LOS ANGELES, CA, DISTRICT

This district (total area about 230,000 square miles) comprises drainage basins tributary to the Pacific Ocean in California between the Mexican boundary and Cape San Martin (about 265 miles north of the entrance to the Los Angeles Harbor). The lower Colorado River drainage basin (below Lee Ferry, AZ) which is southeastern California, southeastern Nevada, southwestern Utah, and all of Arizona, except the northeastern corner; that part of the Great Basin that is in southern Nevada and southeastern California; and the southern Arizona that drain southward into Mexico.

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Navigation

1. CHANNEL ISLANDS HARBOR, CA

Location. On the coast of southern California about a mile northwest of Port Hueneme, 65 miles northwest of Los Angeles Harbor, and 345 miles south of San Francisco. (See Coast and Geodetic Survey Charts 5007 and 5202.)

Existing project. For details see page 33-2 of Annual Report for 1981.

Local cooperation. Fully complied with.

Terminal facilities. For details see page 33-2 of Annual Report for 1989.

Operations during fiscal year. The first cycle of a six year, three-cycle dredging contract was initiated in FY 2007. The contract covers FY 2007 through FY 2011. Rockwork inspection conducted under the "Project Condition Survey" program. Total Operations and Maintenance, General expenditures were $5,393. Project condition is good.

2. IMPERIAL BEACH, SILVER STRAND SHORELINE, CA

Location: The project area is located on the Coast of Southern California, in San Diego County, about 3.5 miles North of the Mexico border which consists of narrow beaches and backshore development for commercial, residential, and recreational use.

Existing project. The authorized project is a beach fill project, providing storm damage protection and reduction, consisting of a system of five stone groins, the most northern groin at the north end of the existing seawall of the U. S. Naval Radio Station, and four other groins spaced at intervals of about 1,000 feet to a point 400 feet south of Coronado Avenue (now Imperial Beach Boulevard). A General Reevaluation Report was completed in FY 2002.

Local cooperation. City of Imperial Beach is the local sponsor.

Operations during fiscal year. A soils sampling contract was awarded to confirm that no contaminants or toxic material would be found within the proposed dredged material to be deposited on the beach. Completed Plans and Specifications and executed PCA, and awarded a fully-funded contract for construction of initial beach fill.

3. LOS ANGELES – LONG BEACH HARBORS, CA

Location. On the coast of southern California in San Pedro bay about 25 miles south of the city of Los Angeles, about 96 miles northwest of San Diego Harbor, and about 410 miles southeast of San Francisco Harbor.

Existing project. The project consists of four increments of dredging to be constructed in two stages - deepening the existing entrance channel for the Port of Los Angeles and providing new channels to existing and new port facilities. The dredge material will be used for fill to create Pier 400. Estimated cost (October 1998) for existing project is $401,000,000 (includes an allowance for estimated inflation through the construction period), of which $115,200,000 is Federal ($114,900,000 Corps and $300,000 U.S. Coast Guard) and $285,800,000 is non-Federal.

Local cooperation. All items of local cooperation required under the terms of the previous authorizing acts have been fully complied with. See page 33-3 of Annual Report for 1981 for requirements under the terms of the 1976 Water Resources Development Act. The revised recommended project was changed due to the withdrawal of the Port of Long Beach on October 1, 1991. The Port of Los Angeles, the local sponsor, received credit, for advance work (Stage 1) performed per WRDA 1988. Project Cooperation Agreement executed March 18, 1997.

Terminal Facilities. Of the 82,553 feet of wharves in the Los Angeles Harbor, 75,729 feet are owned by the city and 6,824 feet are owned by private interests. The final report presented and recommended four project increments. Increment No. 2 would deepen the existing Los Angeles Harbor approach and entrance channels to Pier 300 to provide better access to dry bulk facilities. Increment No. 3 would further deepen the Los Angeles approach and entrance channel to Pier 300 and part of Pier 400, and deepen a south channel to provide access to the eastern side of Pier 400 and liquid bulk facilities. Increments No. 4 and 5 would extend Increment No. 3 of Los Angeles to provide access to container terminals that would be located on part of Pier 300 and Pier 400. The material obtained from the dredging was used to create new landfill within the port and shallow water habitat for the least tern.

Operations during fiscal year. Plans and specifications and the environmental assessment were completed for L.A. River Estuary dredging. Total Operations and Maintenance, General expenditures were $4,179,225. Project condition is poor.

4. LOS ANGELES HARBOR MAIN CHANNEL DEEPENING, CA

Location. The project area is located at the Port of Los Angeles on the coast of southern California in San Pedro Bay, approximately 25 miles south of downtown Los Angeles.

Existing project. The proposed project would dredge 6.6 million cubic yards of sediment from the Los Angeles Main Channel, West Basin, East Channel, East Basin, and Cerritos Channel with disposal at Southwest Slip, Cabrillo Shallow Water Habitat and pier 400. The plan would also create approximately 40 acres of additional terminal space at Pier 300.

Local cooperation. The Port of Los Angeles and the Corps of Engineers executed the Project Cooperation Agreement July 25, 2002.

Operations during fiscal year. Continuing preparation of Supplemental Environmental Impact Statement for added disposal capacity and local sponsor requested activities not requiring disposal.

5. MARINA DEL REY, CA

Location. Marina del Rey is located on Santa Monica Bay, 15 miles west of downtown Los Angeles, 29 miles northwest of Los Angeles Harbor and 390 miles southeast of San Francisco Bay.

Existing project. For details see page 33-3 of Annual Report for 1981. Existing Federal navigation project consists of two jetties a breakwater and navigation channels. Contaminated materials, causing costly maintenance and a potential threat to navigation, complicate a severe shoaling problem in the harbor.

Local cooperation. County of Los Angeles Department of Beaches and Harbors requested a new study, and expressed local support by letter dated August 5, 1992. Feasibility Cost Sharing Agreement signed February 21, 1997.

Terminal facilities. Marina del Rey is homeport to about 15 commercial fishing boats and 50 other transit boats with an annual fish catch valued at approximately $10 million. There are about ten charter boat and five tour boat operations used by over 100,000 people each year and over 6,000 berths servicing recreational craft within the harbor. Eight yacht clubs call the marina homeport. The marina offers sailing instruction, boat rental, repair and storage, harbor tours, sport fishing, retail facilities, coffee shops, snack bars and fine restaurants. The U.S. Coast Guard has a cutter permanently assigned to the harbor.

Operations during fiscal year. Maintenance dredging was performed on the North Entrance. Total Operations and Maintenance, General expenditures were $167,463. Project condition is fair.

6. MORRO BAY HARBOR, CA

Location. On coast of southern California 110 miles south of Monterey Bay, 120 miles northwest of Santa Barbara Harbor, and nearly midway between San Francisco and Los Angeles. (see Coast and Geodetic Survey Chart 5387).

Existing project. For details, see page 33-4 of Annual Report for 1980.

Local cooperation. Project Cooperation Agreement executed on April 7, 1995.

Terminal facilities. Facilities which are adequate for existing commerce, comprise 640 feet of existing piers and 150 feet of floating docks constructed by San Luis Obispo County; 263 feet of floating docks constructed by California Department of Parks and Recreation; 1,396 feet of floating docks constructed by the city of Morro Bay; 1,398 feet of privately-owned piers; and 5,435 feet of privately-owned floating docks.

Operations during the fiscal year. Annual maintenance dredging was performed by Corps dredge, Yaquina. Total Operations and Maintenance, General expenditures were $1,554,207. Project condition is good.

7. NEWPORT BAY HARBOR, CA

Location. Forty miles southeast of Los Angeles.

Existing project. Provides rubblemound entrance jetties, 920-foot deep and 500-foot wide entrance channel and main channel, inner channels, a turning basin, and anchorage areas. Upper Newport is a shallow 800-acre marine estuary. Navigation project is maintained by Corps of Engineers. Pursuant to Section 841 and subject to Section 903(b) of WRDA 1986, the project for navigation for the harbor is modified to dredge and maintain a 250-foot wide channel in Upper Newport Bay to the boundary of Upper Newport Bay State Ecological Preserve to a depth of 15 feet.

Local cooperation. In a resolution dated August 20, 1996, Orange County Board of Supervisors indicated strong support of feasibility study and understanding of cost sharing requirements.

Operations during fiscal year A hydrographic survey of the harbor was conducted under the project name “Project

Condition Surveys". Project condition is poor.

8. OCEANSIDE HARBOR, CA

Location. On the coast of southern California at Oceanside, about 30 miles north of city of San Diego and 80 miles south of Los Angeles.

Existing project. For details, see page 33-4 of Annual Report for 1981.

Local cooperation. Fully complied with. Oceanside Small Harbor Craft District sent letter of support dated April 1985 and Letter of Intent in March 1989. Project Cooperation Agreement executed in January 1993.

Terminal Facilities. Berthing for 957 boats, single-tie slips, 38 double-tie slips and 136 side-ties, of which 54 are visitors' slips; 12 dry storage spaces at Oceanside Marine Center; a fuel dock; a boat hoist; a launching ramp, which can accommodate 4 launchings at the same time; parking for 1,732 cars; with temporary parking for about 141 boat trailers; a boat-repair facility; a pump-out facility; a Coast Guard cutter; restaurants; retail stores; yacht brokers; a hotel/motel; condominiums; and a sport-fishing facility. Navigation improvements include new dredging and biannual dredging of expanded entrance channel area.

Operations during fiscal year The first year of a three year annual maintenance dredging contract was performed. Total Operations and Maintenance, General expenditures were $1,045,833. Project condition is good.

9. PORT HUENEME, CA

Location. On the coast of southern California about 65 miles northwest of Los Angeles and Long Beach Harbors, about one mile southeast of Channel Islands Harbor, immediately west of the city of Port Hueneme, four miles southwest of the city of Oxnard, and 10 miles southeast of the city of Ventura.

Existing Project. Authorized in 1970 for restudy of completed project. The harbor serves both military and commercial uses with port facilities consisting of terminals, wharves, and warehouses serving a wide variety of products. The existing Federal project consists of an approach channel, entrance channel, central basin, and two rubblemound jetties. The Navy has plans to utilize the harbor more extensively for vessel berthing and repair; effectively reducing maneuverability in the harbor. Harbor District would like to use deeper draft wood pulp carrier vessels and possibly tankers.

Local cooperation. Requirements are described in full on page 33-3 of Annual Report for 1976. The Oxnard Harbor District reviewed and agreed to sign the Feasibility Cost Sharing Agreement on January 3, 1996.

Operations during fiscal year. Coordination was performed with inter-agencies to develop the CADD site. Total Operations and Maintenance, General expenditures were $214,096. Project condition is fair.

10. PORT OF LONG BEACH (DEEPENING), CA

Location. On the coast of southern California along the Pacific Coast in San Pedro Bay about 20 miles south of downtown Los Angeles.

Existing Project. The recommended plan consists of deepening the approach channel to -76 MLLW, from breakwater seaward, a distance of about 2 miles to accommodate deep draft crude tankers. WRDA 1996 authorized project in accordance with the July 1996 Chief of Engineers Report. Dredging to –76 feet MLLW of the approach channel was completed in December 2000. Prior condition survey indicated that turning basin and navigation channel inside the harbor was not dredged by POLB to –76 feet. Anticipated cost to complete project is within project cost estimate. The estimated cost of the project (October 2006) is $44,650,000.

Local cooperation. The Port of Long Beach is the local sponsor. The Project Cooperation Agreement was executed in July 1998.

Operation during the fiscal year. None.

11. REDONDO BEACH HARBOR (KING HARBOR), CA

Location. On the coast of southern California on the southern portion of Santa Monica Bay, about 17 miles southwest of Los Angeles.

Existing project. For details, see page 33-4 of Annual Report for 1981. WRDA of 1986 (H.R. 6) Conference Bill, Title VIII - Project Modification, Section 809 - King Harbor, Redondo Beach, CA, modifies the King Harbor Project in order to carry out maintenance dredging and for breakwater construction, and authorized the Secretary to restore the breakwater to a height of 22 feet and maintain breakwater at such height to provide greater protection from heavy wave action.

Local cooperation. City of Redondo Beach officials are in full support of the study and have indicated desire to construct improvements to reduce continued storm related damages.

Operations during fiscal year. Rockwork inspections were performed under the project "Project Condition Surveys". Project condition is good.

12. SAN DIEGO HARBOR, CA

Location. On the coast of southern California just north of the Mexican border, about 109 miles southeast of Los Angeles and Long Beach Harbors. (See Coast and Geodetic Survey Chart 5107).

Existing project. For details, see pages 33 and 34 of Annual Report for 1980.
Local cooperation. Requirements are described in full on pages 33 and 34 of Annual Report for 1980.

Terminal facilities. Consists of 45,070 feet of wharves, exclusive of Government-owned and 24,000 feet are privately owned. Government-owned wharves at North Island are restricted to military use only.

Operations during fiscal year. Hydrographic condition survey was performed under the project condition survey program. Project condition is fair.

13. SAN DIEGO RIVER AND MISSION BAY, CA

Location. The project is located at the mouth of the San Diego River about six miles northwest of the San Diego business district, San Diego County, California.

Existing project. For details, see page 33-3 of Annual Report for 1991. Authorized by the Flood Control Act of 1944, the existing project consists of a levee channel, entrance channel, main channel, altered railroad bridge, anchorage basins (West Anchorage and Quivira) and three jetties. Construction of a 1,200-foot-long weir restored design conveyance capacity at the mouth of the San Diego River. A sand plug in mouth of river reduced flood-carrying capability from 115,000 cfs to 35,000 cfs, equal to a 100-year flood. The temporary timber pile breakwater at Quivira Basin was replaced with a permanent rubble mound breakwater.

Local cooperation. The Project Cooperation Agreement was executed July 1996 with the city of San Diego.

Operations during fiscal year. Hydrographic condition survey of the federal navigation channel was performed under the project condition survey program. Project condition is fair.

14. SANTA BARBARA HARBOR, CA

Location. On the coast of southern California, 90 miles northwest of Los Angeles Harbor.

Existing project. For details on original, see page 33-4 Annual Report for 1983. For reevaluation details see WRDA, 1986. The recommended plan includes acquiring a permanent dredge for the city and they will assume the operation and maintenance of the channel.

Local cooperation. See page 1015 of Annual Report for 1969, for items of local cooperation under 1962 authorized modification of existing project. The city reaffirmed its support on January 23, 2002.

Operations during fiscal year. Cycles 1 and 2 of an annual maintenance dredging contract was performed. Total Operations and Maintenance, General expenditures were $1,939,993. Project condition is fair.

15. SANTA MONICA BREAKWATER, CA

Location. Santa Monica Breakwater is located seaward of the Santa Monica Pier, approximately 15 miles west of downtown Los Angeles. Existing breakwater is 2,000 feet long and lies 1,300 feet from the shoreline.

Existing project. The authorized project comprises reconstruction of 900 feet of the southern end of the existing breakwater to an elevation of +10 feet MLLW for storm damage prevention and constructing an offshore boulder-field for fish habitat. The local sponsor will provide 12 moorings and other boating support facilities to reestablish commercial boating opportunities. WRDA 1996 authorized the project. The estimated cost of the project is $7,200,000 (Federal cost is $4,700,000 which includes $40,000 US Coast Guard; Non-Federal cost is $2,500,000).

Local cooperation. City of Santa Monica, the local sponsor, indicated its support in July 1995 for the authorized project and its willingness and intent to execute the Project Cooperation Agreement.

Operations during fiscal year. None.

16. SURFSIDE, SUNSET AND NEWPORT BEACH, CA

Location. Project extends along Orange County coastline, 17 miles from San Gabriel River mouth down coast to Newport Bay Harbor entrance.

Existing project. Authorization Section 101 of Rivers and Harbors Act 1962. Modified by Chief of Engineers September 1963. Project is a periodic continuing construction project. Periodic beach nourishment with no time limit on Federal aid authorized by PL 87-874 as recommended by HD 602.

Local cooperation. State of California, Orange County,

Cities of Newport and Huntington Beach, and Surfside Colony. Funding agreement with the State of California for Stage 11 was executed on August 9, 2001.

Operations during fiscal year. Continued design phase and additional environmental compliance. Borrow site investigation completed.

17. VENTURA HARBOR, CA

Location. Located 65 miles northwest of Los Angeles and six miles northwest of Channel Islands Harbor.

Existing project. For details, see page 33-5 of the Annual Report for 1981. Reevaluation under WRDA 1990 consists of modification to the existing harbor by constructing a separate South Beach groin, extending the offshore breakwater, adding a spur groin to the north jetty and detached breakwater, and deepening and extending the entrance channel and sand trap.

Local cooperation. City of Ventura (Interested Party)

Operations during fiscal year. Annual contract for maintenance dredging was performed. Rockwork inspections were conducted. Total Operations and Maintenance, General expenditures were $3,476,920. Project Condition is fair.

18. NAVIGATION/BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645.

Fiscal year cost for Section 107 was $112,287 of which $106,437 was for Port Hueneme, CA; and $5,850 for the Coordination Account.

Beach erosion control activities pursuant to Section 103, Public Law 87-874 (preauthorization).

Fiscal year cost for Section 103 were $178,127 of which $45,506 was for Goleta Beach, CA; $91,288 for Pismo Beach, CA; and $41,333 for the Coordination Account. Early feasibility determination is that Goleta Beach costs will exceed Section 103 limits; the project is converting to Investigations.

Shoreline Erosion Control Development and Demo Program, Sec 227, PL 104-303

Fiscal year cost was $0.

<u>Flood Control</u>

19. ALAMO DAM, AZ

Location. About 70 miles southeast of Kingman, Arizona on the Bill Williams River, Arizona a tributary of the Colorado River.

Existing project. For details, see page 33-7 of Annual Report 1981.

Local cooperation. Bill Williams River Corridor Steering Committee (Interested Parties)

Operations during fiscal year. Routine operations and maintenance were performed. Total Operations and Maintenance, General expenditures were $1,511,799. Project condition is good.

20. CLIFTON, AZ

Location. Located on San Francisco River approximately 170 miles northeast of Tucson in Greenlee County, AZ.

Existing project. The project consists of both structural and nonstructural elements, including an earthfill levee about 3,000 feet long, with floodgates and floodwalls. Implementation will involve flood proofing of 11 businesses, flood plain evacuation plans, and recreation development. Estimated cost (October 1998) for existing project is $24,100,000 (includes $2,600,000 cash contribution and $5,400,000 other costs). Construction of the levee and floodwall was completed August 1995 and turned over to sponsor December 1996. Completed non-structural relocation in December 1998.

Local cooperation. The State of Arizona, Division of Emergency Services, is the local sponsor. Project Cooperation Agreement executed on July 30, 1993.

Operations during fiscal year. None.

21. HANSEN DAM, LACDA, (RECREATION DEVELOPMENT), CA

Location. In the San Fernando Valley area of the city of Los Angeles about 20 miles northwest of downtown Los Angeles. Recreation lake and facilities lie within flood control basin boundaries.

Existing project. Original project authorized under Flood Control Act 1936, and modified by WRDA 1986, Section 847 Energy and Water Development Act 1992 (PL 102-104). Project consists of two phases. Phase 1 is the excavation of the lake, and rough grading of the roadways and building pad locations. Phase 2 is the construction of a 10.5-acre recreation lake, picnic facilities, access roads, parking lots, and landscaping.

Local cooperation. Project is 50/50 cost shared with the

city of Los Angeles.

Operations during fiscal year Coordination with local interests regarding expansion of the existing recreational facilities was on-going throughout the year. Mitigation planting was initiated. Total Operations and Maintenance, General expenditures were $28,475.

22. HOLBROOK, AZ

Location. Located along the Little Colorado River in the City of Holbrook, AZ, about 150 miles northeast of Phoenix.

Existing project. The completed project will provide 100-year-flood protection to 696 residences and 205 commercial, industrial, and public buildings. Estimated cost (October 1996) for this project is $14,600,000, of which $11,000,000 is Federal and $3,600,000 is non-Federal (includes $1,935 cash contribution and $1,665,000 other costs).

Local cooperation. The City of Holbrook signed the Project Cooperation Agreement, on August 24, 1993.

Operations during fiscal year. None.

23. LOS ANGELES COUNTY DRAINAGE AREA, CA

Location. Along Los Angeles and San Gabriel Rivers, Rio Hondo, and Compton Creek, CA.

Existing project. Project consists of channel improvement to lower Los Angeles, Rio Hondo Rivers, Compton Creek, and modification/replacement of as many as 25 bridges necessitated by the channel improvements. A map of the rehabilitation plan is in "General Design Memorandum, Los Angeles River Rehabilitation under the Major Rehabilitation Program," dated January 1984 and revised in March 1984. Estimated cost (September 2007) for existing project is $210,700,000 of which $158,000,000 is Federal and $52,700,000 is non-Federal (includes $46,200,000 cash contribution and $6,500,000 other costs).

Local cooperation. Los Angeles County Department of Public Works.

Operations during fiscal year. Routine operations and maintenance activities were performed. Worked to identify tasks required for project closeout.

24. LOS ANGELES RIVER, SEPULVEDA TO ARROYO SECO, (RECREATION DEVELOPMENT), CA

Location. Upper Los Angeles River from Sepulveda Flood Control Basin (located 25 miles northwest of the city of Los Angeles) to the confluence of the Arroyo Seco channel, a distance of 20 miles.

Existing project. The Upper Los Angeles River consists primarily of a rectangular channel from the Sepulveda Basin to a point approximately four miles above the Arroyo Seco as a trapezoidal channel of the Arroyo Seco.

Local cooperation. Project is 50/50 cost shared with City of Los Angeles Department of Transportation.

Operations during fiscal year. None.

25. MOJAVE RIVER DAM, MOJAVE RIVER BASIN, CA

Location. On Mojave River at the Forks site, just down-stream from the mouth of Deep Creek and about 14 miles upstream from Victorville, in Mojave River Basin, CA.

Existing project. For details, see page 33-8 of Annual Report for 1983.

Local cooperation. None required.

Operations during fiscal year. Routine operations and maintenance activities were performed. Total Operations and Maintenance, General expenditures were $385,953. Project condition is good.

26. MURRIETA CREEK, CA

Location. The project area encompasses the Santa Margarita River in Riverside and San Diego Counties, California.

Existing project. The project is a multi-purpose flood control, environmental restoration and recreation project along 7.5 miles of Murrieta Creek. The major project features include channel widening and deepening; an environmental corridor along the length of the project; a multi-purpose detention basin; a wetland restoration area, a recreation park, and three bridge replacements. The project is divided into four phases.

Local cooperation. The Riverside County Flood Control and Water Conservation District and the Corps executed the Project Cooperation Agreement in September, 2003.

Operations during fiscal year. Preparing Plans and Specifications for the first and second phases of construction. Preparing the preliminary Project Design Documentation Report, Eradication and restoration of exotic species being completed (completed restoration and monitoring).

27. NOGALES WASH, AZ

Location. At the Mexican Border, in extreme southern Arizona in central and northern portions of the city of Nogales, about 60 miles south of Tucson

Existing project. Current plan includes a flood warning system in Mexico and United States and a channel and levee construction at Chula Vista, Arizona.

Local cooperation. The Santa Cruz County Flood Control District and the Corps of Engineers executed the PCA in December 2005.

Operations during fiscal year. Awarded and initiated construction on the Chula Vista Channel.

28. NORCO BLUFFS, SANTA ANA RIVER, CA

Location. Located approximately 40 miles southeast of Los Angeles, in the city of Norco, along a 3.75-mile stretch of the south bank of the Santa Ana River.

Existing Project. The project consists of a structural solution of revetted-buttress fill using existing and imported fill material one reach, a distance of one mile. The bluff stabilization protects a 65-foot-high bluff from further retreat into a residential neighborhood, which results when flood flows occur in the Santa Ana River. Estimated cost (September 2005) is $15,000,000 of which $11,250,000 is Federal and $3,750,000 is non-Federal.

Local cooperation. Local sponsor, Riverside County Flood Control District. Project Cooperation Agreement executed in January 1999.

Operations during fiscal year. Miscellaneous repair and hydroseeding along the channel.

29. PAINTED ROCK DAM (GILA RIVER), AZ

Location. About 20 miles northwest of Gila Bend, and 120 miles southwest of Phoenix, Arizona.

Existing project. For details, see page 33-9 of Annual Report for 1981.

Local cooperation. Requirements are described in full on 33-9 of Annual Report for 1981.

Operations during fiscal year. Routine operations and maintenance activities were performed. Total Operations and Maintenance, General expenditures were $1,172,578. Project condition is good

30. PINE AND MATHEWS CANYONS DAMS, COLORADO RIVER BASIN, NV

Location. In Lincoln County, NV, about 100 miles north of Hoover Dam and about 17 and 20 miles, respectively, east of Caliente, NV.

Existing project. For details, see page 33-13 of Annual Report for 1981.

Local cooperation. Fully complied with.

Operations during fiscal year. Routine operation and maintenance activities were performed. Total Operations and Maintenance General expenditures were $188,644. Project condition is good.

31. RILLITO RIVER, AZ

Location. The project is located in Tucson metropolitan area of Pima County, AZ.

Existing project. Plan of improvement includes: 1) an upstream equestrian staging area; 2) an upstream rest area; 3) a downstream rest area; 4) esthetic treatment planting; 5) construction of 16 pedestrian bridges; and 6) pending reauthorization to include extension of authorized project upstream along a portion of Tanque Verde Creek. Estimated cost (October 1998) for existing project is $40,000,000 (includes an allowance for estimated inflation through the construction period), of which $28,600,000 is Federal and $11,400,000 is non-Federal. Flood control portion is $34,215,468 and recreation is $5,784,532.

Local cooperation. Pima County Transportation and Flood Control District submitted letters of assurance on February 24, 1986 and May 6, 1987. Project Cooperation Agreement (PCA) was executed in June 1994. Amendment to PCA for third increment was executed on September 16, 1998.

Operations during fiscal year. None.

32. RIO DE FLAG, FLAGSTAFF, AZ

Location. The project is located partly within the city of Flagstaff and entirely within Coconino County, Arizona.

Existing project. The recommended plan would reduce the potential for significant flood damages to residential, commercial, industrial, and historical structures in the City of

Flagstaff, including Northern Arizona University, and the western portion of Flagstaff along Clay Avenue Wash. The plan consists of channel modifications, construction of a detention basin with capacity of about 295 acre-feet to reduce flood flows along the wash, construction of berms and floodwalls in the Thorpe Park area, and the construction of recreation features.

Local cooperation. The City of Flagstaff and the Corps of Engineers executed the Project Cooperation Agreement in October 2004.

Operations during fiscal year. Completed 60% Mainstem plans and specifications, initiated construction on Clay Avenue Wash Detention Basin and Butler Ave Tunneling Contracts.

33. SANTA ANA RIVER MAINSTEM, CA

Location. Along a 75-mile reach of the Santa Ana River in San Bernardino, Riverside, and Orange Counties, emptying into the Pacific Ocean between the cities of Newport Beach and Huntington Harbor, 50 miles south of Los Angeles, and 90 miles north of San Diego.

Existing project. For details, see page 33-9 of the Annual Report for 1987. Plan of improvement: Seven Oaks Dam, management of overflow area - Seven Oaks to Prado; raise Mill Creek Levee; additional storage at Prado; improvements along: Oak Street Drain/Riverside Co., Santiago Creek/Orange Co., San Timoteo Creek/San Bernardino Co., and Lower Santa Ana River trails; recreation development: mitigation and preservation. The estimated cost (October 2007) for existing project is $1,765,000,000 (includes an allowance for estimated inflation through the construction period), of which $1,166,000,000 is Federal and $599,000,000 is non-Federal (includes $95,000,000 cash contribution and $504,000,000 other cost).

Local cooperation. Counties of San Bernardino, Riverside, and Orange. Local Cooperation Agreement was signed on December 14, 1989, and the Prado Dam Project Cooperation Agreement was signed on February 11, 2003.

Operations during fiscal year. In FY08 we initiated construction of a small portion within Reach 9 Phase II known as the mobile home park. We continued construction of the Corona Housing and Sewage Treatment dikes and the Prado embankment and outlet works, continued engineering and design of the remaining Prado Dam Phase II Dikes, Lower Santa Ana River Reach 9 Phase II, Santa Ana Regional Interceptor (SARI line) and environmental mitigation for Seven Oaks Dam, continued monitoring of San Timoteo Landscaping and continued the water quality study at Seven Oaks Dam.

34. SANTA ANA RIVER BASIN AND ORANGE COUNTY, CA

Location. On the Santa Ana River and tributaries and on other streams in Orange, Riverside, and San Bernardino Counties, CA.

Existing project. For details on units, see Annual Report for 1968.

Local cooperation. Fully complied with. Orange County Water District advocated an increase in water conservation at Prado Dam up to elevation 505 feet. Prado Basin includes significant riparian wetlands, including nesting areas of the endangered least Bell's vireo. The basin is currently under review as proposed critical habitat for the vireo.

Operations during fiscal year. Routine operations and maintenance activities were performed. The update to the Prado Dam Master Plan continued. Total Operations and Maintenance General expenditures were $2,826,697. Project condition of Dams and Channels is good.

35. SANTA PAULA CREEK, CA

Location. Santa Paula Creek is a tributary of the Santa Clara River in the vicinity of the city of Santa Paula, Ventura County, about 16 miles from the ocean and approximately 60 miles northwest of downtown Los Angeles.

Existing project. The current Federal cost estimate of $44,240,000 is an increase of $4,940,000 from the latest estimate ($39,300,000) presented to Congress (FY 2002). This change includes $4,940,000 for post contract award and other estimating adjustments.

Local cooperation. Ventura County Watershed Protection District.

Operations during fiscal year. None.

36. SAN LUIS REY RIVER, CA

Location. Along the lower 7.2 miles of the San Luis Rey River, in and around the city of Oceanside, San Diego County, about 86 miles south of Los Angeles.

Existing project. A double levee, 5.4 miles long; stone protected channel with a soft bottom; 1,330 feet of parapet walls at the ocean on the north and south levees; six interior drainage ponds; a five-mile bike trail and 247 acres of conservation lands. The Water Resources Development Act of 1996 reauthorized the project. Estimated cost (September, 2006) $98,100,000 of which $73,572,000 is Federal and

$24,528,000 is non-Federal (including $6,280,000 cash contribution).

Local cooperation. Final Local Cooperation Agreement signed by the City of Oceanside and Secretary of Army May 13, 1988.

Operations during fiscal year. Completed the Post Authorization Decision Document and Supplemental Environmental Impact Statement/Environmental Impact Report. Updated Emergency Management Plan, conducted environmental minimization work, prepared draft Operations and Maintenance manual, and initiated Phase 1 vegetation management.

37. SEPULVEDA DAM, (RECREATION DEVELOPMENT), CA

Location. The project is located between the communities of Encino and Van Nuys and 15 miles northwest of Los Angeles.

Existing project. Flood Control Act 1936 and Public Law 77-387 1941, and 1989-1972. Primary project purpose is flood control. Subsequent Act of Congress authorized a secondary project purpose for park and recreation.

Local cooperation. Recreation project is 50/50 cost shared with the city of Los Angeles. Federal funds will complete Lake Balboa and park with comfort station, trails, fencing, irrigation, children's play area, revegetation and develop an additional wildlife area. The city will continue reclaimed water distribution and develop several park areas.

Operations during fiscal year. Project construction physically completed January 1999. Beilenson Park Extension project, completed in March 2005, included an asphalt turn-around road, sidewalk and parking stalls. Total Operations and Maintenance, General expenditures were $0. Project condition is good.

38. SWEETWATER RIVER, CA

Location. The project empties into San Diego Bay in the city of Chula Vista and National City and unincorporated San Diego County, four miles south of the city of San Diego, and eight miles north of the Mexican Border.

Existing project. Construction of 3.2 miles of channel improvements along the Sweetwater River from Interstate 805 to San Diego Bay, in combination with State Route 54 and Interstate 5 construction; and construction of two railroad bridges and 188 acres of preservation and mitigation land.

Local cooperation. San Diego County signed 221 Agreement in December 1984.

Operations during fiscal year. None.

39. TROPICANA AND FLAMINGO WASHES, NV

Location. The project area is located west of and through the urbanized Las Vegas area along both Tropicana and Flamingo Washes in Clark County, southern Nevada. The washes emanate from the surrounding mountains and flow eastward through the developed rural and urban downtown areas to the confluence with Las Vegas Wash.

Existing project. The recommended plan will provide urban flood reduction, erosion control and wildlife enhancement for portions of Las Vegas and the surrounding areas to the west and southwest, including the rapidly developing alluvial fan immediately west of Las Vegas. The plan recommends construction of three debris basins, three detention basins, modifications to two existing detention basins, 28 miles of channels connecting these project elements, 43 miles of lateral collectors, environmental mitigation, and recreation facilities. The estimated cost for the existing project is $350,200,000 (includes an allowance for estimated inflation), of which $259,100,000 is Federal and $91,100,000 is non-Federal (includes $28,500,000 cash contribution and $62,600,000 other costs).

Local cooperation. The Clark County Regional Flood Control District and the Department of Public Works are the loc-al sponsors for flood control. The Clark County Recreation Department is the potential local sponsor for the recreation feature. The Project Cooperation Agreement (PCA) was executed on February 7, 1995. The Section 211 PCA was executed December 17, 1999. Clark County was reimbursed a total of $23.697 million for Section 211 work.

Operations during fiscal year. Completed technical review and audit of Section 211 work, pay claims to contractors, completed technical documentation of completed features and fiscal project close-out.

40. TUCSON DIVERSION CHANNEL (RECREATION DEVELOPMENT), AZ

Location. The Tucson Detention Basin and Diversion Channel are located in southeast Arizona. The project area initiates within the basin and proceeds approximately five miles downstream until it meets Interstate 19.

Existing project. The recreational development consists of a bicycle and hiking trail; four rest areas at the basin's inlet and outlet areas, near the intersection of Park Avenue and Ajo Way, across the street from Wakefield Middle School and near Interstate 19, where the project ends; four channel under crossing areas at Ajo Way (near the basin's outlet), Interstate 10; Kino Parkway; and Benson Highway; a restroom facility and five to seven car parking area located near the end of the project

area; lighting at rest areas; benches; pedestrian bridges; and landscaping. The flood control channel maintains a 30-40 foot width, with a average 30-foot right-of-way on each side of the channel. The trail system is primarily located along the north bank of the channel.

Local cooperation. Pima County is the local sponsor.

Operations during fiscal year. None.

41. TUCSON DRAINAGE AREA, AZ

Location. Project is located along Tucson Arroyo/Arroyo Chico watershed, within the Tucson city limits in Arizona.

Existing project. Both the reconnaissance report and the feasibility study identified the Tucson Arroyo/Arroyo Chico watershed area (approximately 11.4 square miles) as the major drainage channel within downtown Tucson. The recommended plan has two main features consisting of two detention basin complexes - one on Arroyo Chico in the headwaters of the drainage area (referred to as Randolph Golf Course Detention Basin Complex), and one on Tucson Arroyo/Arroyo Chico in the approximate center of the watershed (referred to as Park Avenue Detention Basin Complex). The local sponsor completed the Randolph Golf Course Detention Basin Complex in May 1996 using Section 104 credit consideration.

Local cooperation. Pima County Flood Control District and the Corps of Engineers executed the Design Agreement on May 3, 1999. The PCA signed April 2006.

Operations during fiscal year. Completed 98% construction contract for TUSD Basin utilizing the continuing contract clause.

42. WHITLOW RANCH DAM, QUEEN CREEK, AZ

Location. Fifty miles southeast of Phoenix, AZ in Pinal County, on Queen Creek, Arizona a tributary of Gila River, about 10 miles west of Superior, Arizona.

Existing project. For details see page 33-10 of Annual Report 1981. Project element earthfill Dam, circular conduit outlet 1982. works and reservoir.

Local cooperation. Fully complied with.

Operations during fiscal year. Routine operations and maintenance activities were performed. Total Operations and Maintenance, General expenditures were $170,408. Project condition is good.

43. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspection of completed local flood control projects consisting of the following: 375 miles of channels, six dams, and appurtenances, and 23 debris basins. Permit reviews were conducted. See Table 33I. Expenditures for: Arizona – $167,855, California - $852,103 and Nevada – $47,905. Total Operations and Maintenance, General expenditures were: $1,067,863

44. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

In accordance with Section VII, Flood Control Act of 1944, studies of reservoir operations for flood control were conducted; and preparation of regulations for the use of storage allocated for flood control was continued. The flood control structures were Hoover, Twitchell, and Tat Momolikot Dams. Expenditures for: Arizona - $34,450, California - $194,935. Total Operations and Maintenance, General expenditures were $229,385.

45. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood Control Activities Pursuant to Section 205 of the 1948 Flood Control Act, Public Law 858, 80th Congress, as Amended.

Fiscal year cost for Section 205 was $1,511,466. See Table 33-J for list of projects.

46. EMERGENCY RESPONSE ACTIVITIES - FLOOD CONTROL AND COASTAL EMERGENCIES

Emergency Flood Control Activities - repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation).

A. Disaster: This program encompasses all the activities associated with preparedness, which includes preparation of plans and policy documents, exercises, training, coordination with outside agencies and governments, maintaining supplies and equipment, and overall readiness.

B. Operational Program Areas: Fiscal Year cost for disaster preparedness was $504,570; emergency operations cost was $210,420; rehabilitation cost $294,150.

Environmental Improvements

47. CAMBRIA SEAWATER DESALINATION, CA

Location: The project area is located in San Luis Obispo County, California approximately 230 miles north of Los Angeles, CA.

Existing project. The Cambria Community Services District (CCSD) plans to build a desalination plant to ensure adequate water supply. Their current water sources have not been reliable. Contamination has reduced their ability to draw water for potable uses. The proposed work includes design, obtaining permits and finalizing the Environmental Impact Statement and Environmental Impact Report.

Local Cooperation. Cambria Community Services District.

Operations during fiscal year. Revised Project Management Plan and initiated testing and verification work; required amendment to the Project Partnership Agreement.

48. CITY OF SANTA CLARITA (PERCHLORATE), CA

Location. The project is located within the Santa Clarita Valley in the northern part of Los Angeles County, CA.

Existing project. The main objective of the study is to evaluate the existing aquifer conditions of the Santa Clarita Valley Saugus area and develop alternatives for long-term solutions to restoring the perchlorate impacted aquifer to drinking water quality. Goals of the study include identification of perchlorate sources, definition the nature and extent of contamination, aquifer characterization, evaluation of alternative well sites, groundwater modeling, and evaluation of long-term treatment technology solutions.

Operations during fiscal year. Continued Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Feasibility phase. Phase tasks included refining the study area for Aquifer Characterization and continuation of the groundwater sampling program. Definition of groundwater perchlorate plume, continuation of groundwater monitoring, protection of public water supply. Contract modification awarded for installation of deep aquifer well. Installation completed in 2nd quarter.

49. HARBOR-SOUTH BAY WATER RECYCLING, CA

Location. The project area is located in the South Bay area of Los Angeles County, CA encompassing cities of Los Angeles, Compton, Carson, Gardena, Inglewood, Hawthorne, Torrance, Redondo Beach, Palos Verdes, Rolling Hills, and Ranch Verde Estates.

Existing project. The project is part of the West Basin Municipal Water District's recycled water distribution system expansion, which will serve recycled wastewater to numerous local cities. The project will include the design and construction of over 30 miles of recycled water pipeline and distribution facilities. The project features are classified into 12 laterals and associated distribution/operational facilities to be designed and constructed.

Local cooperation. The local sponsor is the West Basin Municipal Water District.

Operations during fiscal year. Completed construction of the Ashwood and Corporate Campus Laterals. Awarded construction contract for the Anza Lateral.

50. NORTH VALLEY REGIONAL WATER INFRASTRUCTURE , CA

Location. The project is located in the city of Lancaster, about 50 miles northeast of Los Angeles, in Los Angeles County.

Existing project. The project will provide critically needed water facilities to the northern sector of the Antelope Valley region. The project will include design and construction of approximately 8.5 miles of 36-inch diameter water main and related facilities to serve this part of the city.

Operations during fiscal year. None.

51. RIO SALADO PHOENIX & TEMPE REACHES, AZ

Location. Phoenix Reach is located along 5 miles of the Salt River, from Interstate 10 Bridge to 19th Avenue in Phoenix, AZ. The project area for Tempe Reach is located along 1.3 miles of Indian Bend Wash, from McKellips Road downstream to confluence with Salt River, and two separate reaches of the Salt River upstream and downstream of Tempe Town Lake, in Tempe, Arizona.

