present herein is based on the tentatively selected project plan presented in the Draft General Design Memorandum. The plan consists of three structural components: Dallas Floodway Extension, Tennessee Colony Lake, and Channel to Liberty in the lower basin.

**Operations during fiscal year.** See Galveston, Texas, District Annual Report for Channel to Liberty. Tennessee Colony Lake has been dormant for several years due to lack of local support, and is proposed for deauthorization. The Dallas Floodway Extension continues in the construction phase, and is described in the Flood Control section.

#### CHANNEL TO LIBERTY:

**Location.** The Channel to Liberty begins at the Houston Ship Channel, crosses the bay area in an easterly direction to intersect the existing Double Bayou Channel, turns northward along the coastline to Wallisville Lake and then continues northward through the lake area along the course of the Trinity River to River Mile 45 above Liberty, Texas.

**Existing project.** See Galveston, Texas District Annual Report for existing project.

**Proposed project.** The navigation portion of the channel will have a width of 200 feet with a depth of 12 feet and will extend from the Houston Ship Channel in Galveston Bay to the port of Liberty, Texas. The flood control portion of the channel will have a bottom width of 200 feet with a depth of 30 feet, and will extend from Wallisville Lake to River Mile 45 above Liberty, Texas.

**Local cooperation.** Local interests are required to: (a) provide, without cost to the Federal Government, all lands, easements and rights-of-way required for construction, operation and maintenance of the project, (b) accomplish, without cost to the Federal Government, all relocations and alterations to existing improvements, other than highway bridges

over new land cuts and railroad bridges required for the construction of the project, (c) maintain and operate the flood control portion of the channel upstream of Liberty, Texas, and (d) reimburse the Federal Government for one-half of the separable costs allocated to recreation and fish and wildlife enhancement.

#### TENNESSEE COLONY LAKE:

**Location.** The Tennessee Colony dam site is located at River Mile 341.7 on the Trinity River about 22 miles west of Palestine, Texas. The lake would extend into Freestone, Anderson, Henderson, and Navarro Counties, and would control a drainage area of 12,302 square miles.

**Existing project.** The plan of improvement provides for the construction of an earthfilled dam with a maximum height of 123 feet above the streambed and a total embankment length of 42,350 feet with a gated concrete spillway. The lake will have a total controlled storage of 3,455,000 acre-feet and a water surface area of 114,400 acres at the top of the flood control pool and 68,100 acres at the top of the conservation pool. The total storage includes 2,269,500 acre-feet for flood control, 1,040,000 acre-feet for conservation, and 145,500 acre-feet for sediment reserve. The project will be proposed for deauthorization in the next Water Resources Development Act.

**Local cooperation.** Local interests are required to reimburse the Federal Government for costs allocated to water supply storage and one-half of the separable cost allocated to recreation and fish and wildlife enhancement.

#### Flood Control

### 2. AQUILLA LAKE, TX

**Location.** On Aquilla Creek in Hill County, Texas, with the dam at River Mile 23.3, about 6.8 miles southwest of Hillsboro, Texas, and about 24.0 miles north of Waco, Texas.

**Existing project.** For description of completed improvements and authorizing acts see Annual Report of 1984. Construction was started March 1977, and project was ready for beneficial use April 29, 1983. Estimated cost of project is \$45,503,300.

**Local cooperation.** The Water Supply Act of 1958, as amended, and the Federal Water Project

Recreation Act of 1965 and Section 221, Flood Control Act of 1970 apply. A contract with the Brazos River Authority for water supply storage was approved by the Secretary of the Army, June 29, 1976. To date, the Authority has paid \$1,831,664 toward principal and \$732,653 to operation and maintenance.

**Operations during fiscal year.** Replaced significant sections of boundary fencing to protect natural resources. Provided public hunting opportunities to over 600 visitors, including enhanced access to disabled hunters. Continued routine operations and maintenance activities.

Benefits accrued to Aquilla Lake project: Accumulated flood damages prevented through FY 2008 were \$42,201,700.

### 3. BARDWELL LAKE, TX.

**Location.** Dam is on Waxahachie Creek 5-river miles upstream from its confluence with Chambers Creek, a tributary of the Trinity River, and about 5 miles south of Ennis, Ellis County, Texas.

**Existing project** For a description of completed improvement and authorizing act see Annual Report of 1969. Construction of project was started August 1963 and completed for beneficial use in November 1965. Estimated cost of project is \$10,944,505.

**Local cooperation.** Local interests must reimburse the Federal Government for costs allocated to increased water supply storage under the terms of the Water Supply Act of 1958. A contract was approved by the Secretary of the Army on June 24, 1963, and the Trinity River Authority, a State agency, agreed to fulfill all requirements of local cooperation. To date the authority has paid \$2,901,919 toward principal and \$4,459,545 toward annual cost of operation and maintenance of project, including cost of operating 10-foot conduit.

**Operations during fiscal year.** Installed four aerobic septic systems in park areas. Repaired a minor slide on embankment. Performed initial repairs for other skin slides and awarded a task order for lime stabilization of those areas. Continued routine operations and maintenance activities.

Benefits accrued to Bardwell Lake project: Accumulated flood damages prevented through FY 2008 were \$44,154,800.

### 4. BELTON LAKE, TX

**Location.** Dam is on Leon River about 16.7 miles above confluence of Leon and Lampasas Rivers and about 3 miles north of Belton, Texas.

**Existing project.** For a description of completed improvement and authorizing acts see Annual Report of 1962. Construction started June 1949 and project was ready for beneficial use in March 1954. Raising water supply pool: Construction started in July 1970 and the pool raise is complete. Estimated cost of project is \$16,960,549.

**Local cooperation.** Section 2, Flood Control Act of 1938, applies. A contract with Brazos River Authority, a State agency, for remaining water supply storage in reservoir was approved by Secretary of the Army on January 15, 1958, at an estimated cost of \$5,125,003. To date \$2,594,620 has been paid. Under the contract Brazos River Authority must also pay annually 11.2 percent of actual annual cost of operation and maintenance. To date \$5,003,966 has been paid. An interim contract with Brazos River Authority for emergency use of water supply storage in project was approved by Secretary of the Army on January 2, 1957. Amount of \$433,083 paid by authority on March 21, 1957 for use of these facilities was credited to interest and principal payable under formal water supply contract.

**Operations during fiscal year.** Repaired recreation facilities damaged by 2007 flood. Continued successful volunteer program and strong water safety outreach program. Continued routine operations and maintenance activities.

Benefits accrued to Belton Lake project: Accumulated flood damages prevented through FY 2008 were \$750,470,400.

### 5. BENBROOK LAKE, TX

**Location.** Dam is in Tarrant County, Texas, on Clear Fork of Trinity River 15 river miles upstream from its confluence with West Fork of Trinity River about 10 miles southwest of downtown Fort Worth, Texas.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started May 1947 and ready for beneficial use in September 1952. Estimated cost of project is \$13,130,463.

**Local cooperation.** Section 2, Flood Control Act of 1938, applies. No water supply storage is included in project. In 1956, Congress passed legislation enabling the city of Fort Worth to purchase conservation storage space in Benbrook Lake. Contracts have been negotiated with the city of Fort Worth and the Benbrook Water and Sewer Authority for the use of portions of the navigation storage for water supply purposes until such storage is required for Trinity River Navigation. To date, \$2,408,821 has been paid by the city of Fort Worth and \$326,783 by Benbrook Water and Sewer Authority. A cost-sharing contract with the city of Benbrook for recreation development was approved by the Secretary of the Army May 20, 1977. To date, \$119,106 has been paid.

**Operations during fiscal year.** Completed preparation and began construction of a flying field runway and amenities utilizing Congressional add monies. Planned and contracted for project areas damaged by 2007 flooding, including debris removal and beach repairs. Continued routine operations and maintenance activities.

Benefits accrued to system consisting of Benbrook Lake, Clear Fork and West Fork Floodways: Accumulated flood damages prevented through FY 2008 are estimated at \$6,957,382,600.

## 6. CANYON LAKE, TX

**Location.** Dam is on Guadalupe River, 303 miles above its mouth, and about 12 miles northwest of New Braunfels, Comal County, Texas.

**Existing project.** For a description of completed improvement and authorizing act see Annual Report of 1969. Construction started April 1958 and project completed for beneficial use June 1964. Estimated cost of project is \$19,088,524, including \$1,400,000 contributed by local interests.

**Hydropower:** The Guadalupe-Blanco River Authority (GBRA) was licensed by the Federal Energy Regulatory Commission to construct a 6,070-kilowatt plant, which is located adjacent to the

existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. GBRA has an agreement with the Pedernales Electric Cooperative for sale of power. Construction of the hydropower was completed in 1989 with non-Federal funds.

**Local cooperation.** Local interests (Guadalupe Blanco River Authority) will utilize water impounded for water supply and streamflow regulation for development of electric power. In a formal contract approved by Chief of Engineers on October 24, 1957, Guadalupe-Blanco River Authority agreed to fulfill all requirements of local cooperation. Required contribution of \$1,400,000 was made in full by Guadalupe-Blanco River Authority. The estimated cost of the water storage contract is about \$9,000,000. To date, \$4,768,048 has been paid. In addition \$22,848 was contributed for installation and operation of reservoir leakage gages. Under the contract the authority must pay 34.8 percent of actual annual cost of operation and maintenance. To date, \$5,809,182 has been paid.

**Operations during fiscal year.** Completed construction of waste water system and restroom in Cranes Mill Park. Connected to community water system for project office and Overlook Park. Continued successful volunteer program and strong water safety outreach program. Continued routine operations and maintenance activities.

Benefits accrued to Canyon Lake project: Accumulated flood damages prevented through FY 2008 were \$599,985,200.

## 7. CENTRAL CITY, FORT WORTH, UPPER TRINITY RIVER BASIN

**Location.** The Central City project is located in the northern portion of downtown Fort Worth, Texas, along the Clear Fork and West Fork of the Trinity River.

**Existing Project.** The Central City project, as part of a larger Trinity River Vision project, was authorized based on a locally produced Master Plan and was subject to determination of technical sufficiency and environmental acceptability. The Corps of Engineers' component of the Central City project includes a bypass channel and appurtenant structures to control flood flows along the Clear Fork

and West Fork of the Trinity River. The project would restore the Standard Project Flood level of protection for the Federally authorized Fort Worth Floodway project. Preconstruction, Engineering and Design was initiated in FY 2006, and construction will begin at signing of the Project Cooperation Agreement. The authorized project cost is \$220,000,000, of which \$110,000,000 is Federally funded, and \$110,000,000 is funded by the non-Federal sponsor.

**Local cooperation.** The non-Federal sponsor is the Tarrant Regional Water District.

**Operations during fiscal year.** FY 2008 expenditures for this project were \$2,623,536. Federal funds were used to continue the preliminary design analyses for the bypass channel, flood isolation gates, continue the development of valley storage (hydraulic mitigation) sites, initiate the plans and specifications for construction of the Samuels Avenue Valley Storage site and award of that construction contract. Federal funds also executed contracts for the development of the Historic Context Report and assessment of cultural resources.

## 8. DALLAS FLOODWAY EXTENSION

**Location.** The Dallas Floodway Extension is in the metropolitan city of Dallas, Dallas County, Texas, along the Trinity River.

**Existing Project.** The project consists of a 3.7 mile long Chain of Wetlands with an average width of 600 feet, with the alignment being placed on the west Trinity River overbank; and Standard Project levee of protection levees protecting the Lamar Street, Rochester Park, and the Cadillac Heights area; a levee providing 500 year level of protection to the Central Waste Water Treatment Plant, plus 31 miles of linear recreation. During flooding, the upper and lower wetlands would convey floodwaters to outfalls east of IH-45 and north of Loop 12, respectively. Additionally, the wetlands would provide 123 acres of ecosystem restoration. The River and Harbor Act of 1965 authorized the flood control portion of the project. Credits for flood protection works constructed by the non-Federal interest were authorized by the Water Resources Development Act of 1996, Section 351, where the Secretary of the Army determined that such work was compatible with the project and was required for its construction. Construction was initiated in FY 2005. Estimated Federal cost of this

project is \$107,460,000 (October 2006 price levels), and estimated cost to local interests is \$51,441,000, a total cost for the project of \$158,901,000.

**Local cooperation.** On May 2, 1996, the citizens passed a bond election to pay for the non-Federal portion of the project. The Project Cooperation Agreement was signed by the city of Dallas in December 2001.

**Operations during fiscal year.** FY 2008 expenditures for this project were \$6,338,456. Funds were used to continue construction, plans and specifications development and reimburse the city of Dallas. The project is 25 percent complete, and is scheduled for completion in September 2015.

## 9. FERRELLS BRIDGE DAM - LAKE O' THE PINES, TX

**Location.** Dam is on Cypress Creek in Marion, Harrison, Upshur, Morris, Camp, and Titus Counties, Texas, 8 miles west of Jefferson, Texas.

**Existing project.** An earthfill dam 10,600 feet long and 77 feet high includes a 200-foot spillway with a capacity of 68,200 cubic feet per second. Reservoir controls runoff from 850 square miles of drainage area, and has a gross storage capacity of 842,100 acre-feet including 587,200 acre-feet flood control storage, 3,800 acre-feet conservation storage, and 251,000 acre-feet for municipal and industrial water supply. Reservoir extends 28 miles upstream. Project affords substantial flood protection of Cypress Creek Valley from dam site to confluence with Red River and, together with operation of other reservoirs proposed in Red River Basin, will provide flood protection along main stem of Red River below Denison Dam. Construction commenced in January 1955 and was completed June 1960. Estimated Federal cost of project is \$19,215,008, including \$1,775,990 for Code 711 and \$399,739 accelerated Public Works fund. This project transferred to the Fort Worth District as of the end of FY 1979.

**Local cooperation.** None required.

**Operations during fiscal year.** Conducted timber harvests on 175 acres of project forestland. Conducted surveys for bald eagles on 94 acres of forestland. Conducted forest resource inventory on 361 acres of project forestland. Cleared and painted 14 miles of project boundary line. Enhanced forest ecosystem by mulching 38 acres and herbicide

application to 30 acres. Co-sponsored two special event white-tailed deer hunts with physically challenged and youth hunters in cooperation with the Challenged Outdoorsmen of America. Paving projects included re-paving the employee parking, visitor parking and compound parking areas at project headquarters and the entrance road to Lakeside Park. Constructed new gate attendant campsites at Alley Creek Campground and Lakeside Day Use Area. Replaced damaged and failed pavement with concrete at the Brushy Creek Campground gate attendant entrance complex. Continued successful volunteer program. Continued routine operations and maintenance activities.

Benefits accrued to Ferrells Bridge Dam-Lake O' The Pines project: Accumulated flood damages prevented through FY 2008 were \$64,937,600.

## 10. GRAHAM, TX (BRAZOS RIVER BASIN)

**Location.** The project is located in the north central Texas city of Graham, in Young County, along Salt Creek, a tributary of the Brazos River.

**Existing project.** The Graham project consists of a buy-out of 113 structures, mostly residential; creation of a local trail system connecting two existing park areas for recreation; installation of a flood warning system estimated to provide a 12-hour warning time; and, ecosystem restoration of 129 acres. Project construction was initiated in FY 2005. The estimated cost of the project is \$13,230,000, with a Federal cost of \$8,426,000 and a non-Federal cost of \$4,804,000.

**Local Cooperation.** The Brazos River Authority is the non-Federal sponsor. The Project Cooperation Agreement was executed on 24 October 1999.

**Operations during fiscal year.** FY 2008 expenditures for this project were \$871,236. Federal funds were used for contract administration on existing demolition activities required for the project. The Brazos River Authority has budgeted additional funding for the Corps to conduct real estate acquisition to satisfy the non-Federal share of the project.

## 11. GRAPEVINE LAKE, TX

**Location.** Dam is in Tarrant County, Texas, on Denton Creek, 11.7 river miles upstream from its confluence with Elm Fork of Trinity River and about 20 miles northwest of city of Dallas, Texas.

**Existing project.** For description of completed improvement and authorizing act, see Annual Report of 1962. Construction of project was started December 1947 and ready for beneficial use in July 1952. Estimated cost of project is \$21,312,792, including \$2,040,000 contributed by local interests. A contract for modification of Embankment and Spillway was awarded September 30, 1983 and completed Fiscal Year 1990. The improvements provided for spillway modification by construction of spillway chute and stilling basin and a berm on the downstream side of the main embankment.

**Local cooperation.** A contract with Dallas County Park Cities Water Control and Improvement District No. 2 for 50,000 acre-feet of water supply storage was approved by Secretary of the Army on March 21, 1955. Park Cities paid the required \$607,000. A contract with city of Dallas for 85,000 acre-feet of water supply storage was approved by Secretary of the Army on March 17, 1954. Dallas paid the required \$1,433,026. A contract with city of Grapevine, Texas, for 1,250 acre-feet of water supply storage was approved by Secretary of the Army on September 14, 1953, at an estimated cost of \$22,654. A contract for Interim Use of Navigation Storage with city of Grapevine was approved by Secretary of the Army on February 27, 1981, at an estimated cost of \$684,000, has been paid in full. Above contracts include payment of operation and maintenance costs as follows: Dallas County Park Cities Water Control and Improvement District No. 2, a pro rata part of the actual annual cost, which part is to be not less than \$2,000 nor more than \$3,000; Dallas, 9.2 percent of actual annual cost; and Grapevine, its pro rata part of actual annual cost (estimated at \$79.55 annually and included in total annual payment). Following operation and maintenance payments have been made: Park Cities, \$166,231; Dallas, \$1,404,611; and Grapevine, \$861,325.

**Operations during fiscal year.** Underbrushed area in advance of constructing new campsite loops and boat ramp parking areas at Murrell Park. Repaired damaged fiber optic cable for Homeland Security System. Completed embankment stabilization test sections. Continued routine operations and maintenance activities.

Benefits accrued to system comprised of Grapevine Lake and Dallas Floodway: Accumulated flood damages prevented through FY 2008 were \$11,818,781,800.

## 12. HORDS CREEK LAKE, TX

**Location.** On Hords Creek, a tributary of Pecan Bayou, about 13.5 miles west of Coleman, Texas, and about 27.8 miles upstream from mouth of Hords Creek.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started January 1947 and completed for beneficial use in April 1948. Estimated cost of project is \$2,709,089 including \$105,000 contributed by local interests.

**Local cooperation.** Completed as required.

**Operations during fiscal year.** Conducted several wildlife habitat improvement projects. Continued successful volunteer program and strong water safety outreach program. Continued routine operations and maintenance activities.

Benefits accrued to Hords Creek project: Accumulated flood damages prevented through FY 2008 were \$1,068,800.

## 13. JIM CHAPMAN LAKE, TX

**Location.** Jim Chapman Lake is located in northeast Texas about 4 miles southeast of Cooper, 13.0 miles north of Sulphur Springs, and is at river mile 23.3 on the South Sulphur River. The South Sulphur River rises in Fannin County, Texas, and flows generally east for about 80 miles to its confluence with the North Sulphur River to form the Sulphur River.

**Existing project.** For description of completed improvement and authorizing acts, see Annual Report of 1997. Construction of project was started in July 1958 and completed for beneficial use in May 1994. The Energy and Water Development Appropriations Act of 1997, Public Law 104-206, H.R. 3816, 104<sup>th</sup> Congress, H.R. 3816, effective September 30, 1996, changed the name of Cooper Lake and Channels, TX, to Jim Chapman Lake, TX. Estimated cost of project

is \$138,682,089, including \$227,000 non-Federal cost for land for the levees.

**Local cooperation.** Local interests (North Texas Municipal Water District, Sulphur River Municipal Water District, city of Irving) will utilize water impounded for present and future water supply. The total cost allocated to water supply to be reimbursed is \$54,600,000. North Texas Municipal Water District, NTMWD, has contracted for 36.859 percent of the water supply storage for future use with deferred payments for ten years. To date, \$761,479 has been paid. Under the contract NTMWD must pay 13.803 percent of actual annual cost of operation and maintenance. To date, \$669,465 has been paid. Sulphur River Municipal Water District, SRMWD, has contracted for 6.5 percent of the water supply storage for initial use and 19.78 percent for future use for a total of 26.282 percent of the water supply storage. To date, \$1,073,119 has been paid. Under the contract, SRMWD must pay 2.435 percent of actual annual operation and maintenance. To date, \$735,552 has been paid. The city of Irving has contracted for 16.923 percent of the water supply storage for initial use and 19.936 for future use for a total of 36.859 of the water supply storage. To date, \$2,075,225 has been paid. Under the contract Irving must pay 6.337 percent of actual annual operation and maintenance. To date \$1,086,263 has been paid.

The Texas Parks and Wildlife Department and the Corps of Engineers entered into or agreed to formal Operation and Maintenance contracts for recreation facilities and wildlife conservation and management. Under the contracts for recreation facilities dated 7 November 1988 and 11 September 1990, Texas Parks and Wildlife is responsible for 100 percent of the operations and maintenance of two state parks constructed with Federal funds. Under the contracts for wildlife conservation and management the state is responsible for 24.14 percent of the operation, maintenance and replacement annual costs for areas totaling approximately 35,500 acres. The remaining balance is the responsibility of the Project Sponsors and the Government.

**Operations during fiscal year.** Conducted timber harvests on 140 acres of project forestland. Four water safety presentations were made to an audience of 1,600 people. Completed shoreline erosion repair and placement of rip-rap stone to Doctor's Creek and South Sulphur State Parks (Texas Parks and Wildlife Department leased parks).

Completed boundary line fencing and wetland water control structure repair at Cooper Wildlife Management Area. Completed road and maintenance building construction at White Oak Creek Wildlife Management Area. Continued routine operations and maintenance activities.

Benefits accrued to Jim Chapman Lake project: Accumulated flood damages prevented through FY 2008 are estimated at \$18,939,200.

#### 14. JOE POOL LAKE, TX

**Location.** Dam is located at River Mile 11.2 on Mountain Creek, a right bank tributary of the West Fork of the Trinity River, and is adjacent to the city limits of Grand Prairie, Dallas County, Texas, which is one of the rapid growing cities in the Dallas-Fort Worth Metropolitan area.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1996. Construction of project was started in 1975 and completed for beneficial use in September 1994. Public Law 97-400, H.R. 7377, 97<sup>th</sup> Congress, effective December 31, 1982, changed the name of Lakeview Lake to Joe Pool Lake. Estimated cost of project is \$200,223,611 including \$11,350,000 contributed by local interests.

**Local cooperation.** The Water Supply Act of 1958 as amended, and the Federal Water Project Recreation Act of 1965 apply. Water storage space contract with the Trinity River Authority (TRA) for 142,900 acre-feet of water supply storage space was executed September 29, 1976. Final capital cost for water storage space is \$60,828,657, including Interest During Construction and contractor claims. The TRA has paid \$29,360,482 to date for water supply. FY 2008 payment of \$52,532 was received from TRA for annual operation and maintenance costs. Recreation development contract with the TRA Joe Pool Lake was executed August 2, 1976. Under this original recreation contract, as amended, TRA had difficulty meeting its long-term capital debt repayment obligation to the Government. As a result, H.R. 4733, Title I, Section 102(b), 106<sup>th</sup> Congress, 2<sup>nd</sup> Session, authorized the city of Grand Prairie, TX, to pay the Government a total of \$4,290,000 in two installments in exchange for the local sponsorship of the recreation program, relieving TRA of any and all obligations. The city of Grand Prairie made its first installment in the amount of \$2,150,000 on

December 1, 2000, and the second and final installment, in the amount of \$2,140,000, on December 1, 2003.

**Operations during fiscal year.** Completed embankment stabilization test sections, concrete toe ditch repair and painting of service gates, sills and liners. Continued routine operations and maintenance activities.

Benefits accrued to Joe Pool Lake project: Accumulated flood damages prevented through FY 2008 were \$2,293,386,900.

#### 15. JOHNSON CREEK, ARLINGTON, TX

**Location.** The project is located in the city of Arlington, Tarrant County, Texas, along Johnson Creek, a tributary of the West Fork of the Trinity River.

**Existing Project.** The Johnson Creek Watershed, which has a drainage area of 21 square miles, lies principally in Tarrant County, with a small portion lying in Dallas County. The originally authorized Johnson Creek project includes a buy-out of 140 structures for flood damage reduction, 155 acres of ecosystem restoration, and 2.25 miles of hard surface trail, picnic facilities and a pavilion. The buy-out would prevent damages during a 25-year flood event. Estimated Federal cost is \$22,339,000 (October 2006 price levels), and estimated cost to local interests is \$9,595,000. The total project cost is estimated at \$31,934,000. Construction was started in 1997 by the city of Arlington. The project was modified by Public Law 110-161, Section 117 to include the new city plan

**Local cooperation.** The city of Arlington, Texas, signed the Project Cooperation Agreement on December 1, 2000. To date, \$7,600,000 has been contributed by the city of Arlington.

**Operations during fiscal year.** Construction of the authorized project was halted in FY 2006 at the request of the city of Arlington. The city has identified the replacement lands as required by Public Law 109-103, Section 134, and has prepared a new plan for Johnson Creek. The new plan will be evaluated by the Corps in the coming fiscal year. FY 2008 expenditures for this project were \$942,707. The project is 20 percent complete overall; the completion date is uncertain because of the halting of the project, and the subsequent reevaluation.

## 16. LAVON LAKE, TX

**Location.** Dam is in Collin County, Texas, on East Fork of Trinity River 55.9 miles above its confluence with Trinity River and about 22 miles northeast of Dallas, Texas.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started January 1948 and ready for beneficial use in September 1953. Project is complete. See following section for Lavon Lake Modification and East Fork Channel Improvement authorized by Flood Control Act of 1962. Estimated cost of project is \$12,864,796.

**Local cooperation.** Section 2, Flood Control Act of 1938, applies. A contract with North Texas Municipal Water District, NTMWD, for water supply storage, including cost of intake structure, was approved by Secretary of the Army July 8, 1954, at an estimated cost of \$1,405,753. Contract was revised in 1973 and final revised contract amount is \$1,445,262. To date, NTMWD has paid \$50,735,657. Under the contract, NTMWD must pay annually 13.6 percent of actual annual cost of operation and maintenance, and to date has paid \$2,398,863.

**Operations during fiscal year.** Repaired docks damaged in 2007 flood. Repaired main sewer line break in Lavonia Park. Renovated maintenance storage building. Continued routine operations and maintenance activities.

Benefits accrued to Lavon Lake project: Accumulated flood damages prevented through FY 2008 were \$605,323,400.

## 17. LAVON LAKE MODIFICATION AND EAST FORK CHANNEL IMPROVEMENT, TX

**Location.** Existing dam is in Collin County Texas, on East Fork of Trinity River, 55.9 miles above its confluence with Trinity River and about 22.0 miles northeast of Dallas, Texas. Channel improvement of East Fork extends from its mouth to River Mile 31.8.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1988. Construction of project was initiated in May 1970 and ready for beneficial use in December 1975. Estimated Federal cost of the modification and improvement is \$70,200,000, of which approximately \$2,200,000 is non-Federal contribution for lands, damages and relocations. Project is complete.

**Local cooperation.** Local interests must reimburse the Federal Government for costs allocated to increased water supply storage under the terms of the Water Supply Act of 1958. The North Texas Municipal Water District, NTMWD, has contracted for 43 percent of the water supply (approved September 22, 1967, by the Secretary of the Army) and to date \$985,433 has been paid. NTMWD has submitted assurance to contract for 57 percent of future water supply. Reimbursement is currently estimated at \$39,933,278.

Levee Districts 4 and 5, which comprise the lower 10 miles of the East Fork Channel, entered into agreements as required by Section 221 of the Flood Control Act of 1970 on January 28, 1972 and have furnished all necessary construction easements.

Levee Districts 6, 8, 10, 13, and 15, which comprise the upper 15 miles of the East Fork Channel, have declined to provide the necessary assurances. On December 8, 1972, this portion of the project was reclassified from "active" to "inactive" category.

**Operations during fiscal year.** Continued routine operations and maintenance activities.

## 18. LEWISVILLE DAM, TX

**Location.** Dam is in Denton County, Texas, on Elm Fork of Trinity River 30 river miles above its confluence with Trinity River and about 22 miles northwest of city of Dallas, Texas at a site downstream from old Garza Dam.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started November 1948 and ready for beneficial use in November 1954. Estimated cost of project is \$19,654,988, including \$1,117,409 contributed by local interests.

**Hydropower:** The city of Denton, Texas, COD, was licensed by the Federal Energy Regulatory Commission to construct a 2,000-kilowatt plant, which is located adjacent to the existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. COD Utilities Department utilizes this power for its local customers. Construction of the hydropower was completed in 1991 with non-Federal funds.

**Local cooperation.** A contract with city of Dallas for 415,000 acre-feet of water supply storage land rights and interests to Garza Dam and Reservoir was approved by the Secretary of the Army on July 16, 1953. Local contributions have been made in full. A contract with city of Denton, Texas, for remaining 21,000 acre-feet of water supply storage was approved by the Secretary of the Army on May 20, 1954, with an estimated cost of \$250,064. Local contributions have been paid in full. Under above contracts, cities of Dallas and Denton must pay annually 21.9 and 1 percent, respectively, of actual annual cost of operation and maintenance. To date Dallas has paid \$6,810,412 and Denton \$305,008.

**Operations during fiscal year.** Underbrushed seepage areas for dam seepage/unstability correction study. Renovated office building to support new organization office space needs. Repaired docks damaged in 2007 flood. Issued contracts for outlet works erosion repair and uncontrolled spillway erosion repair. Continued routine operations and maintenance activities.

Benefits accrued to system comprised of Lewisville Lake; this includes Ray Roberts Lake and Dallas Floodway Systems. Accumulated flood damages prevented through FY 2008 were \$43,477,508,600.

## 19. NAVARRO MILLS LAKE, TX

**Location.** Dam is in Navarro County, Texas, at River Mile 63.9 on Richland Creek, a tributary of Trinity River, about 16.0 miles southwest of Corsicana, Texas.

**Existing project.** For description of completed improvement and authorization acts see Annual Report of 1965. Construction started December 1959 and project completed for beneficial use March 1963. Estimated cost of project \$10,081,758 including \$300,000 contributed by local interests.

**Local cooperation.** The Water Supply Act of 1958, as amended, applies. A formal contract with the Trinity River Authority was approved March 3, 1966, by the Secretary of the Army at an estimated cost of \$2,260,800. To date the Authority has paid \$2,070,790 for water supply and \$2,733,710 for operation and maintenance.

**Operations during fiscal year.** Upgraded electrical service at 21 campsites in Liberty Hill Park. Performed crack sealing and maintenance on flood damaged roads in Oak Park. Installed a new metal roof on project office. Installed new tainter gate controls and wiring to provide increased reliability in support of the flood risk management mission. Planted approximately 125 acres of native prairie mix to restore native prairies and improve wildlife habitat. Continued routine operations and maintenance activities.

Benefits accrued to Navarro Mills Lake project: Accumulated flood damages prevented through FY 2008 were \$61,681,100.

## 20. O.C. FISHER DAM AND LAKE, TX

**Location.** Dam is on North Concho River, a tributary of Concho River, about 6.6 miles above mouth of North Concho River near city of San Angelo, Texas.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Name was changed from San Angelo Dam and Reservoir to O.C. Fisher Dam and Lake January 3, 1975 by Public Law 93-634. Construction of project was started May 1947 and ready for beneficial use February 1952. Estimated cost of project is \$16,027,467.

**Local cooperation.** Section 2, Flood Control Act of 1938, applies. A water supply contract with Upper Colorado River Authority for water supply storage in reservoir was approved by Secretary of the Army on October 11, 1948. The Authority has contributed \$860,444 toward cost of project and \$315,597 toward operation and maintenance for a 50-year period. The Authority must pay additional contributions of \$1 a year for useful life of project, beginning January 1, 1965.

**Operations during fiscal year.** Executed contract for upgrading electrical wiring and controls for gates. Continued routine operations and maintenance activities.

Benefits accrued to O.C. Fisher Dam and Lake project: Accumulated flood damages prevented through FY 2008 were \$21,140,800.

## 21. PROCTOR LAKE, TX

**Location.** Dam is at River Mile 238.9 on Leon River, a tributary of Brazos River, about 8.0 miles northeast of Comanche in Comanche County, Texas.

**Existing project.** For description of completed improvement and authorization act see Annual Report of 1969. Construction of project was started July 1960 and completed for beneficial use 1963. Estimated cost of project is \$14,464,585.

**Local cooperation.** The Water Supply Act of 1958 applies. A formal contract with the Brazos River Authority, a State agency, was approved by Secretary of the Army, July 1, 1960, and was modified and approved May 9, 1966, at an estimated cost of \$1,707,900. To date the Authority has paid \$759,787 for water supply and \$1,255,524 for operation and maintenance.

**Operations during fiscal year.** Completed access road along the downstream toe of dam for stabilization and vehicle access. Dam seepage mapping and essential flood damage repairs to parks and natural resources was also completed. Major remaining flood damage requirements were identified/quantified. Continued routine operations and maintenance activities.

Benefits accrued to Proctor Lake project: Accumulated flood damages prevented through FY 2008 were \$81,300,900.

## 22. RAY ROBERTS LAKE, TX

**Location.** Dam site is located at River Mile 60.0 on the Elm Fork of the Trinity River, Denton County, between Sanger and Aubrey, Texas and 30 miles upstream from Lewisville Dam.

**Existing project.** The plan of improvement provides for construction of an earthfilled dam with a maximum height of 141 feet above the streambed, a

length of 15,250 feet including an uncontrolled broadcrested spillway 100 feet long, controlling 682 square miles of drainage area. The lake will have a total controlled storage of 1,064,600 acre-feet, with a water surface area of 36,900 acres. The total storage includes 260,800 acre-feet for flood control, 749,200 acre-feet for water supply, and 54,600 acre-feet for sediment reserve. The Water Resources Development Act of 1990 authorized the Greenbelt Corridor between Lewisville and Ray Roberts Lakes. Estimated Federal cost of the project is \$319,653,200. Public Law 96-384, 96<sup>th</sup> Congress, H.R. 8094, effective January 4, 1981, changed the name of Aubrey Lake to Ray Roberts Lake.

**Hydropower:** At the request of the city of Denton and the approval of the Secretary of the Army the penstock was added to the embankment as a minimum facility for future hydropower. The city of Denton, Texas, COD, was licensed by the Federal Energy Regulatory Commission to construct a 1,000-kilowatt plant, which is located adjacent to the existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. COD Utilities Department utilizes this power for its local customers. Construction of the hydropower was completed in 1991 with non-Federal funds.

**Local cooperation.** The Water Supply Act of 1958, as amended, and the Federal Water Project Recreation Act of 1965 and Section 221, Flood Control Act of 1970 apply. Contracts with the cities of Dallas and Denton, Texas, for water supply storage and recreation were approved by the Secretary of the Army, September 16, 1980. To date the cities of Dallas and Denton have paid in full their share of the water supply storage. Dallas has paid \$1,660,608 and Denton has paid \$583,439 toward annual cost of operation and maintenance.

**Operations during fiscal year.** Issued contracts to construct concrete toe ditch and repair erosion in emergency spillway and outlet works channel. Continued routine operations and maintenance activities.

Benefits accrued to Ray Roberts Lake project: Accumulated flood damage prevented is shown with Lewisville Dam, TX.

## 23. SAN ANTONIO CHANNEL IMPROVEMENT, TX

## FORT WORTH, TX, DISTRICT

**Location.** Floodway is in the city of San Antonio, Bexar County, Texas, on the San Antonio River and San Pedro, Apache, Alazan, Martinez, and Six Mile Creeks.

**Existing Project.** The project consists of 30.7 miles of channel and associated improvements on six separate streams. Completion of detailed engineering and design studies revealed that the least costly alternative for the remaining channel improvements would consist of two tunnels 120 feet below the surface each having an inside diameter of 24 feet and vertical intake, outlet and access shafts. The San Pedro Creek tunnel is 6,040 feet in length and the San Antonio River tunnel is 16,360 feet in length. Construction of the initially authorized project was initiated in FY 1957. Estimated Federal cost of this project is \$224,900,000 (Oct. 1, 2006, base price), and estimated cost to local interests is \$106,100, which includes \$30,220,000 cash contributions and \$75,880,000 for lands, damages, work-in-kind, and construction, a total of \$331,000,000. The originally authorized project for flood risk management is complete. The remaining project for ecosystem restoration and recreation includes the creation of 113 acres of aquatic and 320 acres of riparian habitat and 55,800 feet of multi-purpose recreation trails. Improvements for flood risk management considered for the Woodlawn area will consist of channel modifications, detention dams and buyouts.

**Local cooperation.** Local interests must furnish lands and rights-of-way for construction, including purchase and removal of buildings, relocation or reconstruction of bridges (exclusive of railway bridges), channel dams where applicable, and utility lines; hold the United States free from damages; maintain and operate all works after completion; and provide a cash contribution for enhancement benefits of 2.65 percent of actual Federal construction cost. San Antonio River Authority furnished assurances that it will comply with all requirements of local cooperation. These assurances were accepted by the District Engineer on April 15, 1957. To date \$4,088,579 has been contributed by San Antonio River Authority.

**Operations during fiscal year.** During FY 2008, funds were used to fully fund construction of Phase I of the Mission Reach ecosystem and recreation separable element and initiated design of Phase IV of the Mission Reach.

Benefits accrued to San Antonio project: Accumulated damages prevented through FY 2008 were \$500,792,200.