Existing project. The two sites, for Tempe and Phoenix, have been identified with a Federal interest in environmental restoration involving riparian habitat restoration, water quality improvement and recreation that is incidental or complimentary to the primary project purpose.

Local cooperation. The city of Phoenix and the Corps of Engineers executed the Project Cooperation Agreement June 4, 2001. The city of Tempe and The Corps of Engineers executed the Project Cooperation Agreement in March 2003.

Operations during fiscal year. Continued construction on the Phoenix Reach and the VOC water treatment facility. Awarded construction contract for the south Tempe Reach and finalized design for the north Tempe Reach.

52. RURAL NEVADA, NV

Location. Rural Nevada project includes Boulder City, Mesquite, Moapa, Virgin Valley Water District, and Searchlight, Nevada. Boulder City is located approximately 25 miles southeast of the city of Las Vegas, Nevada. Mesquite and Virgin Valley are located approximately 70 miles northeast of the city of Las Vegas, Nevada. The city of Moapa is located approximately 35 miles northeast of the city of Las Vegas, Nevada. Goldfield is located approximately 180 miles northwest of Las Vegas, Nevada. Searchlight is located approximately 60 miles south of Las Vegas, Nevada.

Existing project. Boulder City project is focused on renovation of three existing pump stations and several miles of force main in Hemanway Valley. This project will protect against accidental discharge of untreated wastewater into the watershed of Lake Mead National Recreation Area and Lake Mead. The Mesquite project is focused on development of a multi-purpose water resource project, to include flood control, retention facilities, water supply, environmental restoration, and sediment control. Phase 1 will include the construction of a wastewater tertiary treatment system to enhance the existing system and include the design work on phases 2 and 3. Phase 2 will include the construction of detention facilities at Pulsipher wash. Phase 3 will include the construction of retention facilities at Abbott Wash. The Moapa project consists of design and construction of monitoring wells to determine the potential of this area to supplement current water supply. The design and construction of an inter-connect pipeline to the neighboring Coyote Springs Wash Basin is being considered with the total scope of the Project. Virgin Valley Water District project is focused on providing arsenic treatment for 5 potable water wells, design and construction of 12" water line and three treatment plants. Goldfield project is focused on design and construction of utility sewer collection system. Searchlight project will focus on the design and construction of the Searchlight water and wastewater system improvements in Clark County, Nevada.

Local cooperation. The sponsors for these projects are the cities of Boulder City, Nevada, the city of Mesquite, Nevada, Moapa Valley Water District, Nevada, Virgin Valley Water District, Nevada, Esmeralda County, Nevada and Las Vegas Valley Water District, Nevada.

Operations during fiscal year: City of Mesquite: Reimbursed sponsor 75% for costs to complete construction of the project. City of Boulder City: Reimbursed sponsor 75% for costs to continue construction of phase II project. Virgin Valley Water District: Reimbursed sponsor 75% for costs of construction for arsenic removal and treatment system. Esmeralda County: Reimbursed sponsor 75% for costs to complete construction for the utility sewer collection system. Searchlight: Reimbursed sponsor 75% for costs of design for the water system.

53. SOUTH PERRIS, CA

Location. The project is located in Perris, Riverside County, California.

Existing project. The project involves the design and construction of a reverse osmosis desalination plant, wells, pipelines and brine management pipelines required for the phased implementation of the Perris Basins Desalination Program. This program would provide a reliable potable water supply and preserve existing groundwater resources.

Local cooperation. Local Sponsor, Eastern Municipal Water District, EMWD, signed a designed agreement on September 3, 2003. The Project Cooperation Agreement has not yet started.

Operations during fiscal year. Intermediate Plans and Specifications for desalination plant have been completed.

54. TRES RIOS, AZ

Location. Project is located within the Phoenix metropolitan area of Maricopa County and includes a seven-mile reach of the Salt and Gila Rivers beginning at 83rd Avenue and continuing downstream to the confluence with the Agua Fria River.

Existing project. The feasibility report was completed in April 2000. The recommended plan will address flood control protection and the use of treated effluent from a regional wastewater treatment facility to restore and sustain fish and wildlife habitat. The benefits of environmental restoration would be the potential for 1,200 acres of riparian and wetland habitats to be restored. Since 1978, the study area has been subjected to five floods in excess of 100,000 cubic feet per second.

Local cooperation. A Project Cooperation Agreement was executed with the city of Phoenix and the Sub-Regional Operating Group in April 2004.

Operations during fiscal year. Completed design of the pump station and initiated construction on Flow Regulating Wetlands.

55. UPPER NEWPORT BAY HARBOR, CA

Location. The authorized restoration project is located about 40 miles southeast of Los Angeles and covers the upper bay ecological reserve.

Existing project. The project includes dredging the access channels and two sediment basins toward providing restoration measures to the degraded habitat areas and re-establishing

wetland and wildlife habitat areas.

Local cooperation. Orange County State of California Fish and Game.

Operations during fiscal year. Continued dredging Basin II (Shellmaker & 23rd Street).

56. OTHER WORK UNDER SPECIAL AUTHORITY

Modifications to Structures and Operations of Constructed Corps Projects to Improve the Quality of the Environment, Pursuant to Section 1135 of the 1986 Water Resources Development Act, Public Law 662, 99th Congress, as amended.

Fiscal year cost for Section 1135 projects was $991,665. See Table 33-K for list of projects.

Aquatic Ecosystem Restoration Pursuant to Section 206 of Water Resources Development Act of 1996, Public Law 303, 104th Congress, as amended.

Fiscal year cost for Section 206 projects was $1,241,931. See Table 33-L for list of projects.

Investigations

57. SURVEYS

Total Fiscal Year costs were $6,932,062 of which $0 for navigation studies; $262,210 was for flood damage prevention studies; $1,111,733 was for shoreline protection studies; $5,311,479 was for special studies; $69,952 was for Miscellaneous Activities; and $176,688 for Cooperation with Other Water Agencies and Non-Federal Interests.

58. COLLECTION AND STUDY OF BASIC DATA

Fiscal Year costs totaling $32,985 were associated with the following tasks under the Flood Plain Management Services $30,662 and $2,323 for hydrologic studies.

59. PRECONSTRUCTION ENGINEERING AND DESIGN

Fiscal Year expenditures were $2,627,984 of which $1,404,692 was for projects not yet authorized for construction and $1,223,292 was for fully authorized projects.

SANTA BARBARA STREAMS, LOWER MISSION CREEK, CA

Location. Located in Santa Barbara County about 100 miles northwest of Los Angeles, CA.

Existing project. The recommended plan includes a combination of channel improvements and bridge replacements designed to increase channel capacity and to provide approximately 20 year protection to the surrounding area.

Local cooperation. The city of Santa Barbara and the Santa Barbara County Flood Control and Water Conservation District, the local sponsors, expressed support for the project in September 2000.

Operations during fiscal year. Worked on the Detailed Design Report and towards completion of Plans and Specifications.

WHITEWATER RIVER BASIN, CA

Location. Project is located in Coachella Valley, and runs along cities of Palm Springs, Rancho Mirage, Palm Desert, Thousand Palms, Desert Hot Springs and other communities.

Existing project. The Feasibility study was completed in Oct 2000. Alternative 6 recommended project consists of constructing four levees to provide protection for the southern portion of the alluvial fan. The current design would replace the downstream levee with incised channel.

Local cooperation. Coachella Valley Water District and the Corps of Engineers executed the Design Agreement Aug 2001.

Operations during fiscal year. Completed intermediate Design Documentation Record and prepared Plans and Specifications.

VA SHLY-AY AKIMEL, SALT RIVER, AZ

Location. Project area is located along approx 14 miles of the Salt River on the Salt River Pima-Maricopa Indian community between Ganite Reef Dam and Price Drive Bridge, in Maricopa County, Arizona.

Existing project. The Project includes reshaping of the river channel to provide a low-flow channel and terraces, construction of new draining channels, irrigation diversions and pipelines, a groundwater well to water vegetation, a grade central structure at Gilbert Road, a Recreation plan consisting of trails.

Local cooperation. Salt River Pima-Maricopa Indian Community, the City of Mesa and the Corps of Engineers signed the Design Agreement Sept 2006.

Operations during fiscal year. Initiated design & specifications for the project and hydrologic investigations.

1.	Channel Islands, CA	Maint:						
		Approp.	4,182,000	275,000	4,556,000	20,000	63,330,184	
		Cost	4,179,214	186,777	4,636,463	5,393	63,302,856	
2.	Imperial Beach, CA Federal	New Work:						
		Approp.	133,000	-1,000	0	300,000	4,414,800	/1
		Cost	210,171	5,219	7,710	58,978	4,163,536	

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY05	FY 06	FY07	FY 08	Total Cost 30 Sep 08
		Required Contributions:					
		Approp.	44,000	0	0	54,000	375,000
		Cost	168,215	9,065	3,075	4,560	264,745
3.	Los Angeles and Long Beach Harbor, CA	Maint:					
		Approp	164,000	400,000	544,000	3,834,000	15,298,884
		Cost	160,137	64,203	520,904	4,179,225	15,012,590
4	Port of Los Angeles Main Channel Deepening, CA	New Work:					
		Approp.	20,433,000	2,673,000	175,000	1,609,000	59,493,000
		Cost	18,516,574	2,442,068	521,663	747,314	57,134,345
		Required Contributions:					
		Approp	17,070, 000	26,500,000	35,689,093	0	197,450,000
		Cost	19,711,006	25,433,366	28,065,253	6,612,880	190,882,504
5.	Marina del Rey, CA	Maint:					
		Approp.	70,000	888,000	1,351,000	2,359,000	23,070,662
		Cost	- 3,730	427,266	1,807,890	167,463	20,719,551
6.	Morro Bay Harbor, CA	Maint::					
		Approp	1,110,000	1,433,000	1,292,000	1,410,000	40,663,264
		Cost	1,111,970	1,384,175	1,123,756	1,554,207	40,592,374
7.	Newport Bay Harbor, CA	Maint:					
		Approp.	0	0	0	0	6,285,900
		Cost	0	0	0	4,648	6,276,088
8.	Oceanside Harbor, CA	Maint:					
		Approp.	968,000	923,000	1,038,000	1,031,000	23,165,906
		Cost	966,805	854,763	1,092,044	1,045,833	23,705,351
9.	Port Hueneme, CA	Maint:					
		Approp.	284,000	444,000	0	3,663,000	7,689,158
		Cost	254,295	162,807	141,818	542,110	4,399,188
10.	Port of Long Beach, CA	New Work:					
		Approp	0	0	0	3,545,000	17.893,392
		Cost	0	0	0	79,935	14,373,268
11.	Redondo Beach (King Harbor)	Maint:					
		Approp.	0	0	0	0	6,688,647
		Cost0	0	0	0	0	6,688,647
12.	San Diego Harbor, CA	Maint:					
		Approp.	0	0	0	2,286,000	2,496,800
		Cos	230	0	0	100,909	311,994
13.	San Diego River and Mission Bay, CA	Maint:					
		Approp.	1,253,000	0	0	0	7,591,441
		Cost	1,108,936	64,729	10,114	0	7,512,106
14.	Santa Barbara Harbor, CA	Maint:					
		Approp.	1,777,000	1,249,000	1.093.000	1,685,000	35,938,386
		Cost	1,787,004	992,654	1,084,338	1,939,993	35,938,375
15.	Santa Monica Breakwater, CA	New Work:					
		Approp.	0	0	0	0	445,000 /2
		Cost	4,388	0	0	0	368,329

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY 08	Total Cost 30 Sep 08
		Required Contributions:					
		Approp	0	0	0	0	0
		Cost	0	0	0	0	0
16.	Surfside, Sunset and Newport Beach,CA	New Work:					
		Approp	1,000	277,000	1,200,000	8,238,000	16,654,000 /3
		Cost	145	56,194	289,762	311,546	27,535,308
		Required Contributions:					
		Approp.	0	0	0	0	4,191,000
		Cost	1,249	0	79,130	36,855	5,911,458
17.	Ventura Harbor (Ventura Marina), CA	Maint:					
		Approp.	1,456,000	2,574,000	2,236,000	3,418,000	68,923,957
		Cost	1,406,854	2,529,440	2,243,493	3,476,920	68,896,137
19.	Alamo Dam, AZ	Maint:					
		Approp.	1,299,000	1,655,000	1,384,000	1,533,000	28,836,228
		Cost	1,272,831	1,488,442	1,551,616	1,511,799	28,771,177
20.	Clifton, AZ	New Work:					
		Approp.	0	0	0	0	16,112,000 /4
		Cost	23,492	0	-1,216	1,675	16,087,757
		Required Contributions:					
		Approp	0	0	0	0	1,199,780
		Cost	0	0	0	0	407,554
21.	Hansen Dam, LACDA, CA (Recreation)	Maint:					
		Approp.	289,418	0	0	0	6,278,484
		Cost	34,505	254,534	14,300	28,475	6,320,880
22.	Holbrook, AZ	New Work:					
		Approp	(68,000)	0	0	0	10,909,787
		Cost	(63,303)	0	0	0	10,851,744
		Required Contributions:					
		Approp	0	0	0	0	1,570,000
		Cost	0	0	0	0	1,549,060
23	Los Angeles County Drainage Area, CA	New Work:					
		Approp	111,000	-4,000	0	0	152,431,900 /5
		Cost	143,569	11,156	110,842	53,445	152,466,012
		Required Contributions:					
		Approp.	0	0	0	0	52,789,074
		Cost	54,224	0	14,304	-7,050.00	53,948,722
		Maint:					
		Approp.	5,121,000	4,051,000	4,267,000	4,194,000	145,271,094
		Cost	4,486,983	4,320,379	4,614,763	4,134,077	144,867,037
24.	Los Angeles River, Sepulveda to Arroyo Seco, CA (Recreation)	Maint					
		Approp.	0	0	0	0	398,855
		Cost	0	0	0	0	398,855
25.	Mojave River Dam, Mojave River Basin, CA	Maint:					
		Approp.	283,020	206,000	200,000	336,000	8,020,076
		Cost	281,127	208,173	135,545	385,953	8,003,292
26.	Murrieta Creek, CA	New Work:					
		Approp	1,702,000	3,674,000	1,760,000	1,813,000	15,233,000 /6
		Cost	1,725,691	2,080,940	3,119,414	1,422,014	14,295,852

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY05	FY 06	FY07	FY 08	Total Cost 30 Sep 08
		Required Contributions:					
		Approp	0	125,000	110,000	127,750	1,550,550
		Cost	106,419	37,505	368,726	51,974	1,501,089
27.	Nogales Wash, AZ	New Work:					
		Approp.	1,115,000	2,917,000	10,000,000	6,767,000	25,058,200 /7
		Cost	1,394,063	1,922,811	915,177	8,789,325	16,863,325
	Required Contributions:						
		Approp.	0	0	950,000	450,000	1,425,000
		Cost	0	0	0	78,398	102,372
28.	Norco Bluffs, CA Federal	New Work:					
		Approp.	245,100	-6,000	0	0	10,167,200 /8
		Cost	71,497	33,010	18,269	104,816	10,138,593
		Required Contributions:					
		Approp.	0	50,000	0	0	3,375,490
		Cost	19,524	2,2567,290	219,279	3,347,513	
29.	Painted Rock, AZ	Maint:					
		Approp.	1,147,000	932,000	753,000	1,126,000	35,990,102
		Cost	1,112,370	922,935	752,921	1,172,578	35,966,620
30.	Pine & Mathews Canyons Dam, NV	Maint:					
		Approp.	153,000	211,000	110,000	193,000	4,274,916
		Cost	151,929	207,780	106,879	188,644	4,262,212
31.	Rillito River, AZ	New Work:					
		Approp.	0	0	0	0	28,062,500 /9
		Cost	560	0	0	0	28,042,667
		Required Contributions:					
		Approp	0	0	0	0	2,673,337
		Cost	0	0	0	0	2,529,382
32	Rio de Flag, Flagstaff, AZ	New Work:					
		Approp	1,160,000	3,228,000	5,486,000	1,690,000	15,293,000 /10
		Cost	1,164,688	646,406	805,420	3,985,927	10,153,054
		Required Contributions:					
		Approp	0	836,480	1,100,000	84,500	2,692,980
		Cost	1,805	0	0	333,278	991,616
33.	Santa Ana River Mainstem, CA	New Work:					
		Approp	23,163,000	61,772,800	63,303,557	26,700,643	970,680,315 /11
		Cost	23,995,059	37,420,197	45,304,970	48,153,430	943,981,167
	(Federal Funds)	New Work:					
		Approp	22,156,000	57,103,000	57,580,000	20,664,000	895,156,000
		Cost	21,045,397	35,540,887	42,840,343	41,944,225	877,450,568
	(Contributed Funds)	New Work:					
		Deposit	1,007,000	4,669,800	5,723,557	6,036,643	75,524,315
		Cost	2,949,662	1,879,310	2,464,627	6,209,205	66,530,799
34.	Santa Ana River Basin OC, CA	Maint:					
		Approp.	3,973,000	2,944,000	2,998,000	2,875,000	80,997,799
		Cost	3,833,633	2,839,326	3,210,174	2,826,697	72,836,483
35.	Santa Paula Creek, CA	New Work:					
		Approp.	300,000	0	0	0	40,240,020
		Cost	295,198	4,199	10,583	0	39,575,171

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY 08	Total Cost 30 Sep 08
		Required Contributions:					
		Approp	0	0	0	0	0
		Cost	0	0	0	0	0
36.	San Luis Rey River, CA	New Work:					
		Approp.	300,000	1,390,000	2,000,000	1,375,000	65,919,000 /12
		Cost	218,037	902,795	1,198,503	1,765,105	64,834,105
		Required Contributions:					
		Approp.	0	0	0	0	417,000
		Cost	44,479	323	25,000	0	421,955
37.	Sepulveda Dam, CA, (Recreation)	Maint:					
		Approp.	52,867	300,871	0	0	17,167,940
		Cost	2,867	350,871	0	0	17,167,899
38.	Sweetwater River Basin, CA	New Work:					
		Approp	0	0	0	0	37,082,503
		Cost	21	0	0	0	37,082,491
39.	Tropicana and Flamingo Washes, NV	New Work:					
		Approp.	14,321,000	14,430,000	12,400,000	12,792,000	244,679,000
		Cost	8,474,053	17,679,166	14,442,792	10,808,746	241,688,464
		Required Contributions:					
		Contrib	3,662,560	-1,020,840	0	0	11,535,307
		Cost	1,384,016	2,816,080	1,096,214	353,787	12,652,833
40.	Tucson Diversion Channel, AZ (Recreation)	Maint:					
		Approp.	0	0	0	0	3,050,000
		Cost	0	0	0	7900	3,057,900
41.	Tucson drainage Area, CA	New Work:					
		Approp	699,000	9,380,000	0	9,868,000	23,506,000 /13
		Cost	672,855	527,260	2,655,198	15,985,430	23,047,667
		Required Contributions:					
		Approp.	0	0	950,000	1,841,326	3,337,326
		Cost	0	0	1,192	1,271,981	1,792,254
42.	Whitlow Ranch Dam, Queen Creek, AZ	Maint:					
		Approp	61,000	168,000	200,000	169,000	3,575,367
		Cost	54,575	174,437	193,663	170,408	3,565,630
43.	Cambria Seawater Desalination, CA	New Work:					
		Approp.	88,000	-2,000	0	715,000	889,000
		Cost	53,237	17,899	11,434	48,827	216,896
		Required Contributions: None					
44.	City of Santa Clarita (Perchlorate), CA Federal	New Work					
		Approp	156,000	495,000	375,000	468,000	4,615,204
		Cost	101,195	155,394	340,524	564,783	4,215,420
		Required Contributions:					
		Approp.	0	0	0	0	2,679,459
		Cost	88,049	50,035	37,744	79,133	2,608,964
45.	Harbor-South Bay Water Recycling, CA	New Work:					
		Approp.	5,126,000	2,970,000	5,324,000	2,808,000	22,975,000
		Cost	5,544,591	3,036,831	1,133,032	2,393,552	18,120,770
		Required Contributions:					
		Approp	1,568,333	887,000	2,600,000	0	7,824,333
		Cost	1,982,297	1,380,618	640,378	426,224	6,212,594

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY05	FY 06	FY07	FY 08	Total Cost 30 Sep 08	
46.	North Valley Regional Water Infrastructure, CA	New Work:						
		Approp	1,809,000	2,399,000	234,000	842,000	5,567,000	
		Cost	544,559	158,279	3,604,15940,541	4,556,599		
		Required Contributions:						
		Approp	845,000	607,056	0	232,000	1,684,056	
		Cost	0	0	1,334,106	43,020	1,403,385	
47.	Rio Salado, Phoenix & Tempe Reach, AZ	New Work:						
		Approp.	14,437,000	7,820,000	6,783,000	1,771,000	74,510,600	/14
		Cost	12,397,0993,692,1592,948,637		8,957,574	71,473,176		
		Required Contributions:						
		Approp.	1,500,000	2,817,000	0	0	12,011,318	
		Cost	1,993,254	562,920	560,667	510,176	9,546,264	
48.	Rural Nevada, NV	New Work:						
		Approp	4,739,000	8,389,000	1,942,900	9,348,000	31,177,900	
		Cost	3,118,718	610,750	11,427,489	9,341,414	31,170,903	
		Required Contributions: None – reimbursement of sponsor costs only						
49.	South Perris, CA Federal	New Work:						
		Approp	556,000	30,000	531,000	0	2,011,000	
		Cost	152,934	369,938	163,332	523,264	2,010,264	
		Required Contributions:						
		Approp	0	107,291	177,000	0	670,042	
		Cost	62,451	22,812	145,742	172,338	580,749	
50.	Tres Rios, AZ	New Work:						
		Approp	3,104,000	4,439,000	8,000,000	10,824,000	31,089,000	/15
		Cost	2,742,169	4,549,959	1,442,216	7,029,217	20,430,093	
		Required Contributions:						
		Approp	0	300,000	600,000	500,000	2,980,000	
		Cost	148,690	237,543	234,846	495,973	2,259,418	
51.	Upper Newport Bay Harbor, CA							
		New Work:						
		Approp	889,000	4,950,000	5,000,000	2,222,000	14,677,000	
		Cost	351,446	1,426,612	6,099,000	3,916,120	13,391,520	
		Required Contributions:						
		Approp	0	4,788,514	4,956,581	2,677,128	12,922,128	
		Cost	0	2,329,856	2,357,719	5,351,619	10,482,852	

PRECONSTRUCTION ENGINEERING AND DESIGN

	Santa Barbara Streams Lower	New Work:					
		Apropp	159,000	0	0	86,000	741,000

TABLE 33-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY 08	Total Cost 30 Sep 08
	Mission Creek, CA	Cost	183,490	0	4,039	3,355	574,004
	Whitewater River Basin, CA	New Work:					
		Approp	89,000	99,000	996,000	148,000	2,556,905
		Cost	63,580	48,598	72,598	518,207	1,924,834
		Required Contributions:					
		Approp	28,000	25,003	315,200	0	793,500
		Cost	55,656	6,887	9,824	20,130	475,489
	Va Shly-Akimel Salt River, AZ	New Work:					
		Approp	110,000	385,000	900,000	676,000	2,071,000
		Cost	0	3,320	253,988	926,846	1,184,154
		Required Contributions:					
		Approp	0	0	472,000	220,000	692,000
		Cost	0	0	0	84,602	84,602

FOOTNOTES:

/1 Excludes non-Federal funds and costs; includes PED appropriation of $1,825,900 and cost of $1,825,969.
/2 Excludes non-Federal funds and costs; includes PED appropriation of $225,000 and cost of $224,756.
/3 Excludes non-Federal funds and costs; includes PED appropriation of $15,368,100 and cost of $13,954,539.
/4 Excludes non-Federal funds and costs; includes PED appropriation $1,600,000 and cost of $1,600,000.
/5 Excludes non-Federal funds and costs; includes PED appropriation of $9,651,000 and cost of $9,650,000.
/6 Excludes non-Federal funds and costs; includes PED appropriation $1,492,000 and cost of $1,492,000.
/7 Excludes non-Federal funds and costs; includes PED appropriation $2,235,000 and cost of $2,235,000.
/8 Excludes non-Federal funds and costs; includes PED appropriation $180,000 and cost of $177,921.
/9 Excludes non-Federal funds and costs; includes PED appropriation $3,825,000 and cost of $3,825,000.
/10 Excludes non-Federal funds and costs; includes PED appropriation $943,000 and cost of $852,887.
/11 Total costs include authorized Preconstruction Engineering and Design after 1985.
/12 Excludes non-Federal funds and costs; includes PED appropriation $585,000 and cost of $585,000.
/13 Excludes non-Federal funds and costs; includes PED appropriation $1,598,000 and cost of $1,591,158.
/14 Excludes non-Federal funds and costs; includes PED appropriation $4,127,000 and cost of $3,946,189.
/15 Excludes non-Federal funds and costs; includes PED appropriation $1,487,000 and cost of $1,487,000.

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
1.		**CHANNEL ISLANDS HARBOR, CA**	
	Sep 3,1954	Harbor for light-draft vessels and shore protection works.	H.Doc.362, 83d Cong., 2d sess.
2.		**IMPERIAL BEACH, CA**	
	Jul 3, 1958	Beach erosion control.	River and Harbor Act, Sec 101; PL 85-500 IAW H.Doc.399, 84th Cong., 2d sess. Project received authorization for construction in WRDA 07
3.		**LOS ANGELES AND LONG BEACH HARBORS, CA**	
	June 3, 1988	A breakwater 8,500 feet long, east of Point Fermin.	
	June 25,1896	Extend said breakwater to shore, making a total length of 11,152 feet from Point Fermin.	S.Doc.18, 55th Cong., 1st sess.
	July 25, 1912	Dredge Los Angeles outer harbor west of entrance channel.	H.Doc. 969, 60th Cong., 1st sess.
	Aug. 8, 1917	For silt-diversion works.	Rivers and Harbors Committee Doc.8, 62d Cong., 2d sess.
	Sep. 22, 1922	Triangular area approach to Los Angeles inner harbor entrance channel.	Rivers and Harbors Committee Doc.9, 64th Cong.,2d sess.
	Mar 3, 1925	Dredge Los Angeles Harbor main channel and entrance 35 feet deep and 1,000 feet wide; dredge inner harbor turning basin 35 feet deep; and reclamation of Reservation Point.	H.Doc. 1013, 66th Cong.,3d sess.
	July 3, 1930	A detached breakwater 12,500 feet long in prolongation of existing breakwater (authorized by act of 1896).	H. Doc.349, 68th Cong., 1st sess.
		Widen fairway on east side of entrance to Los Angeles inner harbor; dredge a channel 35 feet deep and 400 feet wide in Cerritos channel from U.S. station 406 to Long Beach turning basin; entrance channel to Long Beach Harbor 35 feet deep and 500 feet wide; and maintenance of the Long Beach breakwater south of outer end pier A. This act provides that in no case shall dredging be done within 50 feet of established pierhead lines of existing piers and wharves.	Rivers and Harbors Committee Doc.33, 71st Cong., 2d sess. S.Doc.130, 71st Con.,2d sess.
	Aug 30, 1935	Dredge 1,000-foot wide entrance channel to Los Angeles outer harbor to 40-foot depth and a turning basin 3,500 feet long and 1,500 feet wide to same depth; and enlarge entrance to inner harbor by dredging to 35-foot depth a triangular area at its junction with turning basin.	S.Committee print, 74th Cong., 1st sess.
	Oct 17, 1940	Dredge to a depth of 40 feet area A and B adjacent to 40-foot-depth entrance channel; construct and maintain a rubble mound breakwater of composite type 21,000 feet long in eastward there from to Belmont pier; maintenance dredging of A and B, and at mouth of Los Angeles River diversion channel; all subject to such modifications as in discretion of the Chief of Engineers may be advisable to meet requirements of the Navy.	H.Doc.843, 76th Cong., 3d sess
	Sep 3, 1954	Dredge to a depth of 35 feet in West Basin as a modification of existing project. This act provides that the Secretary of the Army is authorized to reimburse local interests for work they have done upon this project prior to July 1, 1953, at actual cost to local interests so far as same shall be approved by Chief of Engineers and found to have been done in accordance with the project hereby adopted and that such reimbursement shall be subject to appropriations applicable thereto or funds available therefore and shall not take precedence over other pending projects of higher priority for harbor improvements; and that such payments shall not exceed $500,000.	H. Doc. 161, 83d Cong., 1st Sess

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
	July 14, 1960	Dredge to a depth of 35 feet in West Basin as a modification of existing project.	H.Doc.401,86th Cong., 2d sess.
	Oct 22, 1976	Dredge Los Angeles Harbor entrance channel 45 feet deep, 1,000 feet wide, and about 5,500 feet long; Los Angeles channel 45 feet deep, 750 feet wide, and about 12,500 feet long; inner harbor turning basin 45 feet deep, 1,350 feet wide, and about 1,650 feet long; East Basin channel 45 feet deep, 400 feet wide, and about 6,000 feet long; West Basin 45 feet deep, from 350 to 1,350 feet wide, and about 3,800 feet long; and East Basin 45 feet deep, from 400 to 950 feet wide, and about 2,000 feet long.	H.Doc.401,86th Cong., 2d sess.
	Oct 17, 1986	This act provides that no dredging shall be done within 125 feet of established pier head lines, wharves, or other structures.	WRDA 86, Sec 201.
	Nov 17, 1988	Deepen the entry channel to the Los Angeles Harbor and Long Beach Harbor to 70 feet and 76 feet respectively, including the creation of 800 acres of land from the project.	WRDA 88, Sec 4
	Nov 28, 1990	If non-Federal interest carry out any work associated with such project which is later recommended by the Chief of Engineers and approved by the Secretary, the Secretary may credit such non-Federal interest an amount equal to the Federal share of the cost of such work, without interest.	WRDA 90, Sec 102
	Sep 25, 1996	Section 4(d) of WRDA 1988 (102 Stat. 4015) is amended by inserting after "approved by the Secretary" in the first sentence the following: "or which is carried out after approval of the final report by the Secretary and which is determined by the Secretary to be compatible with the project".	WRDA 96 Sec 307
	Oct 31, 2000	The sewer outfall relocated by the Port of Los Angeles at a cost of approximately $12,000,000 shall be considered to be a relocation. The cost of such relocation shall be credited as a payment provided by the non-Federal interest.	WRDA 2000, Sec 101(b)(5)
4.	Oct 17, 1986	The project for navigation, Los Angeles Harbor, California, at a total cost of $153,313,000, with an estimated Federal cost of $43,735,000 and an estimated non-Federal cost of $109,578,000.	WRDA 1986, Sec 201(b)
		PORT OF LOS ANGELES MAIN CHANNEL DEEPENING, CA	
	Oct 31, 2000	Deepen the entry channel to the Los Angeles Harbor.	WRDA 2000, Sec 101(b)(5)
		Deepen the main channel from the current 45ft to 53ft.	H.R. 2419-9, Section 119
5.	Sep 3, 1954		H.Doc.389, 83d Cong., 2d sess.
		MARINA DEL REY, LOS ANGELES COUNTY, CA	
	Sep 28, 1994	Harbor for light-draft vessels.	Sec 216, Flood Control Act of 1970, supp. by House Resolution Sep. 28, 1994.
		Determine advisable modifications in interest of navigation, hurricane and storm damage reduction, environmental restoration and disposal of contaminated sediments from the entrance channel at Marina Del Rey Harbor	

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
6.	Mar 2, 1945	**MORRO BAY HARBOR, CA** Adoption and improvement of existing entrance channel to bay, a breakwater extending south by west from Morro Rock, and bay channels and basins at locations and of dimensions substantially as shown on the Navy Department map on file in the Office of the Chief of Engineers.	H.Doc.283, 77th Cong., 1st sess.
7.	May 22, 1991	**NEWPORT BAY HARBOR (& REVIEW), CA** Maintenance and improvement of main and inner channels.	Doc.PL99-662 (WRDA 1986, Sec841). R&H Acts 1937 & 1945 S. Doc. 138 78th Cong.
		Initiate feasibility phase studies re-environmental preservation benefits associated with modification of existing Federal project to extend channels into the Upper Newport Bay.	WRDA 1986, Sec. 841 (PL-9962)
8.	Oct 27, 1965	**OCEANSIDE HARBOR, CA** Maintenance of general navigation features of Del Mar Boat Basin and of Oceanside Harbor.	H.Doc.76, 89th Cong., 1st sess.
	Oct 27, 1990	Navigation and storm damage reduction, repair, operate, and maintain the extension of south jetty.	PL 101-640 (WRDA 1990) WRDA 1992. PL 102-580
	May 22, 1991	**OCEANSIDE HARBOR SAND BY-PASS SYSTEM, CA** Maintenance of general navigation features of Del Mar boat Basin and of Oceanside Harbor.	EWDA Act 1992
9.	Aug 13, 1968	**PORT HUENEME, CA** Adoption and maintenance of existing harbor for deep-draft vessels; dredged central basin to 35 feet deep, and extend southern-most interior channel.	H.Doc.362, 90th Cong., 2d sess.
10.	Sep 25, 1996	**PORT OF LONG BEACH, CA** Navigation project. The project for navigation, Port of Long Beach (Deepening), CA; Report of the chief of Engineers, dated July 26, 1996, at a total cost of $37,288,000 with an estimated Federal cost of $14,318,000 and an estimated non-Federal cost of $22,970,000.	WRDA 1996, Sec 101(d)(4)
11.	Mar 21, 1950	**REDONDO BEACH HARBOR (KING HARBOR), CA** Maintain harbor dredging and breakwaters.	R&H Act 1950 (H.Doc 303 81st Cong.) PL99-662 (WRDA 86, Sec 809), Amended in WRDA 1988.
	Oct 17, 1986 Oct 1988	Construct and maintain breakwater to height of 22 feet.	Authorized by Chief of Engineers.

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
12.	Mar 3, 1875	**SAN DIEGO HARBOR, CA** Diversion dike.	Annual Report. 1873; p.1-142
	Sep 19, 1890	Jetty on Zuniga Shoal.	H.Ex.Doc.177, 50th Cong., 1st sess. (Annual Report, 1888; p.2114).
	Jun 25, 1910	Dredge channel through outer bar 30 feet deep and 600 feet wide, and a channel through middle ground to 30 feet deep.	H.Doc.961, 60th Cong., 1st session.
	Mar 4, 1913	Dredge channel through outer bar 570 feet wide and 35 feet deep, and a channel through middle ground 32 feet deep.	H.Doc.1309, 62d Cong., 3d sess.
	Jul 27, 1916	Widen approach (area B) to San Diego municipal pier by dredging area C (north of area B).	H.Doc.648, 64th Cong., 1st sess.
	Aug 8, 1917	Dredging area A (south of area B).	Rivers and Harbors Committee Doc.8, 64th Cong., 2d sess.
	Aug 8, 1917	Dredge 35-foot channel through middle ground.	H.Doc.140, 65th Cong., 1st sess.
	Sep 22, 1922	Dredging areas D and E.	H.Doc.1000, 66th Cong., 3d sess.
	Mar 3, 1925	Widen approach (area C) to San Diego municipal pier 1 by dredging an portion of area F (north of area C).	River and Harbors Committee Doc.2, 68th Cong., 1st sess.
	Jul 3, 1930	Deepen to 40 feet channel through outer bar; along south and north banks, main channel; dredge turning basin, widen area H, and dredge a channel to National City and Chula Vista.	S.Doc.81, 71st Cong., 2d sess.
	Aug 30, 1935	Widen bay channel to 2,200 feet with depth of 35 feet from the vicinity of Whalers Bight in lower bay to Naval Air Station opposite turning basin.	H.Doc.223, 73d Cong., 2d sess.
	Aug 26, 1937	Dredging areas Q.Q-1, M, N, and O.	Rivers and Harbors Committee Doc.89, 74th Cong., 2d sess.
	Oct 17, 1940	Dredge a seaplane basin (area S.) of about 3,000 acres, 10 feet deep, and fill an area of about 110 acres adjacent to southern end of basin.	H.Doc.844, 76th Cong., 3d sess.
	Mar 2, 1945	Dredge triangular approaches to 26-and 35-foot anchorages, area M.	H.Doc.390, 77th Cong., 1st sess.
	Aug 13, 1968	Deepen and extend existing navigation channels, delete uncompleted parts, and extend maintenance.	H.Doc.365, 90th Cong., 2d sess.

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
13.	Jul 24, 1946	**SAN DIEGO RIVER AND MISSION BAY, CA** Modification of existing flood control project for San Diego River, CA, to include a multiple-purpose project for flood control on San Diego River and small-boat navigation on Mission Bay.	H.Doc.760, 79th Cong., 2d sess.
14.	Aug 30, 1935	**SANTA BARBARA HARBOR, CA** Maintenance dredging present depths into harbor formed by breakwater constructed by local interests.	S.Committee Print, 73d Cong., 2d sess.
	Mar 2, 1945	Permits maintenance by means of a fixed sand-intercepting plant to be provided and operated by and at expense of local interests. United States to contribute to operating expense an amount not to exceed $30,000 annually, whenever funds are allotted therefore; funds thus contributed to be reduced by actual cost of harbor maintenance if and when intercepting plant has been installed.	H.Doc.348, 77th Cong., 1st sess.
		Project for navigation; report of the Chief of Engineers, dated April 26, 1994	
	Oct 23, 1962	Modification of existing project.	H.Doc.518, 87th Cong., 2d sess.
	Dec 31, 1970	Dredging and maintenance by United States.	None.
	Sep 25, 1996	Complete plans and specifications.	Sec 101, H Doc 1160, Water Resources Project Authorization.
15.	Sep 25, 1996	**SANTA MONICA BREAKWATER, CA** Hurricane and storm damage reduction act.	WRDA 1996, Sec 101(d) 7.
		The project for hurricane and storm damage reduction, Santa Monica Breakwater, Santa Monica, CA; Report of the chief of Engineers, dated June 7, 1996, at a total cost of $6,440,000, with an estimated Federal cost of $4,220,000 and an estimated non-Federal cost of $2,220,000.	
16.	Oct 23, 1962	**SURFSIDE, SUNSET & NEWPORT BEACH, CA** Beach erosion.	Sec 101 of R&H Act 1992.
		Protective measures that comprise a protective and feeder beach at Surfside, and on offshore breakwater at Newport Beach to provide and impounding area from which sand would be dredged and returned periodically to the feeder beach, all substantially in accordance with the plan of the DE.	
		Protective measures that comprise a protective and feeder beach at Surfside, and on offshore breakwater at Newport Beach to provide and impounding area from which sand would be dredged and returned periodically to the feeder beach, all substantially in accordance with the plan of the DE.	
17.	Aug 13, 1968	**VENTURA HARBOR (VENTURA MARINA), CA** Adoption and maintenance of existing general navigation features of harbor, excluding interior basins; construction of an offshore breakwater; dredging a sand trap in lieu of breakwater; repairing existing north and middle jetties; and construction of recreational fishing facilities on jetty crests.	H.Doc.356, 90th Cong., 2d sess.
	Nov 17, 1988	The Harbor commonly known as Ventura Marina, located in Ventura County, CA, and adopted and authorized by section 101 of Public Law 90-483, shall hereafter be known and designated as	Public Law 100-676.

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		"Ventura Harbor".	