## 24. SAN GABRIEL RIVER, TX

**Location.** Project is a system of three reservoirs in Williamson County in the central portion of Brazos River Basin, which consists of Granger Dam at River Mile 31.9 on San Gabriel River, about 7.0 miles east of Granger, Texas; North San Gabriel Dam at River Mile 4.3 on North Fork of San Gabriel River, about 3.5 miles northwest of Georgetown, Texas; and South Fork Dam at River Mile 4.7 on South Fork of San Gabriel River, about 3.0 miles southwest of Georgetown, Texas.

**Existing project.** For description of completed improvements and authorizing acts, see the Annual Report of 2001. Construction of Granger Lake started in October 1972 and the project was ready for beneficial use in January 1980. Estimated cost of project is \$62,061,653. Construction of North San Gabriel Dam and Lake Georgetown started in October 1972 and the project was ready for beneficial use in March 1980. Estimated cost of project is \$38,765,313. The South Fork Lake project will be proposed for deauthorization in the next Water Resources Development Act.

**Local cooperation.** Construction is subject to condition that local interests reimburse the Federal Government for costs allocated to water supply at Granger, Georgetown, and South Fork Lakes. Reimbursement currently estimated at \$13,315,000 for Granger, \$6,295,000 for Georgetown, and \$50,563,000 for South Fork, for a total of \$70,172,000, exclusive of interest. Brazos River Authority, a State agency, is the local interests' sponsor of project, and by letter dated April 18, 1966, indicated its acceptance of the proposed plan of development and its willingness to pay for the costs allocated to water supply in each reservoir in the ultimate plan. Such water supply assurances for Granger and Georgetown Lakes were approved May 24, 1968 as satisfactory in accordance with requirements of the Water Supply Act of 1958, as amended.

**Operations during fiscal year.** Granger: Completed repairs to main access road in Friendship Park. Continued successful volunteer program and

strong water safety outreach programs. Georgetown: repaired/repainted gate in outlet works. Continued successful volunteer program and strong water safety outreach programs. Routine operations and maintenance continued at both projects.

Benefits accrued to project consisting of Granger and Georgetown: Accumulated flood damages prevented through FY 2008 were \$77,723,500.

## 25. SOMERVILLE LAKE, TX

**Location.** Dam is on Yegua Creek 20 miles upstream from its confluence with Brazos River and about 2 miles south of Somerville, Texas.

**Existing project.** For description of completed improvements and authorizing act see Annual Report of 1969. Construction started in June 1962 and the project was ready for beneficial use in January 1967. Estimated cost of project is \$27,790,437.

**Local cooperation.** The Water Supply Act of 1958, as amended, applies. A contract with the Brazos River Authority, a State agency, for water supply storage approved May 10, 1962, by the Secretary of the Army, has paid \$3,702,580 to date. Also under the contract, the Authority must pay annually 28.655 percent of the actual annual cost of operation and maintenance. FY 2008 payment of \$264,916 was received from the Authority.

**Operations during fiscal year.** Repaired recreation facilities damaged by 2007 flood. Completed repairs to emergency spillway. Completed drilling of well in Yegua Creek park. Constructed new restroom in Rocky Creek park. Initiated repairs to guardrail and posts along dam. Continued successful volunteer program and strong water safety outreach program. Continued routine operations and maintenance activities.

Benefits accrued to Somerville Lake project: Accumulated flood damages prevented through FY 2008 were \$183,409,800.

## 26. STILLHOUSE HOLLOW DAM, TX

**Location.** Dam is on Lampasas River 16 miles upstream from its confluence with Little River, a

tributary of the Brazos River, and about 5 miles southwest of Belton, Texas.

**Existing project.** For description of completed improvements and authorizing act see Annual Report of 1969. Construction was initiated in July 1962 and the project was ready for beneficial use in February 1968. Estimated cost of project is \$20,522,084.

**Local cooperation.** The Water Supply Act of 1958 applies. A contract with the Brazos River Authority, a State agency, for water supply storage was approved April 13, 1962, by the Secretary of the Army, at an estimated cost of \$6,912,430. To date the Authority has paid \$4,838,209. Also under the contract the Authority must pay annually 27.748 percent of the actual annual cost of operation and maintenance. To date the Authority has paid \$3,206,291.

**Operations during fiscal year.** Repaired recreation facilities damaged by 2007 flood. Continued successful volunteer program and strong water safety outreach program. Continued routine operations and maintenance activities.

Benefits accrued to Stillhouse Hollow Dam Project: Accumulated estimate of flood damages prevented through FY 2008 is \$127,136,900.

## 27. WACO LAKE, TX

**Location.** Dam is on Bosque River, 4.6 river miles above its confluence with Brazos River, at city of Waco, McLennan County, Texas.

**Existing project.** For description of completed improvements and authorizing act see Annual Report of 1969. Estimated cost of project is \$52,755,921. Construction was started in July 1958, and project was ready for beneficial use in February 1965.

**Local cooperation.** Section G of the Flood Control Act of December 1944 applies. A contract with the Brazos River Authority, a State agency, for water supply storage and the contract with the city of Waco transferring the existing Lake Waco to the Government for their water storage, was approved by the Secretary of the Army on April 15, 1958. To date, the Authority for their portion of the water supply storage has paid \$4,123,354. Also under the contract the Authority and the city must pay 14.706 and 2.087 percent respectively of the actual cost of

## FORT WORTH, TX, DISTRICT

operation and maintenance. To date the Authority has paid \$2,587,548 and the city has paid \$381,679. A contract with the Brazos River Authority, for additional storage for municipal and industrial water supply, was approved by the Acting Assistant Secretary of the Army, September 28, 1984.

**Operations during fiscal year. Completed upgrade of electrical wiring and controls for tainter gates. Completed essential flood damage repairs to parks and natural resources. Identified/quantified major remaining flood damage requirements. Worked with local constituents and congressional interest to designate a bank fishing access area. Developed the strategy for providing a major supply line for water to the southwest side of the lake for three recreational parks.** Continued routine operations and maintenance activities.

Benefits accrued to Waco Lake project: Accumulated flood damages prevented through FY 2008 were \$418,100,400.

### **28. WRIGHT PATMAN DAM AND LAKE, TX**

**Location.** Dam is on Sulphur River in Cass and Bowie Counties, Texas. Dam is 45 miles above mouth of Sulphur River, and about 8 miles southwest of Texarkana, Texas.

**Existing project.** For description of completed improvements and authorizing act see Annual Report of 1984. Estimated cost of project is \$51,793,437, which includes \$1,606,418 Code 711, \$399,939 accelerated public works funds, and \$13,138,004 to be reimbursed by local interests, over a period not to exceed 50 years, for water supply storage, and including \$2,092,040 for pro rata share of original reservoir cost. Construction was initiated in August 1948 and completed in March 1962, except real estate activities, construction under Code 711, and conversion of 120,000 acre-feet to water supply storage after completion of Cooper Reservoir (now Jim Chapman Lake). This project transferred to the Fort Worth District as of the end of FY 1979.

**Local cooperation.** A contract with the city of Texarkana, Texas, for reserving water supply storage space was approved by the Secretary of the Army December 17, 1968. To date, the city has paid

\$1,110,622. The city has paid \$869,977 toward operation and maintenance costs of the project.

**Operations during fiscal year.** Conducted timber harvests on 912 acres of project forestland. Conducted surveys for bald eagles on 647 acres of forestland. Mowed 75 miles and cleared 3 miles of project boundary line. Completed surveys for cultural resources on approximately 1,200 acres of forestland. Conducted forest resource inventory on 970 acres of project forestland. Maintained approximately 135 acres of wildlife food plots. Co-sponsored two special event white-tailed deer hunts with physically challenged and youth hunters in cooperation with the Challenged Outdoorsmen of America. Thirty-five water safety presentations were made to an audience of 1,893 visitors. Constructed three screened shelters; upgraded electrical load center; installed new sewer system; and, resurfaced park roads in D & E loops at Clear Springs Park. Resurfaced park roads in D loop at Malden Park. Purchased a new forklift. Repaired courtesy docks damaged as a result of Hurricane Ike. Completed repairs to the concrete boat ramp at Piney Point Park. Sponsored annual shoreline clean-up. Continued routine operations and maintenance activities.

Benefits accrued to Wright Patman Dam and Lake project: Accumulated flood damages prevented through FY 2008 were \$95,291,600.

### **29. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS**

Inspection of completed local flood protection projects is made periodically in compliance with Section 208. 10, of Title 33, Code of Federal Regulations, which contains regulations for operation and maintenance of local flood-protection works approved by the Secretary of the Army in accordance with authority in Section 3, Flood Control Act of 1936. See Table 39-D for inspections made this fiscal year.

Total inspection costs for FY 2008 from regular funds for maintenance were \$278,608.

### **30. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS**

In accordance with Flood Control Act of 1944, expenditures were made for scheduling flood control reservoir operations and preparation of reservoir regulation manual for Marshall Ford Dam, on the

Colorado River, near city of Austin, Texas, and for preparation of reservoir regulation manual for Twin Buttes Dam, on Middle and South Concho Rivers near city of San Angelo, Texas. Marshall Ford Dam was authorized by 1937 River and Harbor Act. Project was constructed jointly by Bureau of Reclamation and Lower Colorado River Authority and was completed during FY 1942. Twin Buttes Reservoir was authorized for construction by Department of Interior by Public Law 152, 85th Congress. Construction was initiated in June 1960; closure of dam started in June 1962; deliberate impoundment was started January 23, 1963.

Accumulated damages prevented by Marshall Ford Reservoir through FY 2008 were \$428,928,800 and by Twin Buttes through FY 2008 were \$1,179,850. Twin Buttes Reservoir consists of two separate pools, one on South Concho River and the other on Middle Concho River and Spring Creek. Equalizing channel between these two pools is at elevation 1925.0.

Total expenditures for scheduling reservoir operations in FY 2008 were \$127,889.

### **31. OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

(See Table 39-C.)

### **32. WORK UNDER SPECIAL AUTHORIZATION**

(See Table 39-E.)

Flood control activities pursuant to Section 205, Public Law 585, 80th Congress, as amended (preauthorization); Emergency stream bank protection under Section 14, Public Law 526, 79th Congress, as amended; Snagging and Clearing of navigable streams and tributaries in interest of flood control Section 208, Public Law 780, 83rd Congress, as amended. Emergency flood control, hurricane-flood, and shore protection activities, Public Law 99, 84th Congress, and antecedent legislation, Environmental restoration under Section 1135, Public Law 662, 99th Congress, as amended; Aquatic ecosystem restoration under Section 206, Public Law 303, 104<sup>th</sup> Congress.

Fiscal year costs were \$16,700 for Operations & Maintenance funded catastrophic disaster preparedness program; \$66,597 for nationwide civil works activities, recreation; \$272,029 for Flood

Control and Coastal Emergencies funded disaster preparedness program; \$218,872 for levee repairs, rehabilitation and inspection program; \$58,725 for response operations (operational support), \$11,116 for continuing eligibility inspections and, \$273,218 for response operations (Proctor Lake).

## **Multi-Purpose Projects Including Power**

### **33. ROBERT DOUGLAS WILLIS HYDROPOWER, TX**

**Location.** For location of completed dam see Town Bluff Dam-B.A. Steinhagen Lake, Texas, section 35 in this chapter.

**Existing project.** Installation of hydroelectric power generating facilities at Town Bluff Dam was authorized by the River and Harbor Act of 1945 (Public Law 79-14), March 2, 1945, but deferred in the original construction. Town Bluff Dam was completed and placed in operation in 1951. A Design Analysis Report completed in April 1982 and a Feasibility Report approved September 9, 1983 indicated that installing hydropower at this project was economically feasible. The hydropower facilities include a 7,400-kilowatt power plant (two units at 3,700 kilowatts each), intake and outlet facilities, and necessary switchgear equipment is located in the main embankment at the old diversion channel. The plant is operated remotely from the Sam Rayburn project. The project produces an estimated 35,900 megawatt hours of energy per year. There is no Federal cost on this project; it is completely funded by non-Federal funds. The estimated non-Federal cost is \$18,643,000. 101st Congress House Report 923, effective February 7, 1989, changed the name of Town Bluff Hydropower to Robert Douglas Willis Hydropower.

**Local cooperation.** A contract with the Sam Rayburn Municipal Power Authority was approved by Secretary of the Army, June 28, 1985, relative to financing, escrow agreement, and power sales agreement.

**Operations during fiscal year.** Completed repairs on tainter gate electric and control systems. Worked cooperatively and successfully with the Lower Neches Valley Authority and Texas Parks and Wildlife Department in season-long noxious aquatic vegetation control program, which greatly reduced floating vegetation and re-established public access

and native habitat. Utilized supplemental funds for cleanup and repair of recreation facilities and prime facilities. Reopened parks ahead of schedule. Initiated ecosystem recovery. Continued salvage timber harvest operations after Hurricane Rita. Conducted prescribed burns on 200 acres of forestland. Cleared and painted 38 miles of project boundary line. Completed surveys for cultural resources on 578 acres of forestland. Continued routine operations and maintenance activities.

**34. SAM RAYBURN DAM AND RESERVOIR, TX**

**Location.** Dam is on Angelina River 25.2 miles upstream from its confluence with Neches River and about 10.0 miles northwest of Jasper, Texas.

**Existing project.** For description of completed improvements and authorizing act see Annual Report of 1969. Construction was started August 1956 and project was ready for beneficial use in March 1965. Estimated cost of project is \$68,683,000 including \$3,000,000 contributed by local interests.

**Local cooperation.** A contract with the Lower Neches Valley Authority, a State agency, to contribute \$3,000,000 toward the first cost and an additional \$200,000 annually for 50 years after completion of the project was approved by the Secretary of the Army on January 22, 1957. Contribution of \$3,000,000 was made in full and annual payments to date of \$5,800,000 have been made by the Authority.

A contract with the city of Lufkin for water supply storage was approved May 27, 1969, by the Secretary of the Army at an estimated cost of \$525,600. To date, the city has paid \$1,954,310. Also under the contract the city of Lufkin must pay annually 0.692 percent of the annual cost of operation and maintenance. To date, the city has paid \$314,570.

**Operations during fiscal year.** Procured and installed two courtesy docks at Mill Creek Park and one courtesy dock at San Augustine Park. Constructed eight screen shelters and a 40' by 65' group shelter at Hanks Creek Park. Paved roads and improved/expanded parking areas at Mill Creek Park. Built new parking areas at Ebenezer and San Augustine Parks to service new restrooms. Installed new security lights at the lake office compound and

at Twin Dikes park public boat ramp. Repaired erosion, dropoffs and other ground hazards at 149 campsites at Twin Dikes Park, Ebenezer Park, Mill Creek Park, San Augustine Park, Rayburn Park and Hanks Creek Park. Repaired and reopened undercut boat ramp at Twin Dikes Park. Conducted timber harvests on almost 300 acres. Replanted 37 acres of tornado damaged forestland. Conducted surveys of threatened and endangered species on 347 acres of forestland. Cleared and painted 23 miles of project boundary line. Enhanced, by the application of herbicide, the natural regeneration of forestland after Hurricane Rita. Conducted prescribed burns on 500 acres of forestland. Completed surveys for cultural resources on 295 acres of forestland. Coordinated right-of-way easement for roadway and waterline for the new East Texas Fish Hatchery. Performed retrofit of mechanical governors by installation of PLC-based digital controls, replacing mechanical governor components with digital counterparts, replacement of governor pressure pumps and pressure/level controls. Installed governor interface control panels into new control room console with duplicate panels into actuator cabinets for both governors. Continued routine operations and maintenance activities to maximize availability of generation.

Benefits accrued to Sam Rayburn project: Accumulated flood damages prevented through FY 2008 were \$1,158,836,100.

**35. TOWN BLUFF DAM - B. A. STEINHAGEN LAKE, TX**

**Location.** Dam is on Neches River about 12.4 miles below mouth of Angelina River, one-half mile north of Town Bluff, Texas, and 93.0 river miles north of Beaumont, Texas.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction started March 1947 and project was ready for beneficial use in April 1951. Estimated cost of project is \$8,577,396, including \$2,000,000 contribution by local interests.

**Local cooperation.** Completed as required.

**Operations during fiscal year.** Repaired tainter gate electric and control systems. Utilized Hurricane Rita supplemental funds to repair erosion downstream of tainter gates and power plant, repair

recreation facilities and prime facilities, and clean up debris. Continued routine operations and maintenance activities.

### **36. WHITNEY LAKE, TX**

**Location.** Dam is on Brazos River, about 442 miles above mouth of river, 5.5 miles southwest of Whitney, Texas, and about 38 miles upstream from city of Waco, Texas.

**Existing project.** For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started May 1947 and ready for flood control use in December 1951. First power was placed on the line in June 1953. Raise power pool is complete. Estimated cost of project is \$42,952,939.

**Local cooperation.** Section 2, Flood Control Act of 1938, applies. A contract with the Brazos River Authority, a State agency, for water supply storage was approved by the Secretary of the Army November 3, 1982. To date, the Authority has paid \$286,964.

**Operations during fiscal year.** Opened Kimball Bend Park for camping and boat launching. Continued Phase III development at Ham Creek Park, which includes installation of camping sites, restrooms and support facilities. Completed contract for upgrading electrical wiring and controls for tainter gates. Made significant progress in fencing remote boundary areas, limiting unauthorized vehicle traffic, and restoration of damaged resources. Completed significant endangered species surveys and habitat evaluations with the U S Fish and Wildlife Service. Continued routine operations and maintenance activities.

Benefits accrued to Whitney Lake project: Accumulated flood damages prevented through FY 2008 were \$950,161,100.

### **37. WHITNEY LAKE (POWERHOUSE), TX (MAJOR REHAB)**

**Location.** Whitney Lake is located on the Brazos River, about 75 miles southwest of Dallas, Texas. The powerhouse is located at the dam, approximately 5.5 miles southwest of Whitney, Texas, on State Highway 22.

**Existing Project.** Replace the two turbines, rewind and uprate the two generators, and replace necessary peripheral items and equipment within the powerhouse. The total increase in power output of the plant will be from 30 megawatts to 42 megawatts.

**Local Cooperation.** The power produced by the project is marketed by the Southwestern Power Administration to the Brazos Electric Power Cooperative as part of the Electric Reliability Council of Texas (ERCOT). The project is to be 100 percent Federally funded with payback from the Southwestern Power Administration's sale of power. Reimbursement payments will be initiated at the completion of construction.

**Operations during fiscal year.** Design was completed on the turbine runners and manufacture of the Unit #1 turbine runner was begun. Option #2 of the turbine/generator contract was awarded for \$4,283,383. This option is for the purchase of materials and manufacture of the generator rewind components. Design was approximately 60% completed for the generator rewinds. Options were also awarded for design (\$52,000) and manufacture of new wicket gates for Unit #1 (\$627,945). FY 2008 expenditures were \$790,907.

## **General Investigations**

### **38. SURVEYS**

Fiscal year costs for reconnaissance and feasibility studies were \$1,572,701 for flood damage prevention studies and \$1,569,508 for ecosystem restoration studies. Miscellaneous activities include \$4,475 for Coordination with Other Water Agencies; \$26,332 for Special Investigations; \$115,893 for Planning Assistance to States; \$27,465 for Inter-agency Water Resource Development.

### **39. PRECONSTRUCTION ENGINEERING AND DESIGN**

DALLAS FLOODWAY, UPPER TRINITY RIVER BASIN,, TX

The project area is located adjacent to the Stemmons business corridor and the central business district I n metropolitan Dallas, Dallas County, Texas. The existing floodway extends along the Trinity River upstream from the abandoned Atchison, Topeka and Santa Fe (AT&SF) railroad bridge at the confluence of the West and Elm Forks, then upstream

along the West Fork for approximately 2.2 miles and upstream along the Elm Fork approximately four miles. The project was authorized for construction in the Water Resources Development Act of 2007, Public Law 110-114, Section 5141, at a total project cost of \$459,000,000, with an estimated Federal share of \$298,000,000 and an estimated non-Federal share of \$161,000,000. The Design Agreement for the design and plans and specifications for the project is under development.

#### L COLORADO RIV, WHARTON/ONION, TX

The project areas are located in southeast Austin and southeast Travis County along Onion Creek, and in the city of Wharton, along the lower portion of the Colorado River. The Onion Creek component, with an estimated first cost of \$83,200,000 (October 2006 prices), would consist of a buyout of approximately 490 structures, with the vacated area being redeveloped to produce passive recreational and ecosystem restoration outputs estimated at 62.7 habitat units annually.. The city of Wharton component, with an estimated first cost of \$27,600,000 (October 2006 prices), would provide flood damage reduction to the city, and would consist of levees, a small channel modification and other associated drainage features. Monetary net benefits for both components are estimated at \$4,900,000 annually. FY 2008 activities included preparation of the draft Project Partnering Agreement, The Design Document Report for all segments, a value engineering study for Wharton, and completion of remaining detailed survey/topography and existing infrastructure for the Wharton area. Completed draft plans and specifications for the Onion Creek demolition. Expenditures for this project in 2008 were \$281,392.

#### RIVERSIDE OXBOW, TX

The Riverside Oxbow project is located just east of downtown Fort Worth on the West Fork of the Trinity River. (For further project details, see the 2007 Annual Report, Chapter 39, paragraph 39/2). The city of Fort Worth requested that the U S Army Corps of Engineers incorporate the features of the Riverside Oxbow study into that of the authorized Central City project (see paragraph 7 of this report). These proposed modifications to the Central City project include changing the location of the valley storage hydraulic mitigation areas required for the Central City project, and incorporation of ecosystem restoration and recreation features within the area of the proposed Riverside Oxbow. This proposal

became the Modified Central City alternative in the subsequent project documentation. A Final Supplement #1 to the Final Environmental Impact Statement, dated March 2008, and a Final Modified Project Report, dated April 2008, was completed to document the analysis of technical soundness and environmental acceptability of modifying this project.

#### **40. COLLECTION AND STUDY OF BASIC DATA**

Work continued under the Flood Plain Management Services on the compilation of information on floods and potential flood damages, including identification of those areas subject to inundation. FY 2008 expenditures for Flood Plain Management Services totaled \$60,356; Technical Services totaled \$88,457, and \$98,743 was expended on the city of Aledo Special Study. FY 2008 costs for hydrologic studies were \$8,003.

#### **MISCELLANEOUS (WATER SUPPLY)**

#### **41. TEXAS WATER ALLOCATION ASSESSMENT**

The study area includes the state of Texas. The study was authorized in response to Texas Senate Bill 1 and the establishment of the Regional Planning Groups. These planning groups are responsible for developing plans (every five years) to meet future water supply needs in their region for the next fifty years. The objective is to identify potential opportunities for the Corps to assist the state in meeting future water needs through immediate technical assistance, and/or through initiation of studies leading to possible implementation of cost-shared water resources projects. Work is being accomplished by Fort Worth district in-house staff, other Districts in Southwestern Division, the U. S. Geological Survey, the Texas Water Development Board, academia, and various Architect/Engineer contractors. FY 2008 expenditures were \$681,234. Activities for this year included an environmental study of the Lower Brazos River, continuation of the Spring survey, Lake Kemp reallocation study, Phase II of the Cedar Ridge Reservoir study (including development of the PMP), environmental flows estuaries and priority studies; the Gibbons Creek hydrographic survey, Bosque Watershed

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

studies/demonstration project and additional permitting workshops. The study cost is estimated to be \$12,000,000, and is 100 percent Federally funded.

FORT WORTH, TX, DISTRICT

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note
1	Trinity River Project, TX includes Channel to Liberty Tennessee Colony Lake and Dallas Floodway Extension	New Work: Approp. Cost	8,410,000 4,201,156	15,137,000 20,894,551	4,150,000 12,850,690	12,792,000 6,338,456	93,449,865 79,728,609	
2	Aquilla Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 606,000 611,605	- - 980,000 694,779	- - 775,000 932,867	- - 873,000 825,614	45,503,300 45,503,300 14,541,075 14,360,179	
3	Bardwell Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 1,503,000 1,514,420	- - 1,350,000 1,315,656	- - 1,642,000 1,618,971	- - 2,005,000 1,879,628	10,944,505 10,944,505 42,618,060 41,280,509	18 18
4	Belton, Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,721,000 2,960,142	- - 2,669,000 2,536,851	- - 2,977,000 2,661,390	- - 2,985,000 2,630,569	16,960,549 16,960,549 70,175,633 69,296,174	1 18 18
5	Benbrook Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,299,000 2,177,562	- - 2,294,000 2,015,921	- - 2,054,000 2,476,748	- - 2,952,000 2,153,948	13,130,463 13,069,991 57,616,171 55,394,039	2 18 18
6	Canyon Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,532,000 2,616,037	- - 5,320,000 2,881,262	- - 3,401,000 4,875,515	- - 2,978,000 3,401,053	19,088,524 19,088,524 63,788,711 63,018,240	3 18 18

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note
7	Central City, Fort Worth, Upper Trinity River Basin, TX (Federal Funds) (Contributed Funds)	New Work: Approp. Cost Contrib. Cost	- - - -	6,780,000 634,711 2,310,000 440,355	1,300,000 3,546,505 383,000 1,169,712	7,872,000 2,623,536 366,000 799,010	15,952,000 6,804,752 3,059,000 2,409,077	
8	Dallas Floodway Extension (Federal Funds) (Contributed Funds)	New Work: Approp. Cost Contrib. Cost	8,410,000 4,201,156 - -	15,137,000 20,894,551 - -	4,150,000 12,850,690 5,000,000 -	12,792,000 6,338,456 - -	70,875,000 57,153,744 5,000,000 -	
9	Ferrels Bridge Dam-Lake O' The Pines, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,498,000 2,528,142	- - 2,700,000 2,313,867	- - 3,199,000 3,030,481	- - 3,007,000 3,335,597	19,215,008 19,215,008 75,002,347 74,749,373	4 4 18 18
10	Graham, TX (Brazos River Basin) (Federal Funds) (Contributed Funds)	New Work: Approp. Cost Contrib. Cost	197,000 75,453 - -	684,000 60,504 - -	874,000 405,277 - -	- 871,236 - -	1,828,000 1,481,782 - -	
11	Grapevine Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,882,500 2,809,100	- - 3,273,000 2,707,736	- - 2,436,000 2,368,792	- - 2,819,000 2,392,289	21,312,792 21,312,792 66,488,212 65,327,280	18 18

FORT WORTH, TX, DISTRICT

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note		
12	Hords Creek Lake, TX	New Work:								
		Approp.	-	-	-	-	2,709,089	8		
		Cost	-	-	-	-	2,709,089			
		Maint.								
		Approp.	1,197,000	1,465,000	1,179,000	1,236,000	31,650,757	18		
		Cost	1,199,990	1,350,411	994,596	1,131,665	31,181,228	18		
13	Jim Chapman Lake, TX (Federal Funds)	New Work:								
		Approp.	-	-	-	-	138,695,589			
		Cost	-	-	-	-	138,723,098			
		New Work:								
		(Contributed Funds) Contrib.	-	-	-	-	227,000			
		Cost	-	-	-	-	227,000			
	(Federal Funds)	Maint.								
		Approp.	1,114,000	2,568,000	1,536,000	1,617,000	22,256,166			
		Cost	1,121,988	2,466,178	1,337,187	1,741,562	22,051,792			
		14	Joe Pool Lake, TX	New Work:						
				Approp.	-	-	-	-	188,879,000	
				Cost	-	-	-	-	188,873,611	
Maint.										
Approp.	709,000			908,000	848,000	726,000	15,323,006			
Cost	710,016			670,160	827,475	903,839	15,241,382			
15	Johnson Creek, River Basin) (Federal Funds) (Contributed Funds)	New Work:								
		Approp.	1,644,000	315,000	200,000	1,638,000	19,388,200			
		Cost	930,696	248,098	365,928	942,707	17,989,395			
		Contrib.	-	-	-	-	-			
		Cost	-	-	-	-	-			
		16	Lavon Lake, TX	New Work:						
Approp.	-			-	-	-	12,864,796			
Cost	-			-	-	-	12,864,796			
Maint.										
Approp.	2,391,000			3,418,000	3,087,000	2,491,000	74,101,123	18		
Cost	2,393,794			2,838,594	2,849,934	2,431,444	73,329,100	18		

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note
17	Lavon Lake Modification and East Fork Channel Improvement, TX	New Work: Approp. Cost	- -	- -	- -	- -	69,796,862 69,796,862	
18	Lewisville Dam , TX	New Work: Approp. Cost Maint. Approp. Cost	- - 3,333,075 3,481,661	- - 4,196,000 3,440,644	- - 3,205,000 2,555,357	- - 4,432,000 3,596,232	19,654,988 19,654,988 93,828,717 88,987,530	 9 18 18
19	Navarro Mills Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 1,484,000 1,467,014	- - 2,012,000 1,656,747	- - 2,715,000 2,342,916	- - 2,096,000 2,316,486	9,846,759 9,846,759 43,212,955 42,684,915	 11 18 18
20	O.C.Fisher Dam and Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 540,000 535,225	- - 818,000 687,966	- - 1,915,000 1,544,129	- - 806,000 1,172,753	16,027,467 16,027,467 32,111,210 31,969,783	  18 18
21	Proctor Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 1,582,000 1,551,398	- - 1,953,000 1,785,168	- - 2,210,000 1,425,791	- - 2,172,000 2,541,073	14,464,585 14,464,585 50,765,984 49,957,607	  18 18
22	Ray Roberts Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 764,425 974,137	- - 948,000 898,341	- - 981,000 953,500	- - 1,315,000 1,217,463	319,778,700 319,648,066 16,561,908 16,326,317	

FORT WORTH, TX, DISTRICT

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note
34	Robert Douglas Willis	New Work:						
	Hydropower, TX (Contributed Funds)	Contrib. Cost	- -	- -	- -	- -	18,628,463 18,628,463	
34	Sam Rayburn Dam and Reservoir, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 4,164,000 4,836,319	- - 7,807,000 5,466,802	- - 7,289,000 6,318,426	- - 3,912,000 6,702,723	60,670,957 60,670,957 122,680,860 121,566,626	12 18 18
23	San Antonio Channel Improvement, TX (Federal Funds) (Contributed Funds)	New Work: Approp. Cost Contrib. Cost	1,333,000 2,047,338 585,333 62,434	2,703,000 2,641,642 1,102,055 440,355	4,000,000 1,026,656 1,688,736 1,169,712	9,840,000 4,019,616 18,816,000 1,316,923	176,856,587 167,762,035 28,662,454 9,459,754	
24	San Gabriel River, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 1,439,000 1,447,551	- - 1,862,000 1,699,169	- - 1,752,000 1,617,023	- - 2,161,000 1,941,561	100,826,966 100,826,966 37,219,643 35,405,524	18 18
	Granger Lake	Approp. Cost	1,598,000 1,603,705	2,042,000 1,883,683	1,995,000 1,770,428	1,857,000 1,960,534	38,309,105 38,029,701	18 18
25	Somerville Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,582,000 2,588,989	- - 3,146,000 2,864,823	- - 3,660,000 2,778,247	- - 3,638,000 3,772,297	27,790,437 27,790,437 71,492,090 62,385,565	18 18
26	Stillhouse Hollow Dam, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 1,649,000 1,765,848	- - 1,611,000 1,502,094	- - 1,972,000 1,481,501	- - 1,870,000 1,734,047	20,522,084 20,522,084 44,787,053 44,024,966	13 18 18

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 39-A – Cost and Financial Statement**

See Section in Text	Project	Funding	FY05	FY 06	FY 07	FY 08	Total Cost to Sep. 30,2008 <sup>17</sup>	See Note
41	Texas Water Allocation Assessment	Approp. Cost	502,000 414,449	1,426,000 457,904	655,000 722,159	702,000 681,234	6,494,021 5,439,920	
35	Town Bluff Dam- B.A. Steinhagen Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,139,000 2,291,471	- - 3,574,000 1,341,717	- - 2,507,000 3,019,149	- - 3,478,000 3,746,911	6,577,396 6,577,396 50,903,454 49,330,545	14 18 18
27	Waco Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,624,000 2,775,839	- - 3,051,000 2,471,621	- - 2,661,000 2,156,349	- - 4,102,000 4,571,543	52,755,921 52,755,921 72,208,942 71,245,208	15 18 18
36	Whitney Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 4,235,000 4,301,951	- - 6,673,000 4,419,557	- - 7,990,000 5,872,190	- - 9,341,000 8,507,225	42,952,939 42,952,939 124,174,600 118,672,692	16 18 18
37	Whitney Lake, TX (Powerhouse-Major Rehab)	Approp. Cost	1,574,000 922,836	3,379,000 932,310	1,603,000 496,497	5,058,000 790,907	12,802,900 4,307,882	
28	Wright Patman Dam and Lake, TX	New Work: Approp. Cost Maint. Approp. Cost	- - 2,475,000 2,479,390	- - 2,999,000 2,771,723	- - 3,416,000 2,675,539	- - 3,340,000 3,451,645	36,163,454 36,163,454 74,044,962 72,114,902	19 19 18 18

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**TABLE 39-A – Cost and Financial Statement**

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<sup>1</sup> Excludes \$47,309 receipts from reconveyance of land deposited to miscellaneous receipts.

<sup>2</sup> Excludes \$322,346 receipts from reconveyance of land deposited to miscellaneous receipts.

<sup>3</sup> Excludes \$1,422,848 expended for new work from contributed funds, including \$22,848 “Contributed Funds Other” for installation and operation of gages for leakage study.

<sup>4</sup> Includes \$1,775,990 for Code 711 and \$399,739 accelerated Public Works Act funds. Excludes \$1,711,200 contributed funds.

<sup>5</sup> Includes \$1,376,322 for Code 711, \$52,808 for Code 713, and 399 accelerated Public Works Act funds. Excludes \$4,137 reimbursed in Fiscal Year 1973.

<sup>6</sup> Claim Northeast Texas Municipal Water District \$16,546. Three payments of \$12,410 less real charges of \$1,325, making a total of \$2,811 reimbursed in Fiscal Year 1972, Fiscal Year 1973, and Fiscal Year 1974.

<sup>7</sup> Excludes \$146,795 receipts from reconveyance of land deposited to miscellaneous receipts, and \$2,040,026 for new work expended from contributed funds.

<sup>8</sup> Excludes \$105,079 expended from contributed funds.

<sup>9</sup> Excludes receipts from reconveyance of land of \$426,606 that were deposited to miscellaneous receipts, and \$3,676,661 for new work expended from contributed funds. Includes \$1,641,977 for Code 711.

<sup>10</sup> Includes \$130,000 under appropriation 96X5125.

<sup>11</sup> Excludes \$300,000 expended from contributed funds.

<sup>12</sup> Excludes \$3,000,000 expended from contributed funds.

<sup>13</sup> Includes receipts from disposals and revocation of funds related hereto.

<sup>14</sup> Excludes \$2,000,000 contributed funds expended.

<sup>15</sup> Excludes \$2,750,000 expended for contributed funds.

<sup>16</sup> Excludes \$188,282 receipts from reconveyance of lands deposited to miscellaneous accounts.

<sup>17</sup> Includes funds provided by the Jobs Act (PL 98-8, dated March 24, 1983).

<sup>18</sup> Beginning Fiscal Year 1985 data shown on Table A includes Special Recreational Use Fees. Data for previous fiscal years have changed to conform to the new procedure.

<sup>19</sup> Excludes \$399,939 accelerated public works funds, \$13,138,004 to be reimbursed by local interests over a period not to exceed 50 years for water supply storage, and \$2,092,040 for pro rata share of original reservoir cost.