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
19.	Dec 22, 1944	**ALAMO LAKE, BILL WILLIAMS RIVER, AZ** Multiple-purpose dam and reservoir.	H.Doc.625, 78th Cong., 2d sess.
20.	Jan 3, 1996	**CLIFTON, AZ** Reauthorized the flood control project at a total cost of $21,100,000.	WRDA 1996 Sec 301.
	Sep 25, 1990	Flood control.	WRDA 1990, Sec 101(3a) modified WRDA 1986.
21.	Oct 2, 1992	**HANSEN DAM, CA** Develop water conservation on existing spreading grounds.	PL 102-377 Energy & Water Appropriations Act, FY 1993.
22	May 22, 1991	**HOLBROOK, AZ** Flood prevention and protection.	WRDA 1986, PL 99-662, Sec 401.
23.	Jun 22, 1936	**LOS ANGELES COUNTY DRAINAGE AREA, CA** Reservoirs and flood channels for flood control and related purposes at an estimated construction cost not to exceed $70 million.	None
	May 15, 1992	Added flood channels on Ballona Creek and tributaries to project.	None
	Jun 28, 1936	Provision of lands, easements, and rights-of-way and relocations by Federal Government instead of by local interests. (Resultant Additional cost to the United States, $12,541,000).	H. Doc. 838, 76th Cong., 3d Sess.
	Aug 18, 1937	Project extended to include additional flood control reservoirs, flood control channels, and debris basins for flood control and related purposes. Also authorized to be appropriated $25 million for further accomplishment of plan.	None

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
	Dec 22, 1944	Authorized to be appropriated an additional $25 million for prosecution of comprehensive plan approved in Flood Control Act of Aug. 18, 1941.	None
	Jul 24, 1946	Authorized to be appropriated an additional $25 million for further prosecution of comprehensive plan.	None
	May 17, 1950	Rio Hondo channel improvement, Whittier Narrows Reservoir to Los Angeles River (in lieu of enlarging channel and bridges on San Gabriel River Downstream from reservoir). Also authorized to be appropriated an additional $40 million for further prosecution of comprehensive plan.	None
	Sep 3, 1954	Authorized to be appropriated an additional $12,500,000 for further prosecution of comprehensive plan.	None
	Jul 3, 1958	Authorized to be appropriated an additional $44 million for further prosecution of comprehensive plan.	None
	Jul 14, 1960	Authorized to be appropriated an additional $32 million for further prosecution of comprehensive plan.	None
	Oct 23, 1962	Authorized to be appropriated an additional $3,700,000 For further prosecution of comprehensive plan.	None
	Dec 30, 1963	Authorized to be appropriated an additional $30 million for further prosecution of comprehensive plan.	None

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
	Nov 17, 1986	Authorized modifications of Hansen Dam by removing and selling dredged material to facilitate flood control, recreation, and water conservation.	None
	Nov 17, 1988	The Secretary may convey to the city of South El Monte, CA, approximately 7.778 acres of real property, together with improvements thereon, located within the Whittier Narrows Flood Control Basin.	None
	Oct 30, 1990	The project for flood control, Los Angeles County Drainage Area, California, at a total cost of $327,000,000, with an estimated first Federal cost of $163,500,000, with an estimated first Federal cost of $163,500,000, is authorized to be prosecuted by the Secretary in accordance with a final report of the Chief of Engineers and with such modifications as are recommended by the Secretary. No construction on the project may be initiated until such a report of the Chief of Engineers is issued and approved by the Secretary.	WRDA 1990, Sec 101(b)(PL 101-640), Project Subject to Favorable Report of the chief of Engineers.
	Nov 28, 1990	Authorized project for flood control. Authorized by Chief of Engineers Report.	PL 101-640, WRDA 1990
24.	Jul 14, 1960	**LOS ANGELES RIVER (SEPULVEDA DAM TO ARROYO SECO), CA** Recreation development for bicycle/hiking trails along the upper Los Angeles River	Flood Control Act 1936, PL 77387 1941, PL 103-126
25.	May 17, 1950	**MOJAVE RIVER DAM, MOJAVE RIVER BASIN, CA** Dam and reservoir, and an earthfill dike.	H.Doc.164, 86th Cong., 1st sess.
		Evaluate opportunities for water conservation, environmental restoration, and enhanced flood control, along the Mojave River and Tributaries downstream of the dam.	HR 2479, Mar. 7, 1996
26.	Oct 31, 2000	**MURRIETA CREEK, CA**. Flood damage reduction and ecosystem restoration, described as alternative 6, based on the District Engineer's Murrieta Creek feasibility report and environmental impact statement dated October, 2000, at a cost of $107,868,989 with an estimated Federal costs of $69,433,118 and an estimated non-Federal cost of $38,435,871.	WRDA 2000, Sec 101 (b) (6)
27.	Jun 20, 1989	**NOGALES WASH, AZ** Flood Control Protection and Flood Warning System.	Energy and Water Development Appropriation bill 1990, H.Doc2696, 101st Cong, 1st session
	Oct 27, 1990	Flood warning gauges in Mexico	WRDA 1990, Sec 101 (a)(4)
	Oct 12, 1996	Modifies Section 101(a)(4) of WRDA 1990 to direct the Secretary to permit the non-Federal contribution for the project to be determined in accordance with section 103 of WRDA 1986 and direct the Secretary to enter into negotiations with non-Federal interests pursuant to 103(l) of such Act concerning the timing of the initial payment of the non-Federal contributions.	WRDA 1996, Sec 303; Public Law 104-303
		Conduct a study of the relationship of flooding in Nogales and flood flows emanating in Mexico. Transmit a report which includes a recommendation of the appropriate level of non-Federal participation in the authorized flood control project.	WRDA 1996, Sec 404; Public Law 104-303
	Oct 31, 2000	Modified to provide that the Federal share of the cost associated with addressing flood control problems in Nogales, Arizona, arising	WRDA 2000,Sec 302

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		from floodwater flows originating in Mexico shall be 100 percent.	
	Nov 8, 2007	The project for flood control, Nogales Wash and tributaries, AZ, authorized by section 101(a)(4) of WRDA 1990 (104 Stat. 4606) and modified by section 303 of WRDA 1996 (110 Stat 3711) and section 302 of WRDA 2000 (114 Stat 2600), is modified to authorize the Secretary to construct the project at a total cost of $25,410,000, with an estimated Federal cost of $22,930,000 and an estimated non-Federal cost of $2,480,000.	WRDA 2007, Sec 3008 Public Law 110-114
28.	Sep 25, 1996	**NORCO BLUFFS, CA** The project for bluff stabilization, Norco Bluffs, Riverside county, California, at a total cost of $8,600,000, with an estimated Federal cost of $6,450,000 and an estimated non-Federal cost of $2,150,000.	WRDA 96, Sec 101(b)
	October 18, 2000	That section 101 (b) (4) of the Water Resources Development Act of 1996, is amended by striking "total cost of $8,600,000" and inserting in lieu thereof "total cost of $15,000,000	Conference House Report 106-988.
29.	July 6, 1949	**PAINTED ROCK DAM (GILA RIVER), GILA RIVER BASIN, AZ** Dam and flood control basin.	H.Doc.331, 81st Cong., 1st sess.
30.	May 17,1950	**PINE AND MATHEWS CANYONS DAMS, COLORADO RIVER BASIN, NV** Dams and flood control basins.	H.Doc.530, 81st Cong., 2d sess.
31.	Oct 17,1986	**RILLITO RIVER, AZ** Flood damage protection.	WRDA 1986, PL 99-662, Section 601(a)
	June 20, 1989	Bank erosions control and flood protection.	Energy and Water Development Appropriations Act 1990
32.	Oct 31,2000	**RIO DE FLAG, FLAGSTAFF, AZ** The project is for flood damage reduction. Total cost is $24,100,000, with an estimated Federal cost of $15,665,000 and an estimated non-Federal cost of $8,435,000.	WRDA 2000, Sec 101 (b) (3).
	Nov 8, 2007	The project for flood damage reduction, Rio De Flag, Flagstaff, AZ, authorized by section 101(b)(3) of the WRDA of 2000 (114 Stat. 2576), is modified to authorize the Secretary to construct the project at a total cost of $54,100,000, with an estimated Federal cost of $35,000,000 and a non-Federal cost of $19,100,000.	WRDA 2007, Sec 3007 Public Law 110-114
33.	Nov 17,1986 As amended	**SANTA ANA RIVER MAINSTEM, CA** Initial authorization for the Santa Ana River Mainstem Flood control, including Santiago Creek.	WRDA 1986, PL 99-662
		A project for Flood Control along the San Timoteo Creek, in the vicinity of Loma Linda is authorized for construction as part of the Santa Ana River Mainstem, including Santiago Creek Project.	Energy and Water Development Act 1988, PL 100-202
		The project for flood control, Santa Ana Mainstem, including Santiago Creek, CA, is modified to authorize the Secretary to develop recreational trails and facilities on lands between Seven Oaks Dam and Prado Dam, including flood plain management areas.	WRDA 1990, PL 101-640
		Review of Prado Dam feature to be considered a separable element	WRDA 1996, PL 104-303

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		of the Santa Ana River Mainstem, including Santiago Creek Flood Control Project.	WRDA 2007, Section 3033
		The project for flood control, Santa Ana River Mainstem is further modified to authorize the Chief of Engineers to carry out the project at a total cost of $1,800,000,000 and to clarify that the Santa Ana River Interceptor Line is an element of the Project.	WRDA 2007, Section 3036
34	Jun 22,1936	The project for flood control, Santa Ana River Mainstem is modified to direct the Secretary (1) to include ecosystem restoration benefits in the calculation of benefits for the Sevens Oaks Dam, California portion of the project: and (2) to conduct a study of water conservation and water quality at the Seven Oaks Dam.	H. Doc. 688, 75th cong., 3d sess.
35.	Oct 22,1976	**SANTA ANA RIVER BASIN (AND ORANGE COUNTY), CA** Reservoirs and flood channels for flood control and related purposes for protection of metropolitan area of Orange County, at an estimated construction cost not to exceed $13 million.	1948 Flood Control Act, H.Doc.443,80th Cong.,1st sess
36.	Dec 17,1970	**SANTA PAULA CREEK, CA** Flood control improvements and prevention. Authorize for flood control.	S.Doc.91-106, 91st Cong., 2d sess
37.	Oct 22,1976	**SAN LUIS REY RIVER, SAN LUIS REY RIVER BASIN, CA** Channel and levee, and beautification features. The project for flood control of the San Luis Rey river, CA, authorized pursuant to section 201 of Flood Control Act of 1965 (42 U.S.C. 1962d-5; 79 stat 1073-1074) is modified to authorize the secretary to construct the project substantially in accordance with the report of the corps of Engineers dated may 23, 1996 at a total cost of $81,600,000 (Fed $61,100,000, non-Fed $20,500,000)	
38.	Jun 11,1964	**SEPULVEDA DAM, CA RECREATION FACILITIES**	FC Act 1936 (Amended 1937) 1941, 1950 and Fed Water Project Recreation Act of 1965.
39.	Oct 31, 1992	**SWEETWATER RIVER BASIN, CA** Channel improvement, as part of a combined flood control and highway project.	FC Act 1965,H.Doc. 240 and 309, 88th Cong., 2d sess
	Sep 25,1996	**TROPICANA AND FLAMINGO WASHES, NV** Flood reduction, erosion control, and wildlife enhancement.	WRDA 1992, Sec 101 (13) WRDA 1996, Sec 211 (f)(5), Public Law 104-303
	Aug 17,1999	Authorizes project to demonstrate the potential advantages and effectiveness of non-Federal implementation of flood control projects, and provides that the Secretary shall enter into an agreement, pursuant to Section 211 of WRDA 96, with the non-Federal interests for development of that project. Proposed agreement would allow the non-Federal sponsor to construct any discrete segment of the authorized project as approved by the Army corps of Engineers.	
		An Federal costs associated with the project, incurred by the non-Federal interest to accelerate for modify construction of the project,	WRDA 1999, Sec 370; Public Law 106-53

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		in cooperation with the Corps of Engineers, shall be eligible to reimbursement by the Secretary.	
	Feb 20, 2003	The project for flood control, Las Vegas Wash and Tributaries (Flamingo and Tropicana Washes), Nevada, authorized by section 101(13) of Public Law 102-580 is modified to include as a part of the project channel crossings that are necessary for those existing and proposed highways and roads shown on the Clark County Comprehensive Plan Transportation Element, approved by the Clark County Board of County Commissioners on October 1, 1996. The performance of work required for construction of such channel crossings and the costs incurred in performing such work *shall be considered* part of the non-Federal sponsor's responsibility to provide lands, easements, and rights-of-way, and to perform relocations for the project. Costs incurred in performing such work may not exceed $16,000,000.	H.J. Res. 2 Public Law 108-7 Sec 107
	Jan 4, 2005	The project for flood control, Las Vega Wash and Tributaries (Flamingo and Tropicana Washes), Nevada, authorized by section 101(13) of Public Law 102-580 and modified by Public Law 108-7 (H.J. Res. 2) Consolidated Appropriations Resolution, 2003, section 107 is further modified to provide that the costs incurred for design and construction of the project channel crossings in the reach of the channels from Shelbourne Avenue proceeding north along the Southern Beltway to Martin Avenue *shall be added to the authorized cost of the project and such costs shall be cost shared and shall not* be considered part of the non-Federal sponsor's responsibility to provide lands, easements, and rights-of-way, and to perform relocations for the project.	H.R. 2419-12
	June 16, 2006	Tropicana and Flamingo Washes, NV.—The Committee has provided $18,000,000 to continue construction of this flood control project. Within the funds provided $3,000,000 is provided for work performed in accordance with Section 211 of Public Law 104-303.	Senate Report 109-84
40.	Oct 22, 1976	**TUCSON DIVERSION CHANNEL (RECREATION DEVELOPMENT, AZ** This project for recreational development along the Tucson Diversion Channel.	FC Act 1936, (Amended 1937, 1941, 1950) and Fed Water Project Recreation Act of 1965
41.	Aug 17,1999	**TUCSON DRAINAGE AREA, AZ** Report of the Chief of Engineers Report dated May 20,1998, at a total cost of $30,000,000, with an estimated Federal cost of $19,400,000 and an estimated non-Federal cost of $10,600,000.	WRDA 1999, PL106-53 Sec 101 (a) (5).
	Nov 8, 2007	The project for flood damage reduction, environmental restoration, and recreation, Tucson drainage area, AZ, authorized by section 101(a)(5) of WRDA 1999 (113 Stat 274), is modified to authorize the Secretary to construct the project at a total cost of $66,700,000, with an estimated Federal cost of $43,350,000 and an estimated non-Federal cost of $23,350,000.	WRDA 2007, Sec 3009 Public Law 110-114
42.	Jul 24,1946	**WHITLOW RANCH DAM, QUEEN CREEK, GILA RIVER BASIN, AZ** Dam and flood control basins.	H.Doc.220,80th Cong.,1st sess.
47.	Aug 17, 1999	**CAMBRIA SEAWATER DESALINATION, CA** This is an environmental infrastructure project and a desalination plant will be constructed to ensure adequate water supply	WRDA 1992, Sec219; WRDA 1999, Sec 502(b); Consolidated Appn Act, 2001, Sec 108(f)(48)
48.	Dec 21, 2000	**CITY OF SANTA CLARITA (PERCHLORATE), CA**	Consolidated Appn Act of 2001, HR 5666, Sec 110 & 111.

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
49.	Aug 17,1999	This is an environmental infrastructure project and the study will evaluate the existing conditions of the Santa Clarita Valley Saugus area and develop alternatives for long-term solutions to restoring aquifer to drinking water quality.	WRDA 1999, Sec 502(b)(43) as amended by Con Appn Act of 2001 Sec 108(c)(6).
50.	Jun 28,1938	**HARBOR-SOUTH BAY WATER RECYCLING, CA** This is an environmental infrastructure project to design and construct over 30 miles of recycled water pipeline and distribution facilities.	WRDA 1992 Sec 219(f), as amended by WRDA 1999, Sec 502(b) and amended by Consolidated Appropriations Act, 2001, Sec 108(d) (50)
51.	Aug 17, 1999	**NORTH VALLEY REGIONAL WATER INFRASTRUCTURE (CITY OF LANCASTER), CA** The project will include design and construction of approximately 8.5 miles of 36-inch diameter water main and related facilities to serve the city of Lancaster, CA.	Flood Control Act of1938, Sec 6 (Gila & Tribs, AZ & NM) , WRDA 1999, Sec 101 (a)(4).
52.	Aug 17,1999	**RIO SALADO PHOENIX REACH, AZ** This is an ecosystem restoration project that consists of the establishment of riparian and Sonoran Dessert habitat restoration.	WRDA 1999, Section 595.
	Dec 21, 2000	**RURAL NEVADA, NV** This is focused on environmental restoration in Mesquite, NV, Boulder City, NV, and Moapa, NV.	Consolidated Appn Act of 2001, HR 5666, Sec 110 & 111.
53.	Oct 31, 1992	**SAN GABRIEL BASIN RESTORATION, CA** This is an environmental infrastructure project and will establish restoration fund account and initiate construction of water quality treatment projects and facilities.	WRDA 1992, Sec 219 (f) as amended by WRDA 1999, and amended by the Consolidated Appropriations Act, 2001 Sec 108 (d) (52).
54.	Oct 31, 2000	**SOUTH PERRIS, CA** The project will design and construct a reverse osmosis desalination plan, wells, pipelines and brine management pipelines required for the phased implementation of the Perris Basins desalination Program.	WRDA 2000, Sec 101 (b) (4).
55.	Dec 11, 2000	**TRES RIOS, AZ** The project for ecosystem restoration, Tres Rios, AZ at a total cost of $99,320,000, with an estimated Federal cost of $62,755,000 and an estimated non-Federal cost of $36,565,000.	PL 99-662 (WRDA 86, Sec 841). WRDA 2000, Sec 101 (b) (9).
56.	Oct 31, 2000	**UPPER NEWPORT BAY HARBOR, CA** The authorized project includes dredging the access channels and two sediment basins to provide restoration measures to the degraded habitat areas and re-establishing wetland and wildlife habitat areas.	WRDA 2000, Sec 101 (b) (8).
57.	Oct 31, 2000	**SANTA BARBARA STREAMS, LOWER MISISON CREEK, CA** The project for flood damage reduction, Santa Barbara Streams, Lower Mission Creek, CA, at a total cost of $18,300,000, with an estimated Federal cost of $9,200,000 and an estimated non-Federal cost of $9,100,000. **WHITEWATER RIVER BASIN, CA** The project is for flood damage reduction, Whitewater River Basin, CA, at a total cost of $28,900,000, with an estimated Federal cost of $18,800,000 and an estimated non-Federal cost of $10,100,000.	WRDA 2000 Sec101 (b) (10).
59.	Nov 8, 2007	**VA SHLY'AY AKIMEL, AZ**	WRDA 2007, Sec 1001 (6)

TABLE 33-B **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		(A) Approved Chief's Report dtd 1/3/05. TPC 162,100,000, Fed: 105,200,000, NF: 56,900,000 (B) Coordination with Federal Reclamation Projects – The Secretary, to the maximum extent practicable, shall coordinate the design and construction of the project described in subparagraph (A) wit the Bureau of Reclamation and any operating agent for any Federal reclamation project in the Salt River Basin to avoid impacts to existing Federal reclamation facilities and operations in the Salt River Basin.	

1. Contains latest published map.
2. Date approved by Chief of Engineers under provisions of section 205. Public Law 80-858, as amended.
3. Final date of approval by House of Senate Public Works Committees resolution under provisions of Section 201, Public Law 89-298.

TABLE 33-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost to 30 Sep 2006 Construction	Cost to 30 Sep 2006 Operation and Maintenance
Dana Point, Harbor, CA	Completed	1984	$ 4,737,550[1]	555,147[1]
Harbor office at Morro Bay, CA[3]				
Los Angeles and Long Beach Harbors, San Pedro Bay, CA[3]	Active		53,627,729	15,012,590
Newport Bay Harbor, CA[3]	Inactive and Active (mod)	1982	796,897	6,276,088[5]
Port San Luis, CA	Completed and Active (mod)	1984	1,426,050[6]	1,178,320[7]
Redondo Beach Harbor (King Harbor), CA[8]	Completed and Active (mod)	1984	4,766,898[9]	6,688,647[10]
Sunset Harbor (Bolsa Chica Bay), CA[3]				

1. Excludes $4,777,000 required contributed funds and Coast Guard costs.
2. Includes $45,147 for reconnaissance and condition surveys.
3. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986, subject to favorable report.
4. Public Works Administration funds. Excludes $796,897 required contributed funds and $1,100 preauthorization costs.
5. Includes $137,622 for reconnaissance and condition survey costs since Fiscal Year 1958. Excludes $7,000 other contributed funds.
6. Includes $568,417 for new work prior to modification by 1965 River and Harbor Act. Excludes Coast Guard costs. Includes $104,031 expended in Fiscal Year 1987.
7. Includes $54,715 for maintenance for project prior to modification by 1965, River and Harbor Act, and $18,958 for reconnaissance and condition surveys. Includes $90,130 expended in Fiscal Year 1987.
8. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986.
9. Excludes Coast Guard costs.
10. Includes $20,517 for reconnaissance and condition survey costs since Fiscal Year 1958. Includes $293,167 expended in Fiscal Year 1987.

TABLE 33-D OTHER AUTHORIZED SHORE PROTECTION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost to 30 Sep 2006 Construction	Cost to 30 Sep 2006 Operation and Maintenance
Anaheim Bay Harbor Orange County, CA[1]	Completed	1967	$ 89,119	
Bird Rock Area, La Jolla San Diego County, CA[2]	Completed	1967	25,881[3]	
Coast of California, Point Mugu, to San Pedro Breakwater, CA	Completed	1972	1,253,594[4]	
Doheny Beach State Park (Doheny State Beach), CA	Completed	1968	578,717[5]	
Imperial Beach, CA	Active	1986	2,793,315	
Las Tunas Beach, San Diego County, CA	Active	1976	107,484	
Ocean Beach, San Diego County, CA[6]	Completed	1960	7,912	
Oceanside, San Diego County, CA	Completed	1982	4,367,442[7]	
San Diego (Sunset Cliffs), CA	Active	1979	365,000[8]	
San Gabriel River to Newport Bay (Surfside-Sunset and Newport Beach), Orange County, CA	Active	1985	9,722,100[9]	
Surfside-Sunset-Newport, CA (Stage 11)	Active	1997	12,217,909	
Ventura-Pierpont area, CA	Completed (part) and Deferred (part)	1969	715,819[10]	

1. The project authorized by the Act of Congress of October 23, 1962, H.Doc.602, 87th Cong., 2d sess., in lieu of part of the original Anaheim Bay Harbor project is covered under San Gabriel River to Newport Bay (Surfside-Sunset and Newport Beach), Orange County, CA
2. Authorized by Chief of Engineers under authority of Section 103, Public Law 87-874.
3. Excludes 475,614 required contributed funds.
4. Excludes $1,238,418 required contributed funds.
5. Excludes $431,260 required contributed funds.
6. Plant in service.
7. Excludes $604,817 other contributed funds.
8. Excludes $180,438 required contributed funds.
9. Excludes $4,626,638 for required contributed funds. Includes $10,772 expended in Fiscal Year 1987.
10. Excludes $1,117,406 other contributed funds for beach-nourishment betterments and $618,949 required contributed funds.

TABLE 33-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost to 30 Sep 2008 Construction	Cost to 30 Sep 2008 Operation and Maintenance
Allenville, AZ[1]	Completed	1984	$ 3,000,000[2]	
City Creek levee, San Bernardino County, CA[1]	Completed		400,000[2]	
Clifton, San Francisco River, AZ	Active	1988	12,510,000	
Coyote and Berryessa Creeks CA	Active	1989	56,300,000	
Gila River Basin, AZ:	Deferred	1963		
Camelsback Dam (Gila River)				
Gila and Salt Rivers levee and channel improvements	Active (part) and Deferred (part)	1966	73,201[4]	
Indian Bend Wash	Completed	1985	31,809,294[5]	
Lower Gila River levee and channel improvements (Gila River and tributaries downstream from Painted Rock Dam)	Inactive	1975	2,413,051	
Middle Gila River channel improvements, upper end of Safford Valley to Buttes dam site (Camelsback damsite to Salt River)	Active	1970	402,867	
Pinal Creek channel improvements (Globe)	Deferred	1968	121,509[4]	
Santa Rosa Wash (Tat Momolikot Dam and Lake St. Clair)	Completed	1982	10,218,900	
Tucson Diversion Channel	Completed	1986	6,922,633[6]	
Goleta, CA, and Vicinity	Active	1982	500,000	
Hansen Dam, Los Angeles County [7] Drainage Area, CA (mod)				
Holbrook levee Little Colorado River, Colorado River Basin, AZ	Completed	1950	335,000	
Little Colorado River at Holbrook [7]	Completed	1996		
Needles, San Bernardino Co.	Completed	1973	1,000,000[8]	
Nogales Wash and Tributaries, AZ	Active	1989	22,823,200	
Oceanside Harbor, CA	Completed	1989	5,100,000	
Oro Grande Wash channel improvements, Mojave River Basin, CA[1]	Completed	1970	1,000,000[9]	
Phoenix, AZ and Vicinity (Gila River)	Completed			
Quail Wash levee, Joshua Tree, San Bernardino Co. CA	Completed		212,745	
Ridgecrest, Kern County, CA[1]	Terminated	1973	195,194	
Rose Creek channel improvements, San Diego, CA[1]	Completed	1972	982,432[10]	
San Diego River Basin, CA				
Santa Ana River Basin, CA:				
Devil, East Twin, and Warm Creeks channel improvements and Lytle Creek levee	Completed	1962	7,753,937[11]	
Mill Creek levees	Completed	1961	617,890[12]	
Riverside levees	Completed	1959	2,104,478	
San Jacinto River levee and Bautista Creek channel	Completed	1985	9,258,207[13]	
Santa Clara River levee improvement, Santa Clara River Basin, CA	Completed	1961	2,126,672	
Santa Maria Valley levees, Santa Maria River Basin, CA	Completed	1984	10,079,927[14]	
Santa Paula Creek Channel and Debris Basins (including Mud	Active	1983	5,153,634[15]	

TABLE 33-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Creek), Santa Clara River Basin, CA			
Sespe Creek at Fillmore, Ventura County, CA[1]	Completed	1984	4,000,000[16]
South Fork of the Santa Clara River, Santa Clarita Valley, CA[1]	Active	1985	632,158
Telegraph Canyon Creek, Chula Vista, CA[1]	Completed	1985	844,732[17]
Tijuana River Basin, CA	Completed	1979	1,703,031[18]
Ventura Harbor, CA	Active	1990	6,455,000
Ventura River Basin, CA:			
Stewart Canyon debris basin and channel	Completed	1964	939,908[19]
Ventura River levee	Completed	1950	1,349,638[20]
Whitewater River, CA:			
Banning Levee-San Gorgonio River, Riverside County[1]	Completed	1966	97,868
Chino Canyon improvements, Palm Springs[1]	Completed	1973	819,878[21]
Tahchevah Creek detention basin and channel improvements	Completed	1967	1,420,552[22]
Tahquitz Creek	Inactive	1974	1,063,600
Winslow (tributaries of Little Colorado River), Little Colorado River Basin, AZ	Completed (part) and Deferred (part)	1973	1,831,300

1. Authorized by Chief of Engineers under authority of Section 205, Public Law 80-858, as amended.
2. Excludes $187,965 required contributed funds.
3. Excludes $371,058 other contributed funds.
4. Advance planning only.
5. Excludes $304,720 required contributed funds and $3,130,762 other contributed funds. Includes $31,071 expanded
6. Includes $1,158,006 Code 710 funds since Fiscal Year 1977. Excludes $749,058 required contributed funds and $394,364 funds.
7. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986.
8. Excludes $619,912 required contributed funds and $91,160 other contributed funds.
9. Excludes $514,806 required contributed funds and $176,295 other contributed funds.
10. Excludes $251,000 required contributed funds and $154,733 other contributed funds.
11. Excludes $200,000 required contributed funds and $1,641,668 other contributed funds.
12. Excludes $35,830 other contributed funds.
13. Excludes $712,000 other contributed funds.
14. Excludes $106,364 other contributed funds. Includes $74 expended in Fiscal Year 1987.
15. Excludes non-Federal costs of $295,000 for local cooperation items for required and $49,458
16. Excludes $559,525 required contributed other funds.
17. Includes $3,846 expended in Fiscal Year 1987. Excludes $104,941 other contributed funds.
18. International Boundary & Water Commission funds
19. Excludes $179,148 other contributed funds.
20. Includes $6,000 Code 710 funds since Fiscal Year 1977. Excludes $17,006 other contributed funds.
21. Excludes $8,718 required contributed funds; $53,470 other contributed funds.
22. Excludes $74,718 required contributed funds.

TABLE 33-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Hodges Dam, San Dieguito River Basin, CA	1958	1978 Sec. 12, Public Law 93-251		
Las Vegas Wash Tributaries, Colorado River Basin, NV	1964	1977 Sec. 12, Public Law 93,251	295,191	
Santa Ana River Basin (and Orange County), CA:				
Aliso Creek Dam, CA		1986 Sec. 1002 Public Law 99-662		
San Juan Dam, CA	1950	1986 Sec. 1002, Public Law 99-662	67,361	
Trabuco Dam, CA		1986 Sec. 1002, Public Law 99-662		
Villa Park Dam, CA		1978 Sec. 12, Public Law 93-251		
Sierra Madre Wash Channel Los Angeles County Drainage Area, CA	1986	1986 Sec. 1002, Public Law 99-662		
Lower Mission Creek Santa Barbara, CA	1988	1988 Sec. 1001(A), Public Law 99-662	1,641,144	
San Diego River Mission Valley, CA	1978	1978 Sec 1001 (B) (2), Public Law 99-662	1,708,437	
University Wash and Spring Brook, Riverside, CA	1975	1986 Sec. 1002, Public Law 99-662	213,313	

TABLE 33-H RECONNAISSANCE AND CONDITION SURVEYS

Project	Date
Channel Islands Harbor	Sep 2007
Dana Point Harbor	Jun 2007
Los Angeles Long Beach Harbors, CA	
Reach 1) LA River Estuary (Queens Way Bay)	Jun 2007
Reach 2) Port of Los Angeles	Sep 2007
Reach 3) Port of Long Beach	Jul 2007
Marina Del Rey, CA	Jan 2007
Morro Bay Harbor, CA	Aug 2007
Newport Bay Harbor, CA	Jun 2007
Oceanside Harbor, CA	Mar 2007
Port Hueneme, CA	Sep 2007
San Diego Harbor, CA	Jul 2007
San Diego River-Mission Bay, CA	Jun 2007
Santa Barbara Harbor, CA	Mar 2007
Ventura Harbor, CA	Sep 2007

TABLE 33-I INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

(See Section 43 of Text)

Project	Date
Los Angeles County Drainage Area, CA (250 miles of channels and 21 Debris Basins)	Oct 2006 – Sep 2007
Adobe Dam, AZ	Apr 2007
Cave Buttes Dam , AZ	Apr 2007
Dreamy Draw Dam, AZ	Apr 2007

TABLE 33-J FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION FLOOD CONTROL ACTIVITIES PURSUANT TO SECTION 205, PUBLIC LAW 80-858, AS AMENDED (PREAUTHORIZATION)

(See Section 45 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Burnt Mountain Wash, Yucca Valley, CA /1	Feasibility	0
City of Whittier	Design & Implementation	1,385,745
Heacock and Cactus Channels, CA /2	Feasibility	115,915
Pinto Cove, City of 29 Palms, CA /3	Feasibility	0
Section 205 Coordination Account		9,806
	Total	$1,511,466

/1 Project was on hold while sponsor changed to San Bernardino County.
/2 Cost estimate exceeds Section 205 authority; converting to Investigations.
/3 Project was on hold while sponsor changed to San Bernardino County.

TABLE 33-K MODIFICATION TO STRUCTURES AND OPERATIONS OF CONSTRUCTED CORPS PROJECTS TO IMPROVE THE QUALITY OF THE ENVIRONMENT, PUSUANT TO SECTION 1135 OF THE 1986 WATER RESOURCES DEVELOPMENT ACT, PUBLIC LAW 662, 99TH CONGRESS , AS AMENDED (See Section 56 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Section 1135 Coordination Account	Coordination	$ 15,570
~~Agua Fria River Riparian Restoration~~	~~Feasibility~~	~~1,066~~
Ballona Wetland Restoration, CA	Design & Implementation	5,880
Bull Creek Channel Ecosystem Restoration, CA	Design & Implementation	166,658
Rillito River Riparian & Wetland Development, AZ	Design & Implementation	646,390
Tujunga Wash Environmental Restoration, CA	Feasibility	157,167
	Total	$ 991,665

TABLE 33-L AQUATIC ECOSYSTEM RESTORATION PURSUANT TO SECTION 206 OF THE 1996 WATER RESOURCES DEVELOPMENT ACT, PUBLIC LAW 303, 104TH CONGRESS , AS AMENDED (See Section 56 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Section 206 Coordination Account	Coordination	$ 4,748
English Creek, CA	Feasibility	30,397
~~Lower Newport Bay Harbor, CA~~	~~Construction~~	~~4,960~~
Sweetwater Ecosystem Restoration, CA	Feasibility	43,880
Sulpher Creek Aquatic Restoration, CA	Design & Implementation	1,162,906
~~Rincon Creek, CA~~	~~Feasibility~~	~~14,439~~
~~Carpinteria Creek Park, CA~~	~~Feasibility~~	~~22,843~~
	Total	$ 1,241,931

SAN FRANCISCO, CA, DISTRICT

This district comprises the Klamath River Basin in southern Oregon and portions of northern and western California consisting of drainage basins tributary to the Pacific Ocean from the Oregon-California State line on the north to Cape San Martin, CA, on the south except for basins tributary to the San Francisco Bay system which lie east of the Benicia-Martinez Bridge.

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Navigation

1. CRESCENT CITY HARBOR, CA

Location. The project is located in Crescent City, Del Norte County approximately 350 miles north of San Francisco and 17 miles south of the Oregon border.

Existing project. There are three existing Federally maintained navigation channels at Crescent City Harbor. The Entrance Channel begins at the outer breakwater and is -20 feet MLLW (Mean Lower Low Water), 2,600 feet long, and 320 to 200 feet wide. The Entrance Channel connects to the Inner Harbor Basin, which is 1,500 feet long and extends from the Entrance Channel along the lee side of the inner breakwater. The Inner Harbor Basin is authorized to -

20 feet MLLW, but since 1993 has been maintained at -15 feet MLLW due to economic justification.

The new access channel extends 1,200 feet from the Inner Harbor Basin to the entrance of the Small Boat Basin, and varies in width from 140 feet to 210 feet with a channel depth of -15 feet MLLW.

Local cooperation. The local sponsor is the Crescent City Harbor District. The Project Cooperation Agreement was signed in June 2000 and satisfied the requirements of the Water Resources Development Act of 1986, as amended, PL 99-662. The agreement includes the following requirements: 1) provide lands, easements, rights-of-way, and dredged material disposal areas; 2) pay 10 percent of the costs of new construction; and 3) pay an additional 10 percent plus interest of the project costs allocated to general navigation features within a period of 30 years following completion of construction.

Terminal facilities. The Harbor contains a commercial small boat basin with 240 permanent berths and temporary moorings for approximately 20 vessels, a 250 slip recreational mooring facility, two fish processing plants with docks, a main dock, a marine repair facility, a U.S. Coast Guard dock, and other auxiliary commercial and recreational facilities.

Operations during fiscal year. New Work: Construction completed in November 2000. Maintenance: None.

2. HUMBOLDT HARBOR, CA

Location. The project is located in Humboldt Bay, about 280 miles north of San Francisco.

Existing project. Adopted by Acts of March 3, 1881, July 5, 1884, August 5, 1886, July 3, 1892, March 3, 1889, June 25, 1910, July 3, 1930, August 30, 1935, August 26, 1937, July 16, 1952, and August 1968. The project consists of: 1) a Bar and Entrance Channel -48 feet deep, tapering from a width of 1,600 feet at seaward mile 0.9 to 500 feet at seaward mile 0.2 and then 500 feet wide to mile 0.8; 2) a North Bay Channel -38 feet deep and 400 feet wide between mile 0.75 and mile 4.29; 3) an Outer Eureka Channel 35 feet deep and 400 feet wide between mile 4.29 and mile 5.0; 4) an Inner Eureka Channel between mile 5.0 and mile 6.30 which is 26 feet deep and 400 feet wide; 5) a Samoa Channel -38 feet deep and 400 feet wide between mile 4.29 and mile 5.84; 6) a Turning Basin beyond mile 5.84 at the upper end of the Samoa Channel which is -38 feet deep and 1,000 feet wide by 1,000 feet long; 7) an Anchorage Area 35 feet deep and 1,200 feet wide by 1,200 feet long in the North Bay between the Entrance Channel and Gunther Island (the anchorage area is not maintained); 8) a Fields Landing Channel 26 feet deep and 300 feet wide and a turning basin at mile 3.16 which is 600 feet wide and 800 feet long; and 9) Arcata Channel located in the extreme North Bay (18 feet deep and 150 feet wide) is no longer used for commercial navigation and has not been maintained since 1931.

The Water Resources Development Act of 1996 authorized deepening the Bar and Entrance Channel to a depth of -48 MLLW; deepening the North Bay Channel, Samoa Channel, and Samoa Turning Basin to a depth of -38 feet MLLW; widening the north side of the Entrance Channel an additional 200 to 275 feet; moving the southern edge of the Entrance Channel away from the South Jetty and to the north by 100 feet; and widening and realigning the entrance to the Samoa Turning Basin. Project cost is $16,689,000 of which $12,099,000 is Federal cost (includes $200,000 Coast Guard cost) and $4,590,000 is non-Federal cost (includes $1,680,000 non-Federal reimbursements).

Local cooperation. The local sponsor is the Humboldt Bay Harbor, Recreation and Conservation District. The Project Cooperation Agreement was signed in March 1999 and satisfied the requirements of the Water Resources Development Act of 1986, as amended, PL 99-662. The agreement includes the following requirements: 1) provide lands, easements, rights-of-way, and dredged material disposal areas; 2) pay 25 percent of the costs of construction; and 3) pay an additional 10 percent plus interest of the project costs allocated to deep draft navigation within a period of 30 years following completion of construction.

Terminal facilities. The harbor serves six deep water breakbulk terminals with storage space for 120,000,000 board feet of logs/lumber and 100,000 metric tons of woodchips and warehouse space for 1,000,000 board feet of lumber and 51,000 metric tons of wood-pulp and particle board.

Operations during fiscal year. New Work: Construction completed in April 2000. Maintenance: Normal O&M dredging was performed with the Terrapin Island and Yaquina. A combined total of 1,311,658 cubic yards were removed at a cost of $4,245,457. All dredged material was deposited in the permanently designated, Government-furnished, Humboldt Open Ocean Disposal Site (HOODS).

3. OAKLAND HARBOR, CA

Location. Oakland Harbor is located in the City of Oakland, California, on the eastern shore of central San Francisco Bay immediately south of the San Francisco-Oakland Bay Bridge.

Existing project. Adopted by Acts of June 23, 1874, June 25, 1910, September 22, 1922, January 21, 1927, April 28, 1928, July 3, 1930, March 2, 1945, and October 23, 1962. The project was originally completed February 1975, to a depth of 35 feet MLLW, except for deepening the tidal canal to 35 feet from Fortman Basin to Park Street, and to 25 feet above Park Street which was deauthorized November 1977. Reconstruction of the Fruitvale Avenue Highway Bridge was completed in December 1973 and turned over to local interests for operation and maintenance. The project was authorized to deepen to 42 feet in the Water Resources Development Act of 1986 (WRDA 1986), Pub. L. No. 99-662, which was completed in July 1998. The project was again authorized to deepen to 50 feet in WRDA 1999, Pub. L. 106-53. The deepening work is ongoing and scheduled to be completed in FY 10.

The project consists of an entrance channel to Oakland Outer Harbor, 50 feet deep, accessed from San Francisco Bay and 800 feet wide across the shoal southeast of Yerba Buena Island, narrowing to 600 feet at Oakland Mole; followed by a channel and turning basin, 50 feet deep and from 600 to 950 feet wide in the outer harbor to the former Oakland Army Base. The project also provides an entrance channel to Oakland Inner Harbor, 50 feet deep and 600 feet wide to Howard Terminal and 35 feet deep to the west end of Coast Guard Island (formerly Government Island), with additional widening to within 75 feet of the pierhead line in front of Grove and Market Street (formerly municipal) piers and along the south side of the channel from Harrison Street eastward to harbor line point 119 in Brooklyn Basin; a channel 35 feet deep and 500 feet wide through Brooklyn Basin; for a triangular area 35 feet deep and about 2,700 feet long with a maximum width of 300 feet at the western end of Brooklyn Basin; a channel along the north side of Brooklyn Basin is 35 feet deep and 300 feet wide for 1,300 feet, than 25 feet deep and 300 feet wide for 3,700 feet to a turning basin at east end of Brooklyn Basin which is 35 feet deep, 500 feet wide, and 1,200 feet long; there is a channel in the tidal canal that is 35 feet deep and 275 feet wide from Brooklyn Basin to Park Street, than 18 feet deep to San Leandro Bay. The total channel length from San Francisco Bay to San Leandro Bay is 8-1/2 miles. The project also includes parallel rubble mound jetties at the entrance to inner harbor, north jetty 9,500 feet long and south jetty 12,000 feet long. Three highway bridges span the tidal canal at the southeastern end of the project, two of which (at Park Street and High Street) have been replaced by local interests while the third, the Fruitvale Avenue Highway Bridge (formally known as the Miller-Sweeney Highway Bridge), was constructed by the Federal Government and turned over to the County of Alameda in 1974. The Federal Government also constructed the Fruitvale Avenue Railroad Bridge in 1951 which spans the tidal canal just west of the Miller-Sweeney Bridge. The County of Alameda operates and maintains the railroad bridge on behalf of the Federal Government on a cost reimbursable basis.

Oakland Harbor is the 2nd largest port on the West Coast and the 4th largest container port in the nation. Traffic is primarily container ships. Ports around the world are increasing channel depths and expanding throughput capacity to compete for the next generation of deep-draft container ships. The Port has again partnered with the Federal government and is currently deepening the federal channels of the Oakland Harbor and Port-maintained berths to depths of 50 feet below MLLW as authorized in WRDA 1999. In constructing this project, the Port expects to dredge up to 12.8 million cubic yards of sediment, which will require reuse and disposal. If the Port does not get down to 50 feet, shipping companies will bypass the Port of Oakland altogether. This will hurt not only the Port of Oakland, but the overall Bay Area economy as well. The Recommended/Locally Preferred Plan has a benefit-cost-ratio greater than 8 to 1. The estimated construction cost is $421 million, including $48 million of local service facilities (LSF) (berth rehabilitation & deepening). Dredged material will be placed at the San Francisco Deep Ocean Disposal Site (SF-DODS), Middle Harbor Enhancement Area (MHEA), Hamilton Wetlands Restoration Project site, and the Montezuma Wetlands Restoration Project site.

Local cooperation. A draft Project Cooperation Agreement satisfying the requirements of the Water Resources Development Act of 1986, Pub. L. No. 99-662, was sent to Corps Headquarters for review and approval in early Feb 2001. The final PCA was executed on 24 May 2001. The agreement includes the following requirements: (1) provide lands, easements, rights-of-way, and dredged material disposal areas; (2) pay 25 percent of the costs allocated to deep draft navigation during construction to a depth in excess of 20 feet but not in excess of 45 feet; (3) pay 50% of the costs allocated to deep draft navigation during construction in excess of 45 feet; and (4) pay additional 10 percent plus interests of the costs allocated to deep draft navigation within a period of 30 years following completion of construction. Deepening to 42 feet MLLW was completed in July 1998. The Port of Oakland completed a feasibility study to deepen Oakland Harbor to 50 feet MLLW at 100% Port cost under the authority of Section 203 of WRDA 86 and will be credited 50% of the cost of the study during construction. The project was authorized in WRDA 99 with an estimated project cost of

$284 million with an average annual navigation benefit of $178 million. Construction began in October 2001 with a demolition contract for the Inner Harbor Turning Basin (IHTB). The IHTB Phases I and II were completed in 2003 and 2006, respectively. The outer harbor was deepened to a depth of 50 feet in November 2008. The inner harbor is scheduled to be deepened to 50 feet in August 2009. The MHEA containment structure was completed in February 2006 and the MHEA bulk fill was completed in July 2007.

Terminal facilities. The port occupies 19 miles of waterfront on the eastern shore of San Francisco Bay. There are 665 acres of marine terminal facilities, 20 deepwater berths and 35 container cranes, including 29 of the Post-Panamax type. On-dock covered storage space exceeds 600,000 square feet. Two major railroads, Burlington Northern-Santa Fe and Union Pacific serve the port.

Operations during fiscal year. New Work: the ongoing -50 feet deepening project continued work in the outer harbor and will begin deepening the inner harbor in June 2008. Maintenance: The Contractor removed 335,792 cubic yards of maintenance material from the outer harbor at a cost of $3,711,637. The contractor removed approximately 68,750 cubic yards of shoaling from the inner harbor at a cost of $1,100,000. All dredged material was disposed at the Hamilton Wetlands Restoration Project site in FY08.

Operation of the Fruitvale Avenue Railroad Bridge and Miller-Sweeney Highway Bridge cost approximately $190,000 while maintenance of the Fruitvale Avenue Railroad Bridge cost approximately $28,000. The Corps does not fund maintenance for the highway bridge. Other activities accomplished in FY 08 included monitoring of the SFDODS and Sonoma baylands disposal sites, management and disposal activities related to the Inner Harbor Tidal Canal, and support for the Dredged Material Management Plan (DMMP)and LTMS.

4. RICHMOND HARBOR, CA

Location. Richmond Harbor is located in central San Francisco Bay, in Contra Costa County in the City of Richmond.

Existing project. The existing navigation channel extends from deep water in San Francisco Bay into the Port of Richmond. The Southampton Shoal Channel and Long Wharf Maneuvering Area, at the entrance to the harbor channels are maintained to -45 feet MLLW. The Entrance Channel, Potrero Reach Channel, Potrero Sharp Turn, Inner Harbor and about half of the Santa Fe Channel, to -38 feet and the remainder of the Santa Fe Channel from the Lauritzen Channel confluence to -30 feet. The width of the navigation channel is 600 feet for most of its length to Point Richmond with one maneuvering area: in front of the Long Wharf. At Potrero Reach, the 500 foot width flares to about 600 feet at Point Potrero with a turn at the point, 1,200 feet wide and 38 feet deep. Thence, the channel continues into the Inner Harbor at a width of 850 feet in a northerly direction to the entrance of the Santa Fe Channel. The Santa Fe Channel extends northwesterly at a width of 200 feet into the upper basin terminus. A turning basin is provided at Point Richmond, and a rubble-mound training wall extending 10,000 feet westerly from Brooks Island is also provided in the Potrero Reach. For details, see page 1977 of Annual Report for 1915 and page 1646 of Annual Report for 1938.

Improvements consisted of a construction plan involving four and one-half miles of channel between Richmond Long Wharf and the Santa Fe Channel. The project deepened the existing -35 foot channels to -38 feet, and provided a turning basin of 1,200 feet near Point Potrero. Approximately 2,200,000 cubic yards of sediment were dredged and transported to aquatic and upland disposal sites. Construction was completed in August 1998.

The project cost was $40,000,000 of which $28,300,000 was Federal cost (includes $130,000 Coast Guard costs) and $11,700,000 is non-Federal cost (includes $1,310,000 non-Federal reimbursements).

The existing project was authorized on October 27, 1965. Previous projects were authorized by Acts adopted in 1917, 1930, 1935, 1938, 1945 and 1954. The proposed improvements are authorized by the Water Resources Development Act of 1986, PL 99-662.

Local cooperation. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the local sponsor complied with the following requirements: (1) pay 10 percent of the costs to 20 feet below mean lower low water and 25 percent of costs between 20 and 45 feet below mean lower low water and (2) reimburse an additional 10 percent with interest of the costs allocated to general navigation facility of the project within a period of 30 years following completion of construction; and (3) provide all lands, easements, rights-of-way, relocation and dredged material disposal areas necessary for the projects. The value of lands, easements, rights-of-way and dredge disposal areas can be credited toward the payment required under item (2) above.

Terminal activities. The Port of Richmond encompasses nine privately-owned terminals and seven terminals owned by the Port.

Operations during fiscal year. New Work: Construction project completed in May 1998. Maintenance: Operations and Maintenance dredging of Richmond Inner and Outer Harbor was performed by the GLDD Hopper Dredge Terrapin Island. The Terrapin Island removed a total of 303,000 cubic yards of shoal material from the Inner 11,000 cubic yards and Outer Harbor 292,000 cubic yards, at a total cost of $3,235,376 (Note - the dredging volume quantities were uncharacteristically low in FY 08). The FY 08 Operations and Maintenance dredging was completed in July 2008. Disposal was at the Alcatraz in-bay Disposal Site, SF-11.

5. SACRAMENTO RIVER DEEP WATER SHIP CHANNEL, CA

Location. The project is located on the Sacramento River, between Collinsville and the Port of Sacramento, a distance of approximately 43 miles, in the counties of Sacramento, Contract Costa, Solano and Yolo, CA.

Existing project. Existing waterways are inadequate to efficiently accommodate vessels currently using the channel. Because of the depth restriction, only 20% of the world's fleet can currently load to full design depth. Once deepened, the Port of Sacramento will be able to accommodate 70% of the world's fleet at full design draft. The project plan is to deepen the existing 30 feet Sacramento River Deep Water Ship Channel from Collinsville to the Port of Sacramento, a distance of about 43 miles, to 35 feet, and widen the channel as necessary. The project provides for establishment of wetland habitat and upland habitat to mitigate for such losses. Current project estimate is $57,340,000 and is comprised of Federal cost (Corps) of $27,980,000; Federal cost (Coast Guard-for navigation aids) of $300,000 and non-Federal cost of $29,060,000.

Local cooperation. A Local Cooperation Agreement (LCA) was signed with the local sponsor, the Port of Sacramento, in June 1986. A modification to the LCA, necessitated by the Water Resources Development Act of 1986, was executed in December 1988. The local sponsor will provide lands, easements, rights of way and dredged material placement areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities, where necessary in the construction of the project; and pay 25 percent of the costs allocated to deep draft navigation during construction.

Terminal facilities. All main wharves at Sacramento have rail connections. The facilities are considered adequate for existing commerce.

Historical summary. Funds to initiate pre-construction planning were appropriated in fiscal year 1982. Project construction was authorized by the Supplemental Appropriations Act of 1985 and modified by the WRDA 1986. The General Design Memorandum was approved and the Record of Decision was signed in May 1987. The modified LCA was executed in December 1988. The first construction contract for deepening was awarded in February 1989 and completed in July 1990. A second construction contract was awarded in September 1990 and completed in August 1991. Construction from River Mile 43 to River Mile 35 has been completed. In fiscal year 1992, the sponsor requested suspension of the project due to their inability to meet their cost share requirements. Congressional direction (Conference Report 105-749, dated September 25, 1998), prompted by the sponsor's renewed interest in completing the project, the Corps began to develop a study plan to prepare a Limited Reevaluation Report (LRR). In June 2002, the project was transferred from the Sacramento District to the San Francisco District in order to capitalize on the regional dredging expertise. Existing channel designs were refined, a material sampling and testing plan was developed, available dredge material disposal sites were evaluated, and the environmental documentation revised to address changes in habitat and species impact. In 2005, the sponsor requested suspension of the project due to their inability to meet the cost share agreements. In 2007 the sponsor in cooperation with the Port of Oakland, renewed its interest to again support the study and ultimately resume construction of the 35-foot channel as soon as possible.

Operations during fiscal year. The Limited Reevaluation study with supplemental Environmental Impact statement was restarted. Major accomplishments for FY 08 included conducting a Public Scoping meeting in June, development of a sediment sampling and analysis plan, and re-initiation of environmental coordination with resource agencies.

6. SAN FRANCISCO BAY TO STOCKTON, CA (JOHN F. BALDWIN AND STOCKTON SHIP CHANNELS)

Location. The project consists of the navigational channel system, initiating at the San Francisco Bay, and extending over 50 miles to the Port of Stockton.

Existing project. The existing project was adopted by 1965 River and Harbor Act (H. Doc. 208, 89th Cong., 1st sess., contains latest published map). The project consists of deepening the San Francisco Bar to 55 feet; constructing a new channel in upper San Francisco Bay through Richmond to 45 feet; deepening the Pinole Shoal Channel in San Pablo Bay to 45 feet (currently 35 feet); deepen the Suisun Bay Channel to 45 feet to Chipps Island (currently 35 feet); and deepen the Stockton Deep Water Ship Channel to 35 feet to the Port of Stockton. Several attempts have been made since the initial construction to deepen portions of the channel system; however, environmental opposition to potential impact to water quality as a result of the deeper channel has halted any attempt to construct the authorized project.

Local cooperation. The Port of Stockton and Contra Costa County Water Agency are the non-Federal sponsors in support of deepening the entire project. A resolution by the Committee on Public Works and Transportation of the United States House of Representatives, September 24, 1992, requested a review of the report of the Chief of Engineers to determine whether modifications of the recommendations are advisable at the present time for navigation and other purposes from Carquinez Strait to Stockton. The Energy and Water Development Appropriation Act of 1998 included an appropriation of $100,000 for the Corps of Engineers to initiate a reconnaissance study of deepening the Port of Stockton's main ship channel to 40'. The Sacramento District (SPK) prepared the reconnaissance report in September 1998, which indicated a Federal interest in deepening the project. In June 2002, the project was transferred from the Sacramento District to the San Francisco District in order to capitalize on the regional dredging expertise. A General Reevaluation Report (GRR) was initiated in July 2002, under the existing 1965 construction authority.

Terminal facilities. See Port Series No. 30, revised 1991, No. 31, revised 1991, and No. 32, revised 1986, titled respectively: "The Ports of San Francisco, Redwood City, and Humboldt Bay, Calif."; "The Ports of Oakland, Alameda, Richmond, and the Ports on Carquinez Strait, Calif."; and "The Ports of Sacramento, Stockton, Pittsburg, and Antioch, Calif." Facilities are considered adequate for existing commerce and will be adequate for future commerce upon completion of new terminal facilities.

Operations during fiscal year. After a positive initial assessment of the project economics and environmental impacts associated with a potential channel deepening to 40 feet, the GRR was initiated in July 2004 to determine an optimal depth to deepen the existing 35-foot navigational channel system from the San Francisco Bay to the Port of Stockton. Aerial and hydrographic surveys of the project limits were conducted to develop a Digital Terrain Model (DTM) in which to evaluate levee conditions, capacity of disposal sites, and limitations to channel realignment. Water quality models are being run to assess the potential impact a deeper channel may have on salinity intrusion and dissolved oxygen content within the channel. Additional water quality issues are being addressed with the Central Valley Regional Water Quality Control Board in hopes of identifying achievable testing protocol for dredge material disposal. A Draft Supplemental Environmental Impact Statement/ Report are scheduled to be released for public review in September 2010.

7. SONOMA BAYLANDS WETLANDS DEMONSTRATION PROJECT, CA

Location. The Sonoma Baylands site is located in Sonoma County, CA, approximately 25 miles north of San Francisco near the mouth of the Petaluma River, on the northern shoreline of San Pablo Bay.

Existing project. Authorized by Water Resources Development Act of 1992. The project includes restoration of tidal wetlands on 348 acres of diked lands, including construction of 11,645 feet of replacement levee around the landward periphery of the site, fifteen internal peninsulas for wave protection, three weirs for the discharge of dredged material supernatant, and modification of three existing high voltage electrical towers. Project included placement of 207,000 cubic yards of maintenance-dredged material from the Petaluma River navigation channel in a pilot project area and placement of 1.7 million cubic yards of suitable dredged material from the Oakland Harbor deepening projects on the remainder of the site. Placement of material was completed on November 6, 1995.

The project cost is $8,900,000, of which $6,675,000 is Federal cost and $2,225,000 is non-Federal cost. Oakland deepening to -42' MLLW was completed in July 1998.

Local cooperation. The California State Coastal Conservancy signed a Project Cooperation Agreement on May 6, 1994 satisfying the requirements of the Water Resources Development Act of 1992, PL 102-580 and signed an amendment on December 9, 1994 to include the placement of Oakland Harbor dredged material. The local sponsor must comply with the following requirements: (1) provide lands, easement, and right of ways; (2) modify or relocate utilities, roads, bridges (except railroad bridges) and other facilities, where necessary in the construction of the

project; (pay 25 percent of the total project cost in accordance with Section 106 of the Water Resources Development Act of 1992. The local sponsor has also agreed to make all required payments concurrently with project construction.

Terminal facilities. N/A

Operations during fiscal year. The project was restored to tidal action on October 25, 1996. Monitoring of the project is continuing. Project was turned over to California Coastal Conservancy in August 1998 for operation, maintenance, repair, replacement, and rehabilitation of the functional portion of the project.

8. SAN FRANCISCO BAY-DELTA MODEL STRUCTURE, CA

Location. The model, including a Class A regional visitor center, is located in Sausalito, CA, adjacent to San Francisco Bay about two miles north of the Golden Gate Bridge.

Existing project. The San Francisco Bay/Delta Model, which covers 17 miles of the Pacific Ocean beyond the Golden Gate, all of San Francisco Bay proper, San Pablo Bay, Suisun Bay, and all of the Sacramento-San Joaquin Delta east of Suisun Bay to the cities of Sacramento on the northeast and Stockton and Tracy on the south, was constructed in a rehabilitated warehouse at Sausalito, CA, as a part of the San Francisco Bay and Tributaries, CA, Study authorized by the River and Harbor Act of May 17, 1950 (PL 81- 516, Section 110). The model was authorized as an operation and maintenance project in the Water Resources Development Act of 1974 (PL 93-251, Section 8). The model successfully reproduces to the proper scale the rise and fall of the tide, flow and currents of water, salinity intrusion, and trends in disposition of sediments. It is a useful tool to examine forces existing in the bay and estuarine system and to predict results of proposed changes.

Local cooperation. None required.

Operations during fiscal year. Maintenance: Operations and maintenance of the model continues.

Historical summary. Original model construction was initiated 1956 and completed 1957. The addition of the Sacramento-San Joaquin Delta to the original model was initiated 1966 and completed 1969. Annual visitation to the model averages between 140,000 to 150,000 people. The central exhibits were completed in December 1981. Extensive exhibit upgrade for the Visitor Center and development of Cooperative Association completed September 30, 1989. An active volunteer program exists at the Visitor Center providing approximately 150 hours of effort monthly. The hydraulic engineering department closed 4 January 2000. The Visitor Center operations continue to offer public information-educational services via programs, exhibits, and special events. The Visitor Center is currently developing new interpretive and exhibit plans.

Total cost of regional visitor exhibits and model as of September 30, 2008, was $48,724,831of which $25,007,843 was for the regional visitor center, $1,395,117 for exhibits, and $22,321,871 for maintenance.

9. SAN FRANCISCO BAY LONG TERM MANAGEMENT STRATEGY (LTMS), CA

Location. The San Francisco Bay Long-Term Management Strategy (LTMS) for dredged material disposal covers deep and shallow draft navigation channels of the San Francisco Bay region including Central San Francisco Bay, South Bay, San Pablo Bay and Suisun Bay environs.

Existing project. The San Francisco Bay region has an annual disposal requirement of approximately 2.4 million cubic yards (mcy) to maintain navigation channels. The Bay also has a new civil works requirement of approximately 19 mcy. In January 1990, the Army Corps of Engineers, the Environmental Protection Agency, Region IX, the San Francisco Bay Regional Water Quality Control Board and the San Francisco Bay Conservation and Development Commission convened with approximately 30 interested agencies and organizations with concerns regarding dredged material disposal in San Francisco Bay. These four agencies have the responsibility for regulation of the waters of the US and California for disposal of dredged material.

The four agencies and the concerned navigation interests formed the LTMS to develop technically feasible, economically prudent, and environmentally acceptable long range solutions to the dredging and disposal needs for the San Francisco Bay region over the next 50 years. In determining acceptable dredged material disposal locations, the LTMS is evaluating a broad array of potential ocean, in-Bay and non-aquatic beneficial uses disposal alternatives.

Local cooperation. Pursuant to their regulatory responsibilities, the Division Commander of the South Pacific Division, Corps of Engineers; the Regional Administrator of the Environmental Protection Agency, Region IX; the Chair of the San Francisco Bay Regional Water Quality Control Board and the Chair of the San Francisco Bay Conservation and Development Commission agreed to jointly undertake the development and implementation of a Long Term Management Strategy

(LTMS) for dredging and disposal of dredged materials from the region. Based on the outputs from the LTMS, the Regional Water Quality Control Board (RWQCB) and the Bay Conservation and Development Commission (BCDC) will consider modifications to the dredging elements of their respective Basin and Bay Plans for San Francisco Bay.

Regulatory Streamlining: Besides identifying implementable disposal options, the LTMS will: (1) develop coordinated regional disposal policies between federal and state agencies; (2) provide a required decision-making framework for dredging and disposal projects; (3) streamline existing permit and testing procedures; and (4) provide a long term site monitoring apparatus and feedback mechanism.

Operations during fiscal year. In 1994, the Environmental Protection Agency (EPA) designated a deep ocean disposal site. In 1996, the Corps, EPA, and the State of California implemented a joint agency Dredged Material Management Office (DMMO) for dredging permit processing.

The Final LTMS EIS was finalized in October 1998 and the Record of Decision was signed in July 1999. The EIS identified Alternative 3 as the preferred alternative which would limit future dredged material disposal to 20% in the San Francisco Bay, 40% in the ocean, and 40% for upland beneficial reuse. The ROD initiated implementation for Federal agencies.

In December 2001, the South Pacific Division Commander, EPA's Region IX Administrator, the Chair of the San Francisco Bay Regional Water Quality Control Board, the Chair of the San Francisco Bay Conservation and Development Commission, and the Executive Committee of the State Water Resources Control Board, as the members of the LTMS Executive Committee, approved the final LTMS Management Plan, directing implementation of the program. Adoption of the management plan will require amending the Bay and Basin Plans. BCDC amended the San Francisco Bay Plan in December 2000 and the RWQCB amended the San Francisco Basin Plan in June 2001.

In general, the first phase of implementation will focus on the completion of the Corps Regional Dredge Material Management Plan for San Francisco Bay, with a future project-by-project analysis for "practicability" in terms of fiscal and environmental impacts that would then be assembled as a regional composite EIS. This effort was initiated in October 2001. Activities in FY 08 consisted of: continuing development of the Regional Dredge Material Management Plan; continuing in the second year of the three year juvenile salmonid distribution study in the Bay-Delta; development of a programmatic Essential Fish Habitat (EFH) report for use by the resource agencies; development of the DMMO sediment database; peer review of methyl mercury study report which analyzes methylation/demethylation rates in the creation of wetlands habitat at the Hamilton Wetlands Restoration Project (HWRP) site; studying the impacts of dredging activities on herring eggs; and development of detailed work plans to continue assessing science data needs for sensitive fish species in San Francisco Bay

10. RECONNAISSANCE AND CONDITION SURVEYS

Reconnaissance and condition surveys of channels dredged in Fiscal Year 2008 and jetty structures were conducted on the following projects: Berkeley Breakwater, Bodega Bay, Bullshead Channel, Crescent City Harbor, Islais Creek, Larkspur Ferry, Mare Island Strait, Moss Landing, Northship Channel, Napa River, Noyo River, NY Slough, Petaluma River, Pillar Point, Pinole Shoal, Redwood City, Richardson Bay, Richmond Harbor, San Bruno Shoal, San Leandro Breakwater, San Rafael, and Suisun Slough; all in California. Fiscal year costs were $979,306.

11. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645 (preauthorization).

Fiscal Year total costs were $1,544,891 of which $6,014 for Coordination Account and $1,538,877 was for Oyster Point Harbor, CA.

Mitigation of shore damages activities pursuant to Section 111, Public Law 90-483 (preauthorization).

None.

12. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Beach erosion control activities pursuant to Section 103, Public Law 87-874 (preauthorization).

Fiscal Year total costs were $17,417 of which $16,399 was for East Cliff Drive and $1,018 for Bay Farm Island Dike.

Shoreline Erosion Control Development & Demo PGM activities pursuant to Section 227, Public Law 104-303 (preauthorization).

Fiscal year total costs were $0.

Flood Control

13. CORTE MADERA CREEK, CA

Location. Creek and tributaries drain an area of 28 square miles in Marin County, CA, and flow into west side of San Francisco Bay about 9 miles north of Golden Gate.

Existing Project. Provided for about 11 miles of channel improvements, including realignment, enlargement, levees, riprap, rectangular concrete sections, interior drainage facilities, bridge relocations, and debris removal on Corte Madera Creek and lower reaches of its tributaries, and a continuous channel rights-of-way to deep water in San Francisco Bay reserved to assure channel outlet in the event of future tideland reclamation. Water Resources Development Act of 1986 modified existing project to set upper limit of construction at Sir Francis Drake Boulevard and Portion of project upstream of Sir Francis Drake Boulevard previously classified inactive was modified on November 17, 1986 to eliminate any channel modification. Current project has 3 miles of channel enlargement and levees, about 1.8 miles of rectangular concrete channel improvements, and 450,000 cubic yards of redredging on lower Corte Madera Creek.

Local Cooperation. Local interests must provide lands and rights-of-way, including suitable areas for disposal of waste material, modify or relocate all bridges and utilities necessary for construction and maintenance; hold the United States free from damages due to the construction works; maintain and operate the project after completion in accordance with the regulations prescribed by the Secretary of the Army, and prevent encroachment on flood channels that would result in decreasing the effectiveness of project for flood control; adjust all claims regarding water rights that might be affected by the project; and contribute in cash 1.5 percent of Federal construction cost of Ross Valley units 1-4 and tidal areas. Marin County Flood Control and Water Conservation District previously furnished resolution of local assurances dated March 29, 1966, March 28, 1967, August 15, 1967, and July 8, 1969, and Marin County Board of Supervisors reaffirmed by letter dated September 28, 1978. Project was authorized by the State of California by 1965 Statute, Chapter 1388. Board of Supervisors of Marin County Flood Control and Water Conservation District furnished assurances of willingness and ability to meet requirements for portion of project below Sir Francis Drake Boulevard.

On December 13, 1983, Marin County Board of Supervisors reconfirmed assurances of local cooperation because a Superior Court judgment ordered that county to take all steps required by law to complete channel downstream of Sir Francis Drake Boulevard (Unit 4) and maintain entire project as agreed. A Local Cooperation Agreement for redredging the lower reach of Corte Madera Creek was executed on June 29, 1985. Marin County also provided support for Ross Valley Unit 4 by resolution on March 24, 1987 and by the resolution on September 13, 1988.

The Marin county board of supervisors passed Resolution 96-26 on February 1, 1996 to complete the remaining portion of the project to the 40-year level of protection. The General Reevaluation Report (GRR) was initiated in February 1999. As long as the originally authorized project remains the recommended project, the 1966 authorized cost sharing and financing requirements will be applicable. A community-based Design Advisory Committee has been created with representatives from Ross, Kentfield, Corte Madera, and Larkspur to provide community input on the conceptual plan. The conceptual plan is based on the Marin County Board of Supervisors' Design Guidelines for a consensus plan which was approved in 1996.

The GRR will be developed in two phases. Phase I developed alternatives based on the design guidelines and determined that the project benefits exceed the costs. Design and construction of Unit 4 and attendant features in the downstream units will be determined by the GRR. The communities of Corte Madera, Larkspur, Kentfield, and Ross reviewed the alternatives screening conference report summarizing Phase I during 2000. The non-Federal sponsor, Marin County Flood Control District 9, collected community resolutions passed in 2000 and 2001, and in April 2001 made a consolidated recommendation on the locally preferred plan. The Town of Ross reviewed Corps analyses of impacts of the recommended plan and changed their endorsement in 2003, which was followed by a new consolidated recommendation in May 2003. Using a

NOAA Fisheries grant, a local group employed biologists and engineers to develop a more detailed concept design for Unit 4 that allows both fish passage and flood flows. Phase II will complete the GRR and environmental documentation.

Operations during fiscal year. Due to limited funds available, efforts were focused on developing the hydrology for several new alternatives to the flooding problems along Corte Madera Creek. In addition, a Public Scoping Session was held to kick-off the preparation of the Environmental Impact Statement/Report. Efforts were made to develop the existing environmental conditions within the project and assess potential impacts by the alternatives being considered.

Historical summary. Project responsibility was transferred to Sacramento District on April 1, 1982. The Marin County Board of Supervisors passed Resolution 96-26 on February 1, 1996 to support a 40-year project. Project responsibility was transferred back to San Francisco District on October 1, 1996.

Project is about 77 percent complete, not including the portion removed from the project upstream of Sir Francis Drake Boulevard. Work remaining: Design construction of the remaining 800 feet of channel downstream of Sir Francis Drake Boulevard and Ross Creek and minor improvements to the 2,200 feet of channel already constructed below Ross. The portion of Corte Madera Creek upstream of the intersection of Sir Francis Drake Boulevard and Corte Madera Creek in Ross, near the city of San Anselmo, was classified inactive on July 11, 1984, due to lack of local support, and removed from the project by WRDA 1986.

A Local Cooperation Agreement for redredging the lower reach of Corte Madera Creek was executed June 29, 1985. Construction on Lower Corte Madera Creek Channel was completed and transferred to Marin County Flood Control and Water Conservation District by letter of May 28, 1987; San Francisco District monitors maintenance and operation of the project. The project was transferred from Sacramento District in October 1996. Design process began in the San Francisco District to complete Unit 4.

14. LLAGAS CREEK, CA

Location. The Llagas Creek Flood Control Project is located in southern Santa Clara County, California, in the vicinity of the communities of Morgan Hill, San Martin, and Gilroy.

Existing project. Llagas Creek is a conduit to the Pajaro River and the Monterey Bay for a 104-square mile watershed around Morgan Hill and Gilroy. The creek system is especially prone to flooding, having recorded floods in 1937, 1955, 1962, 1963, 1969, 1982, and in 1997. Primarily, the project consists of channel improvements and a diversion channel providing a 100-year level of protection to urban areas and 10-year protection to agricultural areas.

The Llagas Creek Flood Control Project is separated into 14 reaches. Of these, the Natural Resources Conservation Service (NRCS) completed Reaches 1, 2, 3, 9, 10, 11, 12 and 13 and prepared preliminary designs for the remaining reaches (1967). The Water Resources and Development Act (WRDA) of 1999 authorized the U.S. Army Corps of Engineers to complete the remaining reaches of the project "substantially in accordance with the NRCS plans". Further congressional direction to the Corps to build the project, as authorized to NRCS, is contained in WRDA 2007 Sec 3022.

The total project cost is $95,000,000 of which $58,000,000 is Federal cost and $37,000,000 is non-Federal cost.

Local cooperation. Per the original NRCS authority, the project sponsor, Santa Clara Valley Water District is required to pay the Land, Easements, Rights-of-Way, Relocation, and Disposal Areas costs of the project. The City of Morgan Hill remains an active stakeholder.

Operations during fiscal year. A supplemental Environmental Impact Statement (EIS) is necessary due to the changes in the environmental habitat within these reaches, overall watershed use, and Federal and State law. Preliminary designs of the remaining reaches have been prepared and the supplemental EIS/R has been initiated. Completion of final designs and the supplemental EIS is on hold, pending congressional appropriations. The without project hydrology and hydraulics was finalized, and the project cost estimate was updated.

15. PETALUMA RIVER, CA

Location. The Petaluma River Basin is situated in the Sonoma and Marin Counties, California, on the northwestern shore of San Pablo Bay. The project site extends upstream approximately 500 feet from Lynch Creek to the spur line Railroad Bridge located approximately 600 feet downstream of the Lakeville Street Bridge.

Existing project. The project was re-authorized under

Section 112 of the Water Resources Development Act of 2000. The scope of the project consists of constructing the U-shaped channel, an earthen trapezoidal channel including the channel excavation and widening, the two hundred (200) feet concrete constriction weir, an approximately one – mile – long sheet pile flood / retaining wall along both sides of the main channel, two (2) storm drain pump stations, twelve (12) storm drain outlet structures in various locations of the channel, two (2) large mitigation areas including planting in the embankment slope throughout the project site, two-hundred (200) foot long transition channel work, replacing two (2) vehicular bridges and two (2) railroad bridges, with one (1) new mainline railroad bridge and one industrial spur line and demolishing the existing railroad wood trestle.

Present estimated cost of the project is $41,500,000 of which $26,975,000 is Federal cost and $14,525,000 is non-Federal cost.

Local cooperation. The project was executed based on the original Petaluma River Project Cooperation Agreement in July 1996 under the Continuing Authorities Program, Section 205 – Small Flood Control Projects. The project costs have exceeded the Continuing Authorities Program cost limits and were specifically authorized in WRDA 2000, Section 112. Further, Congressional direction in the House Report 106-693 accompanying the Energy and Water Development Appropriations Bill 2001 provides guidance to the Corps to utilize the available federal funds to continue project construction.

Operations during fiscal year. New work: The construction of Contract #1 for the U-shaped channel portion was completed in December 1998. The construction of the Payran Bridge was completed under the local sponsor's contract in 1996 and 1998, respectively. The construction contract #2 for the trapezoidal channel was awarded in May 1999. The features of work in contract #2 completed in September 2000 included the floodwall\retaining wall in both sides of the channel, the channel widening and excavation, the constriction weir, the flood control features including the two (2) Storm Drain Pump Stations and the storm drain outlets and the mitigation planting throughout the project site. Contract #2 was completed in May 2001. The remainder of the work to be completed, including the resolution of problems with the Holmberg mitigation site will be included in Contract #3. The mainline Railroad Bridge, one of the two railroad bridges under construction by the local sponsor's contract, was completed early April 2001. Contract #3 for the Channel Transition completed in April 2002, Contract #4 for the mainline railroad approach, including the demolition of the existing railroad wood trestle was completed in February 2005. Contract 5A, channel excavation under the Payran and Lakeville bridges and installation of emergency generator at the Payran Pump Station was completed in May 03. Contract 5B, slide repair to trapezoidal channel was completed in September 2003. Design, Independent Technical Review (ITR) and Biddability Constructability Operation Environmental (BCOE) of Industrial Spur Line and Sheet Pile Wall were completed in FY05. Project completion currently suspended due to lack of funds. Two unanticipated events occurred in FY 2006 which will necessitate the project exceeding its 902 limit, an embankment failure occurred which must be repaired and HQ USACE mandated that all flood walls meeting certain criteria must be inspected as a result of lessons learned post Katrina. Condition survey was performed in February 2002. Operations and maintenance dredging of the Petaluma River Channel was completed in October 2003. Condition survey of river channel performed in June 2008. No dredging of the river performed due to funds received being inadequate to award dredging contract.

16. RUSSIAN RIVER BASIN, CA

Location. Russian River rises in Coast Range in northwestern California, flows southerly for 87 miles, and then turns westerly to flow for 23 miles to Pacific Ocean at Jenner, 60 miles northwest of San Francisco, CA. (For general location see Geological Survey map for California.)

Existing project. Active authorized project provides for construction of a dam on East Fork of Russian River at Coyote Valley to a height of 160 feet; a dam on Dry Creek at Warm Springs to a height of 319 feet; and channel stabilization works on Russian River between mouth and mile 98, on lower reaches of several tributaries, and on Dry Creek downstream from dam. Project also provides for expansion of fish hatchery capacity at Dry Creek, Warm Springs, to compensate for fish losses on Russian River attributed to operation of Coyote Dam component of project. Coyote Valley Dam (Lake Mendocino), completed in 1959, and Warm Springs Dam (Lake Sonoma), completed in 1983, are operated and maintained by the United States with fisheries facilities operated and maintained under contract to the California Department of Fish and Game. (See tables 34-I and 34-J for latest approved estimated costs).

Local cooperation. Local sponsors have fully complied with Coyote Valley Dam and channel improvements accomplished to date. For the Dry Creek portion, local interests are required by the authorizing act to comply with requirements for channel improvements and, in addition, prevent any encroachment in the channel of Dry Creek which would interfere with proper functioning of the channel improvement works; adjust all claims concerning water rights arising from the

construction and operation of the improvements, including acquisition of water rights needed for preservation of fish and wildlife resources affected by the project; and reimburse the United States in accordance with the Water Supply Act of 1958, as amended, for that part of the joint-use construction cost, (30.2 percent currently estimated at $103,760,000) and an ultimate 32.5 percent of the annual operation, maintenance, and replacement joint-use costs allocated to municipal and industrial water supply. The estimated annual cost to local interests for maintenance of channel improvement works is $80,000. Sonoma County Water Agency (formerly Sonoma County Flood Control and Water Conservation District) provided assurances of willingness and ability to meet requirements by Resolutions No. DR 00793-1, September 25, 1961, No. DR 4770-1, December 17, 1962 and No. DR 45759, August 5, 1974, for Dry Creek (Warm Springs) Lake and Channel. By letter dated March 7, 1967, Sonoma County Flood Control and Water Conservation District further indicated their interest in optimization of the Dry Creek (Warm Springs) damsite to provide additional water supply storage. Reimbursement to the United States for Dry Creek (Warm Springs) Lake and Channel costs allocated to 212,000 acre-feet of water supply storage is specified in a water supply contract with the local sponsor approved in October 1982. Local interests have expended approximately $1,000,000 to provide partial flood protection in the project area and have constructed facilities at an approximate cost of $20,000,000 to distribute water from the completed Coyote Valley reservoir.

Operations and results during fiscal year. New work: Replaced control tower derrick and hoist gearbox housing for operating stop log gate. Coyote Valley Dam: Replaced SST toilets with new vault toilets and ordered two more CXT prefabricated restrooms for FY 04. Other work included modifying existing sewer system to reduce the number of confined space entry areas, completing wooden water tanks with steel at Kyen & Bushay campgrounds and Overlook day-use area; repaving roads at Overlook, Mendocino Drive Road, and Southboat Ramp Parking lot; and repairing the emergency slide gate in the control tower. New playground equipment was installed in the Cha-Ka-Ka Campground. Installed vibrating wire piezometers for on going right abutment groundwater study. Crest alignment survey completed in FY-08. Dry Creek (Warm Springs) Lake and Channel: Engineering activities continued. Major work includes initiating a new Coho salmon recovery program which included adding new rearing facilities for the endangered Coho. Installation of the Critical Project Security Program improvements was completed in July 2005. Maintenance: Coyote Valley Dam: Operation and maintenance continued. Structures were maintained in serviceable condition. Runoff of East Fork Russian River at Coyote Dam was normal for the year. Maximum storage of 82,024 acre-feet occurred on March 11, 2008. Maximum hourly inflow to reservoir was 2,497 cubic feet per second on February 2008. Maximum release of 961 cubic feet per second occurred on February 16, 2008. Dry Creek (Warm Springs) Lake and Channel: Operation and maintenance continued. Structures were maintained to a serviceable condition. Runoff of Dry Creek at Warm Springs Dam was normal for the year. Maximum storage of 247,769 acre-feet occurred February 28, 2008. Maximum hourly inflow to reservoir was 8,382 cubic feet per second on February 10, 2008. Maximum release of 1,016 cubic feet per second occurred March 2, 2008.

Historical summary. Entire project, exclusive of recreation facilities at completed project (Lake Mendocino), is about 99 percent complete. Coyote Valley Dam, initiated November 1958, was completed April 1959 (cost $17,550,000, of which $11,952,000 was Federal; and $5,598,000 contributed). Work, including removal of slides resulting from storms in 1958, was completed April 1959. Bank stabilization work on Russian River near Geyserville was completed in 1957 and channel improvements in remaining reaches on Russian River and East Fork of Russian River were completed in 1974 (cost $2,483,900). Dam safety assurance studies were initiated at Coyote Dam in fiscal year 1984.

Warm Spring construction completion include fish hatchery in December 1980, project overlook in May 1981, reservoir clearing in July 1981, downstream stabilization sills in October 1981, dam closure in October 1982, spillway repair at Warm Springs Dam in September 1985, boat launching facilities, Phase I, in September 1985, Rockpile Road Upgrade, Yorty Creek Beach, and remedial work at Liberty Glen camping area in September 1990, fish hatchery expansion in September 1992, final control tower grouting, dam access road repair, spillway stabilization, fish hatchery emergency water supply in September 1993, and Liberty Glen wastewater system and contaminated soil remediation. Initial filing of Warm Springs' reservoir was commenced on November 1, 1984. Responsibility for construction was transferred to Sacramento District in October 1983.

In April 1982, recreation and resource management responsibility for the two projects was transferred to the Sacramento District. Responsibility for civil works operation & maintenance functions for the two projects was transferred back to San Francisco district October 1, 1996.

17. UPPER GUADALUPE RIVER, CA

The Upper Guadalupe River Project area is located in the City of San Jose, Santa Clara County, California. The reach of the river proposed for improvement begins at interstate Highway 280 at the edge of downtown San Jose and extends south for about 6.2 miles.