**TABLE 39-B - Authorizing Legislation**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
		<b>AQUILLA LAKE, TX</b>	
2	Aug. 13, 1968	Construction of a dam on Aquilla Creek about 6.8 miles southwest of Hillsboro, Texas and about 24 miles north of Waco, Texas.	S. Doc. 52, 90th Cong., 1st Sess.
		<b>BARDWELL LAKE, TX</b>	
3	Mar. 31, 1960	Construction of a dam on Waxahachie Creek about 5 miles south of Ennis, Texas	H.Doc. 424, 82nd Cong., 2nd Sess.
		<b>BELTON LAKE, TX</b>	
4	Jul. 24, 1946	Construction of a dam on Leon River, about 3 miles north of Belton, Texas.	H. Doc. 88, 81st Cong., 1st Sess.
	Sep. 3, 1954	Modification of the dam to provide for generation of hydroelectric power.	H. Doc. 535, 81st Cong., 2nd Sess.
		<b>BENBROOK LAKE, TX</b>	
5	Mar. 2, 1945	Construction of a dam on the Clear Fork of the Trinity River about 10 mile southwest of Fort Worth, Texas	H. Doc.403, 77th Cong., 1st Sess.
		<b>CANYON LAKE, TX</b>	
6	Mar. 2, 1945 Sep. 3, 1954	Construction of a dam on the Guadalupe River about 12 miles northwest of New Braunfels, Texas.	H. Doc. 247, 76th Cong., 1st Sess.
		<b>CENTRAL CITY, FORT WORTH, UPPER TRINITY BASIN, TX</b>	
7	Nov. 19, 2004	Construction of a bypass channel and appurtenant structures to convey flood flows along the Clear & West Forks of the Trinity River in Fort Worth, TX.	P.L. 108-447, Section 116
		<b>DALLAS FLOODWAY EXTENSION, TX</b>	
8	Oct. 27, 1965	Channel and SPF levees and the Trinity Navigation Project.	River and Harbor Act of 1965, Section 301
	Oct. 12, 1996	Levee credits.	WRDA 1996, Section 351
	Aug. 17, 1999	Recreation and ecosystem restoration.	WRDA 1999, Section 356
		<b>FERRELLS BRIDGE DAM-LAKE O' THE PINES, TX</b>	
9	Jul. 24, 1946	Provides for construction of an earth fill dam and reservoir area.	H. Doc. 602, 79th Cong., 2nd Sess.
		<b>GRAHAM, TX (BRAZOS RIVER BASIN)</b>	
10	Aug 17, 1999	Project includes buyout of structures within the 10-year floodplain, installation of a flood warning system, construction of trails, and implementation of ecosystem restoration measures.	WRDA 1999, Section 101(a)(3)

FORT WORTH, TX, DISTRICT

**TABLE 39-B - Authorizing Legislation**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
		<b>GRAPEVINE LAKE, TX</b>	
11	Mar. 2, 1945	Construction of a dam on Denton Creek, a tributary of the Trinity River, about 20 miles northwest of Dallas, Texas.	H. Doc. 403, 77th Cong., 1st Sess.
		<b>HORDS CREEK LAKE, TX</b>	
12	Aug. 3, 1941	Construction of a dam on Hords Creek, a tributary of Pecan Bayou, near the city of Coleman, Texas.	H. Doc. 370, 76 <sup>th</sup> Cong., 1st Sess.
		<b>JIM CHAPMAN LAKE, TX</b>	
13	Aug. 3, 1955	Construction of an earth fill dam and reservoir area.	H. Doc. 488, 83rd Cong., 2nd Sess.
		<b>JOE POOL LAKE, TX</b>	
14	Oct. 27, 1965	Construction of a dam on Mountain Creek, adjacent to the city limits of Grand Prairie, Texas, about 3 miles above the existing Mountain Creek Dam.	H. Doc. 276, 89th Cong., 1st Sess.
		<b>JOHNSON CREEK, ARLINGTON, TX</b>	
15	Aug. 17, 1999	Project includes a buy-out of 140 structures for flood damage reduction, 155 acres of ecosystem restoration, and 2.25 miles of hard surface trail, picnic facilities and a pavilion.	PL 106-53, Sec. 101(b)(14)
		<b>LAVON LAKE, TX</b>	
16	Mar. 2, 1945	Construction of a dam on the East Fork of the Trinity River, about 22 miles northeast of Dallas, Texas	H. Doc. 533, 78th Cong., 2nd Sess.
		<b>LAVON LAKE MODIFICATION AND EAST FORK CHANNELS IMPROVEMENT, TX</b>	
17	Oct. 23, 1962	Enlarge Lavon Dam and enlargement and realignment of the lower 25 miles of the East Fork of the Trinity River, including rehabilitation of existing levees.	H. Doc. 554, 87th Cong., 2nd Sess.
	Mar. 7, 1974	Improvement of Collin County Road 115.	
		<b>LEWISVILLE DAM, TX</b>	
18	Mar. 2, 1945	Construction of a dam on the Elm Fork of the Trinity River near the city of Lewisville, Texas.	H. Doc. 403, 77th Cong., 1st Sess.
		<b>NAVARRO MILLS LAKE, TX</b>	
19	Sep. 3, 1954	Construction of a dam on Richland Creek, a tributary of the Trinity River, about 16 miles southwest of Corsican Texas.	H. Doc. 498, 83rd Cong., 2nd Sess.
	Dec. 31, 1970	Alteration of FM Highway 3164 in Wolf Creek Park.	
		<b>O.C. FISHER DAM AND LAKE, TX.</b>	
20	Aug. 18, 1941	Construction of a dam on the North Concho River just above San Angelo, Texas.	H. Doc. 315, 76th Cong., 1st Sess.

**TABLE 39-B - Authorizing Legislation**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
<b>PROCTOR LAKE</b>			
21	Sep. 3, 1954	Construction of a dam on the Leon River about 8 miles northeast of Comanche, Texas.	H. Doc. 535, 81st Cong., 2nd Sess.
<b>RAY ROBERTS LAKE, TX</b>			
22	Oct. 27, 1965	Construction of a dam on the Elm Fork of the Trinity River between Sanger and Aubrey Texas, about 30 miles upstream from the existing Lewisville Dam.	H.Doc. 276, 89th Cong., 1st Sess.
<b>SAM RAYBURN DAM AND RESERVOIR</b>			
34	Mar. 2, 1945	Construction of a dam on the Angelina River about 10 miles northwest of Jasper, Texas.	S. Doc. 98, 76th Cong., 1st Sess.
<b>SAN ANTONIO CHANNEL IMPROVEMENT, TX</b>			
23	Sep. 3, 1954	Channel improvement of the San Antonio River and tributaries in and near the city of San Antonio, Texas.	H. Doc. 344, 83rd Cong., 2nd Sess.
	Oct. 22, 1976	Additional measures to protect Espada Aqueduct, Six Mile Creek	WRDA 1976, Section 103
	Oct. 12, 1996	Authorizes Section 215 reimbursement	WRDA 1996, Section 224
	Dec. 11, 2000	Authorizes environmental restoration and recreation as project purposes.	WRDA 2000, Section 335
<b>SAN GABRIEL RIVER PROJECT, TX</b>			
24	Sep. 3, 1954	Construction of: (1) a dam (Granger Dam and Lake) on the San Gabriel River about 7 miles east of Granger, Texas, (2) a dam (North Fork Lake) on the north Fork of the San Gabriel River about 3.5 miles northwest of Georgetown, Texas and (3) a dam (South Fork Lake) on the South Fork of the San Gabriel River about 3 miles southwest of Georgetown, Texas.	H. Doc. 535, 81st Cong., 2nd Sess.
	Jan. 3, 1975		H.Doc. 591, 87th Cong., 2nd Sess.
<b>SOMERVILLE LAKE, TX</b>			
25	Sep 3, 1954	Construction of a dam on Yegua Creek about 5 miles south of Somerville, Texas.	H. Doc. 535, 81 <sup>st</sup> Cong, 2 <sup>nd</sup> Sess
<b>STILLHOUSE HOLLOW DAM, TX</b>			
26	Sep. 3, 1954	Construction of a dam on the Lampasas River about 5 miles southwest of Belton, Texas.	H. Doc. 535, 81st Cong., 2nd Sess.
<b>TOWN BLUFF DAM-B.A. STEINHAGEN LAKE, TX</b>			
35	Mar. 2, 1945	Construction of a dam on the Neches River near Jasper, Texas.	S. Doc. 98, 76th Cong., 1st Sess.

FORT WORTH, TX, DISTRICT

**TABLE 39-B - Authorizing Legislation**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
		<b>ROBERT DOUGLAS WILLIS HYDROPOWER, TX</b>	
33	Mar. 2, 1945	Construction of two units at 3,000 kilowatts each of hydroelectric power generating facilities connected with Town Bluff-B.A. Steinhagen Lake, Texas.	S. Doc. 98, 76th Cong., 1st Sess.
		<b>TRINITY RIVER PROJECT, TX</b>	
1	Oct. 27, 1965	Construction of Tennessee Colony Dam located at river mile 339.2 on the Trinity River about 16 miles west of Palestine, Texas; a multiple purpose channel from the Houston, Texas ship channel to Fort Worth, Texas; a distance of approximately 363 miles, an extension of the existing Dallas, Texas, Floodway downstream approximately 9.0 miles; a realignment and enlargement of the West Fork of the Trinity River from the mouth of the West Fork to the existing Texas, Floodway, a distance of approximately 31 miles; and water conveyance facilities involving construction of about 98 miles of pipeline from Tennessee Colony Lake to the existing Benbrook Lake.	H. Doc. 276, 89th Cong., 1st Sess. H. Doc. 364, 90th Cong., 2nd Sess.
		<b>WACO LAKE, TX</b>	
27	Sep. 3, 1954	Construction of a dam on the northwest edge of Waco, Texas, below the confluence of the North, South and Middle Bosque Rivers	H. Doc. 535, 81st, Cong., 2nd Sess.
		<b>WHITNEY LAKE, TX</b>	
36	Aug. 18, 1941	Construction of a dam on the Brazos River about 19 miles southwest of Hillsboro, Texas. Raise the power pool 13.0 feet.	H. Doc. 390, 76th Cong., 1st Sess.
		<b>WRIGHT PATMAN DAM AND LAKE, TX</b>	
28	Jul.24, 1946	Construction of an earth-filled dam and reservoir.	H. Doc. 602, 79th Cong. 2nd Sess.

**TABLE 39-C - Other Authorized Flood Control Projects**

(See Section 29 of Text)

<b>Project</b>	<b>For Last Full</b>	<b>Cost to September 30, 2007</b>	
	<b>Report See</b>	<b>Construction</b>	<b>Operation and Maintenance</b>
	<b>Annual Report</b>		
	<b>For</b>		
Beals Creek, Big Spring, TX <sup>1</sup>	2001	-	-
Belton Lake Hydropower Study, TX <sup>5</sup>	-	-	-
Belton Lake Modification, TX <sup>3</sup>	1988	-	-
Big Fossil Creek, TX <sup>1</sup>	1969	-	-
Big Sandy Lake, TX <sup>5</sup>	1986	-	-
Boggy Creek, Austin, TX <sup>1</sup>	1992	-	-
Brownwood Channel Improvement, TX <sup>5</sup>	-	-	-
Calloway Branch Hurst, TX <sup>1</sup>	1986	-	-
Carl L. Estes Dam and Lake, TX <sup>5</sup>	1979	-	-
Dam "A" Lake, TX <sup>5</sup>	1987	-	-
Duck Creek Channel Improvements, TX <sup>5</sup>	1983	-	-
East Fork Channel Improvement, East Fork of the Trinity River, TX <sup>4</sup>	-	-	-
Elm Fork Floodway, TX <sup>5</sup>	1987	-	-
Fort Worth Floodway (Clear Fork), TX <sup>1</sup>	1971	-	-
Fort Worth Floodway (West Fork), TX <sup>1</sup>	1971	-	-
Grand Prairie, TX (Landfill) <sup>1</sup>	1987	-	-
Grand Prairie, TX (Meyers Road) <sup>1</sup>	1989	-	-
Greenville, TX <sup>1</sup>	1983	-	-
Lake Brownwood Modification, TX <sup>5</sup>	1983	-	-
Lake Fork Lake, Sabine River, TX <sup>5</sup>	-	-	-
Lake Worth, Tarrant County, TX <sup>2</sup>	-	-	-
Millican, TX <sup>2</sup>	1988/2003	-	-
Navasota Lake, Navasota River, TX <sup>5</sup>	-	-	-
Pecan Bayou Lake, TX <sup>5</sup>	-	-	-
Roanoke Lake, TX <sup>5</sup>	1979	-	-
Rockland Lake, TX <sup>5</sup>	1988	-	-
Rutledge Hollow Creek Channel Improvement, Poteet, TX <sup>1</sup>	1969	-	-
Sam Rayburn and Reservoir, TX (Dam Safety) <sup>1</sup>	2001	-	-
San Gabriel River, South Fork Lakes, TX <sup>4</sup>	-	-	-
Tarrant County, Tony's Marine Creek, TX <sup>5</sup>	-	-	-
Waco Lake, TX (Dam Safety) <sup>1</sup>	2003	-	-
Zacate Creek Channel, TX <sup>1</sup>	1983	-	-

<sup>1</sup>Completed    <sup>2</sup>Inactive    <sup>3</sup>Deferred    <sup>4</sup>Recommended for Deauthorization    <sup>5</sup>Deauthorized

**TABLE 39-D - Inspection of Completed Flood Control Projects  
(See Section 27 in Text)**

<b>Project, Location</b>	<b>Dates of Inspection</b>
Arlington Landfill, Arlington, Texas	January 24, 2008
Beals Creek, Big Spring, Texas	April 13, 2007
Beltline Road Bridge, Richardson, Texas	September 30, 2008
Big Fossil Creek Floodway, Richland Hills, Texas	May 10, 2007
Boggy Creek Floodway, Austin, Texas	March 29, 2007
Calloway Branch Channel, Hurst, Texas	February 1, 2008
Calloway Branch, Airline Drive Park., Richland Hills, Texas	August 27, 2008
Cat Claw Creek Channel, Abilene, Texas	July 21, 2008
Dallas Floodway, Dallas, Texas	November 13, 2008
Delaware Branch, Irving, Texas	May 8, 2008
Dry Branch, Grand Prairie, Texas	August 26, 2008
Duck Creek, Garland, Texas	October 1, 2007
Fort Worth Floodway, Tarrant County, Texas	October 24, 2007
Grand Prairie Landfill, Grand Prairie, Texas	February 20, 2008
Hutton Branch, Carrollton, Texas	September 30, 2008
Irving Levee, Texas	May 8, 2008
Johnson Creek Channel, Grand Prairie, Texas	June 16, 2008
Long Branch Channel, Greenville, Texas	November 4, 2008
Lorean Branch Channel, Hurst, Texas	February 1, 2008
McCoy Road Bridge, Carrollton, Texas	September 30, 2008
Meyers Road, Grand Prairie, Texas	February 20, 2008
Munday Floodway, Munday, Texas	December 8, 2008
Park Row Bridge, Arlington, Texas	January 24, 2008
Pleasanton Floodway, Pleasanton, Texas	September 13, 2007
Poteet Floodway, Poteet, Texas	September 13, 2007
Ridglea Country Club Drive Bridge, Fort Worth, Texas	February 13, 2008
Roaring Springs Road Bridge, Westover Hills, Texas	February 19, 2008
Rush Creek Channel, Arlington, Texas	January 24, 2008
San Antonio Floodway, San Antonio, Texas	February 12, 2007
San Antonio Tunnel, San Antonio, Texas	February 13, 2007
San Pedro Tunnel, San Antonio, Texas	February 13, 2007
Singing Hills Creek Channel, Watauga, Texas	December 9, 2008
Sulphur Branch Channel, Euless, Texas	December 19, 2007
Ten Mile Creek, Desoto, Texas	September 30, 2008
Waco Waste Water Treatment Plant, Waco, Texas	December 17, 2007
Walnut Branch Channel Improvement, Seguin, TX	June 29, 2007
Walnut Creek Channel, Seguin, Texas	June 29, 2007

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

West Fork Trinity River, River Oaks, Texas

October 5, 2007

Wheeler Creek Channel, Gainesville, Texas

June 12, 2008

Zacate Creek Floodway, Laredo, Texas

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September 14, 2007

**TABLE 39-E - Work Under Special Authorization  
(See Section 30 of Text)**

<b>Project</b>	<b>Flood Control Activities</b>	<b>Section 205</b>	<b>Cost</b>
Farmers Branch, Tarrant County, TX			\$ 628,906
Lewis Creek, Bulverde, TX			1,679
Little Fossil Creek, Haltom City, TX			50,850
Pecan Creek, Gainesville, TX			510,206
Rio Grande & Unnamed Tributary, Eagle Pass, TX			0
Section 205 Coordination Account			14,591
<b>Project</b>	<b>Aquatic Ecosystem Restoration</b>	<b>Section 206</b>	<b>Cost</b>
Spring Lake Aquatic Ecosystem Restoration, San Marcos, TX			24,986
WWTP, Meridian, TX			1,732
WWTP, Stephenville, TX			100,720
Section 206 Coordination Account			9,315
<b>Project</b>	<b>Ecosystem Restoration</b>	<b>Section 1135</b>	<b>Cost</b>
Big Cypress Bayou Fish and Wildlife Habitat, TX			\$ 761,287
Eagleland Restoration, San Antonio, TX			154,802
Joppa Preserve Restoration, TX			1,542
O. C. Fisher Lake Ecosystem Restoration, TX			74,209
Section 1135 Coordination Account			8,640
<b>Project</b>	<b>Stream Bank Protection</b>	<b>Section 14</b>	<b>Cost</b>
Colorado River, Caldwell Lane, Travis County, TX			12,179
Nokomis Road, Ten Mile Creek, Lancaster, TX			\$ 21,020
Wastewater Plant, Intake Channel, Seguin, TX			386,728
Section 14 Coordination Account			13,054
<b>Project</b>	<b>Environmental Protection &amp; Restoration</b>	<b>Section 204</b>	<b>Cost</b>
Section 204 Coordination Account			0



## GALVESTON, TX, DISTRICT

Galveston District comprises drainage basins of all short streams arising in coastal plain of Texas and flowing into the Gulf of Mexico, including the entire basin of Buffalo Bayou, San Jacinto, San Bernard, Lavaca, Navidad, Mission, and Aransas Rivers. It embraces Agua Dulce, San Fernando, and Olmos Creek Basins draining into Baffin Bay, and coastal area south thereof to the Rio Grande and east of western Boundary of Starr County, Texas. It includes lower basins of major streams flowing into the Gulf of Mexico: Sabine River, Texas and Louisiana, downstream from U.S. Highway 190 crossing at Bon

Wier, Texas; Neches River downstream from Town Bluff gageing station; Trinity River downstream from Texas State Highway 19 crossing at Riverside, Texas; Brazos River downstream from confluence with Navasota River; Colorado River downstream from northern boundary of Fayette County; Guadalupe River downstream from confluence with San Marcos River; San Antonio River downstream from confluence with Escondido Creek; Nueces River downstream from confluence with Frio and Atascosa River.

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**Navigation**

**1. AQUATIC PLANT CONTROL, TX (SOUTHWESTERN DIVISION) 1965 ACT**

**Location.** Navigable waters, tributary streams, connecting channels, and other allied waters in Texas.

**Previous project.** For details see page 699 of Annual Report for 1963.

**Existing project.** A comprehensive project to provide for control and progressive eradication of water-hyacinth, alligator weed, Eurasian watermilfoil, hydrilla, and other obnoxious aquatic plant growths, from navigable waters, tributary streams, connecting channels, and other allied waters in Texas in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of the most effective and economic control measures.

Control of water-hyacinth and alligator weed has been approved for the Nueces River Basin, North Coastal Area, Guadalupe River Basin, Sabine River Basin, Trinity River Basin, Cypress Creek Basin, Neches River Basin, South Coastal Area, San Jacinto River Basin, Rio Grande Basin, Colorado River Basin and Brazos River Basin.

Control of hydrilla and watermilfoil is on a site by site basis after analysis and issuance of National Environmental Policy Act documentation.

**Local cooperation.** Sec. 302, 1965 River and Harbor Act, amended by Water Resources Development Act of 1986, applies.

**Operations during fiscal year.** A cost-sharing, cost-reimbursable contract, with the State of Texas ended in FY 2005.

Work on an Environmental Assessment is being completed to add control of hydrilla, giant salvinia, and giant reed to the list of invasive aquatic plants to be treated, as well as torpedo grass, water spinach, giant duckweed, paper bark and water trumpet.

The State of Texas received no aquatic plant funding in fiscal year 2008. No cost was incurred for fiscal year 2008.

**2. BRAZOS ISLAND HARBOR, TX**

**Location.** At extreme south end of coast of Texas, about 7 miles north of mouth of Rio Grande and about 5 miles east of Brownsville, Texas. (See National Ocean Survey Chart 11301.)

**Previous project.** For details see page 1017 of Annual Report for 1932.

**Existing project.** Provides for channel dimensions in various sections of the waterway as shown in Table 40-H.

Project also provides for dual jetties at the gulf entrance, a north jetty 6,330 feet long, a south jetty 5,092 feet long, and 1,000-foot extension to existing north jetty and for maintenance of 3rd fishing harbor constructed by local interests. Under ordinary conditions, mean tidal range is about 1.5 feet, and extreme range is about 2 feet. All depths refer to mean low tide. To some extent, height of tides is dependent on the wind, and during strong "northers" in winter season, water surface in southern end of Laguna Madre may be raised 4 feet or more above mean low tide in the gulf.

Widening Brownsville Channel from Goose Island to Brownsville turning basin and deepening southeast corner of Brownsville turning basin to 36 feet was completed in April 1980. The 1,000-foot extension to existing north jetty was de-authorized under Section 1001 of the Water Resources Development Act of 1986. The entrance channel was enlarged from 38 feet by 300 feet to 44 feet by 300 feet in FY 1992. Construction of an environmental mitigation site consisting of the creation of a 16-acre tidal wetland which included shoal grass and black mangroves, was completed in 1997. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Fully complied with.

**Terminal facilities.** Numerous terminal facilities for bulk and liquid cargo are available. (See Port Series No. 26, revised 2002.) Facilities are adequate for existing commerce.

**Operations during fiscal year.** Maintenance: Routine maintenance (See Table 40-J for dredging operations.)

**3. CEDAR BAYOU, TX.**

**Location.** The bayou is about 30 miles long. It flows to the south and empties into the northwest corner of upper Galveston Bay, about 1.5 miles below mouth of San Jacinto River and about 28.5 miles north of Galveston, Texas. (See National Ocean Survey Chart 11326.)

**Previous project.** For details see Annual Report for 1938.

**Existing project.** Project provides for a channel 10 feet by 100 feet from Houston Ship Channel to Bayou Mile 11.0. Channel was completed from Houston Ship Channel to first bend in Cedar Bayou above the mouth in 1931. Channel from Mile -0.1 to Mile 3.0 was completed in March 1975. Channel from 3.0 to Mile 11.0 was de-authorized under Sec. 12 of Public Law 93-251 and re-authorized in December 2000 under Sec. 349

(a) (2) of Public Law 106-541, the Water Resources Development Act of 2000. Project also includes jetties at mouth of bayou provided for under previous project.

Under ordinary conditions, mean tidal range is about 0.6 feet and extreme range 1.2 feet. Height of tides is dependent largely on the wind, and during strong "northers". In the winter season water surface may be depressed 2 feet below mean low tide.

A Feasibility Report to extend the Federal channel further inland was prepared by the Sponsor and approved by the Assistant Secretary of the Army, Civil Works (ASA, CW) on July 10, 2006. The recommended project extends the channel 8 miles at the dimensions of 10 x 100 from Mile 3.0 to Mile 11.0, or just below State Highway 146. The Cedar Bayou waterfront, located directly across the Houston Ship Channel from the Barbour Cut Channel and Bayport container terminals is mainly industrial and is now experiencing huge industrial development that will result in an increase in shipping up and down the proposed channel.

Estimated cost for new work is \$11,590,000 Federal (Corps); and \$1,288,000 non-Federal, \$1,860,000 for lands and damages, and \$2,212,000 for associated costs. (October 1, 2008 base price.)

(See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Fully complied with. The Non-Federal Sponsor for the project is the Chambers County Cedar Bayou Navigation District. A Design Agreement was executed in February 2006. The Preconstruction Engineering and Design (PED) costs will ultimately be cost shared at the construction cost share ratio but will be financed through the PED period at 25 percent non-Federal cost. In late FY 06 the Sponsor applied for and received ASA, CW approval to advance non-Federal funds in the amount of \$450,000 to continue work on plans and specifications. The funds will be credited toward the Sponsor's share of construction.

The Project Cooperation Agreement has not been executed pending receipt of Federal funding for construction. During the period of construction, the Non-Federal Sponsor is required to pay 10 percent of the cost of the general navigation features of the project, and pay an additional 10 percent of the cost of the general navigation features of the project over a period not to exceed 30 years following completion of the project.

**Terminal facilities.** U.S. Steel Company has a barge dock at bayou mile 2.8, and there are a few small wharves, privately owned, for local use at various places along Cedar Bayou. Facilities are considered adequate for existing commerce.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING

AND DESIGN. Maintenance: No maintenance performed during this fiscal year.

#### 4. CHANNEL TO PORT BOLIVAR, TX

**Location.** Port Bolivar is at end of Bolivar Peninsula and 4 miles north of city of Galveston. Channel connects the port with channel in Galveston Harbor. (See National Ocean Survey Chart 11324.)

**Previous project.** For details see page 1856 of Appendix to Annual Report for 1915.

**Existing project.** Existing project dimensions for channel are shown in Table 40-H. (Also see Table 40-B for authorizing legislation.)

Under ordinary conditions, mean tidal range is about 1.3 feet and extreme range 2 feet. Height of tides is dependent largely on the wind, and during strong "northers" in the winter season water surface may be depressed 2 feet below mean low tide. Enlargement of turning basin from 1,000 to 1,600 feet is inactive. A channel 14 feet deep, 200 feet wide, and approximately 950 feet long is maintained across the east end of the turning basin to accommodate the Galveston-Port Bolivar ferry. Project is complete except for inactive portion. Project dimensions have not been maintained in the completed part since lesser dimensions are adequate for existing commerce. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** None required.

**Terminal facilities.** Terminals are privately owned and consist of 2 slips and 2 piers. The piers, 400 feet wide by 1,200 feet long and 210 feet wide by 1,200 feet long, are badly deteriorated and not in use. The slips are used as anchorage by shallow-draft vessels. A highway ferry landing owned by the State of Texas is located at south end of turning basin. Facilities are considered adequate for existing commerce.

**Operations during fiscal year.** Maintenance: No maintenance performed during the fiscal year.

#### 5. CHOCOLATE BAYOU DREDGED MATERIAL MANAGEMENT PLAN (DMMP), TX

**Location.** The Chocolate Bayou Channel is a navigation project located about 40 miles southwest of Houston in Chocolate Bay in Brazoria County, along the upper coast of Texas.

**Existing project.** The Chocolate Bayou Channel is federally authorized and currently maintained at 12-foot deep (MLT) by 125-foot wide. The channel traverses Chocolate Bay connecting industries at the northwest end of the bay within Chocolate Bayou with the Gulf Intracoastal Waterway (GIWW) between GIWW mile markers 374.7 and 376.7. The authorized

channel is 8.2 miles long (13.2 miles to the turning basin) and used primarily for transport of crude petroleum and petrochemical products. The maintenance dredging frequency for the channel is every four years.

This project provides a long-term management plan that will utilize maintenance material from dredging of the Chocolate Bayou Channel, over a 20-year period, to create and enhance approximately 560 acres of marsh and bird-nesting habitat within the Chocolate Bay area. Since 1950, approximately 32,400 acres of wetlands have been lost in the Chocolate Bay system. The development of long-term beneficial use sites will have a cumulative beneficial effect on the biological resources of the Chocolate Bayou system. Additionally, the beneficial use of the dredged material over the next 20 years will extend the life of existing upland confined placement areas. The Dredged Material Management Plan was approved in December 2004.

Estimated cost for new work is \$11,802,000 Federal (Corps); and \$1,311,000 non-Federal. (September 30, 2008 base price.)

Construction of the first cycle of cells in beneficial use sites PA 1A and PA 4A was completed in July 2006. Sprigging of altheaflora was completed in April 2007. Remaining construction is scheduled to be accomplished in the next 5 maintenance dredging cycles for the channel, which are every four years.

**Local cooperation.** The non-Federal sponsor for the project is Brazoria County Conservation and Reclamation District number 3. The Project Cooperation Agreement was executed September 13, 2005.

**Operations during fiscal year.** New Work: Plans and specifications were completed for the next construction phase. Maintenance: No maintenance performed during this fiscal year.

## 6. CORPUS CHRISTI SHIP CHANNEL, TX

**Location.** This project, formerly known as Port Aransas-Corpus Christi Waterway, Texas, was changed to Corpus Christi Ship Channel, Texas, by 1968 River and Harbor Act. This is a consolidation of old improvements of Port Aransas, Texas, and channel from Aransas Pass to Corpus Christi, Texas. Aransas Pass is on southern portion of Texas Coast, 180 miles southwest of Galveston and 132 miles north of mouth of Rio Grande. Aransas Pass connects Corpus Christi Bay with the gulf. Waterway extends from deep water in the gulf through Aransas Pass jettied entrance, thence westerly 20.75 miles to and including a turning basin at Corpus Christi, thence westerly 1.75 miles through Industrial Canal to and including turning basin at Avery Point, thence westerly 4.25 miles to and including a

turning basin near Tule Lake, thence northwesterly 1.8 miles to and including a turning basin at Viola, Texas. (See National Ocean Survey Charts 11308, 11309, 11311, and 11314.)

**Previous project.** For details see page 1861 of Annual Report for 1915.

**Existing project.** (See Table 40-H for existing project dimensions provided for in various channels and basins comprising this waterway.)

Project also provides for two rubblestone jetties at Aransas Pass entrance, extending into the gulf from St. Joseph and Mustang Islands, project lengths of which are 11,190 and 8,610 feet, respectively. Project further provides for a stone dike on St. Joseph Island about 20,991 feet long, connecting with north jetty and extending up this island to prevent a channel being cut around jetty. Project also provides for a breakwater at the entrance to the harbor area at Port Aransas, and for the realignment of the existing 12-foot by 100-foot project channel to Port Aransas. The breakwater consists of two overlapping sections. The one on the east side of the realigned entrance channel has a length of 830 feet and the second, located on the west side of the entrance channel, has a length of 1,290 feet. The channel to Port Aransas was relocated in the 300-foot clear distance between the overlapping sections. The portion of the channel remaining inside the breakwaters was widened to 150 feet. Under ordinary conditions, mean tidal range at Aransas Pass is about 1.1 feet and extreme range about 2 feet, and at Corpus Christi mean range about 1 foot and extreme about 1.5 feet. Heights of tides are dependent largely on strength and directions of winds, and during strong "northers" in the winter season water surface may be depressed as much as 3 feet below mean low tide. Estimated cost for new work is: Federal (Corps) \$74,938,515, including \$456,515 for Port Aransas Breakwaters and exclusive of amount expended on previous projects: and non-Federal \$18,977,431 (includes \$768 for Port Aransas Breakwaters) including \$7,644,435 contributed funds and value of useful work performed, \$3,320,228 lands, \$6,027,000 relocations and \$1,985,000 other cost. (October 1, 1992 base price.)

The Port Aransas-Corpus Christi 40-foot project was completed in 1966. The Jewel Fulton Canal was completed in 1963. The Port Aransas Breakwaters were completed in July 1973. Deepening deep-draft channels to 45 feet from Tule Lake Turning Basin through Viola Turning Basin was completed in 1989, and constructing a mooring area at Port Ingleside with dolphins has been deferred. Entrance and jetty channels have been dredged to project depth and width, and dredging of channel from Harbor Island to and through the Chemical Turning Basin at 45-foot depth has been completed. Initial mooring dolphins were completed in May 1979.

Disposal area levees, Area 1 and Rincon were completed in August 1984. First stage disposal area levees, South Shore, were completed in September 1984. Construction contract for mitigation terracing was completed in 1997. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Fully complied with.

**Terminal facilities.** Terminal facilities on Harbor Island at head of Aransas Pass, Ingleside, Corpus Christi, La Quinta, Avery Point, and Viola, are considered adequate for existing commerce. (See Port Series, No. 25, revised 2003, Corps of Engineers.)

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN. Maintenance: Routine maintenance (See Table 40-J for dredging operations.)

## 7. FREEPORT HARBOR, TX

**Location.** Formed by improvement of Brazos River, Texas, from mouth to about 6 miles upstream to Freeport, Texas. (See National Ocean Survey Charts 11321 and 11322.)

**Previous projects.** For details see page 1860 of Annual Report for 1915, and page 872 of Annual Report for 1938.

**Existing project.** Existing project dimensions for various channels and basins are shown in Table 40-H on channel dimensions at end of chapter.

Existing project also provides for dual jetties and a diversion canal for the Brazos River, including a dam, a lock in the dam and necessary auxiliary equipment. Also provides for rehabilitation of southwest jetty and the relocation of the northeast jetty (about 640 feet to the northeast); realignment of the channel between the Jetty Channel and Brazosport Turning Basin; realignment of the channel between Brazosport Turning Basin and Upper Turning Basin; relocation of Upper Turning Basin; and public use facilities adjacent to the Freeport Jetties. The 30-foot channel from Upper Turning Basin to Stauffer Chemical Plant, including the turning basin, was deauthorized by Sec. 12 of PL 93-251. Construction of lock in diversion dam at local expense is considered inactive.

The 38-36 foot project was completed in 1962. The 45-foot channel was completed in 1993 as follows: Relocation of the U. S. Coast Guard station was completed in May 1990; dredging the channel and turning basin to 36-feet and the Upper Turning Basin to 46-feet was completed in July 1990; dredging the jetty channel and the Lower Turning Basin was completed in November 1990; Construction of 3,700 feet of the North Jetty, was completed in March 1991; dredging the entrance channel was completed in April 1992; dredging the Main channel, Brazosport turning basin

and jetty channel was completed in June 1992; construction of public use facilities, and grading and stone protection was completed in August 1992; and rehabilitation of the south jetty and addition of 500-feet to the north jetty was completed in May 1993. Channel adjustments to a bend near the project's main turning basin were completed in 1998 to provide full utilization of the 45-foot channel. Construction of additional recreation features at Surfside by the Sponsor was completed in 2005. (See Table 40-G for total cost of existing project to September 30, 2008.)

Under ordinary conditions mean tidal range is about 1.5 feet and extreme range is about 2.5 feet. Except under extreme conditions, rises on river and in diversion channel do not cause greater variations in water surface than those caused by tidal action. Estimated cost of new work is: \$63,707,000 Federal (Corps) and \$470,000 Federal (USCG); and \$32,313,000 non-Federal, including \$21,302,000 contributed funds, \$300,000 contributed work, \$6,967,000 lands, \$3,174,000 levees and spillways, and \$570,000 relocations. (October 1, 1997 base price.)

**Local cooperation.** Fully complied with except for Section 101 of River and Harbor Act of 1970, under cost-sharing tenets of the Water Resources Development Act of 1986 and the Water Resources Development Act of 1996. Local Cooperation Agreement, executed June 26, 1986, along with Amendments 1, 2, 3, and 4 executed March 19, 1987; July 19, 1991; July 19, 1991; and July 15, 1997; respectively, require that local interest provide lands, easements, rights-of-way, including land for recreation, and dredged material disposal areas, presently estimated at \$10,141,000, modify or relocate utilities, roads, and other facilities, except railroad bridges, where necessary for construction of the project, presently estimated at \$570,000, contribute in cash one-half of the separable and joint costs allocated to recreation, presently estimated at \$530,000; and, during construction, pay 25 percent of the construction costs allocated to deep-draft navigation, including disposal facility construction, presently estimated at \$21,302,000.

**Terminal facilities.** Small privately owned wharves, two oil docks, one acid dock, two shell unloading docks and one caustic dock. Brazos River Navigation District has one large dock with four transit sheds over rail facilities permitting all-weather work. Facilities considered adequate for existing commerce. (See Port Series No. 26, revised 2002, for additional facilities.)

**Operations during fiscal year.** New Work: None Maintenance: Routine maintenance. (See Table 40-J for dredging operations.) A contract for drainage of beneficial use sites 1A & 4A was awarded in FY08 and completed with a fiscal year cost of \$124,000.

## 8. GALVESTON HARBOR AND CHANNEL, TX

**Location.** A consolidation of authorized improvements at Galveston, Texas, which includes projects formerly identified as Galveston Harbor, Texas; Galveston Channel, Texas; and Galveston seawall extension. Entrance to Galveston Harbor is on the Gulf of Mexico on the northern portion of the Texas Coast. Galveston Channel extends from a point in Galveston Harbor between Bolivar Peninsula and Fort Point to and along wharf front Galveston, Texas, and is about 5 miles long and 1,200 feet wide. (See National Ocean Survey Chart 11324/5.)

**Previous projects.** For details see page 1854 of Annual Report for 1915.

**Existing project.** Provides for channel dimensions in sections of the waterway shown in Table 40-H.

Also provided are: two rubble-mound jetties, the south one extending from Galveston Island and the north one extending from Bolivar Peninsula, for distances of 35,900 feet and 25,907 feet, respectively, into the Gulf of Mexico; a concrete seawall from the angle at Sixth Street and Broadway, in the city of Galveston, to the south jetty, and a 16,300-foot extension of the concrete seawall in a southwesterly direction from 61st Street; for 11 groins along the gulf shore between 12th Street and 61st Street; and for maintenance of seawall from the angle at 6th Street and Broadway to the south jetty. Under ordinary conditions, mean tidal range in Galveston Harbor is 1.6 feet on outer bar and 1.4 feet on inner bar with extreme ranges of 2.3 and 2.1 feet, respectively. Mean range in Galveston channel is about 1.3 feet and extreme range about 2 feet under ordinary conditions. Height of tides in both Galveston harbor and channel is dependent largely on the wind, and during strong "northers" water surface may be depressed 2 feet below mean low tide.

Existing project is complete. Dredging of Galveston channel to 36-foot depth was completed in November 1966. Dredging of the realigned entrance and Outer Bar Channel was completed in October 1967. Rehabilitation of the Beach Front Groins was completed June 1970. Dredging of Galveston channel to 40 feet was completed in March 1976. See Section 15. TEXAS CITY CHANNEL, TX regarding work authorized by Water Resources Development Act of 1986, Section 10, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX, for work authorized by the Water Resources Development Act of 1996. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Complied with.

**Terminal facilities.** None on Galveston Harbor, which is entrance channel leading to terminal facilities

on Galveston, Texas City, and Houston Ship Channels. Galveston Channel terminal facilities are mostly on south side of channel. Principal wharves, owned by the city of Galveston, extend from 10th to 41st Street (see Port Series No. 23, revised 2006.) A container ship terminal equipped with a crane capable of stacking containers three units high on the deck of any normal container ship has been completed and placed into operation by the city of Galveston at Piers 10 and 11, on the south side of Galveston Channel. The city of Galveston has also placed into operation a barge terminal equipped with two 35-ton and one 5-ton cranes for loading and unloading barges on Lash and Seabee ships at Pier 35 and a docking and holding area for Lash and Seabee barges on Pelican Island, directly across the channel from Piers 35 and 36. Present facilities are considered adequate for existing commerce.