The feasibility study evaluated a variety of non-structural and structural plans of improvement for flood protection in the Upper Guadalupe basin. The Final Feasibility Study Report and Environmental Impact Statement/Report were submitted to South Pacific Division on January 30, 1998. This report recommended Federal participation in a project providing protection from the 2% chance event (also commonly referred to as 50 year protection). The locally preferred plan provides protection from the 1% chance event (commonly referred to as 100 year protection). The Division Engineer's Public Notice was issued on February 27, 1998 and a Chief of Engineer's Report was signed August 19, 1998. The project was authorized for construction in the 1999 Water Resources Development Act.

The Design Agreement for the follow-on Pre-construction Engineering and Design (PED) phase was signed on February 25, 1999. PED was initiated in April 1999. Due to the post authorization change in environmental species listings and a need to reanalyze costs and benefits of the project a Final Limited Re-evaluation Report (LRR) was submitted to the ASA (CW) office for approval on May 27, 2005. The LRR which recommended the implementation of locally preferred plan (protection from the 1% chance event) was subsequently approved by the ASA (CW) for full Federal participation. 2007 reauthorized the project at a total cost of $256,000,000. The Project Cooperation Agreement to initiate construction was signed 23 July 2007.

Operations during fiscal year. Reach 10B plans and specifications were finalized and a $2 million construction contract was awarded to 8a firm, Hard Rock Construction. Reach 12 design was completed to 95% level. Contracts were awarded for invasive species removal and necessary vegetation clearing in Reaches 10B and 12 to prepare for construction of these reaches. Soil testing contracts for Reaches 10B and 12 completed and a soil placement and removal plan was finalized with the Regional Water Quality Control Board.

18. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Section 3, Flood Control Act of June 22, 1936, as amended and supplemented, included a requirement that local interests maintain and operate completed flood control works in accordance with regulations prescribed by the Secretary of War. Inspections made throughout the year to determine effectiveness of operation and maintenance by local interests of completed local protection projects and works constructed under emergency and special authorities of Sections 205 and 208 of the 1948 Flood Control Act, Section 14 of the 1946 Flood Control Act, and Public Law 99, 84th Congress. In addition, encroachments to Federal Projects such as new bridges, etc. must be reviewed and approved prior to construction by the local sponsor, as well as in compliance with the Clean Water Act permit and endangered species concerns regarding their operations and maintenance activities. Fiscal year cost was $738,866. Total cost to September 30, 2008 was $6,063,877. See Table 34-H for inspections made this fiscal year.

19. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood Control activities pursuant to Section 205, Public Law 858, 80th Congress, as amended (preauthorization).

Fiscal year costs were $587,259 for flood control studies of which $7,451 were for Coordination Account; $106,026 for San Pedro Creek, Pacifica, CA; $24,179 for Las Gallinas Creek; and $449,604 for White Slough.

Emergency flood control activities-repair, flood fighting and rescue work (Public Law 99, 84th Congress, and antecedent legislation).

Fiscal year cost incurred for emergency flood control activities were $1,099,806 of which $567,118 were for the Disaster Preparedness Program; $0 for Emergency Operations; $532,688 for Rehabilitation Inspection Program.

Emergency bank protection (Section 14, 1946 Flood Control Act, Public Law 526, 79th Congress).

None.

20. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

In accordance with sec. 7, Flood Control Act of 1944, summaries of monthly reservoir operations at Del Valle, CA were prepared. No water control manual revisions were completed due to environmental issues. Corps personnel provided advice as requested during flood control operations at the reservoir. Fiscal year cost was $58,015.

21. MISCELLANEOUS WORK UNDER SPECIAL AUTHORIZATION

Project Modification for Improvement of Environment (Section 1135, PL 99-662).

Fiscal year total costs were $0.

Aquatic Ecosystem Restoration (Section 206, PL 104-303).

Fiscal year total costs were $368,908 of which $8,908 was for Coordination Account; $307,933 for Salt River Restoration, CA; $11,867 for Upper York Creed Dam Removal, CA; and $40,201 for St. Helen-Napa River Restoration, CA.

Environmental Improvement

22. HAMILTON AIRFIELD WETLANDS RESTORATION, CA

Location. The Hamilton Wetland Restoration project is located at the former Hamilton Army Airfield south of the city of Novato, California.

Existing project. The project calls for restoration of approximately 1,000 acres of habitat that includes coastal salt marsh, seasonal wetlands, tidal channels and intertidal habitats. The project will provide habitat for endangered species such as Chinook salmon, California clapper rail, brown pelican, California black rail and salt marsh harvest mouse. The wetlands will also support shorebirds and waterfowl migrating along the Pacific Flyway. The wetlands and associated habitats that will be restored are especially valuable due to the scarcity and declining amount of this habitat type in California and the dependence of listed threatened and endangered species on this unique resource.

More than 10 million cubic yards of dredged material is needed for the project. About 3 million cubic yards of material will come from the Port of Oakland's –50-foot harbor deepening project. The remaining seven million cubic yards of material will come, primarily, from other local and federal operation and maintenance projects around San Francisco Bay. Dredged material will be tested to ensure that it is suitable for wetlands construction.

Use of the material for wetlands restoration also avoids the necessity of disposing of it elsewhere in the bay or in the ocean, consequently wasting a resource that can be better used for habitat restoration. This concept is part of the Long Term Management Strategy for the disposal of material dredged from San Francisco Bay. This strategy was created in partnership with federal and state agencies, navigation interests, fishermen, environmental organizations and the general public in 1990, to develop long-term solutions and policies for dredged material disposal that favor reuse. The project will be built using a phased approach that coincides with the availability of real estate parcels and dredged material. Initial geotechnical investigations to characterize soil properties began in late October 2001, as part of the Pre-construction Engineering and Design Phase of the project.

The project had built levees to bound the wetlands that will be created by increasing the internal elevation of the site with dredge material. Internal berms and levees were constructed on the airfield parcel to contain the slurried sediment. Most of the buildings in the wetland area were also removed. Further site preparation will continue in FY09. The Port of Oakland -50 Foot Deepening project 3E contract utilized a dedicated Offloader to pump dredged material from an off-shore platform to the restoration site. As of September 2008, 1.73 million cubic yards of dredged sediment have been place at the Hamilton Airfield site. Once all the sediment has been placed on the site and the residual water drained from the site, the bayward levee will be breached and the waters of San Francisco Bay will be allowed to flow across the land.

The existing project was authorized in the Water Resources Development Act of 1999. Public Law 106-53 authorizes the Secretary of the Army to implement an ecosystem and wetland restoration project at the Hamilton Army Airfield and adjacent properties, City of Novato, Marin County, California. The project cost per the Project Cooperation Agreement of 22 April 2002 was $65,190,000 of which $48,900,000 is Federal cost and $16,290,000 is non-Federal cost (includes $5,200,000 Port of Oakland costs according to Oakland Project Cooperation Agreement).

Water Resources Development Act of 2007 § 3018, Pub. L. No. 110-114, 121 Stat. 1041 (WRDA 07) added the adjacent 1612-acres parcel of Bel Marin Keys Unit V,

increasing the authorized project from 988 acres to approximately 2,600. The combined project provides for the restoration of both sites through the beneficial reuse of approximately 24.4 million cubic yards of dredged material. The current total project cost is $228,100,000,with an estimated Federal cost of $171,100,000 and an estimated non-Federal cost of $57,000,000.

Local cooperation. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the local sponsor must comply with the following requirements: (1) pay 25 percent of the total project cost and (2) provide all lands and easements, rights-of-way, and relocations necessary for the project. The value of lands, easements, rights-of-way, and relocations can be credited toward the payment required under item (1) above.

The Corps and the non-Federal sponsor, California State Coastal Conservancy (SCC) will be negotiating the Project Partnership Agreement amendment to include the Bel Marin Keys Unit into the overall Hamilton project.

Operations during fiscal year. The HWRP constructed several levees and internal berm structure to support the delivery of Oakland material and federal O&M material. In addition the Oakland Deepening project constructed the Hydraulic and associated pipeline to provide the facilities for pumping and placing material into the HWRP site.

23. SAN RAMON VALLEY RECYCLED WATER, CA

Location. The project is located in the San Ramon Valley, Contra Costa and Alameda Counties, approximately 25 miles east of San Francisco, California.

Existing project. The project runs from Danville south to Dublin. The project will include design and construction of 8 pump stations, 8 storage reservoirs, and 135 miles of pipeline. The total project cost is $150,000,000 of which $15,000,000 is Federal cost and $135,000,000 is non-Federal cost. The district is currently involved in the design of one pump station and 6,500 feet of pipeline. The current project estimate for this design is $5,992,650 and is comprised of Federal cost (Corps) of $4,494,487 and non-Federal cost of $1,498,163. The existing project was authorized in the Water Resources Development Act of 1999, Section 502, b (42).

Local cooperation. A Design Agreement was signed with the local sponsor, East Bay Municipal Utilities District, in November 2002.

Operations during fiscal year. Investigations were conducted in FY 2003 to identify property that could be purchased by the sponsor as a site for the pump station. A contract was awarded in August 2003 for the preliminary design of the pump station. The Preliminary Design was completed in September 2004.

Investigations

24. SURVEYS

Fiscal year costs for surveys were $3,431,366 of which $3,790 were for navigation studies; $2,552,752 for Flood Damage Prevention; $0 for Shoreline Protection Studies; $823,009 for Special Studies; $4,072 for Watershed Comprehensive Studies; $16,935 for Miscellaneous Activities; and $38,388 for Coordination Studies with Other Agencies.

25. COLLECTION AND STUDY OF BASIC DATA

Fiscal year total costs of $95,856 were incurred for Flood Plain Management Services.

26. PRECONSTRUCTION ENGINEERING AND DESIGN

LLAGAS CREEK, CA

See Llagas Creek under Flood Control on pg 34-10 for project location and description. PED activities during the fiscal year include initiating geotechnical study for final design.

NOYO RIVER AND HARBOR, CA

Noyo River rises in the Coast Range, flows westerly, and empties into Noyo Harbor. Noyo Harbor is a cove on the California Coast about 87 miles south of Humboldt Bay and 135 miles northwest of San Francisco. The 1962 Rivers and Harbors Act, modified by the 1976 Water Resources Development Act, authorized up to two breakwaters as necessary to provide protection. The 1976 Water Resources Development Act, as modified by the Water Resources Development Act of 1986, authorized construction of additional channel improvements. Recommended plans of improvement for the breakwater and channel improvement

were previously considered as a single project. Due to significant differences in the time required for planning and construction, each part is now reported separately.

The plan of improvement for Noyo River and Harbor (Breakwater), CA provides for one detached offshore 400-foot breakwater aligned in a north-south direction along the southern portion of Noyo Cove, west of the entrance channel in Noyo Harbor. The plan also provides for a 60-foot wide channel, 7 feet deep, for a distance of about 3,000 feet upstream from the end of the existing Federal project to the Dolphin Isle Marina. The June 1995 draft General Design Memorandum (GDM) estimated the breakwater cost at $23,312,000 of which $18,712,000 is Federal cost and $4,600,000 is non-Federal cost. Subsequent to the draft GDM, the Conference Report on H.R. 1905, Energy and Water Development Appropriation Act of 1996 directs the Corps to investigate the viability of a pre-fabricated steel structure in lieu of a rubble mound breakwater, including modeling. A special report, which documented this evaluation, was completed in January 1997. A meeting with the Local Sponsor, PG&E and the City of Fort Bragg was held 5 February 1997 to discuss the Corps' findings. Integrating wave power generation to the breakwater does not decrease the Sponsor's annualized cost because the Sponsor is required to pay all costs associated with power generation. Two letters from the Noyo Harbor District, dated 26 February 1997, requested the Corps finalize the GDM and discontinue study of integrating wave power generation into the breakwater. Due to sponsor's inability to fulfill its cost-sharing requirements, preparation of a final GDM was terminated.

PAJARO RIVER AT WATSONVILLE, CA

The Pajaro River is the dividing line between Santa Cruz and Monterey County located approximately 100 miles south of San Francisco on Monterey Bay. Flooding in the city of Watsonville, the town of Pajaro, and surrounding agricultural lands prompted a re-examination of flood damage prevention in the Pajaro basin.

The project provides for modification of the existing levee system built by the Corps in 1949 and includes 2.5 miles of flood control levees and/or floodwalls on Salsipuedes Creek and Corralitos Creek, tributaries of the Pajaro River, as well as pump systems located outside of existing levees on the Pajaro River. The tributaries are located 6 miles from the river mouth. Since the only alternative with Federal interest was within the existing 1966 Rivers and Harbor Act construction authority, the reconnaissance study was certified in August 1994 with the recommendation to proceed directly to a General Re-evaluation Report (GRR) on raising levees along a portion of Corralitos and Salsipuedes Creeks. Flooding along the main stem of the Pajaro River in January and March 1995 caused in excess of $65,000,000 in damages. Additional damages were incurred during the floods of January 1997 and February 1998. The main-stem was, therefore, incorporated into the ongoing GRR for the creeks.

The Corps has identified NED plans for both the main-stem and the creeks. The non-Federal sponsors, the counties of Santa Cruz and Monterey, have carried out a public consensus building process to develop locally preferred plan (LPP) which is acceptable to both agricultural and environmental interest. The Corps of Engineers supports this process by providing technical expertise and, when the process concludes, will incorporate the LPP with the NED as the recommended plan that will go forward into detailed design in the GRR. Contingent on funding, the GRR would be completed in FY 09 and construction could begin in the summer of FY 10.

. SAN RAFAEL CANAL, CA

San Rafael Canal, also known as San Rafael Creek, is located on the northwestern shoreline of San Francisco Bay in the city of San Rafael, about 17 miles north of the city of San Francisco. The Canal is a shallow-draft, mainly light commercial and recreational, channel consisting of two distinct sections, the Inner Canal channel and the Across-the-Flats channel. San Rafael's central business district and dense residential areas surround the Inner Canal section while the Across-the-Flats portion traverses San Francisco Bay to reach deepwater.

A study was authorized by a resolution adopted by the Committee on Public Works and Transportation of the United States House of Representatives on August 8, 1984, Section 142 of the Water Resources Development Act (WRDA) of 1976 (Public Law 94-587), as subsequently amended in Section 705 of WRDA of 1986 (Public Law 99-662) to examine alternatives to prevent damage caused by storm and tidal flooding in the central San Rafael area. The project was authorized for construction in Section 101 of WRDA of 1996.

The Feasibility Study recommended the South Floodwall Plan. This plan consists of approximately 9,500 linear feet of floodwall constructed along the south bank of the canal and 1,600 feet of sheet-pile floodwall along the crest of the Bayfront levee on the east side of the canal ways tract. The South Floodwall Plan has a benefit-to-cost ratio of 2.0 to 1. The estimated project cost is $32,200,000 of which $20,930,000 is Federal cost and $11,270,000 is non-Federal cost. Preconstruction Engineering and Design was initiated in October 1992. The Corps proposed a continuous floodwall design to replace the South Floodwall Plan, which was estimated to save between $11.6 to $14.1 million compared to the South Floodwall Plan, as recommended in the Feasibility Study. A letter was sent to the City of San Rafael in December 1996 requested Sponsor's agreement with the Corps proposal to finalize the project design based on the continuous floodwall concept. A District Engineer letter to the Mayor, City of San Rafael, dated 25 September 1997, informed the City that the project has been placed in a suspended status.

Operations during fiscal year. The operations and maintenance schedule provides for a 4-year maintenance dredging cycle for the Inner Canal channel and a 7-year cycle for the Across-the-Flats channel. Depths are –6 feet Mean Lower Low Water (MLLW) and –8 feet MLLW respectively. Dredging of Across-the-Flats was last completed in 1998. Condition surveys of both parts of the project were completed in FY 08.

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
	Bodega Bay, CA	New Work						
		Approp.	0	-	-	-	1,226,765	1 2 40
		Cost	0	-	-	-	1,226,765	1 3 40
		Maint.						
		Approp.	1,174,671	57,537	64,175	81,289	6,911,395	4 40
		Cost	1,195,567	58,207	63,505	81,289	6,911,395	4 40
		Major rehab.						
		Approp.	0	-	-	-	397,779	5
		Cost	0	-	-	-	397,779	5
13	Corte Madera	New Work						
	Creek, CA	Approp.	214,000	186,000	250,000	234,000	15,681,725	62
	(Federal Funds)	Cost	147,839	153,706	236,372	247,604	15,538,209	62
	(Contrib. Funds)	New Work						
		Contrib.	0	-	-	-	190,355	63
		Cost	0	-	-	-	190,213	63
	(Contrib. Funds,	New Work						
	Other)	Contrib.	0	-	-	-	804,761	64
		Cost	0	-	-	-	804,761	64
1	Crescent City	New Work						
	Harbor, CA	Approp.	0	-	-	-	11,289,577	6 40
		Cost	0	-	-	-	11,289,577	6 40
	(Contrib. Funds,	New Work						
	Other)	Contrib.	0	-	-	-	222,217	
		Cost	0	-	-	-	222,217	
		Maint.						
		Approp.	284,586	505,348	64,449	280,735	28,357,195	7 40
		Cost	279,611	167,733	79,512	87,003	27,498,322	7 40
		Major rehab.						
		Contrib.	0	-	-	-	525,000	8
		Cost	0	-	-	-	525,000	8
	Fisherman's Wharf	New Work						
	Areas, San Francisco	Approp.	0	-	-	-	9,199,000	41 48 50
		Cost	0	-	-	-	9,199,000	41 48 50
		Maint.						
		Approp.	0	19,072	41,286	18,385	465,935	51
		Cost	0	19,072	41,286	18,385	465,935	51

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
22	Hamilton Airfield	New Work						
	Wetland Restoration,	Approp.	5,208,000	10,870,000	10,000,000	8,512,000	55,255,800	
	CA	Cost	4,951,939	7,354,603	5,986,124	8,763,006	44,108,251	
	(Contrib. Funds)	New Work						
		Contrib.	8,666,000	-	-		11,685,919	
		Cost	2,005,237	3,222,236	996,281	1,248,746	12,758,630	
2.	Humboldt Harbor	New Work						
	And Bay, CA	Approp.	0	-	-	-	20,118,713	9 40
		Cost	146	-	-	-	20,118,620	9 40
	(Contrib. Funds)	New Work						
		Contrib.	0	-	-	-	3,700,000	
		Cost	0	-	-	-	3,392,632	
		Maint.						
		Approp.	4,083,000	5,149,000	5,014,000	5,181,000	135,438,813	10 40
		Cost	4,020,853	4,932,947	4,619,927	4,939,772	134,309,257	10 40
	Klamath River,	New Work						
	Klamath Glen	Approp.	0	-	-	-	557,900	65
	Levee, CA	Cost	0	-	-	-	557,818	65
	Larkspur Ferry	Maint.						
	Channel, CA	Approp.	14,174	-	19,896	-	4,276,677	
		Cost	-1,145	15,321	19,896	-12,851	4,279,146	
	Llagas Creek, CA	New Work						
		Approp.	321,000	-	250,000	-	3,197,239	
		Cost	159,187	60	183,522	-	2,967,139	
	Moss Landing	New Work						
	Harbor, CA	Approp.	0	-	-	-	338,215	11 40
		Cost	0	-	-	-	338,215	11 40
		Maint.						
		Approp.	370,011	1,554,379	969,451	1,183,000	18,820,173	12 40
		Cost	185,183	661,695	1,777,355	428,228	16,902,359	12 40
	Napa River, CA	New Work						
		Approp.	0	-	-	-	1,021,274	13 40
		Cost	0	-	-	-	1,021,274	13 40
		Maint.						
		Approp.	84,269	665,000	12,857	229,000	8,888,802	13 14 40
		Cost	84,269	60,656	73,386	42,510	8,154,153	13 14 40
	Noyo River and	New Work						
	Harbor, CA	Approp.	0	-	-	-	4,120,600	15 16 40
		Cost	0	-	-	-	4,120,596	15 17 40
		Maint.						
		Approp.	69,425	265,818	161,256	1,379,000	12,596,174	18 19 40
		Cost	67,538	174,757	161,924	141,663	11,175,496	18 19 40

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
		Minor rehab.						
		Approp.	0	-	-	-	222,810	20 40
		Cost	0	-	-	-	222,810	20 40
3	Oakland Harbor, CA	New Work						
		Approp.	0	-	-	-	93,137,475	21
		Cost	-53,490	-3,128	-	-	93,070,611	21
	(Federal Funds)	Maint.						
		Approp.	4,036,630	5,537,905	7,949,000	8,655,000	119,613,293	22
		Cost	3,338,492	1,788,285	11,191,900	6,137,597	112,100,846	22
	(Contrib. Funds)	New Work						
		Contrib.	0	-	-	-1,166,185	22,279,999	
		Cost	0	-	-	-	22,499,309	
	Oakland Harbor 50', CA	New Work						
		Approp.	24,340,000	49,370,000	50,000,000	40,878,000	253,796,482	
	(Federal Funds)	Cost	22,022,211	37,892,873	41,429,319	44,580,227	223,535,517	
	(Contrib. Funds)	New Work						
		Contrib.	20,000,000	10,000,000	5,000,000	6,166,185	84,205,714	
		Cost	21,081,241	10,810,955	13,132,780	4,867,671	81,884,403	
	Pinole Shoal Management, CA	Maint.						
		Approp.	467,000	432,286	548,364	512,000	2,130,286	
		Cost	103,495	420,017	718,601	456,002	1,856,483	
	Pajaro River at Watsonville, CA	New Work						
		Approp.	525,820	-	1,110,000	-	7,371,920	
		Cost	380,670	-	984,856	-	7,097,938	
15	Petaluma River, CA	New Work						
		Approp.	1,115,000	150,000	3,200,000	1,686,000	28,675,082	23 40
		Cost	847,084	321,369	454,058	1,886,624	25,762,434	66 40
		Maint.						
		Approp.	62,741	1,015,701	82,274	229,000	22,940,290	24 40
		Cost	62,189	158,616	135,267	10,724	21,060,278	24 40
	(Contributed Funds)	New Work						
		Contrib.	0	-	-	-	9,154,300	
		Cost	0	-	-	-	9,140,505	
	Pillar Point Harbor, CA	New Work						
		Approp.	0	-	-	-	6,697,396	43 44
		Cost	0	-	-	-	6,697,396	43 44
		Maint.						
		Approp.	176,582	495,226	42,705	1,206,000	5,338,973	44 45
		Cost	169,442	279,053	42,705	188,825	3,882,313	44 45

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
	Redwood City Harbor, CA	New Work						
		Approp.	0	-	-	-	1,672,722	25 40
		Cost	0	-	-	-	1,672,722	25 40
		Maint.						
		Approp.	931,231	3,773,852	1,910,000	2,000,000	37,629,842	26 40
		Cost	618,540	2,903,944	306,888	654,439	32,557,846	26 40
	Removal of Sunken Vessels	Maint.						
		Approp.	0	-	-	-	283,068	
		Cost	0	-	-	-	283,068	
4	Richmond Harbor, CA (Federal Funds)	New Work						
		Approp.	0	-	-	-	30,427,610	27 28
		Cost	0	-	-	-	30,427,410	27 28
		Maint.						
		Approp.	2,408,080	7,605,905	8,834,033	5,193,000	105,992,818	29 40
		Cost	1,421,530	5,066,482	10,714,517	5,095,089	101,705,304	29 40
		Minor rehab.						
		Approp.	0	-	-	-	164,689	
		Cost	0	-	-	-	164,689	
	(Contributed Funds)	New Work						
		Contrib.	0	-	-	-	7,356,596	
		Cost	0	-	-	-	7,356,596	
5	Sacramento River Deep Water Ship	New Work						
		Approp.	223,000	-	-	1,266,000	10,487,474	67
		Cost	26,386	172,266	11,153	463,449	9,846,422	68
	(Required Contrib. Funds)	New Work						
		Contrib.	53,100	-	-	273,550	3,284,650	
		Cost	229,073	83,268	2,637	-	2,998,469	
	(Contrib. Funds, Other)	Maint.						
		Contrib.	0	-	-	-	15,000	
		Cost	0	-	-	-	14,578	
16	Russian River Basin, CA, Coyote Valley Dam (Lake Mendocino) and Channel Improvements (Fed Funds) (Contrib. Funds)	New Work						
		Contrib.	0	-	-	-	14,435,869	54
		Cost	0	-	-	-	14,435,869	54
		Maint.						
		Approp.	4,424,000	3,798,000	4,140,000	7,806,000	91,398,557	55
		Cost	4,316,860	3,671,376	3,279,786	4,682,916	86,795,235	55
		New Work						
		Contrib.	0	-	-	-	589,911	56
		Cost	0	-	-	-	570,774	57

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
	Dry Creek (Warm Springs) Lake and Channel Improvements, CA	New Work Approp.	0	-	-	-	333,108,645	58
		Cost	0	-	-	-	333,081,773	58
	(Federal Funds)	Maint. Approp.	6,017,000	5,704,000	5,317,000	7,453,000	103,387,110	59
		Cost	4,811,840	5,995,118	5,176,401	6,096,570	99,824,270	59
	(Contrib. Funds, Other)	New Work Contrib.	0	-	-	-	230,574	60 62
		Cost	0	-	-	-	228,732	61 63
	San Clemente Creek, CA	Maint. Approp.	0	-	-	-	-	
		Cost	0	-	-	-	-	
6	San Francisco Bay to Stockton, CA (John F. Baldwin and Stockton Ship Channels)	New Work Approp.	333,000	198,000	200,000	403,000	41,008,228	42
		Cost	68,214	369,640	190,855	371,147	41,032,055	42
	(Contributed Funds)	New Work Contrib.	129,501	66,667	66,667	117,938	820,991	
		Cost	108,589	142,461	77,546	60,119	646,970	
8	San Francisco Bay and Delta Model, CA	New Work Approp.	0	-	-	-	-	
		Cost	0	-	-	-	-	
		Maint. Approp.	1,200,000	1,155,000	1,116,000	1,037,000	48,821,095	
		Cost	1,170,101	1,099,623	1,080,467	1,156,110	48,724,100	
9	San Francisco Bay Long Term Management Strategy (LTMS), CA	Maint. Approp.	1,236,000	1,420,000	1,591,000	2,560,000	23,019,670	
		Cost	871,137	1,378,236	855,426	1,424,416	20,695,556	
	San Francisco Harbor, CA	New Work Approp.	0	-	-	-	2,689,356	28 30 40
		Cost	0	-	-	-	2,689,356	28 30 40
		Maint. Approp.	1,964,000	1,859,600	1,906,000	2,751,000	56,631,596	31 40
		Cost	1,846,769	1,895,207	1,608,825	1,668,025	55,169,820	31 40
	San Francisco Harbor and Bay, CA (Removal of Drift)	New Work Approp.	0	-	-		-	
		Cost	0	-	-		-	
		Maint. Approp.	2,833,000	1,782,000	2,094,000	3,278,000	63,320,279	40
		Cost	2,436,218	2,071,573	1,785,902	2,316,427	61,904,671	40
	San Leandro Marina, CA	New Work Approp.	0	-	-		-	
		Cost	0	-	-		-	

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
		Maint. Approp.	0	683,571	43,178	1,169,000	9,401,769	32
		Cost	0	97,158	52,121	172,929	7,241,814	32
	San Pablo Bay and Mare Island Strait, CA	New Work Approp.	0	-	-	-	1,369,372	28 33 40
		Cost	0	-	-	-	1,369,372	28 33 40
		Maint. Approp.	129,447	2,871,240	794,000	1,406,000	57,805,137	34 40
		Cost	128,760	2,349,427	1,076,427	20,832	55,658,083	34 40
	San Rafael Canal, CA	New Work Approp.	0	-	-	5,467	2,184,667	
		Cost	0	-	-	5,467	2,184,664	
	San Rafael Creek, CA	New Work Approp.	0	-	-		32,359	40 47
		Cost	0	-	-		32,359	40 47
		Maint. Approp.	45,404	38,540	33,410	1,016,000	11,800,285	40 46
		Cost	42,205	38,540	33,410	29,101	10,810,186	40 46
23	San Ramon Valley Recycled Water, CA	New Work Approp.	304,000	2,970,000	1,500,000	2,808,000	10,993,550	
		Cost	280,788	215,257	166,134	2,501,222	3,804,903	
	(Contrib. Funds)	New Work Contrib.	90383	71,667	110,850	1,125,000	1,609,567	
		Cost	103648	152,320	43,464	102,237	553,989	
	Santa Cruz Harbor, CA (Federal Funds)	New Work Approp.	0	-	-	-	4,126,808	52
		Cost	0	-	-	-	4,126,808	52
	(Contrib. Funds)	New Work Contrib.	0	-	-	-	160,000	35
		Cost	0	-	-	-	160,000	35
		Maint. Approp.	0	38,162	4,197	63,278	10,073,000	40 53
		Cost	0	38,162	4,197	29,705	10,039,426	40 53
7	Sonoma Baylands Wetlands Demo Project, CA	New Work Approp.	0	-	-	-	6,320,065	
		Cost	0	-	-	-	6,312,064	
	(Contrib. Funds)	New Work Contrib.	0	-	-	-	906,560	
		Cost	0	-	-	-	796,980	
	Suisun Bay Channel, CA	New Work Approp.	0	-	-	-	200,928	36
		Cost	0	-	-	-	200,928	36

TABLE 34-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sep. 30, 2008	
		Maint.						
		Approp.	1,049,922	-	-	82,146	32,616,014	37
		Cost	238,832	-	-	82,146	30,577,841	37
	Suisun Channel, CA	New Work						
		Approp.	0	-	-	-	217,677	38
		Cost	0	-	-	-	217,677	38
		Maint.						
		Approp.	8681.4	2,657,000	2,815,000	2,856,000	5,867,143	39
		Cost	8681.4	2,378,013	1,866,908	2,471,030	5,482,173	39
17.	Upper Guadalupe	New Work						
	River, CA	Approp.	559,000	3,465,000	-	1,689,000	11,375,685	
		Cost	479,821	270,063	1,051,705	1,251,229	5,511,255	
	(Contrib. Funds)	New Work						
		Contrib.	0	-	-	-	3,517,000	
		Cost	-215,226	128,415	10,329	-	3,048,225	

1. Includes $641,800 for jetties, bulkheads, main Bodega Bay Channel and turning basin completed in 1943.
2. Includes $585,000 for Preconstruction Planning ($456,000 Construction General funds and $129,000 Investigation funds).
3. Includes $585,000 Preconstruction Planning costs ($456,000 Construction General costs and $129,000 Investigation costs).
4. Includes $1,256,757 for reconnaissance and condition surveys, FY 1956-2008. Excludes contributed funds of $385,134.
5. Excludes contribution funds of $2,000.
6. Excludes contributed funds of $271,116 and $2,138 surplus material from Corps military activities.
7. Excludes contributed funds of $44,340. Includes $1,423,614 for reconnaissance and condition surveys, FY 1956-2008.
8. Excludes $2,000 contributed funds in lieu of royalty-free rock.
9. Includes $2,261,371 for previous project. Excludes $95,000 contributed funds for existing project.
10. Includes $98,206 for previous project and $85,603 for reconnaissance and condition surveys, FY 1956-2008.
11. Excludes $5,337 previous project costs.
12. Excludes $8,539 surplus material from Corps' military activities. Includes $675,664 for reconnaissance and condition surveys, FY 1956-2008. Excludes contributed funds of $290,653.
13. Excludes previous project costs.
14. Includes $1,223,583 for reconnaissance and condition surveys, FY 1956-2008. Excludes $496,307 contributed funds.
15. Includes $11,985 for previous project. Excludes $7,180 contributed funds for previous project.
16. Includes $4,120,600 for Pre-construction Planning ($3,540,600 for Breakwater of which $500,000 allocated under Construction General and $3,040,600 under Investigations); ($580,000 for Channel Extension of which $165,000 allocated under Construction General and $415,000 under Investigations).
17. Includes $4,120,596 Preconstruction cost ($3,540,596 for Breakwater of which $500,000 was under Construction General and $3,040,596 under Investigations); ($580,000 for Channel Extension of which $165,000 was under Construction General and $415,000 under Investigations).
18. Includes $37,810 for previous project and $616.104 for reconnaissance and condition surveys, FY 1956-2008. Excludes contributed funds of $820 for previous project.
19. Excludes contributed funds of $4,000 in lieu of providing dike disposal areas on existing project.
20. Excludes contributed funds of $1,700.
21. Includes $2,899,232 for previous projects. Excludes $397,266 contributed funds on previous projects.
22. Includes $684,028 for previous projects and $275,070 for reconnaissance and condition surveys, FY 1956-2008. Excludes contributed funds of $45,853.
23. Includes $212,083 for previous project and $4,929,999 under Section 205 and $17,232,000 under Construction General. Excludes contributed funds of $15,559 for previous project.
24. Includes $314,692 for previous project and $1,232,027 for reconnaissance and condition surveys, FY 1956-2008. Excludes contributed funds of $192,424.
25. Includes previous project costs $31,443. Excludes $119,572 contributed funds for existing project.
26. Includes $1,380,244 for reconnaissance and condition surveys, FY 1956-2008.
27. Excludes contributed funds of $524,778. Includes $105,000 Public Works Administration funds.
28. Excludes modification authorized October 27, 1965, under project "San Francisco Bay to Stockton, CA (John F. Baldwin and Stockton Ship Channels)."
29. Excludes $115,536 contributed funds. Includes $601,394 for reconnaissance and condition surveys, FY 1956-2007.

30. Includes $1,030,399 for previous projects. Excludes $134,591 contributed funds for existing project. Includes $193,000 Public Works Administration funds.

31. Includes $475,321 for previous projects and $813,611 for reconnaissance and condition surveys, FY 1956-2008.

32. Authorized by FC Act of 1965 (Sec. 201); Maintenance R&H Act of 1970 (Sec. 103). Includes $446,473 for reconnaissance and condition surveys FY 1979-2007. See FY 1977 Annual Report for last full report. Excludes contributed funds of $885,712.

33. Includes $1,086,703 for previous projects.

34. Includes $1,510,140 for previous projects and $545,164 for reconnaissance and condition surveys, FY 1956-2008.

35. Excludes $810,046 contributed funds on previous project.

36. See Sacramento District FY 1974 Annual Report for detail.

37. Project maintenance responsibility to Point Edith was transferred to San Francisco District January 1, 1974. Excludes Sacramento District's portion. Includes $354,091 for reconnaissance and project condition surveys, FY 1976-2008.

38. Project maintenance assigned to San Francisco District from Sacramento District January 1, 1974. See Sacramento District 1972 Annual Report for full report.

39. Includes $755,318 for reconnaissance and condition surveys, FY 1978-2008. Includes $727,510 for previous project. Excludes $121,386 contributed funds.

40. See FY 1981 Annual Report for last full report.

41. Excludes Contributed Funds of $709,624.

42. See Sacramento District FY 1985 Annual Report for full report. Includes $39,170,200 under San Francisco District's Construction General. Excludes Sacramento District's funding of $27,766,800.

43. Excludes $100,000 contributed funds and $105,000 contributed in lieu of royalty-free rock.

44. See FY 1979 Annual Report for last full report.

45. Includes $494,778 for reconnaissance and condition surveys, FY 1970-2007.

46. Includes $860,558 for reconnaissance and condition surveys, FY 1970-2008. Excludes $93,500 contributed funds.

47. Excludes $41,094 contributed funds.

48. Includes $9,199,000 funds of which $8,499,000 was under Construction General and $700,000 under Investigations.

49. Includes $9,199,000 costs of which $8,499,000 was under Construction General and $700,000 under Investigations.

50. See FY 1987 Annual Report for last full report.

51. Includes $184,191 for reconnaissance and condition surveys, FY 1989-2008.

52. See FY 1988 Annual Report for last full report.

53. Includes $334,783 for reconnaissance and condition surveys, FY 1993-2008.

54. Excludes $5,598,000 contributed funds: $400,000 for recreation facilities at completed projects funded under Public Works Acceleration Program; and $1,628,411 for recreation facilities at completed projects funded under Code 711 at Coyote Valley Dam, Lake Mendocino.

55. Includes $94,459 special recreation use fees and costs (FY 1982-1983), but excludes prior special recreation fees and cost for Coyote Valley Dam, Lake Mendocino.

56. Includes $251,911 contributed funds, other from City of Ukiah for Coyote Valley Dam, Lake Mendocino, hydropower studies; and $338,000 from California Department of Boating and Waterways for launching facility at Lake Mendocino.

57. Includes $250,117 contributed funds, other costs for Coyote Valley Dam, Lake Mendocino, hydropower studies; and $320,657 for California Department of Boating and Waterways for launching facility at Lake Mendocino.

58. Includes $253,421,793 previous San Francisco construction funds and costs through August 1983 for Dry Creek, Warm Springs Dam.

59. Includes $964,114 previous San Francisco maintenance funds and costs through April 1982 for Dry Creek, Warm Springs Dam.

60. Includes $208,074 contributed funds, other, from Sonoma County for Dry Creek, Warm Springs, hydropower studies; and $22,500 from City of Ukiah for hatchery pump design at Lake Mendocino.

61. Includes $208,074 contributed funds, other, costs for Dry Creek, Warm Springs hydropower studies; and $20,658 costs for hatchery pump design.

62. Includes $7,303,725 San Francisco District construction funds and costs for Corte Madera Creek.

63. $8,695 contributed funds transferred to Sacramento District in FY 1983. Includes $97,400 San Francisco District required contributed funds and costs.

64. Contributed funds, other, and costs, from Marin County including $536,921 for miscellaneous bridge and road relocations and $267,840 for additional expenses for disposal sites at Corte Madera Creek.

65. See FY 1998 Annual Report for last full report.

66. Includes $212,083 for previous project and $4,929,823 under Section 205 and $17,199,024 under Construction General.

67. Includes unobligated carryover for continuation of planning and engineering (CP&E) funds as of September 30, 1985 ($33,474) for Sacramento River Deep Water Ship Channel to be included in project cost (for cost sharing) per TWX of September 9, 1985. Includes Sacramento District's FY 02 approp of $2,000 and San Francisco District's FY 02 approp of 117,000.

68. Includes Sacramento District's FY 02 cost of $27,983 and San Francisco District's FY 02 cost of 99,152.

TABLE 34-B AUTHORIZING LEGISLATION

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
1.		**CRESCENT CITY HARBOR, CA**	
	Jul. 18, 1918	A breakwater bearing S. 26-1/4 E. from Battery Point to Fauntleroy Rock and breakwater from the shore to Whaler Island.	H. Doc. 434, 64th Cong., 1st sess.
	Sep. 22, 1922	Modified condition of local cooperation which required that local interests construct a railroad from Grants Pass, Oregon to Crescent City so that a State Highway to Grants Pass would be an acceptable alternate.	Rivers & Harbors Committee Doc. 4, 67th Congress, 2nd sess.
	Jan. 21, 1927	Extension of the breakwater to a length of 3,000 feet and a reduced cash contribution required of local interests.	H. Doc. 595, 69th Cong., 2nd sess.
	Aug. 30, 1935	Maintaining by dredging of an outer harbor basin, 1,800 feet long, 1,400 feet wide and 20 feet deep, except in rock.	Rivers & Harbors Committee Doc. 40, 74th Cong.
	Aug. 26, 1937	Construction of a sand barrier from Whaler Island to the mainland and for maintenance dredging in the vicinity of the seaward end of the sand barrier.	Senate Committee Print, 75th Cong., 1st sess.
	Mar. 2, 1945	Extension of existing breakwater 2,700 feet to Round Rock (modified by Chief of Engineers, 1952).	H. Doc. 688, 76th Cong., 3rd sess.
	Mar. 2, 1945	Construction of inner breakwater and removal of pinnacle rock and other material from the harbor to a depth of 12 feet and a harbor basin with a project depth of 10 feet.	Report on file in office, Chief of Engineers.
	Oct. 27, 1965	Extension of inner breakwater and dredging of T-shaped harbor basin to depth of 20 feet.	H. Doc. 264, 89th Cong., 1st sess.
2.		**HUMBOLDT HARBOR, CA**	
	Mar. 3, 1881	Channel 10 feet deep by 350 feet wide to be dredged along Eureka waterfront, thence 8 feet deep by 200 feet wide west to natural channel; dredging Mad River Shoal to 8 feet deep.	H. Doc. 59 Cong., 3rd sess.
	Jul. 5, 1884	Construct South Jetty and continue channel improvements.	River & Harbor Approp Act of 1884
	Aug. 5, 1886	$75,000 continued improvement of Harbor with provision for title to 12 acres of land to be conveyed to the U.S.	River & Harbor Approp Act of 1886
	Jul. 3, 1892	Map and cost estimates for continuing Harbor improvements with provision for two parallel jetties.	Chief of Engrs Annual Report (p.3120) Annual River & Harbor, Approp Acts 1892-1899
	Mar. 3, 1899	Continuing Harbor improvements with provision for two parallel jetties.	H. Doc. 528, 55th Cong., 2nd sess.
	Jun. 25, 1910	Rebuilding the jetties and channel improvements to Arcata and Hookton.	H. Doc. 950, 60th Cong., 1st sess., H. Doc. 204, 61st, Cong., 2nd sess., H. Doc. 326, 61st Cong., 2nd sess.
	Jul. 3, 1930	Eureka Channel 20 feet deep and 300 feet wide; Samoa Channel 20 feet deep and 250 feet wide; Arcata Channel 18 feet deep and 150 feet wide; Fields Landing Channel 20 feet deep and 250 feet wide.	H. Doc. 755, 69th Cong., 2nd sess.
	Aug. 30, 1935	Entrance Channel 30 feet deep and 500 feet wide.	Rivers and Harbors Committee Doc. 14 74th Cong.,1st sess
	Aug. 26, 1937	Eureka Channel 26 feet deep and 400 feet wide; Samoa Channel 26 feet deep and 300 feet wide;	Rivers & Harbors Committee, Doc.

TABLE 34-B (Cont'd) **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
		Fields Landing Channel 26 feet deep and 300 feet wide; Turning Basin (off Fields Landing wharf) channel 26 feet deep, 600 feet wide and 800 feet long.	11, 75th Cong., 1st sess.
	Jul. 16, 1952	Bar & Entrance Channel 40 feet deep, tapered from 1,600 feet to 500 feet wide; North Bay Channel 30 feet deep and 400 feet wide; Eureka Channel 30 feet deep to mile 5.0; Samoa Channel 30 feet deep.	Rivers & Harbors Committee, Doc. 143, 82nd Cong., 1st sess.
	August 1968	North Bay Channel 35 feet deep; Samoa Channel 35 feet deep; widen turns at mile 0.75 and 2.6; provide a 1,200 by 1,200 foot anchorage in North Bay.	H. Doc. 330, 90th Cong., 2nd sess.
	Oct. 12, 1996	Bar and Entrance Channel 48 feet deep; North Bay Channel, Samoa Channel and Samoa Turning Basin 38 feet deep; widen the north side of the Entrance Channel an additional 200 to 275 feet; relocate the southern edge of the Entrance Channel away from the South Jetty and to the north by 100 feet; and widen and realign the entrance to the Samoa Turning Basin.	Section 10, Public Law 104-303, 1996 WRDA
3.		**OAKLAND HARBOR, CA**	
	June 23, 1874	Jetties.	Annual Report, Part II, 1874, P. 378.
	June 25, 1910	North channel in Brooklyn Basin, 25 feet deep, and tidal canal to 18 feet.	H. Doc. 647, 61st Cong., 2d sess.
	Sep. 22, 1922	Channel across shoal southeast of Yerba Buena Island and thence to Webster St.; South channel in Brooklyn Basin; Turning Basin at east end of Brooklyn Basin; and channel in Tidal Canal from Brooklyn Basin to Park St., 30 feet deep.	H. Doc. 144, 67th Cong., 2d sess.
	Jan. 21, 1927 [2]	Channel from Webster St. to Brooklyn Basin, maintain area to within 75 feet of pierhead line south of channel from Harrison St. to Harbor Line Point 119 in Brooklyn Basin; dredge a triangular strip about 2,700 feet long and maximum width of 300 feet at western end of Brooklyn Basin, 30 feet deep.	H. Doc. 407, 69th Cong., 1st sess. [1]
	Apr. 28, 1928	Local cooperation requirements modified to provide alteration or replacement of bridges by local interests shall apply only to that feature of project covering deepening tidal canal to 25 feet. Drawbridges across Tidal Canal were required by 1882 Decree of Court in condemnation proceedings whereby title was obtained to right-of-way for tidal canal.	Public Res. 28, 70th Cong.
	July 3, 1930	Entrance channel to outer harbor, 800 to 600 feet wide.	Rivers and Harbors Committee Doc. 43, 71st Cong., 2nd sess.
	Mar. 2, 1945	Eliminated requirement that local interests contribute 10 cents per cubic yard toward deepening tidal canal.	Doc. 466, 77d Cong., 1st sess.
	Mar. 2, 1945	Maintenance of 35-foot depth in channel to outer harbor and in outer harbor channel and turning basin.	Report on File in Office, Chief of Engineers
	Oct. 23, 1962 [3]	Deepen inner harbor 35-foot channels and lower 1,300 feet of north channel in Brooklyn Basin to 35 feet.	H. Doc. 353, 87th Cong., 2d sess. [1]

TABLE 34-B (Cont'd) **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
	Nov. 17, 1986	Deepen Inner and Outer Harbor channels to 42 feet. Widen entrance channel to 1,000 feet; relocate Outer Harbor turning basin 3,000 feet westward and widen turning basin to 1800 feet. Construct 1,200 foot turning basin in Inner Harbor.	Public Law 99-662, 1986 WRDA
	Aug. 17, 1999	Deepen Inner and Outer Harbor channels to 50 feet. Widen Outer Harbor turning basin diameter to 1650 feet and widen Inner Harbor turning basin diameter to 1500 feet.	Public Law 106-53, 106th Cong., 1999 WRDA
4.		**RICHMOND HARBOR, CA**	
	Aug. 8, 1917	Channel 24 feet deep and 600 feet wide from San Francisco Bay to Ellis Slough (Santa Fe Channel); a turning basin at Point Potrero; a training wall.	H. Doc. 515, 63rd Cong., 2d sess.
	July 3, 1930	A 30-foot channel with lessened widths; a turning basin at head of navigation.	Rivers and Harbors Committee Doc. 16, 70th Cong., 1st sess.
	Aug. 30, 1935 [4]	Increase project widths in inner harbor, maintenance of Santa Fe channel to 30 feet; approach areas in outer harbor to 32 feet.	Rivers and Harbors Committee Doc. 7, 73rd Cong., 1st sess., and 10, 74th Cong., 1st sess.
	June 20, 1938	Widen channel at Point Potrero and north thereof; enlarge and maintain to 30-foot depth turning basin at Terminal No. 1.	H. Doc 598, 75th Cong., 3rd. sess.
	Mar. 2, 1945	Channel 20 feet deep, 150 feet wide, in San Pablo Bay north of Point San Pablo.	H. Doc. 715, 76th Cong., 3rd. sess.
	Sep. 3, 1954	Channel 35 feet deep and 600 feet wide adjacent to Southampton Shoal; enlarge and deepen to 35 feet approach area to Richmond Long Wharf; widen and deepen inner harbor and entrance channels; deepen turning basin at Point Richmond and southerly 2,000 feet of Santa Fe Channel. Eliminate restriction that widening north of Point Potrero will not be undertaken until local interests furnish assurances industries will avail themselves of improved navigation facilities and reclamation of Reservation Point.	H. Doc. 395, 83rd Cong., 2nd sess. [1]
	Oct. 27, 1965	West Richmond channel 45 feet deep, 600 feet wide; enlarge and deepen to 45 feet maneuvering area at Richmond Long Wharf (Sacramento Dist. "San Francisco Bay to Stockton, Calif. (John F. Baldwin and Stockton Ship Channels)").	H. Doc. 208, 89th Cong., 1st sess. [1]
	Nov. 17, 1986	Deepen channel to 38 feet between Richmond Long Wharf and Santa Fe Channel. Construct 1,200 feet turning basin.	Public Law 99-662, 1986 WRDA

TABLE 34-B (Cont'd) **AUTHORIZING LEGISLATION**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
5.		**SACRAMENTO RIVER, CA**	
	Mar 3, 1899	A depth of 7 feet below Sacramento works.	H. Doc. 186, 55th Cong., 2d sess., and 48, 55th Cong., 3d sess. (Annual Report 1898, p. 2844 and 1899, p. 3171).
	Jan 21, 1927	The 10-foot channel up to Sacramento	H. Doc. 123, 69th cong., 1st sess.
	July 24, 1946	Modified existing navigation project for Sacramento River, CA, to provide for construction of a ship channel 30 feet deep and 200 to 300 feet wide from deep water in Suisun Bay to Washington Lake, including such works as may be necessary to compensate for or alleviate any detrimental salinity conditions resulting from ship channel; a triangular basin of equal depth, 2,400 by 2,000 by 3,400 feet at Washington Lake; and connecting channel 13 feet deep and 120 feet wide, with lock and drawbridge, thence to Sacramento River.	S. Doc. 142, 79th Cong., 2d sess.
	Nov 17, 1987	Deauthorization of shallow-draft channel, Colusa to Red Bluff, feature of project for navigation, Sacramento River, California.	Sec. 1002, 1986 WRDA
		Reiteration of Public Law 99-08 (Aug 15, 1985), which authorized construction of 35 ft channel	Sec 202(a), 1986 WRDA
	Dec 11, 2000	Reauthorization of Sacramento River, Major and Minor Tributaries and Chico Landing to Red Bluff, CA	Sec 305 (a) (1-2), WRDA - 2000
6.		**SAN FRANCISCO BAY TO STOCKTON, CA (JOHN F. BALDWIN AND STOCKTON SHIP CHANNELS)**	
	Oct. 27, 1965	i)Deepen the channel across San Francisco Bar to 55 feet without widening; ii) construct a new channel in upper S.F. Bay leading through the west navigation opening of the Richmond-San Rafael Bridge to 45' depth and 600' width and deepen the maneuvering area adjacent to the Richmond Long Wharf to 45'; (iii) Deepen the Pinole Shoal Channel in San Pablo Bay within its existing 600' width and the maneuvering Area at Oleum to 45'; (iv) deepen the Suisun Bay Channel to 45' as far upstream as Chipps Island and to 35' beyond, with widening to 600' upstream to Middle Point and 400' beyond, and widening and deepening to comparable depths of maneuvering areas at refinery terminals; and (v) deepen the Stockton Deep Water Channel to 35' and realign the channel through False River and across the northern portions of Fanks Tract and Mandeville Island, all to its existing widths of 400' in open water and 225' through levee-confined reaches.	H. Doc. 208, 89th Cong ., 1st sess.

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
7.		**SONOMA BAYLANDS WETLANDS DEMONSTRATION PROJECT, CA**	
	Oct. 5, 1992	Restoration of tidal wetland on a 348-acre site using dredged material and construction of a replacement levee around the landward periphery of the site.	Section 106, Public Law 102-580, 1992 WRDA
13.		**CORTE MADERA CREEK, CA**	
	Oct. 23, 1962	Levees and channel improvements, lower 11 miles of Corte Madera Creek and tributaries, as modified by Chief of Engineers.	H. Doc. 545, 87th Cong., 2nd sess.
	Nov. 7, 1966	Local cooperation requirements modified to provide 1.5 percent cash contribution toward cost of Ross Valley unit.	Sec. 204, 1966 Flood Control Act
	Nov. 17, 1986	Modify existing project to direct construction of Unit 4 from Lagunitas Road Bridge to Sir Francis Drake Boulevard, and to include construction of flood-proofing measures in vicinity of Lagunitas Road Bridge to insure proper functioning of completed portions of authorized project. Further modify project to eliminate any channel modifications upstream of Sir Francis Drake Boulevard.	Sec. 823, 1986 WRDA
15.		**PETALUMA RIVER, CA**	
	Jun. 30, 1948	Floodwalls and channel improvements along 3,600 feet of the Petaluma River and tributaries.	Flood Control Act of 1948, Public Law 80-858, 80th Cong., 2nd sess.
	Jan. 24, 2000	Provide a 100-year level of flood protection to the city of Petaluma.	Public Law 106-541, 106th Cong., 2d sess., 2000 WRDA
16.		**RUSSIAN RIVER BASIN, CA**	
	May 17, 1950	Coyote Valley Dam (Lake Mendocino): Channel improvements on lower 98 miles of Russian River and lower reaches of tributaries.	H. Doc. 585, 81st Cong., 2d sess.
	Feb. 10, 1956	Increased appropriation authorization for initial stage of project development.	PL 404, 84th Cong., 2d sess.
	Oct. 23, 1962	Dry Creek (Warm Springs) Lake; Channel Improvements on Dry Creek below dam.	H. Doc. 547, 87th Cong., 2d sess.
	Mar. 7, 1974	Dry Creek (Warm Springs) Lake and channel; compensate for fish losses on the Russian River which may be attributed to the operation of the Coyote Dam component of the project through measures such as possible expansion of the capacity of the fish hatchery at the Warm Springs Dam component of the project.	Sec. 95, 1974 WRDA
22.		**HAMILTON AIRFIELD WETLANDS RESTORATION, CA**	
	Aug 17, 1999	Implement an ecosystem and wetland restoration project at the Hamilton Army Airfield and adjacent properties and lower reaches of tributaries.	Public Law 106-53, 106th Cong., 1999 WRDA

SAN FRANCISCO, CA, DISTRICT

23.		**SAN RAMON VALLEY RECYCLED WATER, CA**	
	Oct 31, 1992	Provide assistance to non-Federal interests for carrying out water-related environmental infrastructure and resource protection and development projects described in subsection (c), including wastewater treatment and related facilities and water supply, storage, treatment, and distribution facilities.	Public Law 102-580, Appendix A, Sec. 219 WRDA
	Aug 17, 1999	Provide assistance for construction for recycled water.	Public Law 106-53, 106th Cong., 1999 WRDA
17.		**UPPER GUADALUPE RIVER, CA**	
	Aug 17, 1999	Construction of the locally preferred plan for flood damage reduction and recreation, Upper Guadalupe River, California, described as the Bypass Channel Plan of the Chief of Engineers dated August 19, 1998, at a total cost of $140,328,000, with an estimated Federal cost of $44,000,000 and an estimated non-Federal cost of $96,328,000.	Public Law 106-53, 106th Cong, 1999 WRDA

1. Contains latest published map.
2. Included deepening of tidal canal above Park Street Bridge to 25 feet, which was deauthorized November 6, 1977.
3. Reconstruction of Fruitvale Avenue Highway Bridge (S. Doc. 75, 87th Cong., 2d sess.) which was deauthorized November 6, 1977.
4. Included in part in Public Works Administration Program, September 6, 1933.

TABLE 34-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost to Sep. 30 2008 Construction	Cost to Sep. 30 2008 Operation and Maintenance
Berkeley Harbor, CA [1]	Completed	1966	$ 155,550 [2]	$153,606 [9]
Berkeley Marina, CA [1]	Completed	1979	505,201 [3]	-
Monterey Harbor, CA	Completed	1971	1,108,182 [4]	2,108,607 [5]
San Francisco Harbor (Islais Creek), CA [1]	Completed	1976	848,227 [7]	240,484 [11]
San Francisco Marina (Gas House Cove), CA	Completed	1974	180,472 [6]	110,497 [10]
San Leandro Marina (Breakwater), CA [1]	Completed	1976	210,390 [8]	438,577 [12]
Sausalito Canal, Richardson Bay, CA	Inactive	1963	103,095	174,708 [13]

1. Authorized by Chief of Engineers (Sec. 107, Public Law 86-645).
2. Excludes $155,551 contributed funds.
3. Excludes $378,989 contributed funds.
4. Includes $207,800 Public Works Administration funds and breakwater modifications (1960 Act) placed inactive 1974. The barrier groin and sandtrap feature of the project was deauthorized November 17, 1986, by WRDA of 1986.
5. Includes $2,107,044 for reconnaissance and condition survey for FY 1956-2008.
6. Includes preauthorization costs $26,855 and excludes contributed funds $153,618.
7. Includes $94,550 preauthorization costs.
8. Includes $72,000 preauthorization costs and excludes contributed funds $138,189.
9. Includes $153,606 for jetty condition surveys for FY 1987-2008.
10. Includes $121,697 for reconnaissance and condition survey for FY 1990-2008.
11. Includes $272,420 for reconnaissance and condition survey for FY 1994-2008.
12. Includes $460,717 for reconnaissance and condition survey through FY 2008.
13. Includes $145,889 for reconnaissance and condition survey through FY 2008.

TABLE 34-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Humboldt Bay (Buhne Point), CA	1958	Jan. 1, 1990	$ 2,000	-
Lower San Francisco Bay, CA	1935	Jan. 1, 1990	-	-
Knights Valley Lake, R.R. Basin, CA	1974	Aug. 5, 1977	-	-
Oakland Harbor, CA (Deepen Tidal Canal)	1981	Nov. 6, 1977	-	-
Oakland Harbor, CA (Fruitvale Avenue Bridge)	1981	Nov. 6, 1977	-	-
San Lorenzo Creek, CA (Upper Portion)	1962	Nov. 6, 1977	-	-
San Pablo Bay and Mare Island Strait, CA (Approaches to Vallejo and South Vallejo)	1982	Nov. 6, 1977	-	-
Santa Cruz County, CA	1966	Jan. 1, 1990	245,639	-
Santa Cruz Harbor (Sealing & East Jetty)	1990	Nov 29, 1995	-	-

TABLE 34-H

INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

(See Section 18 of Text)

Location	Dates of Inspection
Guadalupe River	Aug 2007
Mad River at Blue Lake	Jul 2007
Pajaro River, Santa Cruz County	Jun 2007
Redwood Creek	Jul 2007
Rodeo Creek	Aug 2007
Russian River, Sonoma County	Jun 2007
San Lorenzo Creek	Apr 2007
San Pablo Creek	Aug 2007
Wildcat Creek	Sep 2007
Guadalupe River	Aug 2007
Mad River at Blue Lake	Jul 2007
Pajaro River, Santa Cruz County	Jun 2007
Redwood Creek	Jul 2007
Rodeo Creek	Aug 2007
Russian River, Sonoma County	Jun 2007
San Lorenzo Creek	Apr 2007
San Pablo Creek	Aug 2007
Wildcat Creek	Sep 2007
Guadalupe River	Aug 2007
Mad River at Blue Lake	Jul 2007
Pajaro River, Santa Cruz County	Jun 2007
Redwood Creek	Jul 2007
Rodeo Creek	Aug 2007
Russian River, Sonoma County	Jun 2007
San Lorenzo Creek	Apr 2007

TABLE 34-I **RUSSIAN RIVER BASIN, CA: ESTIMATED COST FOR NEW WORK**
(See Section 16 of Text)

Project Feature	Federal	Estimated Cost Non-Federal Contribution	Total
Coyote Valley Dam (Lake Mendocino):			
Channel Improvements below Dam on lower 98 miles of Russian River	$ 11,952,000	$ 5,598,000	$ 17,550,000 [1]
Dry Creek (Warm Springs) Lake and Channel Improvements below Dam	361,700,000	120,000 [2]	361,820,000
Total	$373,652,000	5,718,000	$ 379,370,000

1. Exclusive of $1,628,000 for recreation facilities at completed projects.
2. Reimbursements by local interests to Federal Government for costs allocated to water supply storage to be paid over a period not to exceed 50 years after use of storage is initiated and inclusive of lands and damages.

TABLE 34-J **RUSSIAN RIVER BASIN, CA: PROJECT FEATURES AND ESTIMATED COST**
(See Section 16 of Text)

Name	Nearest City (California)	Distance Above Mouth	Height of Height of Dam Type	Capacity (Acre-Ft)	Estimated Cost
Coyote Valley Dam Mendocino)	Ukiah	Mile 0.8 East Fork of Russian River	160 Feet-Earthfill	122,500	$ 17,550,000 [1]
Channel Improvements (East Fork) below Coyote Valley Dam	Ukiah	Mile 0 to 0.8 East Fork	-	-	24,484,000
and lower 98 miles of Russian River	Guernville	Mile 0 to 98, Russian River	-	-	-
Dry Creek (Warm Springs	Healdsburg	Mile 14.4 Dry Creek	319 Feet-Earthfill	181,000	363,017,000
Channel Improvements (Dry Creek) below Dry Creek (Warm Springs Dam)	Healdsburg	Mile 1 to 14.4 Dry Creek	-	-	2,864,000

1. Exclusive of $1,628,000 for recreation facilities at completed projects.

SACRAMENTO, CA DISTRICT

This district comprises basins of Suisun Bay and San Joaquin and Sacramento Rivers in California; Goose Lake in Oregon; basins of the Great Salt Lake and Sevier Lake in Utah; an intervening portion of Great Basin in northern Nevada, northern California, and southeastern Idaho; and the upper Colorado River basin, which is in southwestern Wyoming, eastern Utah, northeastern Arizona and western Colorado west of the Continental Divide.

IMPROVEMENTS

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Navigation

1. SACRAMENTO RIVER, CA

Location Rises in Trinity Mountains in north-central California, flows generally southerly about 374 miles and empties into Suisun Bay, an arm of San Francisco Bay, at Collinsville, CA (See Geological Survey topographic map of Sacramento Valley, CA).

Previous projects For details see page 1985 of Annual Report for 1915 and page 1708 of Annual Report for 1938.

Existing Project For description of Sacramento Deep Water Ship Channel, see Annual Report for 1969. Total first cost for completed portion was $43,932,558 ($39,560,558 Federal (Corps), $300,000 (Coast Guard), and $4,072,000 non-Federal for lands and damages, including relocations) and excludes local Interests cost $10,741,000 (June 1963) for 30-foot deep connecting canal basic terminal facilities required under terms of project authorization. Project also provided for a shallow-draft channel 10 feet deep at mean lower low water 150 to 200 feet bottom width, from Suisun Bay to Sacramento, CA, 60 miles; a depth of 6 feet at low water between Sacramento and Colusa, 85 miles; a depth of 5 feet at low water between Colusa and Chico Landing, 50 miles; and such depths as practicable between Chico Landing and Red Bluff, 53 miles, a total distance of 248 miles. However, shallow-draft channel feature Colusa to Red Bluff (including Colusa to Chico Landing, 50 miles and Chico Landing to Red Bluff, 53 miles) was deauthorized by 1986 Water Resources Development Act on November 17, 1986 (Public Law 99-662) (See table 35-H on tidal and flood conditions prevailing).

Local Cooperation Fully complied with for deep water ship channel project. None required on shallow-draft feature.

Terminal Facilities Piers, wharves, and docks at Port of Sacramento for shallow-draft navigation are open-pile structures with timber decks, some of which are designed to meet extreme high waters of flood stages. All main wharves at Sacramento have rail connections. Three of above facilities are owned by city of Sacramento and remainder by private interests; all are privately operated. For full description see "Port and Terminal Facilities at the Ports of Sacramento, Stockton, Pittsburg and Antioch, Calif., 1986." Deep water terminal facilities comprise wharves and piers, administration and storage buildings, and belt railroad facilities. Majority of these facilities are owned and operated by Sacramento-Yolo Port District; remainder are privately owned and operated. Facilities are considered adequate for existing commerce.

Operations During Fiscal Year New work, Deep

Water Ship Channel: See San Francisco District Report. Maintenance: Shallow Draft Channel maintenance and operation activities continued; Deep Water Ship Channel maintenance and operation activities continued.

Historical Summary Construction of 7-foot shallow-draft channel below Sacramento was initiated in September 1899 and completed in 1904. Modified 10-foot shallow-draft channel up to Sacramento was initiated in FY 1928 and completed in 1931. Shallow-draft channel above Sacramento was begun in April 1946 but new work was discontinued when about 48 percent complete. In February 1974, remaining work for shallow-draft portion of project, provision of a 5-foot depth between Colusa and Chico Landing (50 miles), was reclassified as "deferred." Channel is navigable all year; however, there is no regular navigation above Colusa, 145 miles above river mouth. On November 17, 1986, remaining shallow-draft feature, Colusa to Red Bluff (including Colusa to Chico Landing, 50 miles and Chico Landing to Red Bluff, 53 miles) was deauthorized by 1986 Water Resources Development Act (Public Law 99-662). Construction of 30-foot deep water ship channel was initiated in July 1949; improvement dredging by continuing contracts resulted in provision of an operational facility for oceangoing vessels during June 1963. Bascule bridge was completed in April 1960, barge lock in August 1961, barge canal in November 1961, and entire deep water ship channel in June 1970. WRDA FY 2000 deauthorized the lock, Bascule Bridge, and a portion of the barge canal. The exchange concept was approved July 2004 and executed August 2006, transferring the Government owned assets to the City of West Sacramento and the Port of Sacramento.

2. SACRAMENTO RIVER DEEP WATER SHIP CHANNEL, CA

See San Francisco District for description of existing project. Sacramento district is responsible for operations and maintenance only.

Operations during Fiscal Year Completed the study plan and continued project coordination. Dredging was initiated and completed at a contract cost of $1,585,874.

3. SAN FRANCISCO BAY TO STOCKTON, CA (JOHN F. BALDWIN AND STOCKTON SHIP CHANNELS)

Reported by the San Francisco District. Refer to Report of the Secretary of the Army on Civil Works Activities for FY 1995.

4. SAN JOAQUIN RIVER, CA

Location Rises in east central California and flows westerly and northwesterly about 340 miles to its confluence with Sacramento River at head of Suisun Bay, 48 miles northeast of San Francisco. Deep water channel in San Joaquin River extends 41 miles from its mouth in Suisun Bay at Pittsburg to city of Stockton. Waterborne access to city provided by Stockton Channel, an artificial cut extending about 2 miles into city (See Coast and Geodetic Survey Sheet 5527).

Existing project For description of completed improvement, modifications, and authorizing acts, see Annual Report for 1967 (See table 35-I for total cost of new work for project completed in May 1960).

Projects units (1950 modification) reclassified and excluded from project cost are set forth in table 35-J.

Modification of existing project is included as one unit of San Francisco Bay to Stockton, CA, (John F. Baldwin and Stockton Ship Channels) project, authorized by 1965 River and Harbor Act (H. Doc. 209, 89th Cong., 1st sess.); this modification is reported in detail under Sacramento District, improvement No. 3 and San Francisco District, Improvement No. 3.

Local Cooperation Fully complied with for completed portion of project; for details of required cash contributions on completed, inactive and deferred portions of project see Existing project paragraph, Annual Report for 1967.

Terminal Facilities For description of harbor facilities at Port of Stockton, CA, see Port Series 32, "The Ports of Sacramento, Stockton, Pittsburgh and Antioch, Calif.," revised 1986. Downstream from Stockton, traffic is accommodated by bank landings and sheds except at Antioch and near Pittsburgh, where there are wharves for shallow- and deep-draft vessels. Terminal transfer facilities at public ocean terminal of Port of Stockton are adequate for present and immediate future.

Operations and results during fiscal year Maintenance: Condition studies and miscellaneous inspections and reports were accomplished by hired labor. Dredging was initiated at a contract cost of $3,184,424 (Repair or restoration of wavewash protection is required by legislation authorized by Improvement No. 3).

Historical Summary Active portion of existing project was completed in May 1960. Construction of project was initiated in December 1877.

Flood Control

5. AMERICAN RIVER WATERSHED, CA (Common Features)

Location The project is located in Placer, El Dorado, Sutter and Sacramento Counties on the North, Middle and South Forks of the American River and along the lower American River and Sacramento Rivers.

Existing Project Recent evaluations indicate that the level of flood protection along much of the American River and in the Natomas area is less than the 100-year level. The project consists of levee improvements including a slurry wall along 21 miles of the lower American River, levee modifications along 12 miles of the Sacramento River, telemetered gages above Folsom Dam, improving the flood warning system for the lower American River, installing a closure structure at Mayhew Drain, 3 miles of levee modifications along lower American River, and levee modifications along 10 miles of the Natomas Cross Canal. Cost estimate (October 2005) is $ 282,000,000 (includes an allowance for estimated inflation through the construction period), of which $211,798,500 is Federal cost and $70,201,500 is non-Federal cost (which includes $55,810,500 cash contribution).

Local cooperation In accordance with cost sharing requirements specified in Water Resources Development Act (WRDA) of 1986, local interests are required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, and pay 20 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. Project cooperation agreement (PCA) was signed July 13, 1998.

Operations and Results During Fiscal Year Seepage issues were addressed by completing Mayhew Levee Reach. Completed design and construction on Jacob Lane Reach A levee work. Continued design and environmental compliance for levee raise and slurry wall improvements at WRDA 96 & 99 Sites. Continued investigations for the Common Features General Reevaluation Report.

Historical Summary A Supplemental Information Report (SIR) for the American River was completed in March 1996. The report included three candidate plans to reduce the risk of flooding to Sacramento. None of the three plans was recommended for construction but elements common to all plans were recommended and authorized for construction in WRDA 1996. These features would function with whatever plan was ultimately authorized for the American River. Sec. 366 of WRDA 99 authorized additional levee improvements as part of the overall project. EWDAA of 2004 increased the authorized cost to current level of $212,000,000.

6. AMERICAN RIVER WATERSHED, CA (Folsom Dam Modifications)

Location Folsom Dam and Reservoir, located on the American River, is about 29 miles upstream of the City of Sacramento, California. The American River watershed drains about 2,100 square miles northeast of Sacramento and includes portions of Placer, El Dorado, and Sacramento Counties. Runoff from this basin flows through Folsom Reservoir and passes through Sacramento to the confluence with the Sacramento River.

Existing Project The existing Folsom Dam has an objective release of 115,000 cubic feet per second (cfs) during flood operations. However, the existing eight outlets limit releases to about 36,000 cfs until approximately one half of the reservoir's flood control space is filled. At this level, the pool elevation is sufficient for spillways to release the full 115,000 cfs. The project consists of a 3500-foot long auxiliary spillway including an approach channel, control structure, spillway chute, and stilling basin. This feature will increase the discharge capacity to pass the Probable Maximum Flood and, in conjunction with the main dam outlet gates, up to 160,000 cfs during controlled flood operations. With the increased release capacity, it will be possible to make significant release in advance of a flood event. This "advance release" would allow the reservoir storage level to be reduced, thus creating additional space to store incoming flood volume. Cost estimate is $813,700,000 of which $528,900,000 (65%) is Federal cost and $284,800,000 (35%) is non-Federal cost.

Local Cooperation The State of California Central Valley Flood Protection Board and the Sacramento Area Flood Control Agency (SAFCA) are the non-Federal sponsors. The Project Cooperation Agreement (PCA) was executed in March 2004. The non-Federal sponsor is financially capable and willing to contribute the non-Federal share. State of California legislation (AB 1147), enacted 31 August 2000, authorizes the State Reclamation Board to participate in the project to modify Folsom Dam adopted and authorized by Congress in Section 101 (a) (6) of WRDA 99.

Operations and Results During Fiscal Year Completed the 35% Design Documentation Report describing the auxiliary spillway plan and revised the project cost estimate. Continued detailed design efforts.

Historical Summary The American River Watershed Feasibility Report was completed in December 1991. The Supplemental Information Report, completed in March 1996, identified three candidate plans which would help reduce the flood risk facing Sacramento: modifying Folsom Dam and increasing the dedicated flood space; modifying Folsom Dam and the downstream system to allow increased objective releases; and constructing a detention dam upstream of Folsom Dam. In June 1996, the Chief of Engineers deferred a decision on a comprehensive flood control plan, but recommended that features common to all three plans be authorized as the first component of a comprehensive plan. These elements are being constructed within the American River Watershed (Common Features) Project. SAFCA prepared the Folsom Dam Modification Report New Outlets Plan dated March 1998 (SAFCA Outlet Report), which identified proposed changes to the Folsom Modification Plan described in the 1996 Supplemental Information Report. The 1996 Supplemental Information Report as modified by the SAFCA Outlet Report was the basis for the project authorized under WRDA 1999. Funds used to initiate pre-construction engineering and designs of the Folsom Modifications were allocated in Fiscal Year 2000 under the American River Watershed Project. Funds to initiate construction were appropriated in Fiscal Year 2001. The LRR was approved in January 2004 and serves as the document to support the PCA. The PAC/EDR approved in August 2007 serves as the basis to amend the existing PCA.

7. AMERICAN RIVER WATERSHED, CA (Folsom Dam Raise)

Location Folsom Dam and Reservoir, located on the American River, is about 29 miles upstream of the City of Sacramento, California. The American River watershed drains about 2,100 square miles northeast of Sacramento and includes portions of Placer, El Dorado, and Sacramento Counties. Runoff from this basin flows through Folsom Reservoir and passes through Sacramento to the confluence with the Sacramento River.

Existing Project The Folsom Dam Raise is the final component of the overall American River Watershed project, which includes the Common Features project and the Folsom Dam Modifications project. Although the Common Features and Dam Modifications projects will significantly reduce the risk of flooding along the American River, raising Folsom Dam will provide an additional increment of flood risk reduction. The authorized project to raise Folsom Dam includes raising the main dam, raising the related dikes and auxiliary dam, modifications to the temperature shutters, construction of a bridge downstream of Folsom Dam, and ecosystem restoration projects. The project features consist of: raising the concrete section of the dam, raising the earth embankments on each side of the dam, adding larger spillway gates, extending the spillway stilling basin and sidewalls approximately 60 feet, and raising the Mormon Island auxiliary dam and eight dikes approximately 3.5 feet. These improvements will add 95,000 acre-feet of floodwater storage capacity to the lake's current 977,000 acre-foot capacity. In addition, new spillway gates will be constructed, three ecosystem restoration sites will be constructed at Woodlake and Bushy Lake, temperature shutters must be installed at Folsom Dam, and a bridge will be constructed downstream of Folsom Dam. Cost estimate is $331,800,000 of which $200,400,000 is Federal and $131,400,000 is non-Federal.

Local Cooperation The California State Central Valley Flood Protection Board, the Sacramento Area Flood Control Agency (SAFCA), and the City of Folsom are the non-Federal sponsors. The Project Cooperation Agreement (PCA) for the bridge was executed in November 2006.

Operations and results during the fiscal year Continued design integration with the Folsom modifications project to ensure optimum performance and to identify any construction opportunities (spoils disposal, haul routes, staging areas, etc.) between the two projects. Continued the bridge construction.

Historical Summary The Feasibility Report for the American River Watershed Investigation was completed in December 1991 and the Division Engineer's Report was issued in February 1992. Funds were appropriated in FY 1992 to initiate preconstruction engineering and design (PED) for the combined American River Watershed and Sacramento Metropolitan studies. The two projects were separated when WRDA 92 authorized the American River Watershed Project independently of the West Sacramento Project (Sacramento Metropolitan). Sec. 566 of WRDA 99 directed additional flood control studies for: (a) increasing surcharge flood control storage at Folsom Dam and Reservoir, and (b) increased flood protection through levee modifications on the American and Sacramento Rivers, and directed the Corps to submit a report to Congress by March 2000 documenting results of the studies. The interim report, completed in January 2000, provided additional information on two flood damage reduction plans: The Folsom Enlargement Plan and the Modified Stepped Release Plan. A result of the public scoping process was the addition of the Folsom Dam advance releases in anticipation of high flood flows as a flood control alternative, and the inclusion of ecosystem restoration as a project purpose. The Long Term Study (Feasibility Report) for the American River Watershed was completed in February 2002. The Chief's Report, dated 5 November 2002, was followed by the Division Engineer's Public Notice issued on 22 March 2003. Funds to initiate construction were appropriated in FY 2004. The Folsom Dam Raise project was authorized for construction by the Energy and Water Development Appropriations Act, 2004 at a total cost of $257,300,000.

8. AMERICAN RIVER WATERSHED, CA (Natomas Reimbursement)

Location The project is located in the metropolitan area of Sacramento, California. The 1991 Feasibility Report identified a project including levee improvements around the perimeter of the Natomas Basin, a 300-acre detention area in North Natomas, and recreation trails.

Existing Project The local sponsor, SAFCA, has constructed Natomas flood control features. The Natomas Federal Plan dated March 99 identified portions of the project eligible for reimbursement under the Memorandum of Agreement (MOA) signed September 99. Based on the MOA and the Federal Plan, initial reimbursement of $15M for Phase I was made to SAFCA September 99. Subsequent payments have been made: $1.115M in September 03 and $510K in June 05. Funds of $4.1M for additional reimbursement were reprogrammed to the project in September 08. Estimated final reimbursement of $900K for additional real estate information is currently under review.

Local cooperation SAFCA is seeking reimbursement for construction of local project features in addition to that eligible under Natomas Federal Plan. The current MOA allows for reimbursement to SAFCA for the Federal share of the plan identified in the Natomas Federal Plan dated March 1999. The SAFCA flood control project (North Area Local Project, or NALP) was larger in scope than the plan in the Natomas Federal Plan. ASA (CW) agreed, by letter to SAFCA dated 13 September 99, that the Corps would reevaluate our conclusions on what part of SAFCA's NALP could be considered for reimbursement consistent with the authorization.

Historical summary The Defense Appropriations Act for FY 1993 authorized construction of the Natomas flood control project (including recreation features), as defined in the feasibility report. The Act also authorized the sponsor to construct and receive reimbursement for the Federal share of project costs.

9. BUCHANAN DAM-H.V. EASTMAN LAKE, CHOWCHILLA RIVER, CA

Location On Chowchilla River about 36 miles above its mouth and about 16 miles northeast of city of Chowchilla, CA (See Geological Survey quadrangles for area).

Existing project Provides for construction of a 205-foot high rockfill dam to create a reservoir with gross storage capacity of 150,000 acre-feet for flood control, irrigation, recreation, and fish and wildlife. In conjunction with dam, project plan provides for about 12 miles of downstream levee and channel construction on Ash Slough to accommodate a project design flow of 5,000 cubic feet per second within slough and 7 miles of levee and channel improvement on Berenda Slough. Operation and maintenance of dam and reservoir is the responsibility of the Federal Government. Total first cost for existing project is $28,919,597, of which $27,369,597 is Federal cost, including $4,580,000 for basic recreation facilities, and $1,550,000 non-Federal costs for lands and damages, including relocations for downstream levee and channel improvements. Local interests have contracted with

the Bureau of Reclamation for irrigation service. For future non-Federal reimbursement, see Local cooperation paragraph. Local interests have also, over a period of years expended about $500,000 for construction of low levees and clearing downstream channels to provide some local flood protection in project area. This work is inadequate during major floods. Existing project was adopted by 1962 Flood Control Act (S. Doc. 98, 87th Cong., 2d sess., contains latest published map). Lake formed by Buchanan Dam on Chowchilla River was designated "H.V. Eastman Lake" by Public Law 93-217.

Local cooperation Fully complied with.

Operations and results during fiscal year New work: None. Maintenance: Maintenance and operation activities were continued. Runoff of Chowchilla River above Buchanan Dam was below normal for the year. Maximum storage of 39,227 acre-feet occurred May 8, 2008. Maximum hourly inflow to reservoir was 2,541 cubic feet per second on February 25, 2008. Maximum release of 323 cubic feet per second on August 7, 2008. During the year, a total of 24,690 acre-feet of water was released for irrigation and other purposes. Releases for flood control purposes totaled 0 acre-feet.

Historical summary Construction began in July 1971 and was completed in May 1979. Construction of Buchanan and Hidden dam and appurtenances was combined under one contract. Project was completed in September 1983, except for installation of piezometers (now deferred indefinitely). Dam closure was in March 1975; dam was completed in January 1976. Reservoir clearing and boundary marking were completed May 1975. Bifurcation structure was completed in February 1976. Channel improvement, Ash and Berenda Sloughs, was completed in March 1976. Recreation areas: Phase I was completed in January 1976; Phase II was completed in February 1978. Residences, administration building, and visitors center contract was completed in May 1978. Landscaping was completed in May 1979 and erosion control was completed in April 1979. A resources interpretive display and road relocation were completed in FY 1982. Dam safety assurance studies were initiated in FY 1981. Solar heating was installed at Chowchilla recreation area in FY 1984. A hydrilla eradication (spraying) program was initiated in FY 1989. Final land audit was approved on December 3, 1985.

10. CACHE CREEK BASIN, CA (Cache Creek Settling Basin)

Location At the mouth of Cache Creek in Yolo County where it enters the Yolo Bypass about 2 miles east of city of Woodland and about 15 miles northwest of city of Sacramento, CA.