**Operations during fiscal year.** New Work: Also see Section 10, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX. Maintenance: Routine Maintenance (See Table 40-J for dredging operations.)

## 9. GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL, AND THE MEXICAN BORDER

**Location.** Extends from a point on Sabine River about 3 miles below Orange, Texas, to Brownsville, Texas, about 421 miles; a navigation channel, about 7 miles long, in Colorado River, extending from Matagorda, Texas, to Gulf of Mexico; a tributary channel in San Bernard River, extending from Intracoastal Waterway crossing to State highway bridge some 30 miles above crossing; a tributary channel in Colorado River extending from Intracoastal Waterway upstream 15.5 miles; a tributary channel extending about 14 miles from Intracoastal Waterway to Palacios, Texas; a tributary channel extending about 2 miles from Intracoastal Waterway to Rockport, Texas; a tributary channel extending about 6 miles from Intracoastal Waterway near Port Aransas, Texas, to town of Aransas Pass, Texas; a tributary channel about one-fourth mile long extending from Intracoastal Waterway near Port O'Connor, Texas, into Barroom Bay; a tributary channel extending about 38.8 miles from Intracoastal Waterway via Seadrift to a point in Guadalupe River 5.5 miles below Victoria, Texas; a harbor of refuge for small craft at Seadrift; a channel extending from gulf to Port Mansfield, Texas, about 11 miles; and a tributary channel in Arroyo, Colorado extending from Intracoastal Waterway to a point near Harlingen, Texas, about 31 miles; side channels in vicinity of Port Isabel, Texas, and a small boat basin at Port Isabel, Texas, and a tributary channel extending from Intracoastal Waterway main channel at a point in West Galveston

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Bay into Offatts Bayou about 2.2 miles with a west turnout (weye connection) 12 feet deep and 125 feet wide between Offatts Bayou Channel and the Gulf Intracoastal Waterway. (See National Ocean Survey Charts 11302, 11303, 11305, 11306, 11308, 11309, 11314, 11315, 11317, 11319, 11322, 11326, and 11331.)

**Previous project.** For details see page 1859 of Annual Report for 1915. (West Galveston Bay and Brazos River Canal, Texas.)

**Existing project.** Existing project dimensions provided for in main channel of waterway: A channel 12 feet deep (below mean low tide) and 125 feet wide from the Sabine River to Brownsville, Texas. Relocation of channel 12 feet deep by 125 feet wide in Matagorda Bay, miles 454.3 to 471.3, relocation of channel 12 feet deep by 125 feet wide in Corpus Christi Bay, miles 539.4 to 549.7 (mileage is west of Harvey Lock, Louisiana); and alternate channel, 12 feet deep (below mean low tide) and 125 feet wide via Galveston Channel and Galveston Bay to the Galveston causeway; maintenance of existing channel 12 feet deep by 125 feet wide through Lydia Ann Channel, between Aransas Bay and Aransas Pass; provisions of such passing places, widening of bends, locks and guard locks, railway bridges over artificial cuts as are necessary, and the tributary channels shown in tabulation. The authorized channel 16 feet deep and 125 feet wide from Sabine River to Houston Ship Channel is inactive. (See Table 40-I on existing project dimensions provided for in tributary channels.)

Removal of the railroad bridge across the canal at Mud Bayou was completed and operation and care of the facility was discontinued on April 14, 1969. Deepening the existing 6 foot by 60 foot side channels at Port Isabel to 12 feet was completed February 22, 1972, Offatts Bayou channel was completed January 1974. Relocation of main channel across Corpus Christi Bay was completed in September 1976. The 14-foot by 175 foot Channel to Aransas Pass was completed in April 1979. Dredging Chocolate Bayou Channel was completed in January 1981. Construction of a saltwater barrier in Chocolate Bayou was completed in February 1981. The 12-foot by 125-foot channel relocation route in Matagorda Bay has been de-authorized. The Harbor of Refuge at Seadrift, Texas, has been placed in the inactive category.

Mean tidal variation is 0.5 foot at Orange, 1 foot at Port Arthur, 1.3 feet in Galveston Bay, 1.5 feet at Freeport, 1 foot in Matagorda Bay, 1 foot in San Antonio Bay, 1 foot at Corpus Christi, 1.5 feet at Port Isabel, and 1.5 feet at Brownsville. Extreme ranges of tide under ordinary conditions are 1 foot at Orange, 1.5 feet at Port Arthur, 2 feet in Galveston Bay, 2 feet at Freeport, 1.5 feet in Matagorda and San Antonio Bays,

1.5 feet at Corpus Christi, 2 feet at Port Isabel, and 1.5 feet at Brownsville. Height of tides is dependent largely on wind. Strong north winds have depressed water surface as much as 2 feet below mean low tide.

**Mouth of Colorado River:** Construction of jetties at mouth of Colorado River was completed in 1986. Construction of a navigation channel from the Gulf to the GIWW and an impoundment basin were completed in 1991. Construction of Tiger Island Dam and recreation facilities were also completed in 1991. Construction of the recreation facilities at Jetty Park was completed in 1992. Construction of the diversion dam and connecting channel was completed in 1993. Construction of the oyster cultch was completed in 1995.

**Brazos River Floodgates- Major Rehabilitation:** Major rehabilitation of the East Floodgate Guidewalls was completed in 1997. The cost of rehabilitation was \$2,750,000 Federal (Corps) and \$2,750,000 Federal (Inland Waterways Trust Fund).

**Sargent Beach:** Work authorized by the Water Resources Development Act of 1992 for construction of a concrete-pile and concrete block revetment structure, which extends 8 miles to protect the Gulf Intracoastal Waterway was completed in 1998. Construction cost was \$29,460,000 Federal (Corps) and \$29,460,000 Federal (Inland Waterways Trust Fund).

**Aransas National Wildlife Refuge:** Work authorized by the Water Resources Development Act of 1996 provides for erosion protection and limited spill containment for the existing alignment of the Gulf Intracoastal Waterway and includes marsh creation with beneficial uses of dredged material along a 31-mile reach of the waterway which crosses the critical wintering habitat of the rare and endangered whooping crane, including a 13.25 mile reach within the boundary of the Aransas National Wildlife Refuge. This area is located approximately 35 miles northeast of Corpus Christi, Texas in Aransas and Calhoun Counties. The project was completed in 2001. Construction costs were \$14,123,500 Federal (Corps).

**Work remaining:**

Active authorized work remaining consists of the work authorized by the Water Resources Development Act of 1988 for enlarging the existing Channel to Victoria from a depth of 9 feet and width of 100 feet to a depth of 12 feet and width of 125 feet. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Estimated cost for new work is:**

**Channel to Victoria** - \$31,686,000 Federal (Corps), \$422,000 Federal (Department of Transportation), \$62,000 Federal (U.S. Coast Guard), and \$6,530,000 non-Federal consisting of \$3,521,000

cash, \$1,646,000 lands, and \$1,363,000 levees and other associated costs. (October 1, 2002 base price.)

**Local cooperation.** Fully complied with except for provisions of Section 101, 1968 River and Harbor Act and Water Resources Development Act of 1988. The Project Cooperation Agreement for Channel to Victoria was executed November 17, 1994.

**Terminal facilities.** There are terminal facilities at Aransas Pass, Port Arthur, Galveston, Port Isabel, and Brownsville. See Port Series No. 22 (revised 2001), Port Series No. 23 (revised 2006), Port Series No. 25 (revised 2003) and Port Series No. 26 (revised 2002), Corps of Engineers. Local interests constructed terminal facilities at Port Mansfield and Port Harlingen. There are numerous privately owned piers and wharves along the waterway. A 330-foot navigation district owned general cargo dock, a 770-foot private dock and a 760-foot private timber trestle have recently been completed at the upper end of the Channel to Victoria. Facilities are adequate for existing commerce.

**Operations during fiscal year.**

**New Work:** -

**Channel to Victoria** – No new work in FY 2008.

**Maintenance:** -

**Main Channel and Tributaries** - Routine Maintenance

(See Table 40-J for dredging operations.)

**Aransas National Wildlife Refuge** – No maintenance performed during the fiscal year.

**Brazos River Floodgates** - The Brazos River Floodgates were operated and maintained at a cost of \$1,579,891.

**Channel to Victoria** –

**Colorado River Locks** - The Colorado River Locks were operated and maintained at a cost of \$1,814,764. A contract to repair the road was awarded September 21, 2007 and was completed in FY08 for a cost of \$96,216.

**Channel to Port Mansfield** – No maintenance performed during the fiscal year.

**Chocolate Bayou** – No maintenance performed during fiscal year.

**Mouth of Colorado River** – No maintenance required during the fiscal year.

**10. HOUSTON-GALVESTON NAVIGATION CHANNELS, TX**

**Location.** Houston Ship Channel connects Galveston Harbor, at a point opposite Port Bolivar, with city of Houston, Texas, extending 50 miles northwesterly across Galveston Bay through San Jacinto River and Buffalo Bayou to a turning basin at head of Long Reach with light-draft channel 5 miles long from

turning basin to Jensen Drive, Houston. The entrance to Galveston Harbor and Channel is on Gulf of Mexico on the northern portion of the Texas Coast. Galveston Channel extends from a point in Galveston Harbor between Bolivar Peninsula and Fort Point to and along wharf from Galveston, Texas and is about 5 miles long and 1,200 feet wide. (See National Ocean Survey Charts 11324/5, 11327, 11328, and 11329.)

**Existing project.** See Section 8, GALVESTON HARBOR AND CHANNEL, TX and Section 11, HOUSTON SHIP CHANNEL, TX for project prior to October 1998. New authorized project provides for enlarging the Houston Ship Channel to a depth of 45 feet and a width of 530 feet. The Galveston Channel will be enlarged to a depth of 45 feet over a width which varies between 650 and 1,112 feet, and deepening the Galveston Harbor Channel to 47 feet (45-feet authorized and 2 feet for dredging inaccuracies and wind impact) over its original 800-foot width and 10.5 mile length; and extending the channel an additional 3.9 miles to the 47-foot bottom contour in the Gulf of Mexico along existing alignment. A dredged-material disposal plan, which would utilize confined or beneficial uses of dredged material in the bay and/or offshore disposal and 118 acres of Oyster Mitigation is also provided in the project.

Energy and Water Development Appropriations Act of 2001, Section 1(a)(2) of Public Law 106-377 authorized construction of barge lanes. Barge lanes will be constructed on the sides of the Houston Ship Channel to a depth of 12 feet and a distance of 500 feet from the centerline of the channel from Bolivar Roads to Morgan's Point, a distance of approximately 26 miles. Fifty-four acres of oyster reef will be impacted and will be mitigated.

Estimated cost for new work is: \$540,065,000 Federal (Corps) which includes \$327,311,000 for general navigation features and \$99,194,000 for environmental restoration of which \$113,561,000 is for deferred environmental construction; \$7,203,000 Federal (U.S. Coast Guard); and \$190,136,000 non-Federal consisting of \$106,898,000 cash, \$1,163,000 lands, and \$68,000 relocations for general navigation features; \$11,089,000 for berthing areas; and \$70,919,000 cash for environmental restoration which includes \$37,854,000 for deferred environmental construction. (October 1, 2008 base price.)

The first construction contract to dredge the Entrance Channel Extension, awarded 1998, was completed in 1999. The contract for dredging the entrance channel and jetty area was completed in March 2000. The Oyster Reef Mitigation for the main channel was completed in 2000. Construction of the Lower Bay reach was completed in 2001. A contract for Mid Bay was awarded 2001 and work was completed in 2004.

The construction contract for Redfish Island was awarded 2002 and construction was completed 2002. A contract for Mid Bayou (Goat Island) was awarded 2002, and work was completed 2005. The Lower Bayou contract work was completed in 2003. The Upper Bay & Barge Lane contract was completed in 2005. The Barge Lane Mitigation contract was completed in 2005. The Houston Ship Channel and entrance channel was opened to allow vessels drawing 45-foot of water in 2005. A considerable amount of shoaling has been experienced in the channel since opening and the construction efforts now focus on establishing 20-year capacity at the existing sites.

Remaining work includes construction to increase capacities in Placement Areas, deepen Galveston Channel, and environmental restoration features along the Houston Ship Channel.

**Local cooperation.** Complied for the completed work. The Houston-Galveston Navigation Channels project, authorized by the Water Resources Development Act of 1996, the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, apply. Local interests are required to provide lands, easements, rights-of-way, roads and other facilities, except railroad bridges; pay one-half of the separable and joint costs allocated to recreation; and pay 25 percent of the costs allocated to deep-draft navigation, during construction including in-kind work in connection with construction; and pay an additional 10 percent of the costs allocated to navigation within a period of 30 years following completion if not offset by credit allowed for lands, easements, rights-of-way, and relocations.

The Port of Houston Authority and the City of Galveston are the sponsors for the project. A Project Cooperation Agreement with the Port of Houston Authority was executed on June 10, 1998. The Project Cooperation Agreement with the City of Galveston was executed on June 21, 2007.

**Terminal facilities.** See Section 8, GALVESTON HARBOR AND CHANNEL, TX and Section 11, HOUSTON SHIP CHANNEL, TX.

**Operations during fiscal year.** New Work: The Morgan's to Exxon (1<sup>st</sup> Maintenance) contract, awarded April 27, 2006, was completed in FY08 at no additional construction cost. The Redfish to Morgan's (1<sup>st</sup> Maintenance) contract, awarded June 30, 2006, was completed in FY08 at no additional construction cost. The Spilman Island Levee Work contract, awarded September 19, 2006, was completed in December 2007 at a final cost of \$27,772. The Peggy Lake contract awarded August 22, 2006 continued through FY08. Cost incurred for FY08 was \$415,194. The Multiple Placement Area Shoreline Repair contract awarded September 22, 2006 continued through FY08. Cost

incurred for FY08 was \$2,077,990. The Lost Lake Capacity contract awarded June 14, 2007 continued through FY08. Cost incurred for FY08 was \$4,434,607. A construction contract for the Redfish, North Reach of the Channel was awarded December 12, 2007 and continued through FY08 at a cost of \$849, 312. Construction contract for Atkinson Marsh Cells 5 and 6 was awarded on Jul 31, 2007 and continued through FY08 for a fiscal year cost of \$19,230,516.

**Maintenance:** See Section 8, GALVESTON HARBOR AND CHANNEL, TX and Section 11, HOUSTON SHIP CHANNEL, TX for maintenance of existing channels. (See Table 40-J for dredging operations.)

## 11. HOUSTON SHIP CHANNEL, TX

**Location.** Houston Ship Channel connects Galveston Harbor, at a point opposite Port Bolivar, with city of Houston, Texas, extending 50 miles northwesterly across Galveston Bay through San Jacinto River and Buffalo Bayou to a turning basin at head of Long Reach with light-draft channel 5 miles long from turning basin to Jensen Drive, Houston. (See National Ocean Survey Charts 11324/5, 11327, 11328, and 11329.)

**Previous project.** For details see page 1856 of Annual Report for 1915.

**Existing project.** Provides for channel dimensions in sections of the waterway shown in Table 40-H.

Also provides for certain cut-offs, for easing sharp bends, an earthen dam across the upper end of Turkey Bend, and for off-channel silting basins as deemed necessary by the Chief of Engineers. Construction of 26,000 linear feet of pile dike to protect the channel in upper Galveston Bay was de-authorized by Sec. 12 of PL 93-251. The 40-foot project was completed in March 1966. Dredging a channel in Greens Bayou to Mile 1.57 was completed in 1970. Dredging Greens Bayou, Mile 1.57 to Mile 2.73, has been de-authorized. See Section 10, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX for work authorized by the Water Resources Development Act of 1996. (See Table 40-G for total cost of existing project to September 30, 2008.)

Mean tidal range under ordinary conditions is 0.6 foot to 1.3 feet in lower part of Galveston Bay; 0.6 foot to 1.3 feet in upper bay; and 0.5 to 1 foot in San Jacinto River and Buffalo Bayou. Extreme ranges under ordinary conditions are about 2 feet, 1.2 feet and 1 foot, respectively. Freshets caused rises of over 12 feet in Buffalo Bayou; however, this condition has not occurred since completion of Addicks and Barker Dams for flood control on upper watershed of Buffalo Bayou. Height of tides is dependent largely on the wind, and during strong "northers" in winter season, the water surface may be depressed 2 feet below mean low tide.

**Local cooperation.** Fully complied with for Houston Ship Channel. Local Cooperation Agreement for assumption of maintenance on Bayport Ship Channel was executed April 6, 1993. Local Cooperation Agreements for assumption of maintenance on Barbour Terminal Channel and Greens Bayou Channel were both executed on February 8, 1994.

**Terminal facilities.** City of Houston and Port of Houston Authority operate modern terminals which supplement privately owned wharves, piers, and docks, as described in Port Series No. 24 (revised 1999), Corps of Engineers. Facilities are considered adequate for existing commerce.

**Operations during fiscal year.** New Work: See Section 10, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX. The Multiple Placement Area Shoreline repair contract awarded September 22, 2006 continued through FY08 and incurred a fiscal year cost of \$531, 203. The contract for Peggy Lake placement area rehabilitation awarded August 22, 2006 continued through FY08. Cost incurred were \$364,192. A contract to repair a sink hole at Spillman Island Placement Area was awarded May 30, 2008; fiscal year 08 cost was \$240,000. Maintenance: Routine dredging maintenance. (See Table 40-J for dredging operations.) Also, see Section 10, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX.

## 12. MATAGORDA SHIP CHANNEL, TX

**Location.** This is a consolidation of shallow draft channel improvements of "Channel from Pass Cavallo to Port Lavaca, Texas," and deep draft channel improvements authorized under "Matagorda Ship Channel, Texas." Bar at Pass Cavallo is 125 miles southwest of Galveston entrance and 54 miles north of Aransas Pass. It connects Matagorda Bay with the gulf. Project extends across Matagorda Bay and Lavaca Bay to towns of Port Lavaca and Point Comfort. These two towns are on opposite sides of Lavaca Bay and both are about 26 miles northwest from Pass Cavallo. (See National Ocean Survey Chart 11316.)

**Existing project.** Existing project dimensions provided for in various channels and basins are listed in Table 40-H on channel dimensions.

Project also provides for dual jetties at entrance, south jetty extending 6,000 feet to 24-foot depth in the gulf and north jetty extending 5,900 feet to 24-foot depth. Under ordinary conditions mean tidal range is about 1 foot and extreme range about 2 feet. Height of tide is dependent largely on the wind, and during strong "northers" in the winter season, the water surface may be depressed 2 feet below mean low tide. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Fully complied with.

**Terminal facilities.** Privately owned facilities at Port Lavaca, municipally owned facilities at mouth of Lynn bayou, privately owned and publicly owned facilities at Point Comfort, Texas. These facilities are considered adequate for present commerce. Facilities at Point Comfort consist of a channel, turning basin with wharfs, oil dock and loading equipment, all owned by Aluminum Company of America; and a wharf built by local interest at Point Comfort turning basin.

**Operations during fiscal year.** Maintenance: Routine maintenance. (See Table 40-J for dredging operations.)

## 13. NECHES RIVER AND TRIBUTARIES, SALT WATER BARRIER AT BEAUMONT TX

**Location.** The project is located just below the Big Thicket National Preserve and the confluence of Pine Island Bayou and the Neches River at Beaumont, Texas, in Jefferson and Orange Counties on the upper coast of Texas. (See National Ocean Survey Chart 11343.)

**Existing project.** The project will provide for an overflow dam in the Neches River, a gated salt water barrier consisting of five 56 feet by 24.5 feet tainter gates; a gated navigation bypass channel with a clear opening of 56 feet and a depth of 16 feet; an access road and levee; and an auxiliary dam across a canal which drains an adjacent bayou. Estimated cost for new work is \$43,064,000 Federal (Corps) and \$14,355,000 non-Federal consisting of \$8,435,000 contributed funds, \$1,800,000 for lands, \$4,120,000 for relocations. (October 1, 2002 base price.)

The project was authorized for construction in the Water Resources Development Act of 1976 (Sec. 102, PL 94-587). The construction contract was awarded September 18, 2000 and completed in 2004.

**Local cooperation.** Non Federal Sponsor for the project is the Lower Neches Valley Authority. Report of the Chief of Engineers for the Water Resources Development Act of 1976 authorization cited a 1974 Waterways Experiment Station report, which concluded that 75 percent of the salinity in the Neches River at Beaumont was due to the Federal deep draft navigation project to Beaumont and 25 percent was due to withdrawals by water users. From 1994 to 1996, the Corps reevaluated the project which resulted in a May 1997 decision by the Assistant Secretary of the Army (Civil Works), to direct that the project go forward with 75 percent Federal / 25 percent non-Federal cost-sharing as a navigation mitigation project. In October 1999, the Assistant Secretary of the Army (Civil Works) issued a decision stating that operations and maintenance will

also be cost-shared as 75 percent Federal and 25 percent non-Federal. A Project Cooperation Agreement was executed on May 22, 2000.

**Terminal facilities.** None.

**Operations During Fiscal Year.** New Work: None  
Maintenance: See Section 14, SABINE-NECHES WATERWAY, TX Operations during the fiscal year for the reimbursement to Lower Neches Valley Authority for the federal share of the operations cost.

#### 14. SABINE-NECHES WATERWAY, TX

**Location.** This is a consolidation of old improvements of "Harbor at Sabine Pass and Port Arthur Canal" and "Sabine-Neches Canal, including Sabine River to Orange and Neches River to Beaumont, Texas." Sabine Pass is on the Gulf of Mexico about 58 miles east of Galveston and 280 miles west of Southwest Pass, Mississippi River. It connects Sabine Lake with the gulf. Port Arthur canal extends 7 miles from near upper end of Sabine Pass to Port Arthur docks at mouth of Taylors Bayou. Near its upper end, Sabine-Neches canal joins and extends to mouths of Neches and Sabine Rivers. Waterway next extends up Neches River to Beaumont and up Sabine River to Orange. (See National Ocean Survey Charts 11341, 11342, and 11343.)

**Previous projects.** For details see page 1863 of Annual Report for 1915, page 985 of Annual Report for 1916, and page 873 of Annual Report for 1926.

**Existing project.** Existing project dimensions provided for in various channels and basins are set forth in Table 40-H on channel dimensions. Project also provides for two stone jetties at Sabine Pass entrance from the gulf, western jetty to be 21,905 feet long and eastern jetty 25,310 feet long. Project further provides for removal of guard lock in Sabine-Neches Canal, construction of suitable permanent protective works along Sabine Lake frontage owned by city of Port Arthur to prevent dredged material from entering Sabine Lake and to prevent erosion of material deposited, reconstruction of Port Arthur Bridge, and relocation of Port Arthur field office.

Mean tidal variation at entrance is about 1.5 feet, at Port Arthur about 1 foot, and at Orange and Beaumont about 0.5 foot. Prolonged north winds during winter season have depressed water surface as much as 3.4 feet below mean low tide while tropical disturbances have caused heights as much as 8 feet above mean low tide.

Existing project is complete. Removal of obstructive bridge at Port Arthur was completed May 1969. The high level fixed bridge across Sabine-Neches Canal was completed October 1970. Deepening project to 40 feet was completed April 1972. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** Complied with.

**Terminal facilities.** See volume 2, Port Series No. 22 (revised 2001), Corps of Engineers. Facilities are considered adequate for present commerce.

**Operations during fiscal year.** Maintenance: The Lower Neches Valley Authority was reimbursed \$309,672 in Fiscal Year 08 for the Federal share of the operations cost for the Neches River and Tributaries, Saltwater Barrier at Beaumont. Construction contract awarded June 30, 2006, Repair East Jetty at Sabine, continued through FY08 at a fiscal year cost of \$10,940,649. Construction contract awarded June 27, 2006 for repair to Placement Area No. 11 was completed in FY08 for a fiscal year cost of \$8,012,530. (See Table 40-J for dredging operations.)

#### 15. TEXAS CITY CHANNEL, TX

**Location.** Texas City is on the mainland of Texas on the west side of Galveston Bay, about 10 miles northwest of the city of Galveston. (See National Ocean Survey Charts 11324/5.)

**Previous projects.** For details see page 1856 of Annual Report for 1915.

**Existing project.** Provides for channel 40 feet deep, 400 feet wide and about 6.75 miles long, from Bolivar Roads to a turning basin at Texas City, 40 feet deep, 1,000 feet to 1,200 feet wide and 4,253 feet long; and an Industrial Canal, 40 feet deep and 300-400 feet wide extending a distance of 1.7 miles southwestward from the south end of Texas City Turning Basin, and a turning basin, 40 feet deep, 1,000 feet wide and 1,150 feet long.

Project also provides for easing the approach to the turning basin; a pile dike 28,200 feet long, parallel to and north of the channel; and a rubble-mound dike, 27,600 feet long, along the southerly side of the pile dike.

The 40-foot channel was completed in June 1967. Widening the Texas City Turning Basin; realigning the Texas City Turning Basin to a location 85 feet easterly from its present position; and enlargement through widening and deepening of the Industrial Canal and basins was initiated in July 1980 and completed in June 1982. The only work remaining is deferred construction consisting of widening the Industrial Canal from 250 feet to 300 feet at 40 foot depth.

Work authorized by Water Resources Development Act of 1986 would modify the project by providing for deepening the Texas City Turning Basin to 50 feet, enlarging the 6.7-mile long Texas City Channel to 50 feet by 600 feet, deepening the existing 800-foot wide Bolivar Roads Channel and Inner Bar Channel to 50 feet, deepening the existing 800-foot wide Outer Bar and Galveston Entrance Channel to a 52-foot depth for

4.1 miles at a width of 800 feet and an additional reach at a width of 600 feet to the 52 foot contour in the Gulf of Mexico. Establishment of 600 acres of wetland and development of water-oriented recreational facilities on a 90-acre enlargement of the Texas City Dike were authorized but never constructed because the non-Federal sponsor, the City of Texas City was unable to secure funding to initiate plans and specifications.

In November 2007, approval of the General Revaluation Report and Environmental Assessment for deepening the Texas City Channel to 45 feet was granted. This reevaluated plan consists of deepening the 6.8 mile channel and Turning Basin to 45 feet, perform incidental widening of a bend in the channel and constructing five semi-confined open water placement areas adjacent to Shoal Point and Pelican Island, one open water placement area on the north side of the Texas City Dike and a rock groin on the eastern tip of the Dike. (See Table 40-G for total cost of existing project to September 30, 2008.)

Under ordinary conditions mean tidal range is about 1.3 feet and extreme range is about 2 feet. Height of tide is dependent largely on the wind and during strong "northers" water surface may be depressed 2 feet below mean low tide.

Estimated cost for new work is \$47,325,000 Federal (Corps), and \$15,775,000 non-Federal. There are no associated cost for lands and relocations. (October 1, 2008 base price.)

**Local cooperation.** Complied with. For work authorized by the Water Resources Development Act of 1986, as amended, local interests are required to provide lands, easements, rights-of-way, and disposal areas; relocate utilities, roads, and other facilities, except railroad bridges; provide berthing areas; pay one-half of the separable and joint costs allocated to recreation; and bear all costs of operation, maintenance and replacement of recreation facilities, and, during construction, pay 25 percent of the costs allocated to deep-draft navigation to a depth of 45 feet plus 50 percent of the costs allocated to deep-draft navigation deeper than 45 feet; pay an additional 10 percent of the costs allocated to deep-draft navigation within a period of 30 years following completion if not offset by credit allowed for lands, easements, rights-of-way, relocations and disposal areas; and pay 50 percent of the costs incurred for operation and maintenance below the 45-foot depth.

**Terminal facilities.** Privately owned terminal facilities are on the mainland at inner end of this channel and are considered adequate for existing commerce. A deep-draft channel and turning basin extend about 1.9 miles southwestward from south end of Texas City Turning Basin have been constructed by

local interests. See Port Series No. 23 (revised 2006), Corps of Engineers.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN. Maintenance: Routine Maintenance. Contract to rehabilitate Placement Areas 5 and 6 was awarded November 2, 2007 and completed in May 2008 at a cost of \$1,089,431. (See Table 40-J for dredging operations.)

## 16. TRINITY RIVER AND TRIBUTARIES, TX

**Location.** The main stem of the Trinity River is formed at Dallas by the confluence of the West Fork and the Elm Fork at river mile 505.5. The mouth of the Trinity is about one-half mile west of Anahuac, Texas. (See Geological Survey base map, Texas, scale 1:500,000.)

**Previous project.** For details of abandoned locks and dam construction see page 986 of Annual Report for 1933.

**Existing project.** See individual detailed reports on Anahuac Channel, Channel to Liberty and Wallisville Lake. Project includes the existing Federal project designated as "Mouth of Trinity River, Texas," which was completed in 1907 at a cost of \$80,000 (no cost to local interest). Project is not being maintained. (See Table 40-G for total cost of existing project to September 30, 2008.)

**Local cooperation.** See individual detailed reports on Channel to Liberty and Wallisville Lake. There is no local cooperation required for Anahuac Channel.

**Terminal facilities.** Privately owned wharves and piers at Anahuac, Moss Bluff, Wallisville, and Liberty, Texas, are adequate for existing commerce.

### 16A. ANAHUAC CHANNEL, TX

**Location:** Extends from 6-foot depth in Galveston Bay to Anahuac, Texas, opposite mouth of Trinity River 38 miles north of Galveston, Texas. (See National Ocean Survey Chart 11323.)

**Existing project.** No project dimensions authorized by 1905 River and Harbor Act. A 6- by 80-foot channel, 16,000 feet long was dredged in 1905. At present a 6 by 100-foot channel is maintained. Under ordinary conditions tidal range is 0.6 to 1.2 feet. Height of tide is dependent largely on wind. Strong north winds depress water surface 1.5 feet below mean sea level. Latest published map is in House Document 440, 56th Congress, 1st Session. Project was completed in 1911.

**Local cooperation.** None required.

**Terminal facilities.** Privately owned wharves and piers are the only terminal facilities at Anahuac.

**Operations during fiscal year.** Maintenance: No maintenance was performed during the fiscal year.

### 16B. CHANNEL TO LIBERTY, TX

**Location.** Improvement is located in Galveston Bay and tidal reach of lower Trinity River. (See Geological Survey Maps for Anahuac, Cove, Moss Bluff, and Liberty, Texas.)

**Previous projects.** For details see page 986 of Annual Report for 1932.

**Existing project.** Provides for a 6-foot channel from Anahuac to Liberty, which was completed in 1925. A navigable channel from the Houston Ship Channel near Red Fish Bar in Galveston Bay to Liberty, Texas, with depth of 9 feet and width of 150 feet, extending along the east shore of Trinity Bay to the mouth of the Trinity River at Anahuac, thence in the river channel to a turning basin at Liberty, Texas, and a protective embankment along the west side of the channel in Trinity Bay.

The 6-foot Channel to Liberty was completed in 1925. The 9-foot Channel to Liberty has been dredged from junction with Houston Ship Channel to a point one mile below Anahuac, Texas. Work remaining consists of dredging a 9- by 150-foot channel from one mile below Anahuac, Texas to Liberty, Texas.

**Local cooperation.** Fully complied with for portion of "Channel to Liberty" between Houston Ship Channel and 1 mile below Anahuac, Texas, as required by 1946 River and Harbor Act (H. Doc. 634, 79th Cong., 2nd Sess.), but not complied with for remaining portion of "Channel to Liberty" as required by River and Harbor Act of 1945 (H. Doc. 403, 77th Cong., 1st Sess.).

**Terminal facilities.** Privately owned wharves and docks at Anahuac, Wallisville, Texas Gulf Sulphur Co.'s slip, Moss Bluff and Liberty, Texas, are adequate for existing commerce.

**Operations during fiscal year.** Maintenance: No maintenance performed during the fiscal year.

### 16C. WALLISVILLE LAKE, TX

**Location.** Dam is at river mile 3.9, about 4 miles northwest of Anahuac, Texas. (See National Ocean Survey Chart 11323.)

**Existing project.** Provides for construction of a dam and overflow spillway approximately 8 miles long to prevent salinity intrusion and create a 3,800 acre reservoir. The maximum pool elevation will be 2 feet above National Geodetic Vertical Datum. (The reservoir was reduced from 5600 acres with a maximum pool elevation of 4 feet N.G.V.D. by agreement to protect the endangered bald eagle.) Project provides for an 84 foot by 600-foot navigation lock to facilitate navigation on Channel to Liberty. The sill has a depth of minus 16 feet

below National Geodetic Vertical Datum. Project also provides for two recreational areas; and three water control structures to control salinity intrusion and regulate freshwater flows to the saltwater marsh west of the river. Dam controls a drainage area of 1,262 square miles below Livingston Dam (non-Federal project at channel mile 99.2) and has a storage capacity of 14,000 acre-feet. Under ordinary conditions mean tidal range in bay is from 0.6 foot to 1.2 feet. Height of tide is dependent largely on wind. Strong northerly winds depress water surface 1.5 feet below mean sea level. Total estimated cost of authorized project is \$81,200,000 Federal (Corps). (October 1, 2000 base price.)

A contract for construction of access road, Big Hog intake structure, intake canal and access bridge was completed in October 1968. Work started in July 1970 on construction of the lock and dam, roads, diversion channel, and navigation channel. Work was suspended in February 1973 because of an injunction halting construction. Protective work on the lock and dam was permitted and was completed in April 1973. An exception to the injunction was granted for plugging oil wells, which was completed in August 1973. Notice of appeal to the Court of Appeals for the Fifth Circuit was filed in April 1973. In August 1974, the Court of Appeals reversed the judgment and remanded the case with directions that a revised or supplemental statement be prepared and judged anew. Final supplement to the Environmental Impact Statement for the modified project authorized in the Supplemental Appropriations Act, 1983 (PL 98-63) was submitted to the Environmental Protection Agency on September 21, 1983.

In March 1986, the Court rendered its Memorandum of order continuing the injunction and directing the Corps to recommence the administrative process at the time when the first departure from standard NEPA procedures occurred prior to the 1983 legislative action. The Corps and Non-Federal Sponsors perfected an appeal to the U.S. Court of Appeals and on May 11, 1987, the Court of Appeals ruled in favor of the Corps and dismissed the suit in its entirety.

The Energy and Water Development Appropriation Act of 1991 provided \$9,200,000 for the project and directive language for continuation of construction.

In the fall of 1989, a pair of bald eagles was discovered nesting at the project site, which led to additional consultation under the Endangered Species Act. Solicitation of the contract for the non-overflow dam was postponed to allow for environmental coordination. An Environmental Assessment was prepared with a Finding of No Significant Impact (FONSI), which was signed in September 1991.

Environmental documents were approved and construction was resumed.

A contract to rehabilitate and complete the navigation lock, complete the North and South navigation channels, construct a new administrative/resident office building, and electrical and mechanical equipment controls for the controlled spillway structure was awarded in December 1995 and completed in FY 99. A dedication ceremony for the Wallisville Lake Project was held on November 1, 1999.

Construction of Control Structure A was completed in February 2000 and Cedar Hill Park was completed in October 2000. In 2001 remediation of the abandoned dam, removal of skimmers, repairs to the West-Non-Overflow dam and construction of public-use facilities were completed.

Site improvements consisting of replacement of timbers, construction of a boat ramp and dock, new fencing, walkways and improvements to parking lots were completed in 2003.

The Wallisville Lake Project was turned over for permanent operations at the beginning of FY 00. The project's construction was completed in 2003.

**Local cooperation.** Local interest must contribute an amount equal to cost allocated to water supply, one-half of cost allocated to salinity control and cost allocated to recreation less cost of basic facilities and less 15 percent of total project cost. Local interest reimbursement is estimated at \$12,200,000.

**Operations during fiscal year.** New Work: The following structures built in FY 08 include an observation tower at a cost of \$185,213, a bulkhead at boat ramps at a cost of \$105,680, Fish cleaning facility with fencing at a cost of \$174,052, and a fishing pier at a cost of \$144,892. A contract for roadway repair was awarded in FY 08 and completed with a fiscal year cost of \$240,000.

Maintenance: The project was operated and maintained at a cost of \$1,618,604 in FY08.

## **17. RECONNAISSANCE AND PROJECT CONDITION SURVEYS**

Reconnaissance and condition surveys were conducted in FY 2008 at a total cost of \$345,325.

## **18. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION**

Navigation activities pursuant to Section 107, Public Law 86-645 (preauthorization):

No initial coordination for Section 107 navigation activities was performed in FY 08.

A Milestone Report was completed in June 2002 on Galveston Island Channel for the extension of a shallow draft channel on the west end of Galveston Channel. Project estimated cost is \$6.5 million which exceeds the Continuing Authorities Programs' limit by \$2.5 million. Project is on hold due to lack of federal funding. No cost was incurred in Fiscal year 08.

Mitigation of shore damages attributable to navigation projects pursuant to Section 111, Public Law 90-483: No mitigation of shore damage studies was performed in FY 2008.

### **Shore Protection**

## **19. NATIONAL EROSION CONTROL DEVELOPMENT AND DEMONSTRATION PROGRAM , JEFFERSON COUNTY, TX**

**Location.** The project location fronts the McFadden National Wildlife Refuge in the vicinity of Sea Rim State Park in Jefferson County, Texas. Beaches at the demonstration consist of a thin veneer of sand over mud and the average long-term annual erosion rate is approximately 5 feet.