Existing project Provides for raising the perimeter levees of the existing settling basin an average of 12 feet, extending the levees upstream to County Road 102 to provide 50-year sediment storage capacity, enlarging and reconstructing the cobble weir, and degrading existing training levees and rebuilding them adjacent to western perimeter levee to provide 50 years of sediment storage capacity (340 acre-feet annually). Estimated cost (October 2005) for existing project is $27,000,000 (includes an allowance for estimated inflation through the construction period), of which $16,900,000 is Federal and $10,100,000 is non-Federal (which includes $1,350,000 cash contribution). For future non-Federal reimbursement, see Local cooperation paragraph. Existing project was adopted by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986 (HD 98-134, 98th Cong., 1st secs, contains published map). Project as authorized included development of a national wildlife refuge within the settling basin; however, the Department of the Army determined that such refuge would be more appropriately funded and developed by the U.S. Fish and Wildlife Service. Refuge feature was reclassified to deferred category on April 11, 1988.

Local cooperation Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in construction of the project; pay 5 percent of cost allocated to flood control, and bear all costs of operation, maintenance and replacement of flood control facilities. Local interests have agreed to make all required payments concurrently with project construction. Local Cooperation Agreement was executed March 12, 1990.

Operations and results during fiscal year Continued review of LERRDs.

Historical summary Local Cooperation Agreement was executed March 12, 1990. Cache Creek Settling Basin enlargement (multicomponent) construction contract was awarded August 5, 1991, completed in September 1993, and work was transferred to local interests for operation and maintenance on December 2, 1993.

11. CALAVERAS RIVER AND LITTLEJOHN CREEK AND TRIBUTARIES, INCLUDING NEW HOGAN LAKE AND FARMINGTON DAM, CA

Location Streams comprising Calaveras River and Littlejohn Creek groups rise in Sierra Nevada and its foothills, flow easterly across flatlands of San Joaquin Valley and empty into San Joaquin River directly, or through various sloughs, in vicinity of Stockton, CA. Littlejohn Creek is in Calaveras, Stanislaus, and San Joaquin Counties. The three principal stream systems of the group are, from south to north, Lone Tree Creek, Littlejohn Creek, and Duck Creek. Calaveras River group is in Calaveras and San Joaquin Counties. The two principal streams of the groups are, from south to north, Calaveras River and Bear Creek (See Geological Survey Valley Springs quadrangle for New Hogan reservoir area and Trigo and Bachelor Valley quadrangles for Farmington reservoir area).

Existing project For description of completed improvements consisting of Farmington Dam, New Hogan Lake, and Bear Creek levee and channel improvement, and authorizing act, see Annual Report for 1967. Farmington: Total first cost (July 1955) for project was $3,995,684, of which $3,676,384 was Federal and $319,300 non-Federal for lands and damages including relocations. New Hogan: Federal cost for project is $15,906,150, including $543,514 for basic recreation facilities. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost for recreation facilities funded from Code 710 appropriations is $897,742. Bear Creek: Project cost is $6,485,734, of which $3,242,867 is Federal, including reimbursement ($488,096) to local interests of one-half of excess local interest cost of lands, rights-of-way, and relocations over estimated Federal construction cost in accordance with section 3, Public Law 738, 74th Congress. Non-Federal cost included in above amount is $3,242,867 for relocations and lands and damages, exclusive of above Federal reimbursement.

Local cooperation Fully complied with. New Hogan: Local interests must pay portion of first cost and annual operation and maintenance costs allocated to conservation functions of project. These costs are estimated at 36.2 percent of first cost and 38 percent of annual costs. In addition, local interests contributed land, the (July 1964) market value of which was $556,000. For years 1961 through 1970, an interim contract between the Bureau of Reclamation and local water users provided for storage and payment of irrigation water; a long-term contract between that agency and local water users was executed August 25, 1970. Local interests paid $5,540,991 through December 31, 2003. A concessionaire at New Hogan Marina provided public use facilities in accordance with lease agreement with the Secretary of the Army at an estimated cost to date of $234,000.

Operations and results during fiscal year New work: New Hogan Lake, regular funds: None. Code 710 funds: None. Bear Creek, San Joaquin County: None. Maintenance: Farmington Dam Maintenance and operation activities continued; structures were maintained in serviceable condition. During rain flood season, maximum flow of Duck Creek Diversion was 396 cubic feet per second on February 3, 2008. Maximum flow of Littlejohn Creek at Farmington was 1,417 cubic feet per second on January 28, 2008. Maximum flow of Duck Creek near Farmington was 268 cubic feet per second on February 3, 2008. Maximum storage in reservoir was 7,440 acre-feet on January 28, 2008, and maximum estimated inflow to reservoir was 7,513 cubic feet per second on February 3, 2008. Maximum release of 1,533 cubic feet per second January 28, 2008. During the year, 43,850 acre-feet was released for flood control. Release for irrigation purposes amounted to 0 acre-feet. New Hogan Lake Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff of Calaveras River above New Hogan was below normal for the year. Maximum storage of 159,007 acre-feet occurred March 25, 2008. Maximum hourly inflow to reservoir was 4,490 cubic feet per second on January 28, 2008. Maximum release of 291 cubic feet per second on August 3, 2008. During the year, 86,500 acre-feet was released for irrigation and other purposes. Release for flood control purposes amounted to 0 acre-feet.

Historical summary Farmington Dam: Construction of Farmington project was initiated in July 1949 and completed for beneficial flood control operation in 1952. Duck Creek channel improvement was completed in November 1951; and channel improvement on south Littlejohn Creek was completed in May 1955. There are no recreation facilities or public-use areas. All work completed. Dam safety assurance studies were initiated in FY 1982. New Hogan Lake: Construction was initiated May 1960, main dam closure November. 1963, project completed for operational use in June 1964, and all work completed October 1973. Recreation facilities have been provided from Code 710

appropriations. See page measurement weir constructed in June 1980. Dam safety assurance studies were initiated in FY 1980. Bear Creek, San Joaquin County: Construction began in June 1963 and was completed in June 1967.

Final cash contribution was made to local interests December 23, 1970. Solar heating was installed at recreation facilities in FY 1984. A cultural resources survey was completed in FY 1984.

12. COLORADO RIVER AT GRAND JUNCTION, CO

Location On north bank of Colorado River from 9th Street west to the Denver Rio Grande Western Railroad Bridge at city of Grand Junction, CO, in Mesa County.

Existing project: See Annual Report for 2004.

13. CORTE MADERA CREEK, CA

Reported by San Francisco District. Refer to Report of the Secretary of the Army on Civil Works Activities for FY 1996.

14. COYOTE CREEK, CA (Known As Coyote And Berryessa Creeks)

For details on Coyote portion of project, see FY05 Annual Report, page 35-10.

Location The Berryessa Creek watershed is located in Santa Clara County, California, south of San Francisco Bay. Berryessa Creek is a tributary to the Coyote Creek system, which flows into the southernmost end of San Francisco Bay. Berryessa Creek flows west out of the Diablo Range and into the residential neighborhoods of San Jose and Milpitas, finally turning north through industrial portions of Milpitas before joining Lower Penitencia Creek, and then into Coyote Creek.

Existing project The results of the ongoing general reevaluation report (Berryessa component only) to date recommend the use of set back levees. This design is being developed in coordination with resource agencies to provide a more environmentally sustainable project.

Local Cooperation The Santa Clara Valley Water District, the local sponsor, signed the Reevaluation Cost Sharing Agreement in June 2001.

Historical Summary The recommended project includes offset levees and an overflow channel on Coyote Creek, and two sedimentation basins, concrete lined trapezoidal channel and off-set levees on Berryessa Creek. Provisions are also included for fish and wildlife mitigation for both Coyote and Berryessa Creeks. Severe flooding has occurred on both Coyote and Berryessa Creeks in recent years, the most recent being January-March 1983, in which Coyote Creek flooding caused over $6.0 million worth of damages. The January 1997 flood was the highest recorded flow on Coyote Creek since completion of Anderson Dam in 1950. Although some flooding occurred upstream on Coyote Creek, flooding was averted in the project reach due to completion of the Coyote Creek project element in 1996, which provided for a 100-year level of protection.

The Berryessa Creek element is a specifically named project under Section 211 of WRDA 1996, which provides for credit reimbursement to non-Federal interests for construction of flood control projects. Sponsor elects not to pursue the Berryessa Creek element under Sec. 211 of WRDA 96; therefore the Corps has been asked and has resumed a study of the Berryessa Creek Element under an expedited schedule. A General Reevaluation Report is being prepared for the Berryessa Creek Element.

15. FAIRFIELD VICINITY STREAMS, CA

Location On five streams in vicinity of cities of Fairfield and Suisun, Solano County, CA.

Existing project See Annual Report for 1996, p35-8.

16. GUADALUPE RIVER, CA

Location On Guadalupe River in downtown area of city of San Jose, Santa Clara County, CA.

Existing project Authorized plan provides for widening and deepening one or more sides of Guadalupe River for 2.5 miles from Interstate Highway 280 to Interstate Highway 880 in downtown San Jose, CA, and channel modifications with provisions for fish and wildlife mitigation, as necessary. Non-Federal sponsor must pay 100 percent of incremental construction cost of locally preferred plan. Project is an integral component of a much larger regional park plan being undertaken by the San Jose Redevelopment Agency.

Estimated cost (October 2006) is $265,400,000 (which includes an allowance for estimated inflation through the construction period) of which $148,900,000 is Federal and $113,100,000 is non-Federal including $116,500,000 reimbursement, see Local cooperation paragraph. Existing project was adopted by Water Resources Development Act of 1986, Energy and Water Development Appropriation Act of 1990 which directed the Secretary of the Army to construct the project notwithstanding Sec. 902 of the Water Resources Development Act of 1986 regarding project cost limitations, and Energy and Water Development Appropriations Act of 1992 which directed the Secretary of the Army to modify and construct the project in accordance with the January 1991 GDM; it is consistent with the Guadalupe River Park plan requested by the local sponsor and with cost sharing policy.

A General Reevaluation Report (GRR) has been prepared to address impacts to endangered species and water quality. In lieu of widening the natural channel for Reach 3, a bypass channel was recommended to minimize the effects on water quality, endangered species and riparian vegetation. The originally authorized plan could not fully mitigate these impacts. Updated benefits and added costs for required mitigation, lands and relocation were documented in the GRR approved in November 2001. Based on findings of the GRR, Section 106 of the Energy and Water Development Appropriations Act for 2002 re-authorized the project at a total cost of $226,800,000.

Local cooperation Local interests, through a public body legally authorized and financially capable, must give assurances they will furnish lands, easements, rights-of-way, and dredged material disposal areas, which are partially offset by a credit ($5,701,000) allowed for prior work (Sec. 104, Water Resources Development Act of 1986); credit was approved by the Assistant Secretary of the Army; modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project; pay 5 percent of the costs allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities. Federal reimbursement will be made to non-Federal sponsor for one-half of non-Federal costs allocated to flood control in excess of Federal costs. Local interests have agreed to make all required payments concurrently with project construction.

On June 2, 1989, the local sponsor, the Santa Clara Valley Water District, expressed intent to provide all needed cost sharing funds. On September 21, 1990, the San Jose Redevelopment Agency requested modification of project to include recreation facilities and confirmed that they intend to participate as local sponsor for recreation. Local Cooperation Agreements for both flood control and recreation were executed March 30, 1992.

Operations and results during fiscal year Awarded Coleman Avenue abutment construction contract September 2007.

Historical summary Final General Design Memorandum (GDM) reflecting locally preferred plan was approved by the Assistant Secretary of the Army on March 26, 1992, with comments. Revision of GDM to address comments was completed in July 1993. Local Cooperation Agreements for both flood control and recreation were executed March 30, 1992. Construction contract No. 1 for channel improvement (Highway 880 to Hedding Street) was awarded August 10, 1992; and was essentially completed and transferred to local interests for maintenance and operation on August 11, 1994. Construction contract No. 2 (Hedding Street to Coleman Avenue) was awarded July 8, 1994, and was essentially completed and transferred to local interests for maintenance and operation on October 25, 1996. Contract 3A, Phase I was completed October 2005. Awarded infill planting contract August 2006.

17. HIDDEN DAM-HENSLEY LAKE, FRESNO RIVER, CA

Location On Fresno River about 50 miles above its mouth and about 15 miles northeast of Madera, CA (See Geological Survey quadrangles for area).

Existing project Provides for construction of a 163-foot high earthfill dam to create a reservoir with gross storage capacity of 90,000 acre-feet for flood control, irrigation, recreation and other purposes. In conjunction with the dam, the project provides for about 13 miles of downstream levee and channel improvements on Fresno River immediately upstream of Chowchilla Canal crossing to accommodate project design flow of 5,000 cubic feet per second. Operation and maintenance of dam and reservoir is the responsibility of the Federal Government. Total first cost for existing project is $31,785,426, of which $30,555,426 is Federal cost, including $3,564,168 for basic recreation facilities, and estimated $1,230,000 non-Federal cost for lands and damages including relocations for downstream levee and channel improvements. Local interests have contracted with

the Bureau of Reclamation for irrigation service. For future non-Federal reimbursement, see Local cooperation paragraph. Local interests have also, over a period of years, expended about $300,000 for construction of low levees and clearing downstream channels to provide some local flood protection in the project area. This work is inadequate during major floods. Existing project was adopted by 1962 Flood Control Act (S. Doc. 37, 87th Cong., 1st sess., contains latest published map). Lake created by Hidden Reservoir project on Fresno River was designated "Hensley Lake" by Public Law 93-603. The project is currently fully able to provide the benefits for which it was designed and constructed. Hidden Dam has been classified as a Dam Safety Action Class Level II Dam (Urgent), where failure initiation is foreseen. There is risk to life and property, primarily in Madera, CA. The spillway capacity is unknown, as is the potential for seismic deformation. The dam has an existing seepage concern. Work to be performed includes initiating Phase I of the Dam Safety Assurance Program (DSAP), seepage, seismic and hydrologic studies. Investigation to be initiated in FY08 will be funded under construction general.

Local cooperation Fully complied with.

Operations and results during fiscal year New work: None. Maintenance: Maintenance and operation activities were continued. Runoff of Fresno River below Hidden Dam was below normal for the year. Maximum storage of 35,666 acre-feet occurred on April 10, 2008. Maximum hourly inflow to the reservoir was 5,130 cfs on December 7, 2007. Maximum release of 215 cfs on April 11, 2008. During the year, 58,700 acre-feet was released for irrigation and other purposes and no amount was released for flood control.

Historical summary Construction began in July 1971 and was completed in January 1979. Dam closure was in March 1975; dam was completed November 1975. Instrumentation was completed in January 1976. Downstream channel improvement, Fresno River, was completed April 1976. Recreation areas: Phase I was completed in March 1976; Phase II was completed in June 1978. Residences, administration building, grounds, and utilities contract was completed in February 1978. Landscaping was completed in December 1978 and erosion control was completed in January 1979. Project was completed in September 1980. Final land audit was approved February 5, 1980. Dam safety assurance studies were initiated in FY 1980. Piezometer installation was completed in September 1982. Solar heating was installed at County relinquished all administration of recreation and development and maintenance of public use areas at the recreation areas in FY 1984.

18. ISABELLA LAKE, KERN RIVER, CA

Location About 35 miles northeast of city of Bakersfield, CA, near confluence of north and south forks of Kern River; auxiliary dam is about one-half mile east of main dam (See Geological Survey quadrangles of area). In 1991, Isabella Lake and 16,000 acres of surrounding land was transferred to the Forest Service in exchange for about 2,500 acres of Forest Service land near Pine Flat Lake.

Existing project For description of completed improvement and authorizing act, see Annual Report for 1967. Federal cost for new work is $22,027,452. For future non-Federal Local cooperation and Licenses paragraphs. Federal cost funded from Code 710 appropriations is $2,199,085. Operation and maintenance of dam and reservoir is Federal responsibility. The project is currently unable to provide the benefits for which it was designed and constructed. Isabella Dam has been classified as a Dam Safety Action Class Level I Dam (Urgent and Compelling), where the dam is critically near failure and there is an extremely high life risk. There is risk to life and property, primarily in Lake Isabella and Bakersfield, CA. The spillway capacity is inadequate, and there is a known seismic and seepage hazard that could cause deformation of the structures. Work performed includes initiating Phase I of the Dam Safety Assurance Program (DSAP) seepage, seismic and hydrologic studies. Investigations initiated were funded both under Operations and Maintenance funds and construction general

Local cooperation California officially adopted project by chapter 1514 of statutes of 1945, State of California. Local interests, represented by North Kern, Buena Vista, and Tulare Lake Basin Water Storage Districts and La Hacienda Water District, were required to reimburse the Federal Government the portion of first cost and annual operation and maintenance costs allocated to irrigation functions of project. These costs, based on a cost allocation study completed in December 1955, are $4,573,000 of first cost and 21.7 percent of annual operation and maintenance cost. For the years 1956 through 1964, an interim contract between the Bureau of Reclamation and local water users provided for

storage and payment of irrigation water. Under provisions of this interim contract, local interests paid $1,936,229 through December 31, 1964. A long-term contract between the Bureau and local water users was executed October 23, 1964. Balance due on allocated first cost of $4,573,000 was paid by the water users on March 31, 1965. Kern County assumed administration of recreation and development and maintenance of public use areas at project in accordance with a 25-year license February 15, 1955. The agreement with Kern County provided for joint operation and development by the Corps and Kern County including permits granted to concessionaires by the county to provide certain services. As of September 30, 1971, Kern project. A State law permitting the Department of Boating and Waterways (known as the Department of Navigation and Ocean Development prior to January 1979) to participate in inland water development with Federal agencies was signed by the Governor on August 11, 1972. Isabella Lake and surrounding land, 16,000 acres around the lake currently being used for park and recreation purposes, was turned over to the Forest Service by the Corps on May 15, 1991, in exchange for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake. This was accomplished by using a memorandum of understanding (MOU) between the Secretary of the Army and the Secretary of Agriculture (Forest Service). The MOU requires an exchange of land between departments. Three Corps maintenance employees, under supervision of the Success Lake park manager, will stay at Isabella to operate the dam for flood control and water conservation purposes. Authority for new concessionaire operating permits to be issued, as well as those previously granted by the Corps, will be transferred to the Forest Service.

Total cost to date of present recreation facilities developed by the county and the marina concessionaires is about $965,000; $235,000 of this was a grant from the California Wildlife Conservation Board and about $534,000 is investment by marina concessionaires.

Licenses In accordance with Federal Power Commission Docket No. E-6578, issued April 1, 1963, payment of $377,426 was made to the Federal Government by Pacific Gas and Electric Co. ($108,352) and Southern California Edison Co. ($269,074) for headwater benefits to downstream existing plants from Isabella Dam to cover benefits from April 15, 1954, to December 31, 1962. Between 1962 and 1982, the power companies have in the aggregate made annual payments of $44,650 for headwater benefits. That amount was to be paid each year until changes in operation, development, or costs indicated some modification to be advisable. Federal Power Commission Docket No. E-6578 was revised by Docket No. HB07-75-4-000 (order issued July 11, 1983 under 24 FERC, paragraph 62052) which modified cumulative use charges after 1974, effective retroactively. Such charges will now vary each year. An adjustment (years 1974 through 1984) was included in 1984 payment of $244,790. The 1985 payment was $52,747; 1986 payment was $51,905. No payment was received in 1987. The 1988 payment was $58,187. No payment was received in 1989. Two payments ($60,894 and $55,443) were received in 1990; $60,983 was received in 1991; $65,975 in October 1991 (FY 1992) $77,577 in October 1992 (FY 1993), and $62,231 in October 1993 (FY 1994). Cumulative use charges collected by the Federal Power Commission (known as the Federal Energy Regulatory Commission since January 9, 1978) and returned to the U. S. Treasury through period ending September 30, 1995, amounted to $2,150,458.

Operations and results during fiscal year **New** work, regular funds: Studies are currently underway to evaluate seismic stability and identify seepage problems. Code 710 funds: None. Maintenance: Maintenance and operation continued. Runoff of Kern River above Isabella Dam was below normal. Maximum storage of 258,470 acre-feet occurred on June 15, 2008. Maximum hourly inflow to the reservoir was 6,537 cfs on May 5, 2008. Maximum release of 1,663 cfs on July 11, 2008. During the year, 458,400 acre-feet was released for irrigation and other purposes and no amount was released for flood control.

Historical summary Construction began in March 1948 and was completed in June 1968. Main dam, Borel Canal outlet works and appurtenances, and auxiliary dam were completed in April 1953. Storage impoundment began December 1952. Piezometer was installed in August 1982. Project is operating to provide flood protection and irrigation benefits for which it was designed. Recreation facilities were provided by Code 710 funds. Dam safety assurance studies were initiated in FY 1979. A cultural resources survey was completed in FY 1984. On May 15, 1991, Isabella Lake and surrounding land, 16,000 acres around the lake currently being used for park and recreational purposes, was turned over to the Forest Service by the Corps in exchange for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake. A memorandum of understanding (MOU) between the Secretary of the Army and the Secretary of Agriculture (Forest

Service) was used. The MOU requires an exchange of land between departments. Three Corps maintenance employees, under supervision of the Success Lake park manager, are located at Isabella to operate the dam for flood control and water conservation purposes.

19. KAWEAH AND TULE RIVERS, INCLUDING TERMINUS DAM AND SUCCESS LAKE, CA

Location Terminus Dam is on Kaweah River about 20 miles east of Visalia, CA. Success Lake is on Tule River about 5 miles east of Porterville, CA (See Geological Survey quadrangles of area). The current Construction work is located within the Tulare Lake Basin in the southeastern portion of the San Joaquin Valley between the cities of Fresno and Bakersfield, CA.

Existing project Terminus Dam: For description of completed improvement and authorizing act, see Annual Report for 1975. Federal cost of new work is $19,302,957, including $242,605 for basic recreation facilities and excluding spreading works constructed by local interests at an estimated (July 1957) cost of about $750,000. Spreading works portion of project has been deauthorized. The 90-day Congressional project review period, required by sec. 12, Public Law 93-251, as amended, ended August 5, 1977, and resulted in deauthorization of that portion of project. Federal cost of recreation facilities funded from Code 710 appropriations is $700,004. Success Lake: For description of completion improvement and authorizing act, see Annual Report for 1975. Federal cost of new work for Success Lake is $14,247,221, including $253,697 for basic recreation facilities. Federal cost of recreation facilities funded from Code 710 appropriations is $747,048. For future non-Federal reimbursements, see Local cooperation paragraph. Operation and maintenance of reservoirs is Federal responsibility. Lake Kaweah/ Terminus Dam was completed in 1962, and has provided limited flood protection to Visalia and other rapidly developing urban areas along the Kaweah River. The project was enlarged in 2004 by raising the spillway 21 feet. This provided 42,600 acre-feet of additional flood control and water conservation space. Current total project cost is estimated to be $59,100,000, with a Federal share of $34,834,000 and a non-Federal share of $24,266,000, including $21,200,000 of LERRDs.

Local cooperation California officially adopted projects by chapter 1514 of statutes of 1945, State of California. Local interests for Terminus Dam are represented by Kaweah Delta Water Conservation District. Local interests for Success Lake are considered to be represented by the Vandalia, Porterville, and Lower Tule River Irrigation Districts, the Tulare Lake Basin Water Storage District, and Pioneer Water Co., which represent over 90 percent of irrigated land and water-right holders along Tule River below damsite. Local interests must reimburse the Federal Government the portion of first cost and annual operation and maintenance costs allocated to irrigation functions of projects. These costs are estimated at 14.1 percent of first and annual costs for Terminus and 9.5 percent of first and annual costs for Success. Local interests for Terminus stated they will continue to operate and maintain spreading works and downstream channel systems to provide required capacity for disposal of floodwaters. Local interests for Success stated they will continue to maintain downstream channel systems to provide required capacity for disposal of floodwaters. Repayment contracts between the Bureau of Reclamation and local water users for irrigation supply from Terminus and Success reservoirs were executed January 11, 1965, and April 30, 1965, respectively. Reservoirs are being operated for irrigation storage as well as flood control and incidental recreation use. Tulare County acquired water for recreation pools at the projects. Local interests paid the following total amounts for irrigation services from the reservoirs through December 31, 2003: Terminus, $2,686,711 and Success, $1,338,408. Tulare County was granted a 25-year license for planning, development, and management of public recreation areas at Success, July 10, 1960, and at Terminus, June 5, 1961. Basic public-use facilities constructed by Corps at the Success reservoir were transferred to jurisdiction of Tulare County on January 18, 1962; facilities at Terminus were transferred June 20, 1962. In March 1967, an amendment to the license agreements was approved by the Assistant Secretary of the Army. Under these amended licenses, Tulare County retained administration of only specified land areas and operation and maintenance of recreation facilities in these areas. In addition, they continued their program of water safety, boat inspection, and law enforcement at both reservoirs. The Corps took over the administration of the remainder of the project land areas and the operation and maintenance of recreation facilities in these areas. Calif. Department of Fish and Game expended funds to improve fishery resources of the Terminus reservoir. As of April 1, 1972, Tulare County relinquished all planning, development, and management of public recreation areas at Terminus Dam. Tulare County by expenditure of county funds and by a lease to a marina concessionaire has aided in the development

of recreation facilities at an estimated cost of $199,000. Calif. Department of Fish and Game expended funds in conjunction with Tulare Sportsman's Council and developed a habitat for upland game birds at Success Lake. As of April 1, 1972, Tulare County relinquished all planning, development, and management of public recreation areas at Success Lake, except for the Bartlett Park recreation area. Tulare County has aided in development of recreation facilities. Total cost to date of present recreation facilities developed by the county ($360,000) and the marina concessionaires ($373,000) is about $733,000.

PCA for spillway enlargement was signed 9 Feb 2001. Project is cost shared 75% Fed/25% NF, with a minimum NF cash payment of 5% for the flood damage reduction portion of the project. Non-Federal sponsor if required to pay 35% of all costs allocated to agricultural water supply.

Operations and results during fiscal year New work: Terminus Dam, regular funds: None. Code 710 funds: None

Success Lake, regular funds: None. Code 710 funds: None.

Kaweah. Continue filling and monitoring efforts of spillway enlargement. Continued design on Lemon Hill Erosion site. Continued mitigation work with maintenance of the endangered species and the riparian areas.

Maintenance: Terminus Dam: Maintenance and operation continued. Structures were maintained in serviceable condition. Runoff of Kaweah River above Terminus Dam was below normal for the year. Maximum storage of 178,524 acre-feet occurred on June 11, 2008. Maximum hourly inflow to the reservoir on January 5, 2008 and was about 9,080 cubic feet per second. Maximum outflow of 2,515 cubic feet per second and occurred July 8, 2008 Irrigation and spreading releases totaled 264,500 acre-feet. Releases for flood control totaled 63,200 acre-feet. Success Lake: Maintenance and operation continued. Structures were maintained in serviceable condition. Runoff of Tule River above Success Dam was below normal during the year. Maximum storage of 32,606 acre-feet occurred on May 30, 2008. Maximum hourly inflow to the reservoir was 3,172 cubic feet per second on January 5, 2008, and maximum outflow of 645 feet per second occurred on March 15, 2008. Irrigation and spreading releases amounted to 38,390 acre-feet. Releases for flood control amounted to acre-feet.

Historical summary Terminus Dam: Construction of project began in July 1957 and was completed in June 1968. Final land audit was approved on April 20, 1987. Construction of main dam and appurtenances, initiated in February 1959, was completed in June 1962. Dam has been operating since November 1961 to provide flood protection for which it was designed; conservation impoundment was commenced May 1962. Appurtenances are in good condition. Recreation facilities were provided by Code 710 funds. Dam safety assurance studies were initiated in FY 1979 and completed in FY 1989. Piezometer installation and a cultural resources survey were completed in FY 1984. Success Lake: Construction of project began in November 1956, was completed in June 1968, and final audit of historical land record was approved December 17, 1979. Construction of main dam and appurtenances, initiated in October 1958, was completed in May 1961. Dam has been operating since October 1960 to provide flood protection for which it was designed; conservation impoundment was commenced March 1962. Recreation facilities were survey was completed in FY 1984.

WRDA 1996 authorized enlargement of Terminus Reservoir, Kaweah River, CA for flood control and water supply subject to Chief's Report. PED was initiated in September 96 and completed in September 2000. Construction funds were appropriated in FY 2000. PCA was signed 9 Feb 2001. Spillway Excavation was completed, April 2002, Lemon Hill Bank Protection was completed Feb 2003, Relocation of Recreation Facilities was completed April 2004, Auxiliary Dam Berm and seepage collection system was completed May 2004, and the Best Western Dike was completed May 2005

20. LITTLE DELL LAKE, UT

For project description, see FY05 Annual Report, pg 35-15.

Operations and results during fiscal year Continued review and crediting of LERRDS.

Historical summary A Local Cooperation Agreement (Sec. 221) was executed June 10, 1986. Construction was initiated in April 1988. Construction of core trench and test fill was completed in February 1989. Main dam and appurtenances contract was awarded May 12, 1989 and completed in September 1993. Project was transferred to the local sponsor for maintenance and operation on March 26, 1993. Dam was dedicated on August 5, 1993.

21. MARTIS CREEK LAKE, MARTIS CREEK, NV AND CA

Location Reservoir is on Martis Creek a tributary of Truckee River, near Truckee, CA; intermittent channel improvements are on Truckee River in Reno, NV (See Geological Survey quadrangles for areas).

Existing project For description of completed improvement and authorizing act, see Annual Report for 1975. Federal cost for project was $8,503,789 including $289,506 for basic recreation facilities. Federal cost of recreation facilities funded from Code 710 appropriations was $1,200. Construction of recreation facilities under Code 710 was determined to be infeasible. Operation and maintenance of reservoir is Federal responsibility. The project is currently unable to provide the benefits for which it was designed and constructed. Martis Creek Dam has been classified as a Dam Safety Action Class Level I Dam (Urgent and Compelling), where the dam is critically near failure and there is an extremely high life risk. There is risk to life and property, primarily in the Reno-Sparks Metro Area Nevada. The spillway capacity is inadequate, and there is a known seismic and seepage hazard that could cause deformation of the structures. Work performed includes initiating Ph I of the Dam Safety Assurance Program (DSAP) seepage, seismic and hydrologic studies. Investigations initiated were funded both under Operations and Maintenance funds and construction general.

Local cooperation Fully complied with.

Operations and results during fiscal year New work: Automation and remote control of the dam gates. Repaired depressed area underneath the rock face on the upstream of the dam. Maintenance: Maintenance and operation of project, including recreation facilities, was continued. Structures were maintained in serviceable condition. Runoff above Martis Creek Dam was below normal. Maximum storage of 871 acre-feet on May 22, 2008. Maximum hourly inflow to the reservoir was 112 cfs on March 25, 2008. Maximum release of 76 cfs occurred on May 22, 2008. During the year, 0 acre-feet was released for irrigation and other purposes and 8,350 acre-feet were released for flood control.

Historical summary Project construction began in August 1967; dam closure was in October 1971; dam completed in August 1972; basic recreation facilities were completed in December 1972; and project was completed in June 1974. Recreation facilities under Code 710 funding were considered infeasible. Dam safety assurance studies were initiated in FY 1981.

22. MERCED COUNTY STREAMS, CA

Location In vicinity of city of Merced, CA, on streams draining from Mariposa County foothills of the Sierra Nevada into Merced County. Streams lie easterly of and drain into the San Joaquin River between Chowchilla River on the south and Merced River on the north. Drainage area represents about 1,000 square miles; nearly 700 square miles of foothills and mountains in Mariposa County and about 300 square miles of flood plain in Merced County (See Geological Survey quadrangles for area).

Existing project Project is a modification of Merced County Stream Group, Calif., Improvement No. 18, authorized by 1944 Flood Control Act (H. Doc. 473, 78th Cong., 2d sess). and completed in FY 1957. Existing project provides for enlargement of four existing reservoirs Bums, Bear, Owens, and Mariposa, providing a total capacity of 117,900 acre-feet for multipurpose storage; channel improvements in reaches of Bear, Black Rascal, and Deadman Creeks, thereby tying the existing project channels into the USFWS grasslands and into Eastside Bypass of San Joaquin River flood control system. Bear, Bums, and Owens projects would provide flood control only; Castle and Bums projects, flood control and recreation; Marguerite project, flood control and irrigation; and Mariposa project, all three purposes. Existing project was adopted by 1970 Flood Control Act.

Current plan of improvement would defer enlargement of existing Mariposa reservoir and the irrigation function associated with the latter two facilities, enlargement of existing Owens reservoir and about 32 miles of levee and channel improvement on Owens, Mariposa, and Deadman-Dutchman Creeks. Estimated total project cost (October 1996) is $132,700,000 (includes an allowance for estimated inflation through the construction period), of which $91,800,000 is Federal and $40,900,000 is non-Federal (which includes a $6,855,000 cash contribution).

Local cooperation Local interests are required to provide lands, easements, and rights-of-way and dredged material disposal areas; modify or relocate buildings, utilities, roads, and other facilities, where necessary in the construction of the project; pay one-half of the separable and joint costs allocated to recreation, presently estimated at $282,000, of which $240,000 is a cash contribution and $42,000 is for

lands; and bear all costs of operation, maintenance, and replacement of flood control facilities. Total non-Federal share of Castle Dam first cost is $5,230,000 and includes cash contribution of $595,000.

The California Reclamation Board and the City of Merced are the local sponsors of the authorized project. The Reclamation Board will serve as sole sponsor for the Castle Dam Unit. Merced County Board of Supervisors reaffirmed their support for the project by letter of April 4, 1986. City of Merced by letter of March 13, 1986, reaffirmed its support for and intent to furnish assurances for recreation aspects of the project. California Reclamation Board reaffirmed its support for total project by letter of April 9, 1986. A Local Cooperation Agreement (Sec. 221) was executed for Castle Dam Unit on June 27, 1986. State of California legislation (AB3369) was enacted on September 14, 1986 which enabled the Reclamation Board to financially participate in the project. A new Local Cooperation Agreement (LCA) was signed by the Assistant Secretary of the Army November 30, 1988, in accordance with the Water Resources Development Act of 1986. The California Reclamation Board, the Merced County Board of Supervisors and the city of Merced have indicated support for balance of the project by letters of intent dated August 29, 1991 and August 20, 1991, respectively. This support was again reaffirmed in letters of support as provided by the California Reclamation Board on January 9, 1996.

Operations and results during fiscal year Minimal work on the General Reevaluation Report due to lack of funds.

Historical summary Castle Dam multicomponent construction contract was awarded February 26, 1991, and construction was completed in March 1993. Castle Dam check structure contract was initiated in April 1993 and completed in January 1994. Castle Dam was transferred to the sponsor on April 12, 1995, and accepted by the sponsor in FY 2000. GRR for Haystack Dam portion was initiated in 2001.

23. MERCED COUNTY STREAM GROUP, CA

Location Reservoirs and channel improvements are on Bear, Burns, Mariposa, and Owens Creeks, in foothills of Sierra Nevada about 15 to 20 miles east of city of Merced, CA (See Geological Survey Haystack Mountain quadrangle for Burns and Indian Gulch quadrangle for Bear, Owens, and Mariposa areas).

Existing project For description of completed improvements and authorizing act, see Annual Report for 1962. Improvements consist of reservoirs at Mariposa, Owens, Burns and Bear Creeks and diversions from Black Rascal Creek to Bear Creek and from Creek to Mariposa Creek. Total first cost for project was $3,899,259, of which $2,751,259 was Federal and $1,148,000 non-Federal for lands including relocations and channel improvement.

Local cooperation Fully complied with.

Operations and results during fiscal year Maintenance: Ordinary maintenance and operation of the four completed reservoirs continued. Structures were maintained in a serviceable condition. Runoff from drainage areas below Merced County stream group reservoirs was below normal for the year. See Table 35-K for maximum inflow storage and outflow for the projects. Outflows were less than channel capacity in the project streams.

Historical summary Construction was initiated March 1948, with construction of Mariposa project, which was completed in November 1948. Construction of Owens project, initiated in March, was completed in October 1949; Burns project, initiated in July 1949, was completed in January 1950; and Bear project initiated in April, was completed in December 1954. Black Rascal and Owens Creek diversion channels and stream-gaging stations were completed in April 1956. Local interests completed channel enlargement and restoration of channel capacities of Miles, Bums, Owens, and Mariposa Creeks in 1956 at their expense. Improvement of Bear Creek and Black Rascal Slough, below their confluence, was deferred pending possible improvements downstream, outside limits of project.

24. NAPA RIVER, CA

Location The project is located in the city and county of Napa, California. The Napa River drainage basin, comprising 426 square miles, is just north of San Pablo Bay and approximately 40 miles northeast of San Francisco, California.

Existing project A major portion of the presently developed area of the city is located in a high flood hazard area and is subject to flooding. The project consists of modifications to provide the project area with 100-year level of flood protection from Napa River and Napa Creek. Channel modifications

include overbank excavation, vertical walls, floodwalls, levees, bridge modifications, pumping stations and flowage easements. The project also includes recreation trails and incidental ecosystem restoration. Current total project cost estimate is $369,400,000 and is to be cost shared 75% Federal and 25% local sponsor.

Local cooperation In March 1998, the Napa County electorate passed "Measure A" to fund the non-Federal share of the project. In February 2000, Napa County Flood Control and Water Conservation District, the local sponsor, signed a Project Cooperation Agreement for the project. The sponsor will furnish lands, easements, rights of way and borrow and excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges) and other facilities where necessary for the construction of the project; provide 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement for flood control facilities; and pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.

Operations during fiscal year. Construction contract for Contract 3 (Napa Valley Wine Train Rail Road Relocation) was awarded September 23, 2008. Design efforts continue on Contract 3 (Oxbow/Bypass design effort) and on Contract 4 (Napa Creek design effort). In addition, project turnover of Operations and Maintenance for previously constructed contract features (Contracts 1A & 1B) is scheduled for FY 09.

Historical summary The project was authorized by the Flood Control Act of 1965 for flood control and recreation and was modified by the Flood Control Act of 1976 to include modifications to Napa Creek. The project was placed in inactive status in 1978. Following severe flooding in February 1986, the sponsor requested reactivation of the project. Funds to resume pre-construction engineering and design (PED) were appropriated in fiscal year 1989. A revised Final SGDM was completed in October 1998 and approved in May 1999. The ROD for the revised SEIS/EIR was issued in June 1999. The PED phase of the project was completed in fiscal year 2000 at a total cost of $15,587,000. Project was approved as new start construction for fiscal year 2000. Construction Contract lA, estimated at $2,717,189 was completed in October 2000. Demolition contract was completed in October 2002; Phase 1 HTRW Remediation was completed in December 2002 and Phase 2 remediation was completed February 2004. Contract 1B was completed in May 2004. Contract 2West (Hatt Building-to-First Street Reach) was completed in May 2008. Planning, engineering and design, construction management and non-Federal lands certification efforts continue.

25. PAJARO RIVER, CA

Location In the Uvas-Carnadero and Llagas Creeks watersheds of the upper Pajaro River Basin in south Santa Clara County in vicinity of the city of Gilroy about 75 miles south of San Francisco, CA.

Existing project See Annual Report for 1996, pg. 35-15.

Local cooperation Fully complied with. Local Cooperation Agreement (LCA) for flood control was executed with the Santa Clara Valley Water District on June 25, 1987, and LCA for recreation was executed with the City of Gilroy on July 27, 1987.

Operations and results during fiscal year The project is fiscally completed.

Historical summary Responsibility for remaining portions of advance engineering and design, plans and specifications, and construction was transferred to Sacramento District in April 1982. Construction began in October 1987. Construction for the first contract (levee work and bike path upstream of Thomas Road Bridge), second contract (levee work and hiking trails), and third and final contract (landscaping) has been transferred to local interests for operation and maintenance. Total reimbursement of $5,583,369 has been made to the local sponsor.

26. PINE FLAT LAKE AND KINGS RIVER, CA

Location Reservoir is on Kings River, about 25 miles east of Fresno, CA, and channel improvements are on Kings River downstream from Lemoore weir, about 25 miles south of Fresno (See Geological Survey quadrangles of area). Project also includes 2,500 acres of Forest Service recreation land near Pine Flat Lake.