**Existing Project.** The primary objectives of the project are to minimize erosion of the cohesive sediment and to minimize sand overwash. These objectives will be accomplished by constructing experimental low-volume beach nourishment templates contained by geotextile tube groin cells and dune construction. The 2,500 ft-long dune is designed to withstand a 5-year return period storm. Fronting half of the engineered dune corridor is a beach nourishment divided into four experimental cells of varying fill volumes and grain sizes. A geotextile tube groin separates each experimental cell.

**Local Cooperation.** A Memorandum of Agreement has been executed with the Texas General Land Office.

**Operation During Fiscal Year.** New Work: Construction was completed in August, 2004. Baseline project monitoring continued through FY08 at a cost of \$640.

**Flood Control**

**20. BUFFALO BAYOU AND TRIBUTARIES, TX**

**Location.** Improvements are on Buffalo Bayou watershed, a part of San Jacinto River watershed, in Harris County, west and northwest of city of Houston, Texas. (See Geological Survey quadrangle sheets for Harris County.)

**Existing project.** Provides for improvements of Buffalo Bayou and its tributaries above turning basin of Houston Ship Channel to control floods for protection of city of Houston, and prevent deposition of silt in turning basin of ship channel by construction of detention reservoirs, enlargement and rectification of channels and construction of control works.

Channel rectification on Brays Bayou with an improved channel length 25.4 miles was completed in March 1971. Channel rectification on White Oak Bayou was completed in 1976. Work remaining consists of rectification of approximately 22 miles of main stem of Buffalo Bayou.

See individual detailed reports on Addicks and Barker Reservoirs; and Brays, Greens, Halls, Hunting, Little White Oak, and Carpenters Bayous.

**Local cooperation.** Section 203, 1954 Flood Control Act applies. Local interests have accomplished all required local cooperation on Brays Bayou and White Oak Bayou. On Buffalo Bayou, local interests purchased interests that the United States had in 7 miles of rectified channel below Barker and Addicks Dams for \$256,651. Of the remaining required rights-of-way on Buffalo Bayou, local interests have acquired about 40 percent. About 53 percent of required bridge relocations and 3 percent of the required bridge relocations have been accomplished. Advance of \$4,400,000 by the Harris County Flood Control District was refunded in September 1956. Public Law 86-53 authorized reimbursement of \$38,726 to Galveston, Houston and Henderson Railroad Company for bridge alterations at Brays Bayou. Non-Federal contributions totaled \$63,661 for project betterment. Recreation development is subject to conditions of non-Federal cost sharing under Federal Water Project Recreation Act of 1965.

See individual detailed reports on Addicks and Barker Reservoirs; and Brays, Greens, Halls, Hunting, Little White Oak, and Carpenters Bayous.

**20A. ADDICKS AND BARKER RESERVOIRS, TX**

**Location.** Reservoirs are located in and west of the City of Houston in Harris and Fort Bend Counties, Texas.

**Existing project.** Construction of Barker Dam was complete in February 1945. Construction of Addicks Dam and 7.4 miles of channel rectification downstream from Addicks and Barker Dams was completed in October 1948. Modification of Barker and Addicks Dams consisting of gating the final two uncontrolled conduits in each dam, was complete in 1963. Major rehabilitation of Addicks and Barker Dams to prevent seepage through the embankment was completed in 1982.

Work under the Dam Safety Assurance program was initiated in Fiscal Year 1986. Work accomplished included raising approximately 32,400 feet of Addicks Dam 1 to 3 feet and raising approximately 57,600 feet of Barker Dam 3 to 5 feet and armor-plating low ends of both dams. A contract with the city of Houston for cost sharing in the construction of recreation facilities was entered into in November 1981. The lease for approximately 10,534 acres of land and water areas was approved in February 1983.

**Local cooperation.** None required.

**Operations during fiscal year.** Recreation: Community Park West (Phase IB) and the velodrome were completed in 1986 and remain in use. Community Park West (Phase 4) and the development of Community Park 2 (soccer fields, ball fields, and parking lots) were completed by the City of Houston in 1992. Harris County Precinct 3 completed building additional soccer fields in Community Park 2 in George Bush Park. The Fort Bend County YMCA pavilion, archery range, Dog Park and nature trails in Barker Reservoir are being heavily used along with the City of Houston's Cullen Park, Harris County's George Bush Park, and Fort Bend County's Cinco Ranch Park. Maintenance and improvements of these recreation areas continue by all agencies.

New Work: No new work for FY 08. Maintenance: Fiscal year cost for operating and maintaining project was \$733,434. New Work: No new work for FY08.

The project is estimated to have prevented damages of \$843,200 in FY08 for a cumulative total of 4,643,104.

**20B. BRAYS BAYOU**

**Location.** The project is located in the south-central portion of Buffalo Bayou, Harris County, TX.

**Existing project.** The authorized plan of improvement consists of 3 miles of stream

improvements, 3 flood detention basins, and 7 miles of stream diversion channels. Aesthetic vegetation is included. Recreation facilities include trails, picnic facilities, sports fields, comfort stations and parking areas. The estimated cost for new work is \$334,718,000 Federal (Corps) and \$184,673,000 non-Federal consisting of \$28,726,000 cash contributions, and \$155,946,000 for lands and relocations (October 1, 2008 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). In 1995, the project was divided into two separable elements, an Upstream (detention) Element (stream improvements and detention basins) and a Downstream (diversion) Element. The Local Sponsor was authorized to develop the project and design and construct an alternative to the diversion component and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303). Construction funds were received in 1998.

**Location cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; pay five percent of the total costs allocated to flood control presently estimated at \$27,479,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities. A Project Cooperation Agreement for the Upstream (detention) element was executed March 3, 2000.

**Operations during fiscal year.** New Work: Construction of the Detention Element by the Non-Federal Sponsor continued in old Westheimer, Eldridge, and Art story Detention Basins. Final reimbursement was made for discrete segments 17 and 24 of Eldridge Detention Basin and Arthur Story Park for a total cost of \$13,650,848. Decrease adjustments were made from FY07 accruals for discrete segments 18 of Arthur Story Park in the amount of \$188,408 and 21 of Old Westheimer in the amount of \$1,456,02. In accordance with Section 211 of the Water Resources Development Act of 1996, the sponsor is investigating the Downstream (diversion) Element in an effort to find an alternative to the authorized project.

## 20C. GREENS BAYOU

**Location.** Greens Bayou is a tributary of Buffalo Bayou, and is located in the north-central portion of Harris County, TX, and does not include the Halls Bayou tributary.

**Existing project.** The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides

for 25 miles of stream enlargement, 14 miles of stream cleaning and 4 flood detention basins. Aesthetic vegetation and mitigation is included. Recreation facilities include trails, picnic facilities, sports fields, launches, ramps, comfort stations and parking areas. The project is currently being reformulated and a new project has been identified in a General Reevaluation Study. The new project will consist of approximately 3.7 miles of stream enlargement in the upper reaches of the bayou between Veterans Memorial Drive and Cutten Road. A flood detention basin will be located near the downstream terminus of the stream enlargement. Aesthetic vegetation is included. Recreation facilities are not currently included in the project as a local sponsor has not been confirmed. The estimated cost for new work is \$32,396,000 Federal (Corps) and \$9,687,000 non-Federal consisting of \$2,104,000 cash contributions, and \$7,583,000 for lands and relocations (October 1, 2008 base price).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$2,104,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

## 20D. HALLS BAYOU

**Location.** Halls Bayou is a major tributary of Greens Bayou, located in the north-central portion of Buffalo Bayou, Harris County, TX.

**Existing project.** The authorized plan of improvement consists of 18 miles of stream improvements. Recreation facilities include trails, picnic facilities, boat ramps, a comfort station and parking areas. The estimated cost for new work is \$91,399,000 Federal (Corps) and \$63,726,000 non-Federal consisting of \$10,007,000 cash contributions, \$47,486,000 for lands and relocations, \$3,832,000 for Planning, Engineering, and Design (PED), and \$2,401,000 for Construction Management. (October 2008 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently

estimated at \$10,007,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

## 20E. HUNTING BAYOU

**Location.** Hunting Bayou is located in Houston, approximately 4 to 5 miles from the central business district.

**Existing project.** The authorized plan of improvement consists of 14.3 miles of stream improvements. Recreation facilities include trails, picnic facilities, a comfort station and parking areas. The estimated cost for new work is 89,811,000 Federal (Corps) and \$76,068,000 non-Federal consisting of \$8,913,000 cash contributions, \$55,168 for lands and relocations, \$4,913,000 of Planning, Engineering and Design, and \$3,074,000 for Construction Management (October 1, 2008 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The Non-Federal Sponsor was authorized to design and construct an alternative to the project and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$8,913,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

**Operations during fiscal year.** New Work: Construction funds were received in 2003 to begin construction of the project. See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

## 20F. LITTLE WHITE OAK BAYOU, TX

**Location.** Little White Oak Bayou is a tributary of White Oak Bayou in north-central Houston.

**Existing project.** The authorized plan of improvement consists of 6.0 miles of stream enlargements. Recreation facilities include trails and picnic facilities. The estimated cost for new work is \$17,958,000 Federal (Corps) and \$17,957,000 non-Federal consisting of \$1,996,000 cash contributions, and \$15,961,000 for lands and relocations (October 1990 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$1,996,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

**Operations during fiscal year.** New Work: Project is awaiting PRE-CONSTRUCTION ENGINEERING AND DESIGN funds.

## 20G. CARPENTERS BAYOU, TX

**Location.** Carpenters Bayou is a tributary of Buffalo Bayou in northeastern Houston.

**Existing project.** The authorized plan of improvement consists of 9.7 miles of stream enlargements. Recreation facilities include trails and picnic facilities. The estimated cost for new work is \$3,900,000 Federal (Corps) and \$1,950,000 non-Federal consisting of \$370,000 cash contributions, and \$2,320,000 for lands and relocations (October 1990 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$370,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

**Operations during fiscal year.** New Work: Project is awaiting PRE-CONSTRUCTION ENGINEERING AND DESIGN funds.

## 21. CLEAR CREEK, TX

**Location.** The project is located about midway between the two metropolitan centers of Houston, Texas, on the north and Galveston-Texas City on the south in Harris and Galveston Counties above and below existing Clear Lake.

**Existing project.** The authorized plan of improvement consists of an improved channel from Mile 3.8 to Mile 34.8 to contain within its banks all flood flows up to and including that of a 100-year flood. The selected plan provides channel enlargement and

easing of bends within the existing stream from Mile 3.8 to Mile 26.05 to contain at least the 10-year frequency storm, and additional outlet with gated structure from Clear Lake to Galveston Bay, restriction of development in the residual 100-year flood plain and measures to mitigate environmental effects. In 1986, at the request of Brazoria County Drainage District No. 4, that portion of the project upstream of the Brazoria/Galveston County line, approximate improved Mile 19.1, was placed in the “inactive” category. Estimated cost for new work, excluding “inactive” portion, is \$103,104,000 Federal (Corps) and \$62,989,000 non-Federal consisting of \$8,304,000 cash contributions, \$22,600,000 for lands, and \$30,369,000 for relocations (October 1, 2008 base price).

Environmental interest groups and agencies, private citizens, and some local communities located near or adjacent to Clear Lake expressed opposition to the Clear Creek Flood Control Project as currently authorized and planned for upstream reaches. In general, the opposition to the project has been focused on environmental concerns in the upstream reaches and on induced flooding concerns downstream in Clear Lake. Construction has been delayed at the request of the Non-Federal Sponsor so that an alternative to the authorized project can be developed that will reduce above concerns and still provide flood protection to those that are critically affected by flood waters in the watershed.

**Local cooperation.** Non-Federal Sponsors for the project are Galveston and Harris counties. The Local Cooperation Agreement, executed June 30, 1986, requires local interests to provide lands, easements, rights-of-way, and material disposal areas; modify or relocate building, pipelines, utilities, roads and other facilities, except railroad bridges, where necessary in the construction of the project; make a cash contribution for mitigation measures consistent with the non-Federal share of total project costs without mitigation measures; pay five percent of the total costs allocated to flood control; and bear all costs of operation and maintenance of flood control facilities. By letter of June 9, 1999, Brazoria County Drainage District No. 4 indicated its intent to be a project sponsor again beginning with participation in the General Reevaluation Report.

**Operations during fiscal year.** Preparation of the General Reevaluation Report continued. Work on plan formulation, engineering analysis, socioeconomic analysis, real estate analysis, and environmental studies continued.

## 22. LOWER RIO GRANDE BASIN, TX

**Location.** The project is located in Willacy, Hidalgo, and Cameron Counties. The basin is bounded on the east by the Gulf of Mexico, on the south by the

Rio Grande, which forms the international boundary between the United States and Mexico, on the west by Starr County, and on the north by Brooks and Kenedy Counties.

**Existing project.** See individual detailed reports on Arroyo Colorado, South Main Channel, and Raymondville Drain.

**Local cooperation.** See individual detailed reports on Arroyo Colorado, South Main Channel, and Raymondville Drain.

## 22A. ARROYO COLORADO, TX

**Location.** The project is located in Hidalgo and Cameron Counties, Texas.

**Existing project.** The authorized project will provide flood protection along Highway 83 and erosion protection for the banks of the Arroyo Colorado in the city of Harlingen. The project consists of a gated water control structure, 1.4 miles of channel improvements, and stone armoring of selected reaches in Harlingen. The estimated cost for new work is \$5,851,000 Federal (Corps) and \$1,951,000 non-Federal consisting of \$1,848,000 cash and \$103,000 for lands and relocations (October 1, 1993 base prices).

The project has reached a stalemate as the Local Sponsor, the Hidalgo County Drainage District #1, cannot provide required guarantee to hold and save the Government free from all damages arising from the construction, operation, maintenance, repair and replacement for the project, nor are they able to operate and maintain the project when completed. The International Boundary and Water Commission has complete jurisdiction over the project, as it is one of the elements of the Rio Grande Floodway System. The Commission is interested in the project but only if additional funds to do operations and maintenance are provided. Legislative approval will be required to alter the current status.

**Local cooperation.** Non-Federal Sponsor, the Hidalgo County Drainage District #1, is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$1,848,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

**Operations during fiscal year.** None.

## 22B. SOUTH MAIN CHANNEL, TX

**Location.** The project is located in Hidalgo and Willacy Counties, Texas.

**Existing project.** The authorized project consists of channel improvements that will provide flood protection to the city of Lyford, as well as the rural area of

Willacy County north of U.S. Highway 83. The authorized plan is currently being revised to reflect a smaller project and will include construction of new channels only in Willacy County, and a local protection project for Lyford. The estimated cost for new work is \$168,432,000 Federal (Corps) and \$73,187,000 non-Federal consisting of \$12,581,000 cash, \$28,107,000 lands, and \$42,499,000 relocations (October 1, 2008 base prices).

**Local cooperation.** Originally the Non-Federal Sponsors for the project were Hidalgo County Drainage District #1 and Willacy County Drainage District #1. Late in Fiscal Year 1999, Hidalgo County Drainage District #1 withdrew support of the project. In August 1999, Willacy County Drainage District #1 restated their intent to cost-share in project construction.

Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$10,185,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

## 22C. RAYMONDVILLE DRAIN, TX

**Location.** The project is located in northern Hidalgo and Willacy Counties, Texas.

**Existing project.** The authorized project will provide a drainage outlet to the Laguna Madre for northern Hidalgo and Willacy Counties. The project consists of 43.8 miles of channel work, including enlargement of existing channels and construction of new channels, a 3.88-mile long levee, and diversion ditches along the west side of Raymondville. The estimated cost for new work is \$76,573,000 Federal (Corps) and \$25,525,000 non-Federal consisting of \$10,185,000 cash, \$6,142,000 lands, and \$9,198,000 relocations (October 1, 2008 base prices).

**Local cooperation.** Non-Federal Sponsor for the project is Hidalgo County Drainage District #1. Non-Federal Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$8,390,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

**Operations during fiscal year.** New Work: See Section 35, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

## 23. SIMS BAYOU, TX

**Location.** The project is located in Harris County, in the southern portion of Houston, Texas.

**Existing project.** The authorized plan of improvement provides for enlargement and rectification, with appropriate erosion control measures, of 19.3 miles of Sims Bayou to provide 25-year flood protection; environmental measures and riparian habitat improvement along the entire alignment; and recreational development to include 14 miles of hike-and-bike trails connecting to existing public parks, together with picnic, playground, and other leisure facilities. Estimated cost for new work is \$266,592,000 Federal (Corps) and \$125,018,000 non-Federal consisting of \$22,933,000 cash contributions, \$44,764,000 for lands, \$56,983,000 for relocations, and \$337,000 for channels (October 1, 2008 base price).

**Local cooperation.** Non-Federal Sponsor for the project is Harris County Flood Control District. In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests are required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads, and other facilities, except railroad bridges, where necessary for the construction of the project; pay one-half of the separable and joint costs allocated to recreation; and bear all costs of operation, maintenance and replacement of recreation facilities; and pay 5 percent of the costs allocated to flood control; and bear all costs of operation, maintenance and replacement of flood control facilities. The Local Cooperation Agreement for flood control was executed on October 19, 1990. The recreation Local Project Agreement is currently under review by the City of Houston.

**Operations during fiscal year.** New Work: A construction contract for channel rectification downstream of Cullen to State Highway 288, awarded September 13, 2002, continued through FY08 at a cost of \$271,646.

Channel rectification contract for the Robin Boulevard to State Highway 288 reach awarded May 31, 2005, continued through FY08 at a cost of \$2,973,765. A sediment removal and channel repair contract was awarded June 30, 2006 for repairs downstream of Cullen Boulevard to the Mouth. Cost incurred for FY08 was \$8,400,028. The Swallow Sheetpile Wall Removal contract was awarded in May 2007 and incurred cost of \$275,740. The Limited Reevaluation Report for the recreation feature was prepared and submitted to Division.

**24. INSPECTION OF COMPLETED FLOOD CONTROL WORKS**

Inspections of completed projects operated and maintained by Non-Federal interests were made on the following projects. Fiscal year cost for Inspection of Completed Flood Control Works was \$175,867.

<u>Project</u>	<u>Date of Inspection</u>
Three Rivers Flood Protection, TX	October 2007
Levee Inspection Tool Training	March 2008
Texas City & Vicinity Hurricane Flood Protection, TX	June 2008
Port Arthur & Vicinity Hurricane, TX Flood Protection, TX	June 2008
San Diego Creek at Alice, TX Baffins Bay Drainage Area	July 2008

**25. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION**

Flood control activities pursuant to section 205 of 1970 Flood Control Act, Public Law 858, 80<sup>th</sup> Congress, as amended and Emergency flood control – repair, flood fighting, and rescue work (Public Law 99, 84<sup>th</sup> Congress and antecedent legislation):

Emergency Response Activities – Flood Control and Coastal Emergencies.

Disasters. The Galveston District activated its Emergency Operations Center (EOC) a total of four times in Fiscal Year 2008 all hurricane disasters that included support FEMA and the State of Texas under the Federal Response Framework.

Operational Program Areas. Fiscal year 2008 costs: disaster preparedness \$371,480.88; emergency operations \$316,446.47; inspection of non-Federal flood control works \$17,350.11; national emergency preparedness \$9,529.77; and anti-terrorism/force protection \$-0-.

Emergency Work in Support of Other Federal Agencies. Fiscal year 2008 costs supporting FEMA under the Stafford Act: \$1,215,626.25.

**26. EMERGENCY STREAM BANK AND SHORELINE EROSION WORK AND SNAGGING AND CLEARING ACTIVITIES UNDER SPECIAL AUTHORIZATION**

Stream bank and shoreline erosion activities pursuant to Section 14 of the 1946 Flood Control Act, Public Law 525, as amended:

Initial coordination for Section 14 Emergency Stream Bank and Shoreline Erosion activities was performed in FY08 at for a cost of \$9,925.

No costs were incurred in FY07 for snagging and clearing activities for flood control pursuant to Section 208 of the Flood Control Act of 1954, Public Law 780, as amended.

**Environmental Restoration**

**27. PROJECT MODIFICATIONS FOR IMPROVEMENT OF ENVIRONMENT**

Project modifications for improvement of environmental activities pursuant to Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended: Fiscal year 2008 cost was \$5,941.

A feasibility study was initiated in 2003 on Taylor’s Bayou for the replacement of a saltwater barrier to protect the bayou and marsh from saltwater intrusion, but was placed on hold awaiting Federal funding.

A preliminary Restoration Plan for Keith Lake Fish Pass in Jefferson County was completed in May 2002. A feasibility study was initiated in January 2003 but was placed on hold awaiting Federal funding.

**28. AQUATIC ECOSYSTEM RESTORATION**

Coordination of Aquatic Ecosystem Restoration to improve the quality of the environment pursuant to section 206 of the Water Resources Development Act of 1996, Public Law 104-303, as amended:

No fiscal year cost for coordination was incurred for FY08.

Construction for the University of Texas Wetlands Education Center for the restoration of wetlands and dunes in support of the Education Center began in 2004. See Section 30-UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UTMSI), TX.

The feasibility study for the Gulf Intracoastal Waterway, Mad Island Marsh to protect the habitat at

the Wildlife Management Area from further erosion continued through FY 08 at a cost of \$2,676.

A Preliminary Restoration Plan to prevent further erosion of ecosystem at the Galveston Bay Prairie Preserve at Moses Lake was completed in FY04. The project has been placed on hold awaiting Federal funds.

A Preliminary Restoration Plan for Aquatic ecosystem restoration of Galveston County MUD (Municipal Utility District) 12 was approved July 2004. Alternative formulation began in FY04 but has been placed on hold awaiting Federal funds.

## 29. NORTH PADRE ISLAND, TX

**Location.** The project is located along the south central Texas coast on the northern portion of Padre Island, City of Corpus Christi, Nueces County, Texas. The project cuts through Mustang Island joining the Gulf of Mexico with the Gulf Intracoastal Waterway at mile 553.0

**Existing project.** The project was authorized by the Water Resources Development Act of 1999. The authorized plan of improvement provides for an opening between the Gulf of Mexico and Corpus Christi Bay, which consists of a jettied entrance and channel, extending from the Gulf of Mexico through Mustang Island along the existing Packery Channel; storm damage reduction measures on the south side of the area; and ecosystem restoration measures at various locations adjacent to the project area. Tidal surges caused by Hurricane Emily in June 2005 and Hurricane Rita in September 2005 caused damages to both the south and north jetties and to areas of the concrete cellular mats. Cost to repair these damages have increased the Federal cost by an additional \$2.5 million and the non-Federal share by an additional \$1.346 million. The estimated cost for new work is \$22,518,000 Federal (Corps) and \$15,502,000 non-Federal consisting of \$13,964,000 cash contributions, \$521,000 for lands, easements, rights-of-way, relocations, and 1,017,000 for betterments. (October 1, 2008 base price).

**Local cooperation.** Non-Federal Sponsor for the project is City of Corpus Christi, Texas. In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, Non-Federal interests are required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads, and other facilities, except for railroad bridges; provide a cash contribution presently estimated at \$13,964,000 and bear all costs of operation and maintenance.

**Operations during fiscal year.** New Work: The construction contract awarded July 30, 2003 completed in FY08 at a cost of \$1,350,912 for fiscal year 08.

## 30. UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE (UTMSI) SECTION 206, TX

**Location.** The project is located on the UTMSI Campus in Port Aransas, Nueces County, Texas. Port Aransas is located on the northern most portion of Mustang Island. Mustang Island is a barrier island that separates Corpus Christi Bay from the Gulf of Mexico. The proposed wetland restoration will be performed immediately adjacent to the Corpus Christi Ship Channel.

**Existing project.** The project consists of wetland restoration features which was constructed on 2.6 acres located on the UTMSI campus. In addition, approximately 1600 feet of dunes were created. A broad range of estuarine habitat types were constructed by removing several feet of the existing surface materials to achieve the target elevation contours necessary to support target communities. The creation of a number of diverse habitats, including open water, submerged aquatic vegetated shallows, low and high marsh, sand flats and upland islands and dunes, allows for use of the area by several fish and wildlife species, including fishes, invertebrates, reptiles, small mammals and birds. Open water and marsh surface habitats were constructed to resemble natural marsh systems in the area with undulating surfaces, high and lows, and main channel with tributaries. The marsh system was connected to the surrounding tidal waters to provide daily tidal exchange by installing two 36-inch culverts that were completely submerged. The total project cost was \$2,100,000. Construction was completed in 2007.

**Local cooperation.** The project sponsor is The University of Texas Board of Regents, and the U.T. Marine Science Institute. A project cooperation agreement was executed March 2004.

**Operations during fiscal year.** New Work: Construction contract awarded January 30, 2006 to create a wetland habitat was financially closed out in FY08 for a final fiscal year cost of \$284.

## 31. BENEFICIAL USES OF DREDGED MATERIAL

Projects for beneficial uses of dredged material pursuant to Section 204 of the Water Resources Development Act of 1992, Public Law 102-560 incurred costs of \$8,441 in FY08.

**General Investigations**

**32. SURVEYS**

Fiscal year costs for reconnaissance and feasibility studies were \$1,681,903 for navigation and \$48,543 for flood damage prevention. Reconnaissance and feasibility studies on watershed and ecosystem projects incurred costs of \$108,629. No cost was incurred for a reconnaissance study for shoreline protection in FY 08. Reconnaissance and feasibility studies on review of authorized projects incurred costs of \$314,409 for FY 08. Miscellaneous Activities for FY 08 include the following: Special Investigations at a cost of \$13,838; Interagency Water Resources Development at \$21,453; National Estuary Program at \$2,694; and North American Waterfowl Management Plan at a cost of \$1,842.

**33. COORDINATION WITH OTHER AGENCIES**

Cost for Coordination With Other Agencies was \$55,384 for FY 2008.

**34. COLLECTION AND STUDY OF BASIC DATA**

Floodplain management, technical services were performed at a cost of \$26,288 and \$26,298; respectively. No cost was incurred in FY08 for hydrologic studies.

**35. PRE-CONSTRUCTION ENGINEERING AND DESIGN**

**Greens Bayou, Texas** – The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides for 25 miles of stream enlargement, 14 miles of stream clearing and 4 flood detention basins. Aesthetic vegetation and mitigation is included. Recreation facilities include trails, picnic facilities, sports fields, launches, ramps, comfort stations and parking areas. The project is currently being reformulated and a new project has been identified in a General Reevaluation Study. The new project will consist of approximately 3.2 miles of stream enlargement in the upper reaches of the bayou between Veterans Memorial Drive and Cutten Road. A flood detention basin will be located near the downstream terminus of the stream enlargement. Aesthetic vegetation is included. Recreation facilities are not currently included in the project as a local sponsor has not been confirmed. Estimated planning and

engineering cost is \$9,420,000. Planning and engineering studies were initiated in FY 1990. Fiscal year costs were \$348,571.

**South Main Channel, Texas** – The authorized project consists of channel improvements, which will provide flood protection to the cities of McAllen, Edinburg, Edcouch, La Villa and Lyford, as well as the rural areas of Hidalgo and Willacy Counties north of U.S. Highway 83. The authorized plan is currently being revised to reflect a smaller project and will include construction of new channels only in Willacy County, and a local protection project for Lyford, Texas. Estimated planning and engineering cost estimate is \$9,660,000. Planning and Engineering studies were initiated in FY 1990. No cost was incurred in FY08.

**Raymondville Drain, Texas** - The project consists of 43.8 miles of channel work, including enlargement of existing channels, and construction of new channels, a 3.88-mile long levee, and diversion ditches along the west side of Raymondville, Texas. Estimated planning and engineering estimate is \$7,377,000. Planning and engineering studies were initiated in FY 1997. Fiscal year costs were \$300,287.

**Hunting Bayou, Texas** - The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides for 14.3 miles of stream improvements, recreation trails, picnic facilities, a comfort station, access and parking areas. The Non-Federal Sponsor was authorized to design and construct an alternative to the project and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303). The project is currently being reformulated and will be identified by the General Reevaluation Study.

Estimated planning and engineering estimate is \$2,070,000. Planning and engineering studies were initiated in FY 1998. No cost was incurred in Fiscal Year 2008.

**Colonias Along U.S. and Mexico Border, Texas** - The project was authorized in accordance with the Water Resources Development Act of 1992, Section 219 (PL 102-580). Assistance is to be provided to non-Federal interests for carrying out water related environmental infrastructure and resource protection and development projects for selected areas along the Texas/Mexico borders. Estimated planning and engineering cost estimate is \$1,800,000. Planning and engineering studies were initiated in FY 2001. Preliminary design began in FY 04 on Villa Nueva Colonia, Rose Acres Colonia, and LaPresa Colonia. All three design projects will be cost shared 75% Corps and 25% Sponsor. The cost sharing Sponsors are as follows: Villa Nueva-City of Brownsville; Rose Acres – Nueces County; and LaPresa – Webb County. Fiscal year costs were \$36,623.

**GIWW, Matagorda Bay, Texas** - The project consist of realigning the navigation channel from mile 460 to mile 472 with a channel approximately 6,000 feet north of and paralleling the existing route. Channel dimensions are 12 feet deep by 125 feet wide for most of the channel, with a widening to 300 feet where it crosses the Matagorda Ship Channel, and flares at each of the places where the channel changes direction. Material dredged from the channel will be used to create marshes in Matagorda Bay and to combat erosion along Matagorda Peninsula. The existing channel from mile 460 to 473 would be abandoned. Estimated planning and engineering cost estimate is \$1,191,000. Planning and engineering studies were initiated in FY 2002. No cost was incurred in FY 08.

**Texas City Channel, Texas** - The project was authorized in accordance with the Water Resources Development Act of 1986. Planning, engineering and design has been on hold since 1990 at the request of the Non-Federal Sponsor, the City of Texas City. Planning, engineering and design was resumed in FY 02. A reconnaissance level study was performed and it was determined that the authorized project is in the Federal interest and meets current needs. Estimated planning and engineering cost estimate is \$5,898,000. Planning and engineering studies were initiated in FY 2002. Fiscal year costs were \$281,618.

**Corpus Christi Ship Channel, Texas** - The Corpus Christi Ship Channel (45-foot) project, 40 miles long, is a Federally constructed deep-draft navigation project serving the ports at Harbor Island, Ingleside, and Corpus Christi in Nueces County. The recommended plan of improvement will deepen the channel to 52 feet, widen to 530 feet, add barge lanes on both sides of the channel across Corpus Christi Bay, and extend the La Quinta channel one and one-half miles at a depth of 39 feet.

Estimated planning and engineering cost estimate is \$2,390,000. Planning and engineering studies were initiated in FY 2003. Fiscal year costs were \$33,992.

**GIWW, High Island to Brazos River, Texas** - The project covers the reach of the Gulf Intracoastal Waterway from Rollover Pass at Mile 330 to West Bay at Mile 373, approximately 43 miles of channel in Galveston and Brazoria Counties. The recommended project includes a sediment basin at Rollover Pass, widening the channel area to 75 feet for a length of 1400 feet at Sievers Cove, widening the channel at the Texas City Wye, setting back existing mooring facilities by 80 feet at Pelican Island, protecting existing open channels from wave action at Greens Lake, and establishing a mooring basin at the West Bay washout.

Estimated planning and engineering cost estimate is \$703,000. Planning and engineering studies were initiated in FY 2004. Fiscal year costs were \$14,525.

**Halls Bayou, Texas** - The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized plan of improvement consists of 18 miles of stream improvements. Recreation facilities include trails, picnic facilities, boat ramps, a comfort station and parking areas.

Estimated planning and engineering cost estimate is \$8,502,000. Planning and engineering studies were initiated in 1992 but was put on hold at the end of the year at the request of the Sponsor, Harris County Flood Control District. In 2005 a minimal amount of funds were placed on the project to update the economics and cost estimate. In FY 06 \$3,205 was expended to complete the update of project's economics and cost estimate. Fiscal year costs were \$113.

**Cedar Bayou, Texas** - The project was re-authorized for construction in the Water Resources Development Act of 2000 (PL 106-541) under Section 349(a) (2) in December 2000. The recommended plan of improvement consists of extending the channel 8 miles at the dimensions of 10 x 100 from Mile 3.0 to Mile 11.0, or just below State Highway 146. Estimated planning and engineering cost estimate is \$ 1,135,000. Planning and engineering studies were initiated in FY 2002. Fiscal year costs were \$46,179.

**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>
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**TABLE 40-A COST AND FINANCIAL STATEMENT**

<b>1. Aquatic Plant Control (Southwestern Division) 1965 Act</b>	<b>New Work:</b>						
	Approp.	0	0	0	0	5,286,600 <sup>1</sup>	
	Cost	(21,447)	21,439	0	0	5,286,579 <sup>1</sup>	
<b>2. Brazos Island Harbor, TX</b>	<b>New Work:</b>						
	Approp	0	0	0	0	27,871,202 <sup>2</sup>	
	Cost	0	0	0	0	27,871,202 <sup>2</sup>	
	<b>Maint:</b>						
	Approp	1,958,000	3,358,000	5,956,000	2,904,000	87,538,440 <sup>3</sup>	
	Cost	1,956,404	1,510,905	4,444,722	6,249,921	87,524,393 <sup>3</sup>	
	<b>Hurricane Suppl:</b>						
	Approp.	0	0	0	1,750,000	1,750,000	
	Cost	0	0	0	219,281	219,281	
	<b>Major Rehab:</b>						
Approp.	0	0	0	0	2,170,080		
Cost	0	0	0	0	2,170,080		
<b>3. Cedar Bayou, TX (Regular Funds)  Contributed Funds)</b>	<b>New Work:</b>						
	Approp.	107,000	49,000	197,000	65,000	1,099,263 <sup>4</sup>	
	Cost	-	153,955	143,875	46,179	1,025,272 <sup>4</sup>	
	<b>Maint:</b>						
	Approp.	0	0	0	0	5,061,406 <sup>5</sup>	
	Cost	0	0	0	0	5,061,406 <sup>5</sup>	
	<b>New Work:</b>						
	Approp.	0	52,000	600,000	65,000	717,000	
	Cost	0	51,371	535,019	110,874	697,264	
	<b>4. Channel to Port Bolivar, TX</b>	<b>New Work:</b>					
Approp.		0	0	0	0	133,925 <sup>6</sup>	
Cost		0	0	0	0	133,925 <sup>6</sup>	
<b>Maint:</b>							
Approp.		0	0	159,000	426,000	2,779,307 <sup>7</sup>	
Cost		0	0	0	80,584	2,274,891 <sup>7</sup>	
<b>Maint. Hurricane Suppl:</b>							
Approp.		0	300,000	0	0	300,000	
Cost	0	300,000	0	0	300,000		
<b>5. Chocolate Bayou DMMP Dredge Material Maintenance Program (Regular Funds) (Contributed Funds)</b>	<b>New Work:</b>						
	Approp.	416,000	4,594,000	500,000	0	5,510,000	
	Cost	197,531	4,801,585	31,372	189,442	5,219,929	
	<b>New Work:</b>						
	Approp.	300,000	331,000	0	0	631,000	
	Cost	0	523,494	0	0	523,494	

**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>	
<b>6. Corpus Christi Ship Channel, TX (Regular Funds)</b>	<b>New Work:</b>	Approp.	0	0	0	0	77,474,639 <sup>8</sup>	
		Cost	0	0	0	0	77,472,463 <sup>8</sup>	
	<b>Maint:</b>	Approp.	6,329,000	3,462,000	6,972,000	9,804,000	171,789,808 <sup>9</sup>	
		Cost	5,123,424	4,414,867	4,219,358	4,005,224	162,977,320 <sup>9</sup>	
	<b>Major Rehab:</b>	Approp.	0	0	0	0	3,576,684	
		Cost	0	0	0	0	3,576,684	
	<b>(Contributed Funds)</b>	<b>New Work:</b>	Approp.	0	0	0	0	6,279,088
			Cost	0	0	0	0	6,143,152
	<b>7. Freeport Harbor , TX</b>	<b>New Work:</b>	Approp.	0	0	0	0	65,371,956 <sup>10</sup>
			Cost	1,502	2,167	799	0	65,367,129 <sup>10</sup>
<b>Maint:</b>		Approp.	3,900,000	3,655,000	4,382,000	5,306,000	113,534,599 <sup>11</sup>	
		Cost	3,649,803	3,766,624	2,334,199	3,096,411	109,138,412 <sup>11</sup>	
<b>Maint. Hurricane Suppl:</b>		Approp.	0	2,000,000	0	0	2,000,000	
		Cost	0	36,288	1,963,480	232	2,000,000	
<b>Minor Rehab:</b>		Approp.	0	0	0	0	8,935	
		Cost	0	0	0	0	8,935	
<b>8. Galveston Harbor and Channel, TX</b>		<b>New Work:</b>	Approp.	0	0	0	0	29,096,392 <sup>12</sup>
			Cost	0	0	0	0	29,096,392 <sup>12</sup>
	<b>Maint:</b>	Approp	4,559,000	4,250,000	4,892,000	19,027,000	162,404,093 <sup>13</sup>	
		Cost	3,897,295	3,215,079	4,420,192	9,226,037	150,434,696 <sup>13</sup>	
	<b>Maint. Hurricane Suppl:</b>	Approp.	0	2,140,000	0	0	2,140,000	
		Cost	0	1,909,485	161,511	54,589	2,125,585	
	<b>Major Rehab:</b>	Approp.	0	0	0	0	7,969,329	
		Cost	0	0	0	0	7,969,329	
	<b>9. Gulf Intracoastal Waterway between Apalachee Bay, FL and the Mexican Border (Galveston District) (Regular Funds)</b>	<b>New Work:</b>	Approp.	1,050,000	(34,000)	34,000	0	157,820,046 <sup>14</sup>
			Cost	449,817	51,208	160,436	17,037	157,350,423 <sup>14</sup>
<b>(Inland Waterways Trust Fund)</b>	<b>New Work:</b>	Approp	0	0	0	0	28,634,490	
		Cost	0	0	0	0	28,634,490	

**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>
<b>(Regular Funds)</b>		<b>Maint:</b>					
		Appr	26,132,000	34,033,000	36,162,000	22,735,000	746,336,236 <sup>15</sup>
		Cost	25,731,449	27,704,009	33,479,894	21,412,264	735,518,616 <sup>16</sup>
		<b>Hurricane Suppl:</b>					
		Approp.	0	8,950,000	435,000	16,160,000	25,545,000 <sup>17</sup>
		Cost	0	4,441,806	1,368,745	1,037,878	6,848,428 <sup>17</sup>
	<b>Gulf Intracoastal Waterway between Apalachee Bay, FL and the Mexican Border (Galveston District) (Regular Funds) (Inland Waterways Trust Fund)</b>	<b>Major Rehab:</b>					
		Approp.	0	0	0	0	3,390,338
		Cost	0	0	0	0	3,390,338
		<b>Major Rehab:</b>					
		Approp.	0	0	0	0	2,955,700
		Cost	0	0	0	0	2,955,700
		<b>Minor Rehab:</b>					
		Approp.	0	0	0	0	835,873
		Cost	0	0	0	0	835,873
<b>10. Houston-Galveston Navigation Channels, TX (Regular Funds)</b>		<b>New Work:</b>					
		Approp.	27,045,000	25,740,000	43,076,000	15,730,000	378,246,300
		Cost	26,989,716	4,426,249	16,367,086	22,510,097	336,830,709
		<b>New Work Hurricane Suppl:</b>					
		Approp.	0	4,217,000	0	0	4,217,000
		Cost	0	67,211	2,918,849	1,230,940	4,217,000
	<b>(Contributed Funds)</b>	<b>New Work:</b>					
		Approp.	7,400,000	5,500,000	4,000,000	10,300,000	115,152,500
		Cost	6,585,888	715,875	5,043,682	6,395,338	104,496,432
		<b>New Work Hurricane Suppl:</b>					
		Approp.	0	1,406,000	0	0	1,406,000
		Cost	0	0	945,305	460,695	1,406,000
<b>11. Houston Ship Channel, TX</b>		<b>New Work:</b>					
		Approp.	0	0	0	0	35,760,382 <sup>18</sup>
		Cost	0	0	0	0	35,760,382 <sup>18</sup>
		<b>Maint:</b>					
		Approp.	14,071,000	13,543,000	13,070,000	17,293,000	291,652,034 <sup>19</sup>
		Cost	12,163,742	5,571,594	16,122,785	10,211,357	277,742,109 <sup>19</sup>
		<b>Maint. Hurricane Suppl:</b>					
		Approp.	0	20,058,000	0	6,000,000	26,058,000 <sup>20</sup>
		Cost	0	2,391,756	16,991,493	618,368	20,001,617 <sup>20</sup>
<b>12. Matagorda, Ship Channel, TX</b>		<b>New Work:</b>					
		Approp.	0	0	0	0	18,058,777 <sup>21</sup>
		Cost	0	0	0	0	18,058,777 <sup>21</sup>
		<b>Maint:</b>					
		Approp.	2,132,000	7,710,000	5,345,000	8,060,000	104,759,573 <sup>22</sup>
		Cost	2,113,643	4,428,552	7,622,485	7,345,878	103,023,130 <sup>22</sup>

**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>	
13. Neches River Saltwater Barrier, TX (Regular Funds)	<b>New Work:</b>	Approp.	(192,500)	0	0	0	40,286,843	
		Cost	(165,492)	60	0	0	40,286,843	
	(Contributed Funds)	<b>New Work:</b>	Approp.	0	(151,317)		0	11,971,288
			Cost	203,823	0	0	0	11,971,288
		<b>Maint:</b>	Approp.	0	0	0	0	56,136,815 <sup>23</sup>
			Cost	0	0	0	0	56,136,815 <sup>23</sup>
14. Sabine-Neches Waterway, TX	<b>Maint:</b>	Approp.	16,620,500	11,939,000	7,940,000	11,667,000	341,093,172 <sup>24</sup>	
		Cost	13,421,248	11,113,028	15,848,084	7,728,758	335,095,827 <sup>24</sup>	
	<b>Maint. Hurricane Suppl:</b>	Approp.	0	33,954,000	0	6,000,000	39,954,000	
		Cost	0	10,639,738	9,564,456	11,601,018	31,805,212	
	15. Texas City Channel, TX (Regular Funds)	<b>New Work:</b>	Approp.	986,000	894,000	900,000	2,460,000	21,383,472 <sup>25</sup>
			Cost	871,736	871,736	635,043	459,250	19,043,443 <sup>25</sup>
		<b>Maint:</b>	Approp.	57,000	2,219,000	847,000	4,243,000	45,436,700 <sup>26</sup>
			Cost	30,326	2,207,099	686,179	4,309,978	45,304,278 <sup>26</sup>
		<b>Hurricane Suppl:</b>	Approp.	0	1,600,000	0	0	1,600,000
			Cost	0	523,229	987,725	24,387	1,535,341
<b>Major Rehab:</b>		Approp.	0	0	0	0	726,158	
		Cost	0	0	0	0	726,158	
16. Trinity River and Tributaries, TX (Includes Wallisville)		<b>New Work:</b>	Approp.	0	0	0	0	84,481,176 <sup>27</sup>
			Cost	7,708	0	0	0	84,481,176 <sup>27</sup>
	<b>Maint:</b>	Approp.	1,223,000	1,475,000	2,370,000	2,182,000	47,349,266 <sup>28</sup>	
		Cost	1,208,137	1,354,786	1,582,187	2,732,296	46,973,759 <sup>28</sup>	
	20. Buffalo Bayou and Tributaries, TX	<b>New Work:</b>	Approp.	9,247,000	11,249,000	16,303,000	13,933,000	140,554,271 <sup>29</sup>
			Cost	9,175,779	11,043,070	15,802,445	13,793,688	139,134,918 <sup>29</sup>
<b>Recreation:</b>		Approp.	0	0	0	0	240,804	
		Cost	2,175	790	0	0	238,360	
<b>Maint:</b>		Approp.	1,621,000	2,552,000	2,148,000	5,803,000	68,808,738	
		Cost	1,621,357	2,104,096	2,301,026	2,465,664	65,153,870	
<b>Major Rehab:</b>	Approp.	0	0	0	636,000	13,111,000		
	Cost	0	0	0	108,262	12,583,262		

**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>
		<b>Dam Safety:</b>					
		Approp.	0	0	0	0	12,693,700
		Cost	0	0	0	0	12,693,700
<b>21.</b>	<b>Clear Creek, TX (Regular Funds)</b>	<b>New Work:</b>					
		Approp.	1,358,500	1,183,000	1,000,000	1,461,000	33,134,477
		Cost	1,294,779	1,047,834	857,229	1,294,817	32,507,415
	<b>(Contributed Funds)</b>	<b>New Work:</b>					
		Approp.	97,500	127,500	59,189	59,189	2,184,378
		Cost	86,247	138,992	66,046	66,046	2,173,189
<b>22.</b>	<b>Lower Rio Grande Basin, TX</b>	<b>New Work:</b>					
		Approp.	582,000	297,000	600,000	492,000	12,878,063
		Cost	473,890	256,518	398,426	300,287	12,331,568
<b>23.</b>	<b>Sims Bayou, TX (Regular Funds)</b>	<b>New Work:</b>					
		Approp.	12,837,000	17,820,000	22,400,000	20,075,000	216,010,917
		Cost	10,090,486	13,075,767	13,725,734	12,463,941	192,217,181
		<b>Hurricane Suppl:</b>					
		Approp.	0	0	0	5,000,000	5,000,000
		Cost	0	0	0	0	0
	<b>(Contributed Funds)</b>	<b>New Work:</b>					
		Approp.	2,900,000	0	0	1,500,000	15,956,360 <sup>30</sup>
		Cost	922,263	1,733,381	234,741	1,156,412	14,094,787 <sup>30</sup>
		<b>Hurricane Suppl:</b>					
		Approp.	0	0	0	0	0
		Cost	0	0	0	0	0
<b>29.</b>	<b>North Padre Island, TX (Regular Funds)</b>	<b>New Work:</b>					
		Approp.	4,388,000	4,038,000	0	0	19,579,665
		Cost	4,394,125	3,968,623	86,397	0	19,576,096
		<b>Hurricane Suppl:</b>					
		Approp.	0	2,500,000	0	0	2,500,000
		Cost	0	998,968	358,830	1,090,177	2,447,974
	<b>(Contributed Funds)</b>	<b>New Work:</b>					
		Approp.	4,175,396	505,405	0	0	10,412,743 <sup>31</sup>
		Cost	5,297,445	1,207,904	0	7,668	10,332,825 <sup>31</sup>
		<b>Hurricane Suppl:</b>					
		Approp.	0	1,346,154	0	0	1,346,154
		Cost	0	360,000	0	515,122	1,073,645
<b>30.</b>	<b>University of Texas Marine Science Inst. (UTMSI) (Regular Funds)</b>	<b>New Work:</b>					
		Approp.	1,348,780	0	50,000	0	1,893,780
		Cost.	63,522	327,590	954,245	284	1,837,852
	<b>(Contributed Funds)</b>	<b>New Work:</b>					
		Approp.	517,655	215,420	20,950	0	939,370
		Cost.	0	192,353	638,889	29,641	928,511



**TABLE 40-A COST AND FINANCIAL STATEMENT**

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY 08	Total Cost To Sep. 30, 2008 <sup>32</sup>
	Colorado River	\$2,400,000	appropriated and \$1,318,488 expended.				
		<sup>18</sup>	Includes \$4,105,157 for previous projects. In addition, \$2,591,939 expended from contributed funds, of which \$1,209,179 was for previous projects.				<sup>23</sup> Includes \$5,180,832 for previous projects. In addition, \$2,680,942 expended from contributed funds, of which \$577,507 was for previous projects.
		<sup>19</sup>	Includes \$1,213,142 for previous projects. In addition, \$534,641 expended from contributed funds for Houston Ship Channel, of which \$200,000 was for previous projects and \$125,000 expended from contributed funds for Greens Bayou Channel. In addition, \$336,103 expended from contributed funds for the Greens Bayou Dock. Includes appropriated funds for tributary channels separately funded starting in fiscal year 1992: Greens Bayou Channel \$1,930,952. Barbour Terminal Channel \$4,242,237. Bayport Ship Channel \$29,436,372. Also, includes \$91,942 contributed funds for Bayport Ship Channel beginning in FY 1998. Expenditures for tributary channels separately funded starting in fiscal year 1992: Greens Bayou Channel \$1,925,519. Barbour Terminal Channel \$4,074,237. Bayport Ship Channel \$24,035,132. In addition \$91,942 expended from contributed funds for Bayport Ship Channel beginning in FY 1998.				<sup>24</sup> Includes \$2,379,677 for previous projects. In addition, \$7,713,770 expended from contributed funds and \$7,944 expended from contributed funds for real estate acquisition for the local sponsor. Also includes \$140,724 contributed funds expended from the Port of Beaumont for dredging their slip areas between Sections 9 and 11. In addition \$547,230 contributed funds from the Port of Port Arthur of which \$546,724 have been expended.
		<sup>20</sup>	Includes the following appropriated and expended Hurricane Supplemental funding for tributary channels of the Houston Ship Channel: Greens Bayou Channel - \$1,200,000 appropriated and \$1,174,580 expended; Barbour Terminal Channel - \$1,400,000 appropriated and \$1,372,611 expended; Bayport Ship Channel - \$3,000,000 and \$3,298,179 expended.				<sup>25</sup> Includes \$366,823 for previous projects. In addition, \$3,176,300 expended from contributed funds, of which \$99,000 was for mitigation measures.
		<sup>21</sup>	In addition, \$12,259,619 expended from contributed funds and \$182,800 for contributed lands.				<sup>26</sup> Includes \$195,083 for previous projects.
		<sup>22</sup>	In addition, \$306,372 expended from contributed funds. Starting in fiscal year 1990 includes an appropriation of \$2,303,797 and expenditures of \$2,303,797 for Channel to Red Bluff.				<sup>27</sup> Includes \$1,966,306 for previous projects. In addition, \$66,000 expended from contributed funds.
							<sup>28</sup> Includes \$543,662 for previous projects. Includes \$18,622,323 appropriated (and \$18,246,817 expended) for Wallisville Lake project beginning in FY 1983.
							<sup>29</sup> Includes \$4,400,000 of advanced funds repaid to Harris County Flood Control District. In addition, \$63,661 contributed funds expended for Brays Bayou and \$12,900 Federal funds and \$19,104 contributed funds expended for enlargement of Clodine Ditch.
							<sup>30</sup> Excludes \$2,001,622 expended from contributed funds for real estate acquisition for the local sponsor.
							<sup>31</sup> Includes \$508, 812 contributed funds for Utility Casing (100% Non-Federal Betterment).
							<sup>32</sup> Includes funds (\$12,544,400) provided by the Jobs Act (P.L. 98-8, dated March 24, 1983) for projects listed in Table 15-I of Annual Report for 1985.

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
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**TABLE 40-B AUTHORIZING LEGISLATION**

<b>1. AQUATIC PLANT CONTROL, TX</b>			
	Oct. 27, 1965	Provides for control of progressive eradication of aquatic plant growth from the navigable waters and streams in the U.S.	H. Doc. 251, 89 <sup>th</sup> Cong., 1st Sess.
	Nov. 17, 1986	Amended cost sharing requirements to provide for 50 percent Federal and 50 percent non-Federal participation in control operations.	Sec. 103(c), PL 99-662
<b>2. BRAZOS ISLAND HARBOR, TX</b>			
	Jun. 3, 1930	Jetties and jetty channel, inside channels and basins.	Rivers and Harbors Committee Doc. 16, 71st Cong., 2nd Sess.
	May 24, 1934 (PWA) Aug. 30, 1935	Local cooperation requirement modified to provide contribution of funds to cover cost of original dredging of all inside channels and basins.	Rivers and Harbors Committee Doc. 10, 71st Cong., 1st Sess.
	Aug. 26, 1937	Deepen jetty channel to 31 feet and inner channels and Brownsville and Port Isabel turning basins to 28 feet.	Rivers and Harbors Committee Doc. 32, 75th Cong., 1st Sess.
	Mar. 2, 1945	Enlarge Port Isabel turning basin.	H. Doc. 335, 76th Cong., 1st Sess.
	Mar. 2, 1945	Deepen entrance channel to 35 feet; deepen to 33 feet channel across Laguna Madre; deepen to 32 feet channels from Laguna Madre to turning basins at Brownsville and Port Isabel; widen turning basins; and dredging present shallow-draft channel south of Port Isabel from railroad bridge to Laguna Madre and connecting channel to Port Isabel turning basin.	H. Doc. 347, 77th Cong., 1st Sess.
	Jul. 24, 1946	Additional connecting channel between Port Isabel and Brownsville channels; and transfer shallow-draft channels at Port Isabel to GIWW.	H. Doc. 627, 79th Cong., 2nd Sess.
	May 17, 1950	Deepen to 38 feet in outer bar channels and 36 feet in all other authorized channels and basins; extend existing turning basins at Brownsville and Port Isabel; and construct small-boat basin with a connecting channel next to Brownsville ship channel.	H. Doc. 192, 81st Cong., 1st Sess.
	Jul. 14, 1960	Widen Brownsville Channel to 300 feet at a depth of 36 feet from former Goose Island passing basin to turning basin extension, thence at a width of 500 feet and same depth to turning basin proper, deepen to 36 feet in area in southeast corner of turning basin, maintain two existing basins of fishing harbor, and a connecting channel, and construct a third basin, with necessary connecting channel and extend Brazos Island Harbor north jetty seaward 1,000 feet. <sup>27</sup>	H. Doc. 428, 86th Cong., 2nd Sess. <sup>1</sup>

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**TABLE 40-B** **AUTHORIZING LEGISLATION**

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See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>BRAZOS ISLAND HARBOR, TX (Continued)</b>			
	Nov. 17, 1986	Enlargement of the entrance channel from deep water in the Gulf of Mexico to the Laguna Madre to a depth of 44 feet and a width of 400 feet; enlargement of the Turning Basin Extension to a point 800 feet beyond the grain elevator to a depth of 42 feet at widths varying from 325 to 400 feet; removal of Brownsville Navigation District Wharves 5, 6, and 9 to permit widening of the adjacent portion of the Turning Basin to 1,200 feet at a depth of 36 feet; construction of asphalt walkways with handrails on the crown of the North and South Jetties, and construction of park-type public use facilities at the inner end of the North Jetty.	Sec. 201, PL 99-662
<b>3. CEDAR BAYOU, TX</b>			
	Jul. 3, 1930	Channel 10 feet deep and 100 feet wide from Houston Ship Channel to a point on bayou 11 miles above mouth. <sup>29</sup>	S. Doc 107, 71st Cong., 2nd Sess. <sup>1</sup>
	Dec. 11, 2000	Channel 12 feet deep and 125 feet wide from Houston Ship channel to a point on bayou 11 miles above mouth.	S. 349 (a)(2), PL 106-541
	Nov. 8, 2007	Modified Section 349(a)(2) of Water Resources Development Act of 2000 to direct the Secretary to credit, in accordance with Section 222 of Federal Control Act of 1970, toward the non-Federal share of the cost of the project the cost of planning and design work carried out by the non-Federal interest for the project before the date of the partnership agreement for the project.  Specifies cost sharing for construction and operation and maintenance of the project shall be determined in accordance with Section 101 of the Water Resources Development act of 1986.  Amends Section 349(a)(2) of the water Resources Development Act of 2000 by striking "12 feet deep by 125 feet wide" and inserting "that is 10 feet deep by 100 feet wide".	Sec. 3147, PL110-114
<b>4. CHANNEL TO PORT BOLIVAR, TX</b>			
	Jun. 25, 1910	A channel 30 feet deep and 200 feet wide from deep water in Galveston Harbor extending to a turning basin 1,000 feet square and 30 feet deep. <sup>30</sup>	H. Doc. 328, 61st Cong., 2nd Sess.
	Mar. 4, 1919	Enlargement, extension and protection of turning basin. <sup>30</sup>	H. Doc. 1122, 65th Cong., 2nd Sess. <sup>1</sup>
<b>5. CHOCOLATE BAYOU (DMMP), TX</b>			
	Jul. 21, 1994	National Harbors Program: Dredged Material Management Plans (DMMP)	EC 1165-2-200
<b>6. CORPUS CHRISTI SHIP CHANNEL, TX</b>			
	Mar. 3, 1899	Acquisition of old curved portion of north jetty previously constructed by private parties.	Specified in Act.

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>CORPUS CHRISTI SHIP CHANNEL, TX (Continued)</b>			
	Jun. 13, 1902	Complete north jetty in accordance with builder's plans.	Specified in Act.
	Mar. 3, 1905	Complete north jetty in accordance with builder's plans.	Specified in Act.
	Mar. 2, 1907	Connect old curve to St. Joseph Island, and construct south jetty.	Rivers and Harbors Committee Doc. 5 59 <sup>th</sup> Cong., 2 <sup>nd</sup> Sess.
	Feb. 27, 1911	Dredge roadstead in Harbor Island Basin to 20 feet deep and construct 10,000 linear feet of stone dike on St. Joseph Island.	H. Doc. 1094, 61st Cong., 3rd Sess.
	Mar. 4, 1913 <sup>2</sup>	Channel between jetties and Harbor Island Basin to 25 feet deep, extend jetties seaward, extend dike on St. Joseph Island 9,100 feet, and dredge approach channel 12 feet deep to town of Port Aransas.	H. Doc. 1125, 62nd Cong., 3rd Sess.
	Sep. 23, 1922	Dredging channel from Aransas Pass to Corpus Christi, 25 feet deep, 200 feet bottom width.	H. Doc. 321, 67th Cong., 2nd Sess.
	Jul. 3, 1930 <sup>3</sup>	Deepen entrance channel from gulf to Harbor Island and provide an inner basin at Harbor Island of reduced area but greater depth.	H. Doc. 214, 70th Cong., 1st Sess.
	Jul. 3, 1930	Channel from Aransas Pass to Corpus Christi Channel with depth 30 feet.	Rivers and Harbors Committee Doc. 9, 71st Cong., 1st Sess.
	Aug. 30, 1935 <sup>4</sup>	Enlarge all channels from gulf to western end of basin dredge by Humble Oil and Refining Co., at its docks on Harbor Island.	Committee Docs. 35, 72nd Cong., 1st Sess., and 40, 73rd Cong., 2nd Sess.
	Aug. 30, 1935	Maintain channel and maneuvering basin between breakwater and western shoreline of Corpus Christi Bay.	H. Doc. 130, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Maintain 30-foot depth of approach channel, turning basin at Corpus Christi, Industrial Canal and turning basin at Avery Point.	Rivers and Harbors Committee Doc. 13, 74th Cong., 1st Sess.
	Aug 30, 1935	Maintain and deepen to 32 feet channel from deep water at Port Aransas to and including turning basin at Corpus Christi.	Rivers and Harbors Committee Doc. 63, 74th Cong., 1st Sess.
	Jun. 20, 1938	Extend main turning basin at Corpus Christi westward 2,500 feet at its present width and depth, deepen existing Industrial Canal and turning basin to 32 feet and extend this canal at a depth of 32 feet and general width of 150 feet, westward along Nueces Bay shore to a turning basin 32 feet by 900 feet, and 1,000 feet long near Tule Lake.	H. Doc. 574, 75th Cong., 3rd Sess.
	Jun 30, 1948	Deepen entrance channel to 38 feet from gulf to outer end of jetty; 38 feet decreasing to 36 feet thence to station 90 north jetty; and 36 feet in all other deep water channels and basins except 2,000-foot undredged part of inner basin at Harbor Island, and a width of 400 feet in channel from Port Aransas to Maneuvering basin at Corpus Christi.	H. Doc. 560, 80th Cong., 2nd Sess.

GALVESTON, TX, DISTRICT

**TABLE 40-B**

**AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>CORPUS CHRISTI SHIP CHANNEL, TX (Continued)</b>			
	Sep. 3, 1954	An anchorage basin 12 feet deep, from 300 to 400 feet wide, and 900 feet long in Turtle Cove at Port Aransas, Texas.	H. Doc. 654, 81st Cong., 1st Sess.
	Sep. 3, 1954 <sup>s</sup>	Branch channel 32 feet by 150 feet, extending northerly from main channel in vicinity of Port Ingleside, along north shore of Corpus Christi Bay to Reynolds Metals Co. plant and turning basin 32 feet deep and 800 feet square near plant in general vicinity of LaQuinta, Texas.	H. Doc. 89, 83 <sup>rd</sup> Cong., 1st Sess.
	Sep. 3, 1954	An entrance channel 36 by 400 feet on a tangent alignment from 400-foot channel in Corpus Christi Bay, near Corpus Christi breakwater to flared approach channel to Corpus Christi turning basin.	H. Doc. 487, 83rd Cong., 2nd Sess.
	Jul. 3, 1958	Deepen and widen LaQuinta Channel to 36 by 200 feet; enlarge LaQuinta turning basin to 36 by 800 by 1,000 feet; a flared entrance to channel; and widening at curves.	S. Doc. 33, 85th Cong., 1st Sess.
	Jul. 3, 1958	Deepen entrance channel to 42 feet from gulf to outer end of jetty; 40 feet in all other deep-water channels and basins except undredged northward extension to inner basin at Harbor Island and branch channel to LaQuinta; and widen Industrial Channel to 400 feet with flared entrances to Corpus Christi and Avery Point turning basins.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 3, 1958	Channel 40 by 200 feet extending 2.2 miles from Tule Lake turning basin to a turning basin 40 feet deep, 700 to 900 feet wide, 1,000 feet long at Viola, Texas.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 3, 1958	Depth of 12 feet and a width of 100 feet in locally dredged Jewel Fulton Canal from LaQuinta Channel to a turning basin 12 by 200 by 400 feet, and assumption of maintenance by United States.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 14, 1960 (As amended by Dec. 31, 1970)	Construction of a breakwater at entrance to harbor area at Port Aransas, and realignment of existing 12-foot by 100-foot project channel.	Sec. 107, PL-86-645
	Aug. 13, 1968	Provides for a project depth of 45 feet in the existing deep-draft channels and basins, for construction of a new deep-draft turning point, for construction of a deep draft mooring area and mooring facilities and for widening of the channels and basins at certain locations. The Act also deauthorized the undredged northward extension of Inner Basin at Harbor Island and the undredged west turnout (Wye connection) between the LaQuinta Channel and the main channel of the waterway.	S. Doc. 99, 90th Cong., 2nd Sess. <sup>1</sup>
	Oct. 22, 1976	Modified local cooperation requirements for 1968 Act. Shifted responsibility for cost of disposal areas and confinement works from sponsor to joint 75 percent Federal and 25 percent non-Federal responsibility.	Sec. 124, PL 94-587
	Sep. 15, 1994	Assume maintenance of 17-foot by 100-foot Jewel Fulton Canal, after construction by local interest.	Sec. 204, PL 99-662 as amended

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>CORPUS CHRISTI SHIP CHANNEL, TX (Continued)</b>			
	Nov 8, 2007	Deepen and widen Corpus Christi Ship Channel from Viola Turning Basin to the end of the jetties in the Gulf of Mexico to -52 feet MLT; deepen the remainder of the channel into the Gulf of Mexico to -54 feet MLT; widen the upper and Lower Bay reaches to 530 feet. Construct barge shelves 200 feet wide and -12 feet MLT on both sides of the CCSC from its junction with the LaQuinta Channel to the entrance of the Inner Harbor. Extend the LaQuinta Channel approximately 1.4 miles beyond its current limit, at a depth of -39 feet MLT. The channel will measure 400 feet wide and include a second turning basin with a diameter of 1200 feet, to a depth of -39 feet MLT. The existing LaQuinta Channel will remain at the 45 foot depth. Adjacent to the CCSC in the Lower Bay reach of the channel, mitigate project impacts by creation of 15 acres of sea grass adjacent to the LaQuinta. Construct two ecosystem restoration features, including rock breakwaters and geotubes to protect 1,200 acres of an existing high quality, complex wetland ecosystem and protect 40 acres of highly productive sea grass. In carrying out the project, the Secretary shall enforce the navigational servitude in the Corpus Christi Ship Channel (including the removal or relocation of any facility obstructing the project) consistent with the cost sharing requirement of Section 01 of the Water Resources Development Act of 1986 (33 U.S.C. 2211).	Sec.1001 (40), PL 110-114
<b>7.</b>	<b>FREEPORT HARBOR, TX</b>		
	Mar. 3, 1899	Dredging and other work necessary in judgment of Secretary of War for improving harbor; for taking over jetties and privately built works at mouth of river.	Specified in Act.
	Mar. 2, 1907	Examination authorized. Work later confined to maintenance of jetties.	H. Doc. 1087, 60th Cong., 2nd Sess.
	Feb. 27, 1911	Repairs to jetties and dredging.	Specified in Act.
	Mar. 4, 1913	Construct seagoing hopper dredge.	Specified in Act.
	Aug. 8, 1917	Purchase of one 15-inch pipeline dredge and equipment, its operation of 3 years, operation of seagoing dredge one-half time for 3 years, and repairs to jetties.	Specified in Act.
	Mar. 3, 1925 <sup>6</sup>	Diversion dam, diversion channel, and necessary auxiliary works.	Rivers and Harbors Committee Doc. 10, 68th Cong., 2nd Sess.
	Jul. 3, 1930	Maintenance of diversion channel at expense of local interest.	Rivers and Harbors Committee Doc. 18, 70th Cong., 1st Sess.
	Aug. 30, 1935	Deepening channels and basins.	Rivers and Harbors Committee Doc. 15, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Maintenance of present project dimensions of channels and basins at Federal expense.	Rivers and Harbors Committee Docs. 15, 72nd Cong., 1st Sess., and 29, 73rd Cong., 2nd Sess.

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**TABLE 40-B** **AUTHORIZING LEGISLATION**

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See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>FREEPORT HARBOR, TX (Continued)</b>			
	May 17, 1950	Deepen outer bar channel to 38 feet from gulf to a point within jetties, thence 36 feet in authorized channels to and including upper turning basin.	H. Doc. 195, 81st Cong., 1st Sess.
	Jul. 3, 1958	Relocate outer bar channel on straight alignment with jetty channel and maintain Brazos Harbor entrance channel and turning basin (constructed by local interests).	H. Doc. 433, 84th Cong., 2nd Sess.
	Oct. 5, 1961	Modification of HD 1469. Revoking certain provisions of local cooperation.	PL 394, 87th Cong.
	Dec. 31, 1970	Relocation of entrance channel and deepen to 47 feet; enlargement to a depth of 45 feet and relocation of jetty channel and inside main channel; deepening to 45 feet of channel to Brazosport; enlargement of the widened area of Quintana Point to provide a depth of 45 feet with a 750-foot diameter turning area; Brazosport turning basin to 45 feet deep with a 1,000 foot turning area; a new turning basin with a 1,200 foot diameter turning area and 45 feet deep; deepening Brazosport channel to 36 by 750 feet diameter; flared approaches from Brazos Harbor Channel; relocation of north jetty and rehabilitation of south jetty.	H. Doc. 289, 93rd Cong., 2nd Sess. <sup>2</sup>
	Nov. 17, 1986	Modified local cooperation requirements for the 1970 Act.	Sec. 101, PL 99-662
	Nov. 8, 2007	Amends Sec 101 of Rivers and Harbor Act of 1970 to make all costs for removal of the sunken vessel COMSTOCK a Federal responsibility.	Sec. 3148, PL 110-114
<b>8.</b>	<b>GALVESTON HARBOR AND CHANNEL, TX</b>		
	Aug. 5, 1886	Construct 2 rubblestone jetties at entrance to Galveston Harbor.	H. Doc. 85, 49th Cong., 1st Sess., and Annual Report, 1886, p. 1311.
	Jun. 13, 1902	A channel 1,200 by 30 feet from Bolivar Roads (outer end of old inner bar near Fort Point) at 51st Street. <sup>8</sup>	H. Doc. 264, 56th Cong., 2nd Sess.
	Mar. 3, 1905	Purchase or construct hydraulic pipeline dredge.	Specified in Act.
	Mar. 2, 1907	Extension of jetties to present project length and construction and operation of a dredge.	H. Doc. 340, 59th Cong., 2nd Sess., and Rivers and Harbors Committee Doc. 11, 59th Cong., 2nd Sess.
	Mar. 2, 1907 <sup>9</sup>	Extension of Galveston Channel from 51st to 57th Sts., with depth of 30 feet and width of 700 feet.	H. Doc. 768, 59th Cong., 2nd Sess.

**TABLE 40-B AUTHORIZING LEGISLATION**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
	Jun. 25, 1910 <sup>9</sup>	Conditional extension of Galveston Channel between 51st and 57th Sts., 30 feet deep and 1,000 feet wide.	H. Doc. 328, 61st Cong., 2nd Sess
<b>GALVESTON HARBOR AND CHANNEL, TX (Continued)</b>			
	Jul. 27, 1916	Extend seawall at Galveston from angle at 6th St., and Broadway to vicinity of Fort San Jacinto.	H. Doc. 1390, 62nd Cong., 3rd Sess.
	Jul. 18, 1918	Deepen harbor channel to 35 feet and widen to 800 feet.	H. Doc 758, 65th Cong., 2nd Sess.
	Sep. 22, 1922	Further extension of seawall at Galveston to a junction with south jetty; and repairing seawall in front of Fort Crockett reservation.	H. Doc. 693, 66th Cong., 2nd Sess.
	Jan. 21, 1927 <sup>11</sup>	Deepen Galveston Channel to 32 feet; and maintain Galveston Harbor channels to dimensions of 800 feet wide, 35 feet deep on outer bar and 34 feet deep in inner bar. <sup>10</sup>	H. Doc. 307, 69th Cong., 1st Sess.
	Aug 30, 1935	Maintain State Highway Ferry Landing Channels to dimensions of 12 by 100 feet.	River and Harbors Committee Doc. 31, 72 <sup>nd</sup> Cong. 1 <sup>st</sup> Sess.
	Aug 30, 1935	Construct 13 groins along gulf shore from 12 <sup>th</sup> to 61 <sup>st</sup> Sts. in city of Galveston at a limited cost of \$234,000 (10 Groins constructed)	H. Doc. 400, 73 <sup>rd</sup> Cong., 2 <sup>nd</sup> Sess.
	Aug. 30, 1935	Deepen Galveston Channel to 34 feet (Bolivar Roads to 43rd St.).	Rivers and Harbors Committee Doc. 61, 74th Cong., 1st Sess.
	Aug. 30, 1935	Deepen Galveston entrance channel to 36 feet.	Rivers and Harbors Committee Doc. 57, 74th Cong., 1st Sess.
	Apr. 4, 1938	Completion of project for construction of 13 groins.	PL 463, 75th Cong.
	Jun. 30, 1948	Deepen Galveston Harbor to 38 feet from gulf to a point 2 miles west of seaward end of north jetty; thence 36 feet to Bolivar Roads; revoking authority for maintenance of ferry channels; and Galveston channel to 36 feet deep from Bolivar Roads to 43rd Street.	H. Doc. 561, 80th Cong., 2nd Sess.
	May 17, 1950	Deepen outer bar channel to 38 feet from gulf to a point within jetties, thence 36 feet in authorized channels to and including upper turning basin.	H. Doc. 195, 81st Cong., 1st Sess.
	Jul. 3, 1958	Dredge to a depth of 42 feet over the authorized width of 800 feet from the Gulf of Mexico to a point 2 miles west of the seawall and of the North jetty thence at a depth of 40 feet to the junction of the Houston Ship Channel, with widths of 800 feet to Bolivar Roads, thence decreasing to 400 feet at the junction with the Houston Ship Channel.	H. Doc. 350, 85th Cong., 2nd Sess.
	Jun. 23, 1971 (House Res.) Nov. 18, 1971 (Senate Res.)	Deepen Galveston Channel to 40 feet from Bolivar to 43rd Street.	H. Doc. 121, 92 <sup>nd</sup> Cong

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>GALVESTON HARBOR AND CHANNEL, TX (Continued)</b>			
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay. The project is referred to as Houston-Galveston Navigation Channels.	Sec. 101 (30) PL 104-303
<b>9.</b>	<b>GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL AND MEXICAN BORDER</b>		
	Mar. 2, 1907	Channel 4 by 100 feet from West Galveston Bay across Chocolate Bay to 4 feet of water in Chocolate Bay.	H. Doc. 445, 56th Cong., 1st Sess.
	Mar. 3, 1925	Channel 9 by 100 feet, Sabine River to Galveston Bay, and a 20-inch pipeline dredge. Such passing places, widening at bends, locks or guard locks and railway bridges over artificial cuts as are necessary.	H. Doc. 238, 68th Cong., 1st Sess.
	Jan. 21, 1927	Channel 9 by 100 feet, Galveston Bay to Corpus Christi.	H. Doc. 238, 68th Cong., 1st Sess.
	Aug. 26, 1937	Maintenance of a flood-discharge channel in Colorado River.	S. Committee print, 75th Cong., 1st Sess.
	Jun. 20, 1938 <sup>13</sup>	Channel 9 by 100 feet in San Bernard River, Texas.	H. Doc. 640, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel in Colorado River, 9 by 100 feet, with basin.	H. Doc. 642, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 9 by 100 feet from Palacios through Trepalacios and Matagorda Bays.	H. Doc. 564, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 9 by 200 feet from main channel to harbor at Rockport and improve harbor to 9-foot depth.	H. Doc. 641, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 6 by 100 feet from main channel to Aransas Pass, Texas.	H. Doc. 643, 75th Cong., 3rd Sess.
	Mar. 23, 1939	Enlarge waterway to depth of 12 feet and a width of 125 feet from Sabine River to Corpus Christi.	H. Doc. 230, 76th Cong., 1st Sess.
	Jul. 23, 1942	Construct waterway from Corpus Christi to vicinity of Mexican border to provide a depth of 12 feet and width of 125 feet throughout.	PL 675, 77th Cong.
	Mar. 2, 1945	Channel 6 by 60 feet from GIWW to a point in Chocolate Bayou near Liverpool.	H. Doc. 337, 76th Cong., 1st Sess.

**TABLE 40-B AUTHORIZING LEGISLATION**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
<b>GULF INTRACOASTAL WATERWAY (continued)</b>			
	Mar. 2, 1945 <sup>9</sup>	Channel 6 feet deep and 60 feet wide from main channel near Port O'Connor, Texas, in Barroom Bay.	H. Doc. 428, 76th Cong., 1st Sess.
	Mar. 2, 1945	Enlarge channel from main channel to Aransas Pass, Texas, providing a depth of 9 feet and width of 100 feet.	H. Doc. 383, 77th Cong., 1st Sess.
	Mar. 2, 1945	Channel 12 by 125 feet from main channel to Red Fish Landing, Texas, with basin.	S. Doc 248, 78th Cong., 2nd Sess.
	Mar. 2, 1945 <sup>14</sup>	Channel 12 feet deep and 125 feet wide from main channel to vicinity of Harlingen, Texas, via Arroyo Colorado with basin.	H. Doc. 402, 77th Cong., 1st Sess. (See PL 14, 79th Cong.)
	Jul. 24, 1946	Fill a portion of shallow-draft channel adjacent to Port Isabel Turning Basin, construct a channel to connect shallow-draft channel with main channel near shoreline of Laguna Madre, and enlarge shallow-draft channel west of this connection, all to 12-foot depth and bottom width of 125 feet.	H. Doc. 627, 79th Cong., 2nd Sess.
	Jul. 24, 1946	Reroute main channel to north shore of Red Fish Bay between Aransas Bay and Corpus Christi Bay; deepen tributary channel from Port Aransas to Aransas Pass, Texas, 12 feet and extended basin at same depth.	H. Doc. 700, 79th Cong., 2nd Sess.
	May 17, 1950	Deauthorized 6 by 60 foot channel in Chocolate Bayou and reauthorized the 4 by 100-foot channel.	H. Doc. 768, 80 <sup>th</sup> Cong., 2nd Sess.
	May 17, 1950	Alternate channel across South Galveston Bay between Port Bolivar and Galveston causeway.	H. Doc. 196, 81st Cong., 1st Sess.
	May 17, 1950	“Red Fish Landing” changed to “Port Mansfield, Texas.”	PL 516, 81st Cong.
	Jul. 12, 1952	Incorporate as part of Intracoastal Waterway a channel 9 by 100 feet from main channel via Seadrift to point on Guadalupe River 3 miles above Victoria, Texas, authorized by River and Harbor Act of 1945.	PL 527, 82nd Cong., 2nd Sess.
	Sep. 3, 1954 <sup>15</sup>	Small craft harbor 9 by 200 by 1,000 feet at Seadrift with an entrance channel 9 by 100 feet.	H. Doc. 478, 81st Cong., 2nd Sess.
	Sep. 3, 1954	Widen tributary channel between Port Aransas and Aransas Pass, Texas, to 125 feet; straighten and widen to 125 feet connecting channel to Conn Brown Harbor, and maintain Conn Brown Harbor at Federal expense, all to 12 feet deep.	H. Doc. 376, 83rd Cong., 2nd Sess.
	Sep. 9, 1959	Improve channels and basins comprising channel to Port Mansfield constructed in part by Federal Government and in part by local interest; constructing turnout curves at Gulf Intracoastal Waterway intersection and bend easing at entrance to turning basin; construct parallel jetties at gulf entrance; maintenance of locally dredged jetty channel 16 by 250 feet; and maintenance of small craft basin.	S. Doc. 11, 86th Cong., 1st Sess.
	Jul. 14, 1960	Entrance channel 7 feet deep by 75 feet wide from main channel to Gulf of Mexico to inside shoreline at Port Isabel, Texas, an inner channel 6 feet deep by 50 feet wide from entrance channel to East Harbor Basin, and an irregular-shaped harbor basin 6 feet deep having a surface area of about 7 acres.	Sec. 107, PL 645, 86th Cong.

**TABLE 40-B**

**AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>GULF INTRACOASTAL WATERWAY (continued)</b>			
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepen the existing 6-foot channel at Port Isabel to 12 feet and removing the submerged bars at each end of the island to a depth of -12 feet MLT.	Sec. 107, PL 86-645
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepening the existing channel to 12 by 125 feet, and extend southeasterly from the Gulf Intracoastal Waterway main channel in West Galveston Bay, into Offatts Bayou, a distance of 2.2 miles, and a west turnout 12 by 125 feet between the proposed Offatts Bayou Channel and the Gulf Intracoastal Waterway.	Sec. 107, PL 86-645
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepening Aransas Pass tributary channel to 14 feet from mile 0 at Harbor Island to mile 6.1 at the city of Aransas Pass; widening to 175 feet between miles 3.5 and 4.6; and deepening Conn Brown Harbor, turning basin and connecting channel between Conn Brown Harbor and turning basin.	Sec. 107, PL 86-645
	Oct. 23, 1962 <sup>16</sup>	Improve main channel 16 feet deep and 150 feet wide from Sabine River to Houston Ship Channel; with two relocations; relocate main channel in Matagorda Bay and Corpus Christi Bay; and maintaining existing Lydia Ann Channel.	H. Doc. 556, 87th Cong., 2nd Sess.
	Oct. 23, 1962	Deepen and widen channel to Palacios; construct two protective breakwaters; maintain and deepen existing basins; and deepen, enlarge and maintain existing approach channel to basin No. 2.	H. Doc. 504, 87th Cong., 2 <sup>nd</sup> Sess.
	Oct. 23, 1962	Eliminates requirement of local interest to construct bridge at mile 29.2 turning basin at Victoria, and maintain turning basins at Victoria and Seadrift; provide: Federal construction of vertical-lift railroad bridge at Missouri-Pacific Railroad mainline crossing, mile 29.2; construction and future maintenance of basin near Victoria, Texas, and maintenance of basin constructed by local interests at Seadrift, Texas.	H. Doc. 288, 87th Cong., 2nd Sess.
	Oct. 27, 1965 <sup>17</sup>	Modify existing Federal navigation project to provide a channel extending from Gulf Intracoastal Waterway through Chocolate Bay and Chocolate Bayou to project channel mile 8.2, thence to a turning basin near channel mile 13.2 and for salt water barrier in Chocolate Bayou about 3.7 miles upstream from basin (channel mile 16.9).	H. Doc. 217, 89th Cong., 1st Sess.
	Aug. 13, 1968	Entrance channel 15 feet deep and 200 feet wide at the mouth of Colorado River Channel protected by an east jetty 3,500 feet long extending to 12-foot depth and a west jetty 2,900 feet long extending to 5-foot contour; make channel 12 feet by 100 feet from gulf shore to Matagorda, including recreation facility, a turning basin 12 feet by 300 feet wide and 1,450 feet long, and a new diversion channel 250 feet wide and varying in depth from 20 to 23 feet including a closure dam across the present river channel.	S. Doc. 102, 90th Cong., 2nd Sess.
	Nov. 17, 1986	Modified 1968 authorization to provide that diversion features be constructed at Federal expense and operation and maintenance be shared 75 percent Federal and 25 percent non-Federal.	Sec. 812, PL 99-662
	Nov. 17, 1988	Enlarge existing Channel to Victoria from a depth of 9 feet and width of 100 feet to a depth of 12 feet and width of 125 feet.	Sec. 3, PL 100-676

**TABLE 40-B AUTHORIZING LEGISLATION**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
<b>GULF INTRACOASTAL WATERWAY (continued)</b>			
	Oct. 31, 1992	Provide 8 miles of erosion protection for the existing waterway in the vicinity of Sargent, Texas.	Sec. 101 (20), PL 102-580
	Oct. 12, 1996	Provides for erosion protection along a 31-mile reach of the Gulf Intracoastal Waterway, which crosses the critical wintering habitat of the endangered whooping crane, including a 13.25-mile reach within the boundary of the Aransas National Wildlife Refuge. Also, provides for limited oil spill containment features and equipment to protect those areas from accidental hazardous spills.	Sec. 101 (29), PL 104-303
	Nov. 8, 2007	Reroute the portion of the existing GIWW across Matagorda Bay, between mile marker 460 and 472, approximately 6,000 feet north of an parallel to the existing alignment, along the Gulf Intracoastal Waterway, Brazos River to Port O'Connor, Matagorda Bay Reroute. The channel will have a depth of 12 feet and a bottom width of 125 feet, the same as the existing channel. In the vicinity of bends in the channel, the bottom width will average 300 feet. Beneficial use of dredged material will provide for the construction of approximately 135 acres of marsh at Palacios Point and 160 acres of marsh near Port O'Connor and also nourish beaches at Sundown Island and the beach at Port O'Connor. The cost of construction to be paid for ½ from amounts appropriated from the general fund of the Treasury and ½ from amounts appropriated from the Inland Waterways Trust Fund.	Sec. 1001 (41), PL 110-114
	Nov. 8, 2007	Along the Gulf Intracoastal Waterway, High Island to Brazos River construct a 24-acre sediment trap at Rollover Pass, widen the west approach opening at Sievers Cove from 125 feet to 200 feet. Abandon the existing turning Channel of the Texas City Wye, widen the Texas City Channel at the intersection with the GIWW; remove navigational aids. Widen the Pelican Island Mooring Basin on the north side from 75 feet to 155 feet and combine this feature with the Texas City Wye. Construct a single 24-foot circumference, 10,000-foot long geotube barrier between the GIWW and the West Bay. The cost of construction to be paid for ½ from amounts appropriated from the general fund of the Treasury and ½ from amounts appropriated from the Inland Waterways Trust Fund.	Sec. 1001 (42), PL 110-114
<b>10.</b>	<b>HOUSTON-GALVESTON NAVIGATION CHANNELS, TX</b>		
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay.	Sec. 101 (29) PL 104-303
	Oct. 27, 2000	Provides for barge lanes immediately adjacent to either side of the Houston Ship Channel, from Bolivar roads to Morgan Point, to a depth of 12 feet.	Appendix B, PL 106-377

GALVESTON, TX, DISTRICT

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>11. HOUSTON SHIP CHANNEL, TX</b>			
	Mar. 5, 1905	Easing or cutting off sharp bends and construction of a pile dike. <sup>18</sup>	Rivers and Harbors Committee Doc. 35, 61st Cong., 2nd Sess.
	Mar. 2, 1919	A channel 30 feet deep, widen bend at Manchester and enlarge turning basin.	H. Doc. 1632, 65th Cong., 3rd Sess.
	Mar. 3, 1925	A light-draft extension of channel to mouth of White Oak Bayou. <sup>19</sup>	H. Doc. 93, 67th Cong., 1st Sess.
	Jul. 3, 1930	Widen channel through Morgan Point and to a point 4,000 feet above Baytown and widen certain bends.	H. Doc. 13, 71st Cong., 1st Sess.
	Aug. 30, 1935 <sup>11</sup>	Deepen to 32 feet in main channel and turning basin, and a 400-foot width through Galveston Bay.	Rivers and Harbors Committee Doc. 28, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Deepen to 34 feet in main channel and widen from Morgan Point to turning basin	Rivers and Harbors Committee Doc. 58, 74th Cong., 1st Sess.
	Mar. 2, 1945	Branch channel 10 by 60 feet behind Brady Island.	H. Doc. 226, 76th Cong., 1st Sess.
	Mar 2, 1945	Widen channel from Morgan Point to lower end of Fidelity Island with turning points at mouth of Hunting Bayou and lower end of Brady Island.	H. Doc. 226, 76th Cong., 1st Sess.
	Mar. 2, 1945	Widen channel from lower end of Fidelity Island to Houston turning basin and dredge off-channel silting basins.	H. Doc. 737, 79th Cong., 2nd Sess.
	Jun. 30, 1948	Deepen to 36 feet from Bolivar Roads to and including main turning basin at Houston, Texas, including turning points at Hunting Bayou and Brady Island.	H. Doc. 561, 80th Cong., 2nd Sess.
	Jul. 3, 1958 <sup>20</sup>	Deepen to 40 feet from Bolivar Roads to Brady Island, construct Clinton Island turning basin, a channel 8 by 125 feet at Five Mile Cut, and improve shallow-draft channel at Turkey Bend.	H. Doc. 350, 85 <sup>th</sup> Cong., 2nd Sess. <sup>1</sup>
	Jul. 14, 1960	Barbour Terminal at Morgan Point.	Sec. 107, PL 86-645
	Oct. 27, 1965H. Doc. 257, 89th Cong., 1st Sess.	Restoring existing locally dredged channel from mile 0 to 0.34 to 36 feet deep and dredging a 15-12 ft. channel from mile 0.34 to 2.81, in Greens Bayou. <sup>21</sup>	H. Doc. 257, 89th Cong., 1st Sess.
	Nov. 17, 1986	Maintenance of Greens Bayou, Barbour Terminal Channel, and Bayport Ship Channel to forty-foot depths at Federal expense.	Sec. 819, PL 99-662

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>HOUSTON SHIP CHANNEL, TX (Continued)</b>			
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay. The project is referred to as Houston-Galveston Navigation Channels.	Sec. 101 (30) PL 104-303
<b>12.</b>	<b>MATAGORDA SHIP CHANNEL, TX</b>		
	Jun. 25, 1910	Channel to Port Lavaca, Texas 7 feet deep and 89 feet bottom width.	H. Doc. 1082, 60th Cong., 2nd Sess.
	Aug. 30, 1935	Extend 7-foot channel to shoreline of Lavaca Bay at mouth of Lynns Bayou.	Rivers and Harbors Committee Doc. 28, 74th Cong., 1st Sess.
	Aug. 26, 1937	Deepen and widen channel to present project dimensions.	Rivers and Harbors Committee Doc. 37, 75th Cong., 1st Sess.
	Mar. 2, 1945	Extend channel 6 by 100 feet from Port Lavaca via Lavaca Bay, Lavaca and Navidad Rivers to Red Bluff, a distance of 20 miles.	H. Doc. 314, 76th Cong., 1st Sess.
	Mar. 2, 1945	A harbor of refuge 9 feet deep near Port Lavaca and an approach channel 100 feet wide and equal depth.	H. Doc. 731, 79th Cong., 2nd Sess.
	Jul. 3, 1958	Deepen to 12 feet and widen to 125 feet Port Lavaca Channel and approach channel to harbor of refuge; deepen to 12 feet Port Lavaca turning basin and basins at harbor of refuge.	H. Doc. 131, 84th Cong., 1st Sess.
	Jul. 3, 1958	An entrance channel 38 by 300 feet, a channel 36 by 200 feet, 22 miles long across Matagorda and Lavaca Bays to Point Comfort, Texas, a turning basin 36 feet deep and 1,000 feet square at Point Comfort, and dual jetties at entrance from gulf.	H. Doc. 388, 84th Cong., 2nd Sess.
<b>13.</b>	<b>NECHES RIVER AND TRIBUTARIES, SALT WATER BARRIER AT BEAUMONT, TX</b>		
	Oct. 22, 1976	Construct gated salt water barrier in Neches River consisting of seven 40 x 24.5 foot tainter gates; gated navigation by-pass channel with clear opening of 56 feet and depth of 16 feet; access road and levee; and auxiliary dam across canal which drains adjacent bayou.	Sec. 102, PL 94-587
<b>14.</b>	<b>SABINE-NECHES WATERWAY, TX.</b>		
	Jul. 25, 1912	Existing project dimensions of jetties, a 26-foot channel through Sabine Pass, Port Arthur Canal and Port Arthur turning basin; and a 26-foot turning basin at Port Arthur. A depth of 25-feet in Sabine-Neches Canal, Neches River to Beaumont and Sabine River to Orange, including cutoffs and widening channels.	H. Doc. 773, 61st Cong., 2nd Sess.

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**TABLE 40-B** **AUTHORIZING LEGISLATION**

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See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>SABINE-NECHES WATERWAY, TX (continued)</b>			
	Sep. 22, 1922	Deepen channels to 30 feet from gulf to Beaumont, with increased widths and an anchorage basin in Sabine Pass.	H. Doc. 975, 66th Cong., 3rd Sess.
	Sep. 22, 1922	Deepen Port Arthur east and west turning basins and approach channel to 30 feet. Take over and deepen to 30 feet channel connecting west turning basin with Taylors Bayou turning basin. For a 30-foot depth in channel from mouth of Neches River to cutoff in Sabine River near Orange.	S. Doc. 152, 67th Cong., 2nd Sess.
	Mar. 3, 1925	Removal of guard lock in Sabine-Neches Canal.	H. Doc. 234, 68th Cong., 1st Sess.
	Jan. 21, 1927	Widen Sabine Pass and jetty channel, Port Arthur Canal, and Sabine-Neches Canal. For dredging 2 passing places in Sabine-Neches Canal, easing of bends, removal and reconstructing Port Arthur field office, extending Beaumont turning basin upstream 200 feet above new city wharves, and an anchorage basin in Sabine Pass.	H. Doc 287, 69th Cong., 1st Sess.
	Aug. 30, 1935 <sup>11</sup>	A depth of 32 feet in channels from gulf to Beaumont turning basin, including all turning basins at Port Arthur.	Rivers and Harbors Committee Doc. 27, 72nd Cong., 1st Sess.
	Aug. 30, 1935 <sup>11</sup>	Deepen channels to 34 feet with increased widths from gulf to Beaumont turning basin.	Rivers and Harbors Committee Doc. 12, 74th Cong., 1st Sess.
	Aug. 30, 1935	Construct suitable permanent protective works along Sabine Lake. Maintain Taylors Bayou turning basin.	Specified in Act.
	Aug. 26, 1937	Maintain channel from Sabine River to Orange Municipal wharf.	Rivers and Harbors Committee Doc. 3, 75th Cong., 1st Sess.
	Aug. 26, 1937	Dredging 500 feet from eastern end of Harbor Island and abandonment of channel south and west of Harbor Island.	Rivers and Harbors Committee Doc. 20, 75th Cong., 1st Sess.
	Jun. 20, 1938 <sup>22</sup>	Increased widths of channels from gulf to Beaumont turning basin and channel connecting Port Arthur west turning basin and Taylors Bayou turning basin, deepen Beaumont turning basin and Beaumont turning extension to 34 feet; and dredge a new cutoff from Smith's Bluff cutoff to McFadden Bend.	H. Doc. 581, 75th Cong., 3rd Sess.
	Oct. 17, 1940	Abandon Orange turning basin; dredge a channel 25 by 150 feet, suitably widened on bends to highway bridge, and dredge a cutoff channel opposite Orange.	S. Doc 14, 77th Cong., 1st Sess.
	Mar. 2, 1945	Extend Beaumont turning basin upstream 300 feet.	H. Doc. 685, 76th Cong., 3rd Sess.
	Mar. 2, 1945	Widen Port Arthur west turning basin to 600 feet.	S. Doc 60, 77th Cong., 1st Sess.

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>SABINE-NECHES WATERWAY, TX (continued)</b>			
	Mar. 2, 1945	Dredge a channel from Beaumont turning basin to vicinity of Pennsylvania Shipyard.	S. Doc 158, 77th Cong., 2nd Sess.
	Jul. 24, 1946 <sup>23</sup>	Deepen Sabine Pass outer bar channel to 37 feet, Sabine Pass jetty channel to 36 feet at inner end, deepen to 36 feet Sabine Pass Channel, Port Arthur Canal, Port Arthur east and west turning basins, Taylors Bayou turning basin and channel from Port Arthur west turning basin to Taylors Bayou turning basin, deepen to 36 feet and widen to 400 feet Sabine-Neches Canal from Port Arthur Canal to mouth of Neches River except through Port Arthur Bridge; deepen Neches River channel from mouth to Beaumont turning basin to 36 feet widening to 350 feet from Smith's Bluff to Beaumont turning basin; deepen junction area on Neches River at Beaumont turning basin to 36 feet; and widen Sabine-Neches Canal between Neches and Sabine Rivers to 150 feet.	H. Doc. 571, 79th Cong., 2nd Sess.
	Jul. 24, 1946 <sup>24</sup>	Improve Cow Bayou, Texas, by construction of a channel 100 feet wide and 13 feet deep extending from navigation channel in Sabine River to a point 0.5 mile above county bridge at Orangefield, Texas, with a turning basin.	H. Doc. 702, 79th Cong., 2nd Sess.
	Jul. 24, 1946	Improve Adams Bayou, Texas, to provide a channel 12 feet deep and 100 feet wide extending from 12-foot depth in Sabine River to first county highway bridge across bayou.	H. Doc. 626, 79th Cong., 2nd Sess.
	May 17, 1950	Deepen to 36 feet and widen to 400 feet the Sabine-Neches Canal near Port Arthur bridge; reconstruct Port Arthur Bridge and relocate Port Arthur field office.	H. Doc. 174, 81st Cong., 1st Sess.
	Sep. 3, 1954 <sup>25</sup>	Rectification of certain reaches of existing Sabine Pass Channel, Sabine-Neches Canal, and Neches River and Sabine River Channel; widen to 350 feet entrance channel to Port Arthur turning basins; widen curve at junction of Port Arthur and Sabine-Neches Canals; relocate and enlarge Sabine Pass anchorage basin to 34 by 1,500 by 3,000 feet; widen to 200 feet Sabine-Neches Canal from mouth of Neches River to mouth of Sabine River and Sabine River Channel to upper end of existing project at Orange, except for channel around Harbor Island at Orange; deepen to 30 feet Sabine River Channel from cutoff near Orange municipal slip to upper end of project, except around Harbor Island; and enlarge area at entrance to Orange municipal slip to provide a maneuvering basin.	S. Doc. 80, 83rd Cong., 2nd Sess.
	Oct. 23, 1962 <sup>26</sup>	Improve outer bar channel to 42 and 40 feet for all inland channels to Port Arthur and Beaumont; width of 500 feet in Port Arthur Canal and 400 feet in Neches River Channel to Beaumont with three turning points in Neches River; a channel, 12 by 125 feet, <b>extending in</b> Sabine River to Echo; and replace an obstructive bridge at Port Arthur, Texas. Deauthorization of uncompleted portion of channel between Port Arthur west turning basin and Taylors Bayou turning basin and enlargement of entrance channel to Port Arthur turning basins.	H. Doc. 553, 87th Cong., 2nd Sess. <sup>1</sup>

GALVESTON, TX, DISTRICT

**TABLE 40-B AUTHORIZING LEGISLATION**

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
<b>15. TEXAS CITY CHANNEL, TX</b>			
	Mar. 4, 1913	A channel 300 by 30 feet and construct a pile dike 28,200 feet long north to channel.	H. Doc. 1390, 62nd Cong., 3rd Sess.
	Jul. 3, 1930	A harbor 800 by 30 feet at Texas City, and construct a rubblemound dike.	H. Doc. 107, 71st Cong., 1st Sess.
	Aug. 30, 1935 <sup>11</sup>	Extension of rubblemound dike to shoreline.	Rivers and Harbors Committee Doc. 4, 73rd Cong., 1st Sess.
	Aug. 30, 1935	Deepen channel and harbor to 32 feet.	Rivers and Harbors Committee Doc. 46, 73rd Cong., 2 <sup>nd</sup> Sess.
	Aug. 30, 1935	Deepen channel and harbor to 34 feet.	Rivers and Harbors Committee Doc. 62, 74th Cong., 1st Sess.
	Aug. 26, 1937	Extend harbor 1,000 feet southward, 800 by 34 feet.	Rivers and Harbors Committee Doc. 47, 75th Cong., 1st Sess.
	Jun. 30, 1948	Deepen channel and harbor to 36 feet, widen channel to 400 feet and harbor to 1,000 feet and changing name of project to "TEXAS CITY CHANNEL, TEXAS."	H. Doc. 561, 80th Cong., 2nd Sess. <sup>1</sup>
	Jul. 14, 1960	Deepen channel and turning basin to 40 feet and construct 16-foot Industrial Barge Canal.	H. Doc. 427, 86th Cong., 2nd Sess.
	Oct. 12, 1972 (Senate Res.)	Widen the existing main turning basin to 1,200 feet including relocation of the basin 85 feet to the east; providing a 40-foot deep channel in the Industrial Canal at widths of 300-400 feet, with a turning basin at the head of the canal 40 feet deep, 1,150 feet long, and 1,000 feet wide, and easing of the bend at the entrance to the canal, and deauthorization of shallow-draft Industrial Barge Canal not incorporated in the plan of improvement above.	H. Doc. 199, 92 <sup>nd</sup> Cong., 2nd Sess. (Sec. 201, PL 89-298)
	Oct. 12, 1972 (House Res.)		
	Nov. 17, 1986	Deepening the Texas City Turning Basin to 50 feet, enlarging the 6.7 mile long Texas City Channel to 50 feet by 600 feet; deepening the existing 800-foot wide Bolivar Roads Channel and Inner Bar Channel to 50 feet; deepening the existing 800-foot wide Outer Bar and Galveston Entrance Channels to 52 feet; extending the Galveston Entrance Channel to a 52 foot depth for 4.1 miles at a width of 800 feet and an additional reach at a width of 600 feet to the 52 foot contour in the Gulf of Mexico; and establishment of 600 acres of wetland and development of water-oriented recreational facilities on a 90-acre enlargement of the Texas City Dike.	Sec. 201, PL 99-662

**TABLE 40-B AUTHORIZING LEGISLATION**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
<b>16.</b>		<b>TRINITY RIVER AND TRIBUTARIES, TX</b>	
	Jun. 18, 1878	Dredging of a channel through the bar at the mouth of the Trinity River.	
	1889	Modified to include two parallel jetties 275 feet apart, the westerly one of length 7,359 feet and the other of length 300 feet.	
	Mar. 3, 1905	Authorized the Anahuac Channel. No project dimensions were specified by the Act, so a 7- by 8-foot channel, 12,238 feet long was dredged in 1905.	Specified in Act.
	Sep. 22, 1922	Abandon improvements above Liberty and terminate all improvements by lock and dam, leaving a 6-foot channel from Liberty to mouth.	H. Doc. 989 66 <sup>th</sup> Cong., 3rd Sess
	Mar. 2, 1945	Provides for a navigable channel from the Houston Ship Channel near Red Fish Bar in Galveston and Trinity Bays to the mouth of Trinity River and 9 feet deep and 150 feet wide in the river section, with a turning basin at Liberty.	H. Doc. 403, 77th Cong., 1st Sess.
	Jul. 24, 1946	Modification of the project to provide for a channel 9 feet deep and 150 feet wide from the Houston Ship Channel near Red Fish Bar in Galveston Bay extending along the east shore of Trinity Bay to the mouth of the Trinity River at Anahuac, including protective spoil embankment on the bay side of the channel in lieu of the 9 by 200-foot channel in Galveston and Trinity Bays.	H. Doc. 634, 79th Cong., 2nd Sess.
	Oct. 23, 1962	Provides for the multiple-purpose Wallisville Reservoir, including a navigation lock in the Wallisville Dam at Channel Mile 28.30 and advancement of the Channel to Liberty from one mile below Anahuac (Mile 23.2) to the Texas Gulf Sulphur Company's slip at Channel Mile 35.8, and incorporation into existing project Anahuac Channel and mouth of Trinity River projects.	H. Doc. 215, 87th Cong., 1st Sess.
	Oct. 27, 1965	Reevaluation of navigation benefits.	H. Doc. 276, 89th Cong., 1st Sess.
	Jul. 30, 1983	Modified Wallisville Reservoir by reducing the size to 5,600 acres and confining the reservoir to east side of Trinity River.	PL 98-63
<b>20.</b>		<b>BUFFALO BAYOU AND TRIBUTARIES, TX</b>	
	Jun. 20, 1938	Barker and Addicks Reservoirs, Texas.	H. Doc. 456, 75th Cong., 2nd Sess.
	Sep. 3, 1954	Clearing, straightening, enlarging and lining of Buffalo, Brays, and White Oak Bayous.	H. Doc. 250, 83rd Cong., 2nd Sess. <sup>1</sup>
	Oct. 27, 1965	Extend upper limits of White Oak Bayou upstream about 2.1 miles from BRI RR bridge to mouth of Cole Creek.	H. Doc. 169, 89th Cong., 1st Sess.

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**TABLE 40-B** **AUTHORIZING LEGISLATION**

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See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
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**BUFFALO BAYOU AND TRIBUTARIES, TX**

Nov. 28, 1990	Flood damage reduction improvements and recreational development for the Houston, Texas urban area, divided into six separable elements – Brays, Greens, Hunting, Halls, Carpenters and Little White Oak Bayous. Flood control improvements consist of 75.3 miles of stream enlargement, 14 miles of stream clearing, 7 flood detention basins, 7 miles of diversion channels and environmental revegetation. Recreation features consist of 14.7 miles of trails, 502 picnic facilities, 12 group pavilions, 2 boat launching ramps, 10 restrooms, playgrounds, exercise stations and parking facilities.	Sec. 101, PL 101-640
Oct. 12, 1996	Authorizes non-Federal interests to undertake flood control projects in the United States, subject to obtaining any permits required pursuant to Federal and State laws in advance of actual construction. For the purpose of demonstrating the potential advantages and effectiveness of non-Federal implementation of flood control projects, the Secretary shall enter into agreements pursuant to this section with non-Federal interests for development of the following Buffalo Bayou projects: Brays Bayou, Hunting Bayou, and White Oak Bayou.	Sec. 211, PL 104-303
Oct. 12, 1996	The non-Federal interest for the Buffalo Bayou and tributaries authorized flood control projects, may be reimbursed by up to \$5,000,000 or may receive a credit of up to \$5,000,000 toward required non-Federal project cost-sharing contributions for work performed by the non-Federal interest at each of the following locations if such work is compatible with 1 or more of the following authorized projects: White Oak Bayou, Brays Bayou, Hunting Bayou, Garners Bayou (not authorized), and the Upper Reach of Greens Bayou.	Sec 350, PL 104-303
Nov. 8, 2007	Amends Section 211 (f) of Water Resources Development Act of 1996 to provide an alternative to the authorized Buffalo Bayou, Texas project, authorized by the first section of the River and Harbor Act of June 20, 1983 and modified by Section 3a of the Flood control Act of August 11, 1939.	Sec. 5157 (15), PL 110-114
Nov. 8 2007	Amends Section 211 (f) of Water Resources Development Act of 1996 to provide an alternative to the authorized Halls Bayou, Texas project, authorized by Section 101(a)(21) of the Water Resources Development Act of 1990.	Sec. 5157 (16) PL 110-114

**21. CLEAR CREEK, TX**

Aug. 13, 1968	Channel enlargement and rectification from upper end of Clear Lake at Mile 3.8 to improved channel Mile 34.8. <sup>28</sup>	H. Doc. 351, 90th Cong., 2nd Sess.
Nov. 17, 1986	Modified local cooperation requirements of the 1968 authorization.	Sec. 1001, PL 99-662
Aug. 17, 1999	Modified the project to authorize a nonstructural flood control project.	Sec. 355(a), PL 106- 53

**TABLE 40-B AUTHORIZING LEGISLATION**

<b>See Section in Text</b>	<b>Date Authorizing Act</b>	<b>Project and Work Authorized</b>	<b>Documents</b>
<b>22.</b>		<b>LOWER RIO GRANDE BASIN, TX</b>	
	Nov 17, 1986	Channel improvements to provide drainage protection for the area in Hidalgo and Willacy Counties north of U.S. Highway 83, and for the area between U.S. Highway 83 and the Rio Grande in Hidalgo County; and to provide flood protection for the cities of McAllen, Edinburg, Raymondville, Edcouch, La Villa, and Lyford.	Sec 401, PL 99-662
	Aug. 17, 1999	Modified the project to authorize a nonstructural flood control project.	Sec. 355(a), PL 106-53
	Nov. 8, 2007	Applies the Ability to Pay criteria and procedures in Section 103(m)(2) of the Water Resources Development Act of 1986 (33 U.S.C. 2213 (m) to the Lower Rio Grande Basin, Texas project.	Sec. 2019 (b) (2), PL 110-114
	Nov. 8, 2007	Amends Section 401(a) of the Water Resources Development Act of 1986 to include as a part of the project flood protection works to reroute drainage to Raymondville Drain constructed by the non-Federal interest in Hidalgo County in the vicinity of Edinburg, Texas, if the Secretary determines that such work is feasible.	Sec. 3150, PL 110-114
		Credit the cost of planning, design, and construction work carried out by the non-Federal interest for the project before the date of the partnership agreement.	
<b>26.</b>		<b>SIMS BAYOU, TX</b>	
	Nov. 17, 1986	Enlargement and rectification, with appropriate erosion control measures of 19.31 miles of Sims Bayou; environmental measures and riparian habitat along entire alignment, and recreational development.	Sec. 401, PL 99-662
	Sep. 29, 1989	Amended the Water Resources and Development Act (WRDA) of 1986 authorization as project cost estimate had exceeded limit established in Section 902 of WRDA 1986.	Sec. 103, PL 101-101
<b>32.</b>		<b>NORTH PADRE ISLAND, TX</b>	
	Aug. 17, 1999	Carry out a project for ecosystem restoration and storm damage reduction at North Padre Island, Corpus Christi Bay, Texas, if it is determined that the work is technically sound and environmentally acceptable.	Sec. 556, PL 106-53
	Nov. 8, 2007	The project for ecosystem restoration and storm damage reduction, North Padre Island, Corpus Christi Bay, Texas, authorized by section 556 of the Water Resources Development Act of 1999 (113 Stat. 353) is modified to include recreation as a project purpose.	Sec. 3151, PL 110-114

**TABLE 40-B AUTHORIZING LEGISLATION**

See Date Section Authorizing in Text Act	Project and Work Authorized	Documents
<p><sup>1</sup>Contains latest published maps.  <sup>2</sup> Extension of north jetty 1,950 feet and south jetty 1,265 feet considered inactive. (1975 Deauthorization list)</p>	<p><sup>3</sup> Dredging 2,000 by 650-foot northerly extension of inner basin deauthorized.</p>	<p><sup>18</sup> Construction of pile dike was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>
<p><sup>4</sup> Included in Public Works Administration program September 6, 1933 and February 16, 1935.</p>	<p><sup>5</sup> West leg of Wye junction with main channel deauthorized.</p>	<p><sup>19</sup> Hill Street Bridge to mouth of White Oak Bayou was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>
<p><sup>6</sup> Construction of lock in diversion dam at local expense considered inactive.</p>	<p><sup>7</sup> Dredging upper 1.3 mile of channel to vicinity of Stauffer Chemical plant was deauthorized under Sec. 12 of PL 93-251. Included in Public Works Administration program September 6, 1933. (1975 Deauthorization list)</p>	<p><sup>20</sup> Deepening channel to 40 feet from Southern Pacific Slip (mile 47) to Brady Island was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>
<p><sup>8</sup> Dredging 43rd to 51st Streets was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>	<p><sup>9</sup> Deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>	<p><sup>21</sup> The 12-foot channel from mile 1.65 to mile 2.81 deauthorized under Sec. 12 of PL 93-251. (1985 Deauthorization list)</p>
<p><sup>10</sup> Deepening 43rd to 57th Streets was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>	<p><sup>11</sup> Previously authorized September 6, 1933 by Public Works Administration.</p>	<p><sup>22</sup> Complete widening of channel between Port Arthur west turning basin and Taylors Bayou turning basin deauthorized by 1962 R&amp;H Act.</p>
<p><sup>12</sup> H. Doc. 230, 76th Cong., 1st Sess. and project documents contain latest published maps.</p>	<p><sup>13</sup> Dredging upper 3.4 miles was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>	<p><sup>23</sup> Complete deepening of channel between Port Arthur west turning basin and Taylors Bayou turning basin deauthorized by 1962 R&amp;H Act.</p>
<p><sup>14</sup> Dredging upper 5 miles was deauthorized under Sec. 1001 of PL 99-662.</p>	<p><sup>15</sup> Inactive.</p>	<p><sup>24</sup> Channel extension above Cow Bayou turning basin near Orangefield was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)</p>
<p><sup>16</sup> Portion of 16-foot by 150-foot channel from Sabine River to Houston Ship Channel is inactive. Relocation of channel in Matagorda Bay deauthorized under Sec. 12 of PL 93-251. (1986 Deauthorization list)</p>	<p><sup>17</sup> The 9 feet by 100 feet channel from Mile 8.2 to Mile 13.2 in Chocolate Bayou was deauthorized under Sec. 1001 of PL 99-662.</p>	<p><sup>25</sup> Widening to 350 feet entrance channel to Port Arthur turning basin deauthorized by 1962 R&amp;H Act.</p>
		<p><sup>26</sup> The 12-foot channel in Sabine River from Orange to Echo, Texas deauthorized under Sec. 12 of PL 93-251. (1985 Deauthorization list)</p>
		<p><sup>27</sup> Jetty extension was deauthorized under Sec. 1001 of PL 99-662.</p>
		<p><sup>28</sup> Portion of project upstream of Brazoria/Galveston County line, approximately mile 18.5, in inactive category.</p>
		<p><sup>29</sup> Cedar Bayou, miles 3 to 11 were deauthorized under Sec. 12 of PL 93-251 and were re-authorized under Sec. 349(a)(2), PL 106-541.</p>
		<p><sup>30</sup> Channel to Port Bolivar turning basin was deauthorized under Sec. 1001 of PL 99-662.</p>

**TABLE 40-C OTHER AUTHORIZED NAVIGATION PROJECTS**

Project	For Last Full Report See Annual Report For	Cost to September 30, 2008	
		Construction	Operation and Maintenance
Aquatic Plant Control (1958 and 1962 River and Harbor Acts)	1967	38,252 <sup>1</sup>	–
Bastrop Bayou, TX <sup>2</sup>	1931	9,920	27,129
Clear Creek and Clear Lake, TX	2004	66,934	549,599
Corpus Christi, TX, Channel to Navy Seaplane Base Encinal Peninsula	1968	1,194,344	26,467
Dickinson Bayou, TX	1954	33,942	57,553
Double Bayou, TX <sup>6</sup>	2006	226,558	3,099,174
East Bay (Hanna Reef), TX <sup>3</sup>	1922	2,476	847
Greens Bayou Bridges, TX	1993	450,000	–
Johnson Bayou, LA <sup>4</sup>	1933	2,261	54,042
Little Bay, TX <sup>5</sup>	1979	–	252,728
Oyster Creek, TX	1922	6,942	7,556

<sup>1</sup> Excludes \$1,672 work contribution.

<sup>2</sup> Widening from 60 feet to 100 feet at 4-foot depth was deauthorized under Sec. 12 of PL 93-251.

<sup>3</sup> Inactive category for maintenance.

<sup>4</sup> Channel adequate for existing commerce.

<sup>5</sup> Aransas County Navigation District, Rockport, TX, constructed project as authorized by 1950 River and Harbor Act (H. Doc. 114, 81st Cong., 1st Sess.) in 1955 under Department of Army permit.

<sup>6</sup> Excludes contributed funds in the amount of \$233,325.

**TABLE 40-D OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Project	For Last Full	Cost to September 30, 2008	
	Report See Annual Report For	Construction	Operation and Maintenance
Arroyo Colorado, Rio Hondo, TX <sup>1</sup>	1986	201,300	—
Buffalo Bayou at Piney Point, TX <sup>2</sup>	1996	473,800 <sup>9</sup>	—
Buffalo Bayou, TX (Lynchburg Pump Station)	2006	4,335,507 <sup>14</sup>	—
Colorado River, Matagorda, TX <sup>2</sup>	1963	273,757	—
Cypress Creek, TX	2006	6,243,830 <sup>15</sup>	—
Falfurrias, TX <sup>1</sup>	1995	103,454	—
Freeport and Vicinity, Texas, Hurricane-Flood Protection <sup>2</sup>	1984	29,285,042 <sup>3</sup>	—
Guadalupe River at Victoria, TX <sup>2</sup>	1996	532,187 <sup>10</sup>	—
Guadalupe River (Remove Log Jams), TX <sup>2</sup>	1978	505,749	—
Highland Bayou, TX <sup>13</sup>	1984	12,254,390	—
Kirbyville, TX <sup>2</sup>	1993	1,484,613 <sup>4</sup>	—
Lavaca-Navidad River, TX: Hallettsville Project	1961	256,043	—
Port Arthur and Vicinity Hurricane-Flood Protection, TX <sup>2</sup>	1997	61,400,292 <sup>11</sup>	—
San Diego Creek, Alice, TX <sup>2</sup>	1963	135,175	—
State Highway 111 Bridge, Lake Texana, TX <sup>2</sup>	1995	214,155 <sup>5</sup>	—
Taylor's Bayou, TX <sup>2</sup>	1997	37,413,209 <sup>12</sup>	—
Texas City and Vicinity, Texas, Hurricane-Flood Protection <sup>2</sup>	1993	38,882,400 <sup>7</sup>	—
Tranquitas Creek, Kingsville, TX <sup>2</sup>	1956	130,239	—
Three Rivers, TX <sup>5</sup>	6	5,835,927 <sup>5</sup>	—
Upper White Oak Bayou, TX <sup>2</sup>	1989	972,300	—
U.S. 190 Bridge, Sabine River, Merryville, LA <sup>2</sup>	1993	500,000 <sup>8</sup>	—
Vince and Little Vince Bayous, TX <sup>2</sup>	1993	19,307,100	—

<sup>1</sup> Inactive.

<sup>2</sup> Completed.

<sup>3</sup> In addition, \$8,695,438 expended from contributed funds, \$1,126,905 estimated value of contributed lands, and \$2,726,446 for relocations by local interests.

<sup>4</sup> In addition, \$1,484,613 expended from contributed funds, estimated value of \$200,096 for contributed lands, and \$202,456 for relocations by local interests.

<sup>5</sup> In addition, \$71,370 expended from contributed funds.

<sup>6</sup> See Annual Report for 1983, Fort Worth District, page 16-12.

<sup>7</sup> In addition, \$14,396,307 expended from contributed funds, estimated value of \$1,224,219 for contributed lands, and contributed work in the

amount of \$1,070,806 by local interests. Work performed at 100% Local Sponsor expense was in the amount of \$320,347.

<sup>8</sup> In addition, \$237,792 expended from contributed funds.

<sup>9</sup> In addition, \$92,920 expended from contributed funds.

<sup>10</sup> In addition, \$480,888 expended from contributed funds.

<sup>11</sup> In addition, \$16,976,675 expended from contributed funds.

<sup>12</sup> In addition, \$12,340,997 expended from contributed funds.

<sup>13</sup> Completed. Lower 8.6 miles of channel rectification on Highland Bayou was de-authorized April 5, 1999.

<sup>14</sup> In addition, \$2,895,428 expended from contributed funds.

<sup>15</sup> In addition, \$835,000 expended from contributed funds.

**TABLE 40-E**  
**OTHER AUTHORIZED ENVIRONMENTAL RESTORATION PROJECTS**

<b>Project</b>	<b>For Last Full Report See Annual Report For</b>	<b>Cost to September 30, 2008</b>	
		<b>Construction</b>	<b>Operation and Maintenance</b>
Corpus Christi Beach, TX (Beach Restoration) <sup>1</sup>	2000	2,120,641 <sup>2</sup>	–
Laguna Madre Seagrass Restoration, TX <sup>1</sup>	1998	225,440 <sup>3</sup>	–
Salt Bayou, McFadden Ranch, TX <sup>1</sup>	1997	1,754,000 <sup>4</sup>	–
Sabine-Neches Waterway Bessie Heights, TX	2006	874,041 <sup>6</sup>	–
Sabine-Neches Waterway - Texas Point National Wildlife Refuge, TX <sup>1</sup>	2004	784,329 <sup>5</sup>	–

<sup>1</sup> Completed

<sup>2</sup> In addition \$2,009,710 expended from contributed funds.

<sup>3</sup> In addition \$75,146 expended from contributed funds.

<sup>4</sup> In addition, \$576,877 expended from contributed funds and an estimated value of contributed lands in the amount of \$8,000.

<sup>5</sup> In addition \$229,254 expended from contributed funds and \$32,189 Non-Federal work-in-kind

<sup>6</sup> In addition, \$286,281 expended from contributed funds.

**TABLE 40-F DEAUTHORIZED PROJECTS**

<b>Project</b>	<b>For Last Full Report See Annual Report For</b>	<b>Date And Authority</b>	<b>Federal Funds Expended</b>	<b>Contributed Funds Expended</b>
Baytown	1980	Sec. 1001 of PL 99-662	245,000	-----
Brazos River, TX, Velasco to Old Washington	1924	Sec. 1001 of PL 99-662 17 Nov 1986	216,989 <sup>1</sup>	223,010
Corpus Christi Ship Ch - 1913 Act Jetty	-----	Sec. 1001 of PL 99-662 19 Jul 1992	-----	-----
Cypress Creek, TX (Structural portion)	2006	Sec 3181(23) of PL 110-114 8 Nov 2007	6,243,830	835,000
Falfurrias, TX	1995	Sec 3181(25) of PL 110-114 8 Nov 2007	103,454	0
GIWW, Harbor Refuge at Seadrift	1978	Sec. 1001 of PL 99-662 19 Jul 1992	79,041	-----
Liberty Local Protection Project, TX	1971	Sec. 1001 of PL 99-662 17 Nov 1986	98,517	-----
Mill Creek Brazos River, Austin Co. 1946 Act	1952	Sec. 1001 of PL 99-662 1 Jan 1990	24,753	-----
Navidad & Lavaca Rivers, Jackson and Lavaca Counties- General Channel Project	1952	Sec. 1001 of PL 99-662 1 Jan 1990	21,086	-----
Peyton Creek, TX	1975	Sec. 1001 of PL 99-662 17 Nov 1986	66,377	-----
Sabine River and Tributaries, TX (Echo to Morgan Bluff)	1971	Sec. 1001 of PL 99-662 17 Nov 1986	-----	-----

<sup>1</sup> Includes \$123,676 for previous projects.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 40-G TOTAL COST OF EXISTING PROJECTS**

See Section In Text	Project	Funds	New Work	Maintenance	Rehabilitation	Total Cost to Sep. 30, 2008
2.	Brazos Island Harbor, TX	Regular	24,346,787	87,524,392	0	111,871,179
		Public Works	2,848,560	0	0	2,848,560
		Contributed	10,571,509	1,352,092	0	11,923,601
		Hurricane Supplemental	0	219,281	0	219,281
		Total cost of project	37,766,856	89,095,765	0	126,862,621
3.	Cedar Bayou, TX	Regular	986,185	4,991,622	0	5,977,807
		Contributed	697,264	0	0	697,264
		Total cost of project	1,683,449	4,991,622	0	6,675,071
4.	Channel to Port Bolivar, TX	Regular	85,214	2,228,790	0	2,314,004
		Hurricane Supplemental	0	300,000	0	300,000
		Total cost of project	85,214	2,528,790	0	2,614,004
6.	Corpus Christi Ship Channel, TX	Regular	75,896,388	162,914,867	0	238,811,255
		Public Works	324,287	0	0	324,287
		Contributed	6,188,059	1,299,550	0	7,487,609
		Total	82,408,734	164,214,417	0	246,623,151
		Value of useful work performed	1,716,695	0	0	1,716,695
		Contributed land	276,720	0	0	276,720
		Total cost of project	84,402,149	164,214,417	0	248,616,566
7.	Freeport Harbor, TX	Regular	65,103,456	109,138,411	0	174,241,867
		Public Works	116,575	0	0	116,575
		Contributed	20,811,568	229,311	0	21,040,879
		Hurricane Supplemental	0	2,000,000	0	2,000,000
		Total	86,031,599	111,367,721	0	197,399,321
		Value of useful work performed	360,249	0	0	360,249
		Total cost of project	86,391,848	111,367,721	0	197,759,570
8.	Galveston Harbor and Channel, TX	Regular	0	0	0	0
		Channel	11,920,187	149,823,286	0	161,743,473
		Seawall	8,754,209	512,163	0	9,266,372
		Hurricane Supplemental	0	2,125,585	0	2,125,585
		Public Works	0	13,121	0	13,121
		Contributed	3,648,932	2,982,425	0	6,631,357
		Total cost of project	24,323,328	155,456,580	0	179,779,908
9.	Gulf Intracoastal Waterway between Apalachee Bay, FL and the Mexican Border	Regular	156,177,236	733,892,869	2,955,700	893,025,805
		Public Works	466,477	0	0	466,477
		Inland WW. Trust Fund	28,634,490	0	2,955,700	31,590,190
		Contributed	6,797,407	1,955,617	0	8,753,024
		Hurricane Supplemental	0	1604796	0	1604796
		Total	192,075,610	737,453,282	5,911,400	935,440,292
		Value of useful work performed	395,000	0	0	395,000
		Total cost of project	192,610,386	737,453,282	5,911,400	935,975,068

**TABLE 40-G**

**TOTAL COST OF EXISTING PROJECTS**

See Section In Text	Project	Funds	New Work	Maintenance	Rehabilitation	Total Cost to Sep. 30, 2008
11.	Houston Ship Channel, TX	Regular	29,042,293	271,704,981	0	300,747,274
		Public Works	2,612,932	0	0	2,612,932
		Contributed	1,382,760	551,583	0	1,934,343
		Hurricane Supplemental	0	15,500,868	0	15,500,868
		Total cost of project	33,037,985	287,757,432	0	320,795,417
14.	Sabine-Neches Waterway, TX	Regular	49,592,331	332,716,150	0	382,308,481
		Public Works	1,363,652	0	0	1,363,652
		Contributed	2,103,435	5,938,114	0	8,041,549
		Hurricane Supplemental	0	31,805,212	0	31,805,212
		Total	53,059,418	370,459,477	0	423,518,895
		Value of useful work performed	32,000	0	0	32,000
		Contributed land	116,760	0	0	116,760
		Total cost of project	53,208,178	370,459,477	0	423,667,655
15.	Texas City Channel, TX	Regular	18,540,323	45,109,197	0	63,649,520
		Public Works	136,296	0	0	136,296
		Hurricane Supplemental	0	1,535,341	0	1,535,341
		Contributed	1,178,544	0	0	1,178,544
		Total cost of project	19,855,163	46,644,537	0	66,499,700
16.	Trinity River and Tributaries, TX	Regular	82,514,870	46,430,097	0	128,944,967
		Contributed	66,000	0	0	66,000
		Total cost of project	82,580,870	46,430,097	0	129,010,967

**TABLE 40-H CHANNEL DIMENSIONS**

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions		Improved Project Dimensions		
			Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet Miles

**TABLE 40-H CHANNEL DIMENSIONS**

2.Brazos Island Harbor, TX	Outer Bar and Jetty Channel	44	400	44	400		2.5
	Padre Island to Long Island	42	250	42	250		2.1
	Long Island to Goose Island	42	250	42	250		9.6
	Goose Island to Turning Basin Extension	42	300	42	300		3.2
	Turning Basin Extension	42	325	42	375		1.3
	Brownsville Turning Basin	36	1,200	36	660-1,200	2,670	0.5
	Port Isabel Channel via East Turnout	36	200	36	200		1.4
	West Wye, from Brownsville Channel	36	200	36	200		0.8
	Port Isabel Turning Basin	36	200-1,000	36	200-1,000	1,300	0.2
	Fishing Boat Harbor:						
	West Basin	15	370-305	15	370-305	1,470	0.3
	Middle Basin	15	370-305	15	370-305	1,200	0.2
	East Basin	15	370	15	370	1,470	0.3
	Connecting Channel	15	270	15	265	1,230	0.2
	Entrance Channel	15	100	15	100	770	0.1
	3.Cedar Bayou, TX	Houston Ship Channel to Bayou Mile 3.0	10	100	10	100	
Bayou Mile 3.0 to Mile 11.0 <sup>7</sup>		10	100	-	-		-
4.Channel to Port Bolivar, TX	Port Bolivar Channel	30	200	30	200	-	-
	Turning Basin	30	750 <sup>1</sup>	14	200	900	0.2
6.Corpus Christi Ship Channel, TX	Aransas Pass Outer Bar Channel	47	700	47	700		1.8
	Aransas Pass Jetty Channel	45	600-730	45	600		1.0
	Inner Basin at Harbor Island	45	730-1,720	45	Irregular	1,550	-
	Channel to Port Aransas	12	100-150	12	100		0.1
	Port Aransas Turning Basin	12	200-400 <sup>2</sup>	12	200 <sup>2</sup>	200	-
	Anchorage Basin at Port Aransas	12	300-400	12	300-400	900	0.2
	Inner Basin to Mile 8.5	45	600-500	45	600-500		8.5
	Mile 8.5 to LaQuinta Junction	45	500	45	500		3.6
	LaQuinta Junction to Corpus						

**TABLE 40-H CHANNEL DIMENSIONS**

See Section	In Text Project	Section of Waterway	Adopted Project Dimensions		Improved Project Dimensions			
			Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length	
						Feet	Miles	
6.	Corpus Christi	Christi Turning Basin	45	400	40-45	400		8.6
	Ship Channel, TX	Corpus Christi Turning Basin	45	800	45	1,000	5,423	1.0
	(continued)	Industrial Canal	45	400	45	400		1.1
		Avery Point Turning Basin	45	975	45	1,000	1,150	0.2
		Channel to Chemical Turning Basin	45	400	45	350		0.6
		Chemical Turning Basin	45	1,200 <sup>5</sup>	45	1,050 <sup>5</sup>	1,690	0.3
		Tule Lake Channel	45	300	40	200		3.1
		Tule Lake Turning Basin	45	1,200	40	900	1,000	0.2
		Viola Channel	45	300-350	40	200-250		1.8
		Viola Turning Basin	45	1,200	40	700-900	1,000	0.2
		Channel to LaQuinta	45	300-400	45	300-400		5.6
		LaQuinta Turning Basin	45	1,200	45	1,200	800	0.1
		Turning Point at LaQuinta						
		Channel Junction	45	1,250 <sup>3</sup>	45	1,250 <sup>3</sup>	1,250	0.2
		Jewel Fulton Canal	12	100	12	100	-	0.8
		Jewel Fulton Turning Basin	12	200	12	200	400	0.1
		Mooring Area at Ingleside:						
		Mooring Area (a)	45	150	45	150	-	0.8
		Mooring Area (b)	45	150	-	-	-	-
7.	Freeport	Outer Bar Channel	47	400	47	300	-	3.0
	Harbor, TX	Jetty Channel	45	400	45	200	-	0.8
		Quintana Turning Basin	45	750 <sup>4</sup>	-	-	-	-
		Channel to Brazosport						
		Turning Basin	45	400	45	390	-	1.2
		Brazosport Turning Basin	45	1,000 <sup>4</sup>	45	1000	667	0.1
		Channel to Upper Turning						
		Basin	45	285-375	45	285-375	-	1.4
		Upper Turning Basin	45	1,200 <sup>4</sup>	45	1200 <sup>4</sup>	800	0.1
		Channel to Stauffer Chemical						
		Plant	30	200	30	200	-	1.1

**TABLE 40-H CHANNEL DIMENSIONS**

See Section	In Text Project	Section of Waterway	Adopted Project Dimensions		Improved Project Dimensions		
			Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet Miles
7. Freeport Harbor, TX (continued)		Stauffer Turning Basin	30	500	25	500	500 0.1
		Brazos Harbor Channel	36	200	30	200	- 0.5
		Brazos Harbor Turning Basin	36	750 <sup>4</sup>	30	750 <sup>4</sup>	675 0.1
		Extended Entrance Channel	51	800	47	800	- 3.82
8. Galveston Harbor and Channel, TX		Entrance Channel	51	800	47	-	- 4.7
		Outer Bar Channel	51	800	47	800	- 1.7
		Inner Bar Channel	49	800	47	800	- 3.2
		Anchorage Basin	36	2,962	36	2,962	- 1.8 <sup>1</sup>
		Bolivar Roads Channel	49	800	47	800	- 1.0
		Bolivar Roads Channel to 43rd St.	40	1,125	40	1,125	- 3.9
11. Houston Ship Channel, TX		Bolivar Roads to Morgan Point	47	530	45	530	- 26.2
		Morgan Point to Boggy Bayou	49	530	45	530	- 12.8
		Boggy Bayou to Greens Bayou	47	300	45	300	- 2.4
		Greens Bayou to Sims Bayou	42	300	40	300	- 5.3
		Hunting Bayou Turning Point	42	900-1,000 <sup>9</sup>	40	948-1,000 <sup>9</sup>	1,375 -
		Clinton Island Turning Basin	42	800 <sup>9</sup>	40	965-1,070 <sup>9</sup>	1,592 -
		Sims Bayou to Southern Pacific Slip	40	300	40	300	- 0.6
		Southern Pacific Slip to Houston Turning Basin	36	300	36	300	- 2.9
		Houston Turning Basin	36	400-1,000	36	400-1,000	3,100 0.6
		Upper Turning Basin	36	150	36	150	1,000 0.2
		Brady Island Channel	10	60	10	60	- 0.9
		Barbour Terminal Channel	40	300	40	300	- 3.1
		Turning Basin	40	2,000	40	2,000	2,000 0.4
		Bayport Ship Channel	42	300	40	300	- 3.8
		Turning Basin	1,600	40	1,600	1,000	0.3 -
		Anchorage Area	150	40	150	-	- 1.9
		Five-Mile Cut Channel	10	125	8	125	-
		Light-Draft Channel: Upper Turning Basin to Jensen Drive	10	60	10	60	- 4.1
		Turkey Bend Channel	10	60	10	60	- 0.8
		Greens Bayou Channel:	42	250	40	250	- 0.3

**TABLE 40-H CHANNEL DIMENSIONS**

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions		Improved Project Dimensions			
			Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet Miles	
11. Houston Ship Channel, TX (continued)		Mile 0 to Mile 0.36	40	175	40	175	–	0.3
		Mile 0.36 to Mile 1.57	15	100	15	100	–	1.3
12. Matagorda Ship Channel, TX		Outer Bar and Jetty Channel	38	300	38	300	–	3.2
		Channel to Point Comfort	36	300-200 <sup>6</sup>	36	300-200 <sup>6</sup>	–	20.9
		Approach Channel to Turning Basin	36	200-300	36	200-300	–	1.1
		Turning Basin	36	1,000	36	1,000	1,000	0.2
		Channel to Port Lavaca	12	125	12	125	–	4.1
		Lynn Bayou Turning Basin	12	27-340	12	27-340	532	0.1
		Channel to Harbor of Refuge	12	125	12	125	–	1.9
		North-South Basin	12	300	12	300	1,682	0.3
		East-West Basin	12	250	12	250	1,750	0.3
		Channel to Red Bluff	6	100	6	100	–	20.2
14. Sabine-Neches Waterway, TX		Sabine Bank Channel	42	800	42	800	–	14.7
		Sabine Pass Outer Bar Channel	42	800	42	800	–	3.4
		Sabine Pass Jetty Channel	40	800-500	40	800-500	–	4.1
		Sabine Pass Anchorage Basin	40	1,500	40	1,500	3,000	–
		Sabine Pass Channel	40	500	40	500	–	5.6
		Port Arthur Canal	40	500	40	500-1160	–	6.2
		Entrance to Port Arthur Turning Basins	40	275-678	40	282-550	–	0.3
		Port Arthur East Turning Basin	40	420	40	370-547	1,765	0.3
		Port Arthur West Turning Basin	40	600	40	350-550	1,610	0.3
		Channel connecting Port Arthur West and Taylors Bayou Turning Basins	40	200-250	40	200-250	–	0.6
		Taylors Bayou Turning Basin	40	150-1,000	40	86-1248	3,470	0.7
		Sabine-Neches Canal, Port Arthur Canal to Neches River	40	400	40	1160-400	–	11.2
		Turning Point at Mile 19.5	40	900 <sup>4</sup>	40	800 <sup>4</sup>	–	8
		Neches River, Mouth to Maneuvering Area						
		Turning Basin	40	400	40	400-600	–	18.3
		Turning Point, Mile 31.1	40	1,000 <sup>4</sup>	40	1,200	700	8

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 40-H CHANNEL DIMENSIONS**

See Section	In Text	Project	Section of Waterway	Adopted Project Dimensions		Improved Project Dimensions			
				Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet Miles	
15. Sabine - Neches Waterway, TX (continued)			Turning Point, Mile 36.6	40	1,000 <sup>4</sup>	40	1,000	930	8
			Turning Point, Mile 40.3	40	1,000 <sup>4</sup>	40	1,300	1,530	8
			Channel Extension, Mile 40.3	36	350	36	350	1,265	0.2
			Maneuvering Area at						
			Beaumont Turning Basin	40	Irregular	40	Irregular	1,300	0.2
			Beaumont Turning Basin	34	500	34	160-535	1,500	0.3
			Beaumont Turning Basin						
			Extension to End of Project						
			Channel Vicinity						
			Bethlehem Steel Company	30	200	30	200-525	-	0.7
			Sabine-Neches Canal, Neches						
			River to Sabine River	30	200	30	200	-	4.4
			Sabine River Channel, Mouth						
			to Foot of Green Ave.	30	200	30	200-300	-	9.5
			Orange Turning Basin	30	Irregular	30	Irregular	1,550	0.3
			Old Channel Around Harbor						
		Island	25	150-200	25	150-200	-	2.4	
		Adams Bayou	12	100	12	100	-	1.7	
		Cow Bayou	13	100	13	100	-	7.0	
		Orangefield Turning Basin	13	300	13	300	500	0.1	
15. Texas City Channel, TX			Texas City Channel	50	600	40	400	-	6.8
			Turning Basin	50	1,000-1,200	40	1,000	4,253	.8
			Industrial Barge Canal: <sup>10</sup>						
			Channel from Texas City						
			Turning Basin to Mile 1.7	40	300-400	-	-	-	-
		Turning Basin	40	1,000	-	-	-	-	
16. Trinity River Channel, TX			Multiple Purpose Channel						
			to Fort Worth <sup>11</sup>	12	200	-	-	-	-
			Channel to Liberty <sup>12</sup>	9	150	6	100	-	41.4
		Anahuac Channel	6	100	6	100	-	5.8	

<sup>1</sup> Average.

<sup>2</sup> Includes 100-foot channel width.

<sup>3</sup> Includes 450-foot channel to Corpus Christi.

<sup>4</sup> Diameter.

<sup>5</sup> Includes 350-foot channel width.

<sup>6</sup> 300-foot width through Matagorda Peninsula.

<sup>7</sup> Deauthorized.

<sup>8</sup> Included in channel length.

<sup>9</sup> Includes 300-foot channel width.

<sup>10</sup> Channel dredged 34 feet deep by 250-200 feet wide by 9,908 feet long and basin 34 feet deep by 1,000 feet wide by 1,150 feet long by local interests.

<sup>11</sup> Not constructed.

<sup>12</sup> 9-foot by 150-foot channel completed from Houston Ship Channel to a point one mile below Anahuac, a distance of 23 miles. Upper end not connected to river channel to prevent salt intrusion into river. River channel maintained at 6 by 100-foot from mouth to Liberty, Texas.

**TABLE 40-I GULF INTRACOASTAL WATERWAY  
APALACHEE BAY, FL. TO MEXICAN BORDER  
EXISTING PROJECT DIMENSIONS,  
PROVIDED FOR IN TRIBUTARY CHANNELS**

Tributary Channel	Adopted Project Dimensions		Improved Project Dimensions			
	Depth in Feet		Depth in Feet		Length Feet Miles	
	(Below Mean Low Tide)	Bottom Width (Feet)	(Below Mean Low Tide)	Bottom Width (Feet)		

**TABLE 40-I GIWW DIMENSIONS**

Offats Bayou						
Main Channel	12	125	12	125	–	2.3
West Wye	12	125	12	125	2,200	0.4
Chocolate Bayou Channel <sup>1</sup>						
12-Foot Channel via						
East Turnout <sup>2</sup>	12	125	12	125	–	8.2
West Turnout <sup>3</sup>	12	125	12	125	–	0.8
9-Foot Channel <sup>4</sup>	9	100	–	–	–	–
Turning Basin	9	600	–	–	–	–
San Bernard River Channel <sup>5</sup>	9	100	9	100	–	26.0
Colorado River Channel <sup>6</sup>						
Turning Basin	9	100	9	100	–	15.5
Turning Basin	9	400	9	400	500	0.1
Silting Basin	9	150	9	150	–	1.0
Mouth of Colorado River <sup>7</sup>						
Navigation Channel, GIWW to Gulf	15-12	100-200-300	15-20	100-200-300	–	–
Turning Basin at Matagorda	12	350	–	–	–	–
Channel to Palacios <sup>8</sup>	12	125	12	125	–	16.1
Turning Basin No. 1	12	200	12	200	635	0.1
Turning Basin No. 2	12	300	12	300	1,130	0.2
Connecting Channel	12	150-480	12	130-400	–	0.1
Channel to Barroom Bay <sup>9</sup>	12	60	–	–	–	–
Channel to Victoria Main Channel via						
East Turnout	12	125	12	125	–	34.8
Turning Basin	12	600 <sub>(AVG)</sub>	9	500 <sub>(AVG)</sub>	800 <sub>(AVG)</sub>	0.1
West Turnout Channel	12	125	12	125	–	0.8
Channel to Seadrift via South Turnout	9	100	9	100	–	2.0
Turning Basin	9	250	9	200	230	–
North Turnout Channel	9	100	9	100	–	0.5
Harbor of Refuge at Seadrift Channel	9	100	–	–	–	–
Basin	9	200	–	–	–	–
Channel to Rockport	9	200	9	200	–	2.1

**TABLE 40-I GULF INTRACOASTAL WATERWAY  
APALACHEE BAY, FL. TO MEXICAN BORDER  
EXISTING PROJECT DIMENSIONS,  
PROVIDED FOR IN TRIBUTARY CHANNELS**

Tributary Channel	Adopted Project Dimensions		Improved Project Dimensions			
	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet	Length Miles
Turning Basin	9	475	9	342 <sub>(AVG)</sub>	1,225	0.2
Channel to Aransas Pass	14	175	14	125-175	–	6.1
Turning Basin	14	300	14	300	2,212	0.4
Channel to Conn Brown Harbor	14	125	14	0.2	125	–
Conn Brown Harbor	14	300	14	300	1,800	0.3
Channel to Port Mansfield <sup>10</sup>						
Entrance Channel	16	250	16	250	–	0.8
Approach Channel to Hopper Dredge						
Turning Basin	16	100	16	100	–	0.4
Hopper Dredge Turning Basin	16	300	16	300	300	0.1
Channel Across Padre Island and Laguna Madre	14	100	14	100	–	7.7
Turnout Channels, East Side of Main Channel, GIWW						
North Turnout	12	100	12	100	–	0.6
South Turnout	12	100	12	100	–	0.6
Channel West Side of Main Channel, GIWW, to P.T. of Turnout Channels	14	100	14	100	–	0.6
Turnout Channels, West Side of Main Channel, GIWW						
North Turnout	12	200	12	200	–	0.6
South Turnout	12	200	12	200	–	0.6
Channel from P.T. of Turnout Channels to Approach Channel to Main Turning Basin	14	125	14	125	–	0.6
Approach Channel to Main Turning Basin	14	200	14	200	–	0.3
Main Turning Basin	14	400	14	400	1,250	0.2
Turning Basin Extension	14	1,000	14	1,000	580	0.1
Small Craft Basin	8	160	8	160	860	0.2
Shrimp Basin	12	350	12	350	1,450	0.3
Channel to Harlingen via South Turnout from Main Channel, GIWW	12	125	12	125 <sup>11</sup>	–	25.8 <sup>12</sup>

**TABLE 40-I**

**GULF INTRACOASTAL WATERWAY  
APALACHEE BAY, FL. TO MEXICAN BORDER  
EXISTING PROJECT DIMENSIONS,  
PROVIDED FOR IN TRIBUTARY CHANNELS**

Tributary Channel	Adopted Project Dimensions		Improved Project Dimensions			
	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet      Miles	
	Turning Basin near Rio Hondo	12	400	12	400	500
North Turnout from Main Channel	12	200	12	200	–	0.7
Port Isabel Side Channels						
Main Channel	12	125	12	125-90	–	0.6
Main Channel	12	233-60	12	233-60	–	0.4
South Leg	12	125	12	125	–	0.2
Port Isabel Side Channels						
Main Channel	12	125	12	125-90	–	0.6
Main Channel	12	233-60	12	233-60	–	0.4
South Leg	12	125	12	125	–	0.2
Port Isabel Small Boat Harbor						
Entrance Channel	7	75	7	75	–	1.4
Harbor Channel	6	50	6	50	–	0.3
Boat Basin	6		6	72-501	1,308	0.2
	Variable					

<sup>1</sup> Includes the construction of a salt water barrier at Mile 16.9.  
<sup>2</sup> Constructed 10 feet deep by 100 feet wide by local interests. East turnout channel constructed 150 feet wide.  
<sup>3</sup> Constructed by local interests.  
<sup>4</sup> Authorized to mile 13.2. Mile 8.2 to Mile 13.2 was deauthorized.  
<sup>5</sup> Authorized to Mile 31 above mouth (channel mile 29.41). Upper 3.4 miles was deauthorized under Section 12 of PL 93-251.  
<sup>6</sup> Includes a discharge channel from Matagorda, Texas, to the gulf, which was dredged by local interests in 1939. (Maintenance will be discontinued upon completion of improvements authorized by R&H Act of 1968.)

<sup>7</sup> Authorized by R&H Act of 1968. Also provides for a dam across the present discharge channel, a new 250-foot wide by 20 to 23-feet deep discharge channel into Matagorda Bay, and a 15-foot by 200-foot wide entrance channel with parallel jetties from the gulf shoreline into the Gulf of Mexico. East jetty to be 3,500 feet long and west jetty 2,900 feet long.  
<sup>8</sup> Includes two protective breakwaters at entrance to turning basins.  
<sup>9</sup> In the inactive category for maintenance.  
<sup>10</sup> Also provides for two stone jetties at the gulf entrance about 1,000 feet apart. (North jetty constructed 2,300 feet long and south jetty constructed 2,270 feet long.)  
<sup>11</sup> South turnout is 200 feet wide.  
<sup>12</sup> Authorized to mile 31. Mile 25.8 to Mile 31 was deauthorized.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 40-J DREDGING OPERATIONS**

See Section In Text	Project	Description	Period	Cubic Yards of Materials	FY 08Cost
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**TABLE 40-J DREDGING OPERATIONS**

**2. Brazos Island Harbor, TX (Maintenance)**

Dredging Brazos Island Harbor, TX in Cameron County. Main Channel and Turnin Basin	October 1, 2007 to June 19, 2008	312,381	\$934,057 <sup>1</sup>
Dredging Brazos Island Harbor Jetty Channel	May 1, 2008 to August 1, 2008	490,690	\$2,562,813
Dredging Brazos Island Harbor, TX in Cameron County. Brownsville Ship Channel and Port Isabel Channel	October 1, 2007 to March 14, 2008	654,493	\$2,365,237

**6. Corpus Christ Ship Channel, TX (Maintenance)**

Dredging Corpus Christi Ship Channel La Quinta Junction to Beacon 82	October 1, 2007 to February 20, 2008	901,102	\$2,726,231
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**7. Freeport Harbor, TX (Maintenance)**

Dredging Freeport Entrance Channels, Jetty Channel and Lower Turning Basin in Brazoria County, TX Hopper Dredging	October 1, 2007 to January 22, 2008	1,451,421	\$2,430,386
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**8. Galveston Harbor and Channel, TX (Maintenance)**

Dredging Galveston Harbor Inner Channel	October 1, 2007 to December 20, 2007	2,956,986	\$8,385,430
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**9. Gulf Intracoastal Waterway, TX GIWW – Main Channel (Maintenance)**

Dredging High Island to Rollover Pass in chambers & Galveston Counties	February 26, 2008 to September 30, 2008	620,268	\$3,164,166
Dredging GIWW, Freeport Harbor to Brazos River in Brazoria County	April 21, 2008 to September 30, 2008	1,081,822	\$1,037,483
Dredging GIWW Boggy Bayou to Upper Matagorda Bay and Channel to Palacios	October 1, 2007 to January 8, 2008	545,576	\$942,049

GALVESTON, TX, DISTRICT

**TABLE 40-J DREDGING OPERATIONS**

See Section In Text	Project	Description	Period	Cubic Yards of Materials	FY 08 Cost
<b>9. GIWW – Main Channel (Maintenance) Continued</b>					
		Dredging GIWW Galveston Causeway to Bastrop Bayou in Brazoria & Galveston Counties, TX	October 1, 2007 to March 20, 2008	848,521	\$3,402,030
		Dredging GIWW Matagorda Ship Channel, Gallinipper to Point Comfort	December 7, 2007 to September 30, 2008	88,604	\$108,242
		Dredging GIWW Turnstake Island	April 11, 2008 to September 20, 2008	2,005,606	\$3,393,042
		Dredging GIWW Galveston Causeway to Bastrop Bayou in Brazoria & Galveston Counties, TX, Emergency Supplemental Dredging	October 1, 2007 to March 20, 2008	103,920	\$418,479
<b>Channel to Victoria (Maintenance)</b>					
		Dredging Channel to Victoria in Calhoun County, TX	October 1, 2007 to October 26, 2007	320,204	\$536,271
<b>10. Houston-Galveston Navigation Channels, TX (New Work)</b>					
		Dredging Houston-Galveston Navigation Channel, (45' project) in Chambers & Harris counties TX, Atkinson Island Cell M5/M6	October 1, 2007 to September 30, 2008	1,781,682	\$14,422,981
		Dredging Houston-Galveston Navigation Channel, Redfish North, in Galveston County	December 14, 2007 to September 30, 2008	161,252	\$641,349 <sup>2</sup>
<b>11. Houston Ship Channel (Maintenance)</b>					
		Dredging Exxon to Carpenter's Bayou in Harris County, TX	April 25, 2008 to September 30, 2008	617,423	\$873,118
		Dredging Houston Ship Channel, Station 59+400 to Station 78+000 in Galveston County	December 14, 2007 to September 30, 2008	990,549	\$5,092,477
<b>12. Matagorda Ship Channel TX (Maintenance)</b>					
		Dredging Matagorda Ship Channel, Texas Matagorda Peninsula to Beacon 32 in Calhoun And Matagorda Counties, TX	April 4, 2008 to August 1, 2008	970,088	\$2,934,515
		Dredging Matagorda Ship Channel, Gallinipper Point to Point Comfort in Calhoun County, TX	December 7, 2007 to September 30, 2008	1,610,989	\$1,844,653

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2008

**TABLE 40-J DREDGING OPERATIONS**

<b>See Section In Text</b>	<b>Project</b>	<b>Description</b>	<b>Period</b>	<b>Cubic Yards of Materials</b>	<b>FY 08 Cost</b>
<b>12. Matagorda Ship Channel (Maintenance) Continued</b>					
		Dredging Matagorda Ship Channel Indian Point to Point Comfort	October 1, 2007 to February 12, 2008	152,838	\$249,126
<b>14. Sabine-Neches Waterway, TX (Maintenance)</b>					
		Dredging Pt. Arthur Canal, Junction Area, and Turning Basin in Jefferson County, TX	July 31, 2008 to September 30, 2008	201,000	\$660,000
		Dredging Sabine-Neches Waterway, Sabine Pass Channel in Jefferson County, TX	October 1, 2006 to January 24, 2007	1,815,179	\$3,070,894
		Dredging Sabine-Neches Waterway, Sabine Pass Outer Bar Channel in In Jefferson County	November 30, 2007 to April 24, 2008	2,646,462	\$2,112,604
<b>15. Texas City Channel, TX (Maintenance)</b>					
		Dredging Texas City Channel and Turning Basin in Galveston County	February 14, 2008 to September 30, 2008	86,666	\$2,865,296

<sup>1</sup> In addition, \$457,156 expended from contributed funds.

<sup>2</sup> In addition, \$207,963 expended from contributed funds.