Existing project Improvement is a unit in comprehensive plan for flood control and other related purposes for Sacramento-San Joaquin Basins. Project consists of a 429-foot high concrete gravity

darn, including a gated overflow section with a maximum discharge capacity of 391,000 cubic feet per second, creating a reservoir with gross storage capacity of 1 million acre-feet, for flood control, irrigation, and related purposes. Outlet provisions for future power development are included in dam, but Federal construction of power-generating facilities is not authorized. Improvement also includes levee and channel work on Kings River and its tributaries on valley floor about 25 miles south of Fresno. Channel improvement work will enlarge channel capacities and regulate flows in lower branches of the Kings River. There are nine public-use and recreation areas: One maintained by the Corps, four by the Forest Service, three jointly by the Corps and concession, and one by Fresno County. Also, five boat access-only areas are maintained by the Corps on the south side of the reservoir. Project cost is $42,072,330, of which $41,502,330 is Federal (including $13,700 for basic recreation facilities) and $570,000 non-Federal for rights-of-way for downstream channel improvements. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost of recreation facilities for Pine Flat Lake, funded from Code 710 appropriations is $1,595,100 exclusive of recreation facilities previously provided at a cost of $13,700. In addition, Federal cost of recreation facilities for Pine Flat Lake, funded from Public Works Acceleration Executive Act of 1962 appropriations, was $239,235 (July 1963). Operation and maintenance of dam and reservoir is Federal responsibility. Existing project was adopted by 1944 Flood Control Act (H. Doc. 630, 76th Cong., 3d sess., contains latest published map).

Local cooperation Local interests must reimburse the Federal Government for first costs allocated to irrigation functions of reservoir portion of project in accordance with reclamation law. Under provision of War Department Civil Appropriations Act of 1947, the Secretary of War, with concurrence of the Secretary of the Interior, determined allocation of cost to irrigation should be set at an amount not to exceed $14,250,000. In addition, local interests must pay 37.4 percent of annual maintenance, operation, and replacement costs of dam and reservoir allocated to irrigation function. Repayment contracts between the Bureau of Reclamation and the local water users for the irrigation use of the reservoir were executed December 23, 1963. The Bureau is administering the contracts in accordance with reclamation law as amended by the Reclamation Reform Act of October 12, 1982. That act generally exempts the limitations under the early reclamation laws as being applicable to projects constructed by the Corps with two exceptions; however, all existing contracts to share construction and maintenance costs remain in effect. Prior to execution of the final contracts, the Bureau provided conservation water to local interests under an interim contract. Irrigation interests paid $15,154,593 for irrigation services through December 31, 2003. With respect to the downstream channel improvements, sec. 3, Flood Control Act of June 22, 1936, applies. King River Conservation District represents local interests; assurances were accepted November 20, 1959. Local interests have furnished all requirements for construction rights-of-way for construction of channel improvements required to date. Three concessionaires each at Lakeridge Marina (Deer Creek), Pine Flat Marina and Trimmer Marina provided public-use facilities in accordance with lease agreements with the Secretary of the Army. Estimated cost to date of facilities installed by these concessionaires is $1,727,000. Fresno County developed public-use facilities on an 85-acre tract immediately downstream from dam for picnicking, camping, swimming, and playground activities, at an estimated cost of $476,000 under provisions of a license agreement. The U.S. Forest Service developed and operates a picnic area at the upper end of reservoir. Cost of site development is about $37,500. Installation of a hydroelectric power plant, located at the downstream toe of the Corps Pine Flat Dam, was completed in January 1984 by Kings River Conservation District. Project consists of an outdoor-type powerhouse containing three generating units with capacities of 55 megawatts each for a total of 165 megawatts. Conservation District would make use of the three existing 13.5-foot diameter penstocks that were installed in Pine Flat Dam when constructed in 1954.

Licenses License No. 1988, effective April 1, 1955, was issued by Federal Power Commission to Pacific Gas and Electric Co. for hydroelectric power development of North Fork Kings River by the company upstream from the Pine Flat reservoir. Under interim Contract No. DA-04-167-eng-1182 with the Department of the Army, Pacific Gas and Electric Co. paid for storage of power water in the Pine Flat reservoir May 15, 1954, through March 31, 1955. Current Contract No. DA-04-167-eng-1328 with the Department of the Army provides for storage of power water at the rate of 0.1375 per acre-foot; the contract covers April 1, 1955, through March 31, 2005. By an agreement of January 1972, supplementing the December 1954 contract, Pacific Gas and Electric Co. transferred ownership of most of its Kings River system water to the Kings River Water Association. Accordingly, no further significant storage service to Pacific Gas and Electric

Co. by the reservoir at Pine Flat is anticipated. Total payment under these contracts through June 30, 1972, (last year of payment), amounts to $2,478,798; these funds were paid to Sacramento District and deposited for return to the Treasury. License No. 2741, effective September 25, 1979, was issued by the Federal Energy Regulatory Commission to the Kings River Conservation District for hydropower development at the downstream toe of the Corps Pine Flat Dam. Payment to the Department of the Army for construction and installation of the penstocks in the amount of $1,044,685 was made to Sacramento District and deposited for return to the Treasury in November 1985.

Operations and results during fiscal year New work, regular funds: None. Code 710 funds: None. Maintenance: Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff of Kings River above Pine Flat Dam was below normal for the year. Maximum storage of 537,081 acre-feet occurred on May 23, 2008. Maximum hourly inflow to the reservoir was 13,914 cubic feet per second on January 4, 2008, and maximum outflow of 6,541 cubic feet per second occurred on July 14, 2008. During the year, 1,252,730 acre-feet was released for irrigation and spreading. Release for flood control amounted to 0 acre-feet.

Historical summary Construction began in April 1947 and project, including channel improvement, was completed in September 1977. Main dam was initiated in January 1950, completed in June 1954, and has been operating since February 1954 to provide flood protection for which it was designed. Total of 35.2 miles of new and reconstructed levees and 13.2 miles of channel clearing have been transferred to the Kings River Conservation District for maintenance. Recreation facilities for various recreation areas under Code 710 appropriation are complete. Completed preliminary design and cost estimates for Pine Flat fish barrier were reviewed by the State, but the State was unable to provide necessary assurances of local cooperation. Dam safety assurance studies were initiated in FY 1982. A cultural resources survey was completed in FY 1984. On May 15, 1991, Pine Flat Lake acquired additional acreage as part of a memorandum of understanding (MOU) between the Secretary of the Army and Secretary of Agriculture (Forest Service). The Corps exchanged Isabella Lake and the 16,000 acres around that lake currently being used for park and recreational purposes for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake.

27. REDBANK AND FANCHER CREEKS, CA

Project complete. See FY05 Annual Report, page 35-20 for details

28. REGIONAL CONJUNCTIVE USE, CA

See Sacramento Area, CA, pg 35-28

29. RUSSIAN RIVER BASIN, CA

Reported by the San Francisco District.

30. SACRAMENTO RIVER AND TRIBUTARIES, CA FROM COLLINSVILLE TO SHASTA DAM

Location Rises in Trinity Mountains in north-central California, flows generally southerly about 6 miles and empties into Suisun Bay, an arm of San Francisco Bay at Collinsville, CA. Works covered by this improvement are on Sacramento River and tributaries from Collinsville to Shasta Dam, about mile 312. Drainage area above Rio Vista is 26,500 square miles (See Geological Survey quadrangles of area for Sacramento River and Upper Butte Bassin; Flournoy and Fruto quadrangles for Black Butte Lake; and Tuscan Buttes, Tehama, Redding, and Hooker quadrangles for Table Mountain Lake).

Existing project Improvement of Sacramento River and tributaries, from Collinsville to Shasta Dam was authorized as a unit of a comprehensive plan for flood control and other related purposes in Sacramento River Basin. (a) Sacramento River and major and minor tributaries, for flood control purposes: Enlargement of existing levees on Sacramento River between vicinity of Moulton weir and Ord Bend; construction of new levees from present levee terminus to vicinity of Chico Landing; construction of a weir near Chico Landing, extension of Moulton weir, and construction of a bypass through Upper Butte Basin; construction of new levees in Lower Butte Basin; enlargement of existing levees in Sutter, Tisdale, Sacramento, and Yolo Bypasses; and levee construction and/or channel enlargement on following minor tributaries of Sacramento River: Antelope Creek; Chico and Mud Creeks and Sandy Gulch; Butte and Little Chico Creeks; Cherokee Canal; Elder Creek; Deer Creek (Tehama County); Thomes Creek; and Willow Creek. Improvement provides for about 155 miles of channel improvement and about 294 miles of levees with an

average height of 12 feet and a freeboard of 3 feet. Improvement also provides for revetment as required for protection of bypass levee slopes against erosion. Total first cost for project is $18,300,000 (October 1988), of which $11,900,000 is Federal, and $6,400,000 non-Federal for lands and damages, including relocations (See table 35-N on project units classified and excluded from cost estimate). (b) Sacramento River, Chico Landing to Red Bluff, CA: An extension of the existing Sacramento River Flood Control project which provides for construction of bank protection works and minor channel improvements as required on Sacramento River between Chico Landing and Red Bluff for flood control purposes. Estimated first cost (October 1987) for project work in Tehama, Butte, and Glenn Counties is $31,000,000, of which $25,700,000 is Federal cost and $5,300,000 non-Federal cost for lands and damages including relocations and cash contribution of $3,435,000. (c) Sacramento River, CA, Bank Protection Project: Includes initial phase covering 430,000 lineal feet of bank protection and a second phase covering 405,000 lineal feet of bank protection under a long range program of bank protection, erosion control works, and setback levees at critical locations within limits of authorized or existing levees included in the Sacramento River Flood Control project to protect integrity of levee system for flood control purposes. Total estimated (October 2005) first cost for project is $496,545,000 (includes an allowance for estimated inflation through the construction period) of which $365,823,000 is Federal and $130,722,000 non-Federal, including lands and damages of $20,306,000 and required cash contribution of $108,616,000. There remains approximately 16,600 lineal feet of bank protection under second phase authority. (d) Authorization also provided for Black Butte Lake. For description of completed project see Annual Report for 1975. Federal first cost for project is $14,508,820, including $475,507 for basic recreation facilities. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost for recreation facilities funded from Code 710 appropriations is $1,000,162. A concessionaire at Black Butte Marina provided public use facilities in accordance with lease agreement with the Secretary of the Army at an estimated cost to date of $87,000. (e) Authorization also provided for construction of Table Mountain (Iron Canyon) project, an earthfill dam on Sacramento River about 3 miles north of Red Bluff, CA. For details, see Annual Report for 1978.

Local cooperation (a) Sacramento River and major and minor tributaries: Sec. 3, Flood Control Act of June 22, 1936, applies. Fully complied with for all work completed or under contract, and local interests indicated they will be able to fulfill requirements for remaining work as scheduled. Levee construction (107 miles) total requirement for the "active" project has been completed, transferred to, and accepted by the State. (b) Sacramento River, Chico Landing to Red Bluff: Sec. 3, Flood Control Act of June 22, 1936, applies; local interests must also assume responsibility for flood plain zoning. Fully complied with for portions completed in Tehama, Butte, and Glenn Counties; completed work, bank protection at 36 sites, was transferred to and accepted by the State. (c) Sacramento River Bank Protection Project: Sec. 3, Flood Control Act of June 22, 1936, applies. Water Resources Development Act of 1986 also applies. Cost sharing percentages vary according to timeframe work was accomplished. For ongoing work, local interests must contribute an amount in cash that, when added to the cost of lands easement, rights-of-way and utility modifications, equal one-quarter of each unit of remedial work-In addition, for reaches where local interests request bank stabilization in lieu of more feasible levee setbacks, local interests will contribute costs over and above costs of setbacks, and provide local contribution. Due to Governor’s declaration of an emergency situation, the State has advanced $32,000,000 in FY06 to accelerate work on levees in the Sacramento area. WRDA 07 authorized an additional 80,000 LF for the project. An EIS and decision document are being prepared and scheduled for completion in 2011. (d) Black Butte Lake: None required for construction. Local interests must pay the portion of first cost and annual operation and maintenance costs allocated to the conservation functions of the project; these costs are estimated at 39.9 percent of first cost and 40.2 percent of annual costs. From March 2, 1960, to October 22, 1970, contract between the Bureau of Reclamation and the State of California provided for repayment of irrigation storage costs; Bureau administered contract in accordance with reclamation law. Local interests paid a total of $77,205 for irrigation services during this period. Public Law 502, 91st Cong., 2d sess., October 23, 1970, provided that Black Butte project be financially integrated with the Central Valley project, coordinated operationally with other Central Valley project storage units by the Bureau under the Secretary of the Interior, and that dam and reservoir at Black Butte be physically operated and maintained by the Corps in a manner compatible with recreational use of the reservoir.

Operations and results during fiscal year New work: (a) Sacramento River and major and minor tributaries: None (b) Sacramento River, Chico

Landing to Red Bluff: None (c) Sacramento River Bank Protection Project: completed 8 critical erosion sites on the Sacramento River and American River in 2008 (NOTE: planting establishment maintenance contracts will continue for 3 additional years, however). Fiscal costs associated with these contracts were approximately $17M. (d) Black Butte Lake, regular funds: None. Code 710 funds: None. Maintenance: Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff above Black Butte Dam was below normal for the year. Maximum storage of 95,498 acre-feet occurred April 22, 2008. Maximum hourly inflow to Black Butte reservoir was 17,581 cubic feet per second on January 25, 2008, and maximum outflow of 6,008 cubic feet per second occurred on January 30, 2008. During the year, 160,000 acre-feet was released for flood control and 140,000 acre-feet were released for irrigation and other purposes. (e) Table Mountain (Iron Canyon) Lake: None.

Historical summary (a) Sacramento River and major and minor tributaries (active portions): Construction was initiated in May 1949 on Deer Creek and Butte Creek units; Cherokee Canal, Elder Creek, Chico and Mud Creeks, and Sandy Gulch units have been completed. Active portion of this improvement is about 99 percent complete. Work remaining is bypass levee revetment as required, which will accomplish under Sacramento River Bank Protection project. (b) Sacramento River, Chico Landing to Red Bluff: Active portion of project, bank protection in Tehama County, was initiated in June 1963 and completed in March 1964. Project was reopened in June 1968 to place additional necessary bank protection. Work at 36 sites was completed in Tehama, Butte, and Glenn Counties as of September 1985 and transferred to State for maintenance. Bank protection on Sacramento River, Tehama County one site, mile 215, (Unit 5), was completed November 1982, two sites, mile 209.5 and mile 217.5, (Unit 6), were completed in November 1983, and four sites, 241.0, 237.9, 237.7, and 237.5 (Unit 7) were completed in February 1985.(c) Sacramento River Bank Protection Project: First phase (pre-Separable Element 38B and second phase (SE 38B-SE42) have 833,340 linear feet complete. The remaining linear feet, commensurate with the LCA amendments 1 and 2 and identified as SE 40,41,42 and 43 have approximately 16,600 linear feet remaining. LCAs were executed for SE 41 in August 1988, for SE38B, 40 and 42 in December 1988 and for first phase mitigation in June 1990. Contract LAR 1Al, Site 3 was awarded in August 1996 and completed in December 1996. Contract LAR 1A2, Site 3 (River Park) was awarded in June 1997 and completed in February 1998. Steamboat Slough contract was awarded in September 1997 and completed in November 1997. Contract LAR 1A3, Site (River Park) was awarded in November 1997 and completed in May 1999. Contract for LAR1B, Sites 1, 2, and 4 was awarded July 1998 and completed in December 1999. Contract LAR 2, Site 5, Phase 1 was awarded in January 1999 and completed in March 1999. Contract LAR 2, Site 5, Phase 2 was awarded on August and completed in December 1999. Contract 41D, RD108 was awarded August 2000 and completed in December 2001. Contract 40E, River mile 149 was awarded September 2001 and completed November 2002. A site reconnaissance was performed in 2003. In 2004 we began the construction on RM 56.7. During construction the discovery of erosion “caves” and slope instability necessitated extensive additional design work on RM 56.7. Additionally, the identification of 24 critical erosion sites led to the State of California declaring a state of emergency on many of the Sac Bank levees. The State accelerated funding in FY06 to expedite repairs on these levees, and also concurrently undertook repair actions on their own. In FY07, the Corp began design and construction of 14 sites. In 2008 construction was completed on an additional 8 sites. (d) Black Butte Lake: Construction began in March 1960 and project is complete. Final land acquisition was completed in December 1966. Construction of main dam was initiated in June 1960 and completed in December 1963. Dam has been operating since November 1962 to provide the flood protection for which it was designed. Final cost allocation approved May 3, 1977. Dam safety assurance studies were initiated in FY 1980 and completed in FY 1986. Piezometer installation and slope for protection at dam were completed in FY 1983. A cultural resources survey was completed in FY 1984. (e) Table Mountain (Iron Canyon) Lake: Project unit deauthorized as of August 5, 1977.

31. SAN LORENZO, CA

Location Project is located within the city limits of Santa Cruz, CA, in Santa Cruz County, about 70 miles south of city of San Francisco and includes the lower 2.5 miles of San Lorenzo River which terminates at the Pacific Ocean.

Existing project Flood control features of the authorized project consist of construction of 13,000 l.f. of levee embankment raise or floodwalls on top of various portions of the existing project levees on both sides of San Lorenzo River from the Southern Pacific Railroad bridge to Highway 1. Habitat restoration

measures include re-vegetating the land-side slopes of the levees. The maximum flood of record occurred in 1955 which inundated 410 acres and caused damages of approximately $7.6 million. Project was authorized by the Water Resources Development Act of 1996 for flood control and habitat restoration purposes. Streambank erosion control was added to the project under the Water Resources Development Act of 1999. Cost estimate (October 2005) is $34,500,000 (includes an allowance for estimated inflation through the construction period), of which $25,260,000 is Federal cost and $9,240,000 is non-Federal cost.

Local cooperation Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in construction of project; pay 22 percent of cost allocated to flood control to bring the total non-Federal share of costs to 25 percent, as determined under Section 103(m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay as reduced for credit allowed based on prior work ($534,000 authorized under Section 215 of the Flood Control Act of 1968); pay 24 percent of the costs allocated to fish and wildlife habitat restoration to bring the total non-Federal share of habitat restoration costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay as reduced for credit allowed based on prior work ($32,000 authorized under Section 215 of the Flood Control Act of 1968), and bear all costs of operations, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities. Pay 35 percent of the costs allocated to stream bank erosion control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of stream bank erosion control features of the project, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement. Local sponsor, City of Santa Cruz, expressed their continued support for project by letter dated October 8, 1997. The Project Cooperation Agreement (PCA) for flood control was executed October 15, 1998. Streambank erosion control requires an amendment to the PCA. A limited Re-evaluation Report was completed October 2003. The amendment to the PCA was executed in March 2004.

Operations and results during fiscal year FY06 funds were used to continue plans and specs for the remaining dredging.

Historical summary A flood control project, consisting of levee and channel improvements, was completed in 1959 by the Corps of Engineers. The project was to provide a standard project flood level of protection (about a 200-year event). Since that time, excessive sediment deposition in the streambed has reduced the flood carrying capacity of the existing project. Sediment accumulation and the resultant peak flows during a flood event in January 1982 caused the river to flow near design capacity, even though the storm had a recurrence level of only approximately 25-years. As a result of the flood threat, the City of Santa Cruz and the Corps of Engineers initiated a feasibility study of the San Lorenzo River with the signing of a final Feasibility Cost Sharing Agreement (FCSA) on August 18, 1989. Chief's Report was signed June 30, 1994. Preconstruction engineering and design phase was initiated in March 1994 and completed at a cost of $934,000. Streambank erosion control required an amendment to the PCA. A Limited Re-evaluation Report was completed in FY 2003. Levee work and bank stabilization were completed in 2005. Work is ongoing to determine final project requirements including dredging of portions of the channel.

32. SOUTH SACRAMENTO COUNTY STREAMS, CA

Location The project is located in the southeastern portion of Sacramento County, CA. The project consists of the Morrison Creek Stream Group Basin, approximately 180 square miles in size.

Existing project The flood control features of the project consist of raising and extending the ring levee around the Sacramento Regional Water Treatment Plant; raising the Beach Stone Lakes and Morrison Creek levees; installing floodwalls, using sheet pile, on Morrison, Elder, Florin and Union house Creeks, and retrofitting bridges to lower the risk of failure due to flooding. Recreation features include a bicycle and pedestrian trail. Restoration of ecosystem at five sites would increase water quality to open water environments and enhance and expand wetlands, riparian vegetation, grasslands, and woodlands. Significant flooding occurred in 1952, 1955, 1962, 1963, 1967, 1969, 1973, 1982, 1995, and 1997. In January 1995, intense rainfall resulted in record flows on Morrison Creek near or exceeding the 1 in 100 annual event. Significant development has occurred in the upper basin, which is increasing the runoff and potential for flooding. The levees currently provide less than a 100-year level of protection. The selected plan would provide a high level of protection (1 in 500 annual event) to all areas of the basin. Cost

estimate (October 2005) is $92,000,000 (includes an allowance for estimated inflation through the construction period), of which $ 59,500,000 is Federal cost and $ 32,500,000 is non-Federal cost.

Local cooperation Local interests are required to provide lands, easements, rights-of-way, and borrow, excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project; pay 21 percent of the costs allocated to flood control and environmental restoration to bring the total non-Federal share to 35 percent for flood control and environmental restoration as reduced for credit allowed based on prior work ($7.2m as authorized under Section 104 of WRDA 86), and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.

Operations and results during fiscal year A contract for construction of the ecosystem restoration portion of the project was awarded in December 03 and is currently ongoing. The first construction contract was completed in January 2006. Contract 1B was awarded July 2006 and will be completed in 2008. Contract 1B2 was awarded September 2007.

Historical summary Construction General funds were appropriated in FY 2002 by Congressional aid. PED agreement was executed May 1998. The Chief's Report was signed October 1998. Ecosystem restoration construction contract awarded December 2003. The Division Commander approved the completed Limited Reevaluation Report in February 05. The PCA was executed in May 05 and the initial construction contract for the project was awarded June 05.

33. STOCKTON METROPOLITAN AREA REIMBURSEMENT, CA

Location The primary project area is in the city of Stockton, California, approximately 40 miles south of Sacramento and 85 miles east of San Francisco. The approximately 200 square mile area extends from Bear Creek on the north, Mormon Slough on the south, the confluence with the Sacramento/San Joaquin Delta on the west and Jack Tone Road on the east.

Existing project Project will reimburse the sponsor for locally constructed improvements made to the existing levee system along the Bear Creek System and the Calaveras River System. After flooding in northern CA in 1986, FEMA initiated a flood zone restudy of the Stockton area. Draft Flood Insurance Rate Maps were released delineating a larger 100-year flood plain than previously recorded, affecting approximately 251,000 residents. Section 211 crediting report concluded that the San Joaquin Area Flood Control Agency's improvements to the Lower Mosher Slough area, with a non-Federal cost of $4.3 million, are not eligible for reimbursement. In addition, improvements to approximately 12,000 feet of the Upper Calaveras River Levee System with a non-Federal cost of $3.28 million, 3,300 feet of Upper Mosher Creek with a non-Federal cost of $812,000 and permitting costs of $773,000 were determined to be ineligible for reimbursement. These areas did not meet the Corps of Engineers minimum flow criteria for participation in urban flood control projects. WRDA 2007 authorizes reevaluation of these areas to determine eligibility for reimbursement.

Local cooperation San Joaquin Area Flood Control Agency (SJAFCA)

Operations and results during fiscal year FY 2007 reimbursement of $1,051M brought the total reimbursement to date to $22,524M.

Historical summary SJAFCA, the local sponsor, completed the construction of a flood control project in March 1999 at 100% local costs. SJAFCA, under authority of WRDA of 1996, Sec 211 (i), entered into a FCSA w/Corps to study the credit/reimbursement of local project costs. Draft 211 report completed November 99; HQ reviewed and sent to ASA (CW) September 00; ASA sent to OMB January 01; OMB sent to ASA Feb 01. ASA approved the report Jul 01. MOA was signed 2 March 02. The first reimbursement of $7M was made March 02, with a total of $22.524M reimbursed to date.

34. SUCCESS RIVER, CA DSAP

Location Success Dam and Reservoir are located on the Tule River within Tulare Lake Basin about 5 miles east and upstream of the town of Porterville, Tulare County, and about 60 miles north of Bakersfield, CA.

Existing Project Tule River drains about 390 square miles into Success Lake, flowing from the lake through Porterville, and continuing 25 miles through agricultural areas. Construction of the dam was completed in May 1961. Recent studies concluded that a Maximum Credible Earthquake would cause extensive loss of strength, slope instability and deformation over a section of the embankment. Similar damage levels may also result

from lesser earthquake events. The Dam Safety Assurance Program Evaluation Report recommends remediation to prevent a catastrophic failure of the dam resulting in loss of life and damages estimated at $941M.

Local Cooperation The local sponsor is the Tule River Association.

Operations and results during fiscal year Design, testing and analysis efforts continued.

Historical Summary The Success Dam, Success Lake, Tule River, California Dam Safety Assurance Program (DSAP) Evaluation Report dated April 1998 was resubmitted for review and approval 1 Feb 99; approved 7 May 99. Engineering and Design was initiated in FY 99 with Operations and Maintenance funding. The Success Dam, Success Lake, Tule River, California Dam Safety Assurance Program (DSAP) Evaluation Report dated April 1998 was approved 7 May 99. Funds were appropriated for a new construction start in FY 00. Design will be completed FY 10. Foundation explorations determined an RCC dam was not a viable alternative, therefore, an earthen dam has been selected. For safety reasons, the reservoir level will be lowered until the new dam is completed, resulting in negative impacts to the area.

35. TULE RIVER, CA

Location Project area is located within the 12,500 square-mile Tulare Lake Basin located in the southeast portion of the San Joaquin Valley.

Existing Project Tule River drains about 390 square miles into Success Lake and flows from the lake on to the valley through the city of Porterville, 5 miles downstream, and continues another 25 miles through agricultural areas, culminating in Tulare Lakebed. Serious flood problems occur in the Tule River Basin generally as a result of inadequate channel capacities. The authorized project is to raise the gross pool elevation of Success Lake for flood control and irrigation water supply by raising the spillway 10 feet and widening the spillway from the existing 200 feet to 365 feet.

Local Cooperation The Project Cooperation Agreement (PCA) was executed June 2003 with the State of California Reclamation Board and the Lower Tule River Irrigations District. Project is cost shared 65% Federal and 35% Non-Federal.

Operations and results during fiscal year None

Historical Summary Flooding occurred in 1966 and 1983. 1983 flood damages downstream in the Tulare Lakebed were extremely severe and widespread; damages attributed to the Tule River were approx $8 million @ 2000 price levels. The first construction contract to extend the upper level boat ramp and parking area at the Tule Recreation Area was completed in January 2004. Due to remediation work at Success Dam associated with seismic deficiencies, the Non-Federal Sponsors have requested that work on the project be postponed in FY05 through FY07.

36. UPPER JORDAN RIVER, UT

Location Project is located in Salt Lake County, Utah just south of Salt Lake City corporate limit.

Existing project The project includes construction of a flood control diversion and sediment control structure on Mill Creek, a 1.4 mile underground conduit from the diversion structure to a detention basin, and construction of a 100 acre foot Hillview Detention Basin. The project will divert flood flows from Mill Creek to the detention basin and ultimately into Big Cottonwood Creek. The project will provide 100 year flood protection on Mill Creek above State Street.

Local cooperation Local interests are required to provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas. Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project. Pay 6 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. Salt Lake County will act as the local sponsor for the project. A Project Cooperation Agreement is pending completion of a limited reevaluation report (LRR) and required funding.

Operations and results during fiscal year None

Historical summary A feasibility report was completed in 1987 and PED was completed in December 1994. Funds were added in FY 1997 to initiate construction. There has been a long history of flooding which is most commonly associated with snowmelt. The most recent flooding occurred in 1982, 1983, and 1984. A General Design Memorandum (GDM) was approved in December

1994. A project Authorization Change (PAC) report was submitted in January 1996 to obtain Congressional reauthorization on a Section 902 (WRDA 86) new cost limit. The project was reauthorized in WRDA 96.

37. WALNUT CREEK, CA

Location Project is on Walnut Creek and lower reaches of its principal tributaries, Pacheco, Grayson, San Ramon, Las Trarnpas, Galindo, and Pine Creeks in Contra Costa County, CA. Improvement will extend from Suisun Bay to head of project about 1 mile above southern limits of city of Walnut Creek. City of Walnut Creek is about 10 miles south of Suisun Bay (See Geological Survey quadrangles for area).

Existing project Comprises extension of existing levees, construction of new levees and concrete channels, channel rectification and enlargement, and utilization of improvements constructed or planned by local interests. Improvements include about 18 miles of channel improvement, two reinforced-concrete drop structures, two stilling basins, and 10 miles of levees. Cost estimate (October 2005) is $103,630,000 (includes an allowance for estimated inflation through the construction period), of which $75,660,000 is Federal cost and $27,970,000 is non-Federal cost (includes $19,360,000 for lands and damages and relocations except railroad facilities, and $5,840,000 required cash contribution for land enhancement benefits provided by the project). Local interests have expended about $3 million for flood control in the project area during the period 1955-1965, including the concrete conduits constructed through the city of Walnut Creek at an estimated cost of $1,000,000 considered a pre-project condition to be incorporated in the Corps project. In addition, local developers have made channel improvements for Upper Pine Creek valued at $5,050,000. The cost thereof is not included in above costs of local cooperation. Improvement adopted by 1960 Flood Control Act (H. Doc. 76, 86th Cong., 1st sess., contains latest published map).

Local cooperation Section 3, Flood Control Act of June 22, 1936, applies, except that relocation of railroad facilities is a Federal responsibility. In addition, local interests must make a cash contribution to the United States, in amount of 7.4 percent of cost of construction for land enhancement benefits provided by project. Cash contribution is estimated (October 1992) at $5,840,000. Local interests are represented by Contra Costa County Flood Control and Water Conservation District; formal assurances, including evidence of financial and legal ability to fulfill requirement for the cash contribution, were accepted by the Sacramento District Engineer on November 15, 1963. The Flood Control District furnished all rights-of-way required to date and indicated that it will furnish all requirements as needed for future construction. The Flood Control District arranged for highway bridge modifications and utility relocations before start of work by the Corps contractor.

Operations and results during fiscal year Work on the general re-evaluation report continued in FY08.

Historical summary Construction was initiated June 1964; project is about 98 percent complete. Total of 17.7 miles of channel improvement, 9.2 miles of levee construction, part of channel improvement landscaping, Drop Structures No. 1 and 2 and construction under San Ramon Bypass Contract No. 1, Contract No. 2 and Contract No. 3 and Upper Pine Creek Channel contact have been transferred to local interests for operation and maintenance. Due to difficulties with Contract No. 1 part of the contract work was completed under Contract No. IA with a different contractor. A contract for remedial work on San Ramon Bypass Contract No. 2 channel cover was completed in August 1993. The 9-acre mitigation contract was completed in June 1993. Work remaining consists of completion of erosion control mitigation (8-acre Construction responsibility was transferred from San Francisco District on April 1, 1982.

38. WEST SACRAMENTO, CA

Location Project is located in West Sacramento, Yolo County, in north-central California.

Existing project Project consists of raising 4.9 miles of levees up to 5.0 feet along the Sacramento and Yolo Bypasses; constructing 0.9 miles of slurry cut-off wall approximately 50 feet deep at the waterside toe along the east levee of the Yolo Bypass extending into the south levee of the Sacramento Bypass; constructing concrete wing walls with stop logs at the Union Pacific Railroad; constructing a concrete wing wall and flow cut-off wall on each side of Interstate 80; and developing approximately 40 acres of mitigation lands for riparian and upland habitat loss. Project was authorized by the Water Resources Development Act (WRDA) of 1992. Project was reauthorized by the Energy and Water Development Appropriations Act, 1999 (P.L. 105-245) Estimated cost (October 2005) is $32,800,000

with a Federal cost of $24,600,000 and a non-Federal cost of $8,200,000 which includes a cash contribution. Two levee slumps have occurred. An Engineering Design Report is being conducted to determine and recommend repairs. Expect final construction contract in FY 2010. Work on the General Reevaluation Report for the entire levee system will begin in FY 2009.

Local cooperation Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in construction of project; pay 14 percent of cost allocated to flood control to bring the total non-Federal share of costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. A Project Cooperation Agreement (PCA) with the local sponsor, the California State Reclamation Board, was executed in May 1996.

Operations and results during fiscal year Mitigation monitoring continued.

Historical summary Funds were appropriated in FY 1992 to initiate preconstruction engineering and design (PED) for the combined American River Watershed and Sacramento Metropolitan studies. The two projects were separated when WRDA 92 authorized the West Sacramento Project (Sacramento Metropolitan) independently of the American River Watershed Project. Funds to initiate construction for the West Sacramento Project were appropriated in FY 1995. Design Memorandum was approved in March 1996. PED was completed at a cost of $1,847,000. First construction contract in the amount of $5,217,225 was awarded June 19, 1998. Second construction contract was awarded September 30, 1999 and completed December 2001. First slump repair contract awarded September 2002 and completed November 2003. Second slump repair contract was completed November 2004.

39. WILDCAT AND SAN PABLO CREEKS, CA

Reported on by the San Francisco District.

40. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Approved regulations for operation and maintenance of flood control works, part 208, title 33, Code of Federal Regulations, provide for inspection of completed projects transferred to local interests for operation and maintenance to determine status of project and insure compliance with regulations. During fiscal year, inspections were made of: Completed units of Fairfield Vicinity Streams; completed units of Sacramento River and major and minor tributaries; completed units of Sacramento River, Chico Landing to Red Bluff; completed units of Sacramento River flood control project, Kings River Channel Improvement (Pine Flat Lake project), and Walnut Creek project; American River levees; Merced County Stream group; Middle Creek (Lake County); Chester, North Fork Feather River; levee and channel improvements on Chowchilla River (Buchanan project) and Fresno River (Hidden project); Duck Creek diversion, Green Valley Creek, Littlejohn Creek, Mormon Slough, Bear Creek, Kern River-California Aqueduct Interne, and North Fork, Pit River at Alturas, all in California; Truckee River, CA and NV; completed units of lower San Joaquin River and tributaries, CA; completed units of Red Bank and Fancher Creeks including Big Dry Creek Dam and diversion, and Fancher Dam and Redbank, Alluvial Drain and Pup Creek detention basins, CA; Reese River, Battle Mountain, NV; Sevier River, Redmond and vicinity, Jordan River, Big Wash near Milford, and Kays Creek, all in Utah; various emergency flood control works under authority of Sec. 208, Flood Control Act of June 30, 1948, and September 3, 1954; Public Law 99, June 28, 1955, and antecedent legislation; and Sec. 14 of Flood Control Act of July 24, 1946. Maintenance inspections conducted indicate that some local sponsors are not in compliance with existing agreements. Continuing effort is required to improve maintenance practices and active steps are being taken by responsible State and local agencies to achieve desired results. Local agencies were advised, as necessary, of measures required to maintain these projects in accordance with standards prescribed by regulations. Total cost of inspections for fiscal year was $855,199.

41. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to sec. 205, Public Law 858, 80th Congress, as amended (Preauthorization).

Federal cost for fiscal year was $0. See Table P for list of projects.

Emergency flood control activities-repair, flood fighting, and rescue work (Public Law 99, 84th Congress, and antecedent legislation).

Federal cost for fiscal year was $7,071,044; $494,025 was for disaster preparedness, $17,478 for Emergency Operations, $6,559,541 for Rehabilitation and Inspection, and $0 for Advance Measures.

Emergency bank protection (Sec. 14, 1946 Flood Control Act, Public Law 526, 79th Cong).

Federal cost for fiscal year was $40,833.

Snagging and clearing navigable streams and tributaries in interest of flood control (Sec. 208, 1954 Flood Control Act, Public Law 780, 83d Congress).

Federal cost for fiscal year was $0.

Flood insurance activities (Sec. 1301-1377, 1968 Housing and Urban Development Act, Public Law 90-448 as amended).

In coordination with flood control activities, four flood insurance studies were continued; Inter-Agency Agreements EMW-96-1A-0294, EMW-96-1A-0195-FEMA, EMW-96-IA-0195, and EMW-97-IA-0140 at a fiscal year cost of $126,300 under Federal Emergency Management Agency reimbursable order.

42. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

In accordance with sec. 7, Flood Control Act of 1944, summaries of monthly reservoir operations at Big Dry Creek, Boca, Comanche, Del Valle, Folsom, Friant (Millerton Lake), Indian Valley, Los Banos Detention, New Bullards Bar, New Don Pedro, New Exchequer (Lake McClure), New Melones, Oroville, Prosser, Shasta, and Stampede, CA; East Canyon, Echo, Jordanelle, Little Dell, Lost Creek, Pineview, Red Fleet, Starvation, and Wanship, UT; and Blue Mesa, Lemon, Paonia, Ridgway, and Vallecito, CO, were prepared. No water control manual revisions were completed due to environmental issues. Corps personnel provided advice Sec. 7 as requested during flood control operations at all c. 7 reservoirs. Fiscal year cost was $2,400,681.

Environmental Improvement

43. DAVIS LAKE WATER TREATMENT PLANT, CA

Location Project is located in Plumas County, California.

Existing Project The project consists of the construction of a new 1.5 MGD water treatment plant at Lake Davis. The Corps will participate in design and construction assistance through procurement of private services.

Local Cooperation Local Sponsor is Plumas County Flood Control Agency.

Operation and results during fiscal year Began coordination with sponsor. Initiate Construction of the 1.5 Mod WTP.

Historical Summary The City of Portola is in immediate and near-term need of a reliable supply of domestic water for their community. The original Lake Davis Water Treatment Plant is closed because of a State of California, Fish and Game attempt to eradicate a predator fish. That effort damaged the original Lake Davis Water Treatment facilities. The State then constructed two wells for the City for their domestic use. However, the wells are now found to have high levels of arsenic and consequently will be closed by January 2009. The Corps will review sponsor design and construct a new 1.5MGD water treatment plant at Lake Davis in spring 2008. Construction was initiated in 2008 and will complete in 2009.

44. PLACER COUNTY

Location The project is located in Placer County, California.

Existing Project This program would identify opportunities to improve efficiency and use of existing water supplies through water and wastewater projects, programs, and infrastructure. Project cooperation agreements would be executed to provide design and construction assistance.

Local Cooperation Local sponsor is Placer County.

Operations and results during fiscal year The Project Partnership Agreement was executed September 10, 2008.

Historical Summary Placer County participated in a Water Forum to provide a safe and reliable water supply while preserving the fishery, wildlife, and recreational values of the lower American River. Regional efforts have developed a master plan

including conservation and recycling measures to meet water needs while protecting environmental and aesthetic resources. This program would identify opportunities to improve efficiency and use of existing water supplies through wastewater projects, programs and infrastructure. Project partnership agreement was executed to provide design, construction or reimbursement assistance.

45. RAMS — RESTORATION OF ABANDONED MINES

This project is now assigned to the Albuquerque, New Mexico District.

46. RURAL NEVADA, SECTION 595, NV

Location Rural Nevada (the counties of Lincoln, White Pine, Nye, Eureka, Elko, Humboldt, Pershing, Churchill, Storey, Lyon, Carson, Douglas, Mineral, Esmeralda, and Lander, Nevada; the portions of Washoe County, Nevada located outside the cities of Reno and Sparks; the portion of Clarke County, Nevada, located outside the cities of Las Vegas, North Las Vegas, and Henderson; and the unincorporated portion of the county in Las Vegas Valley.

Existing project WRDA 1999, SEC. 595 authority provides for design and construction assistance for water-related environmental infrastructure and resource protection and development projects in Rural Nevada for water supply and related facilities; wastewater treatment and related facilities; environmental restoration; and surface water resource protection and development. Projects are to be cost shared 75% Federal and 25% non-Federal; the total program is limited to $150 million. The Federal share may be in the form of grants or reimbursements of projects costs; the Corps currently manages the program funds using reimbursements. At the close of FY 2008, 21 Project Cooperation Agreements (PCAs) had been signed for a total federal cost of $114.5 million. Total federal expenditures are $71.4 million. WRDA 2007 increased the total program limit to $150 million.

47. RURAL UTAH, SECTION 595, UT

Location Rural Utah (All counties and cities with the exception of Salt Lake, Davis, Utah, and Weber Counties and St George City in Washington County).

Existing project WRDA 1999, Section 595 as amended provides funding assistance for the design and construction of water supply, wastewater treatment, environmental restoration, and surface water protection projects. Projects are to be cost shared 75% Federal and 25% Non-Federal with the total program limit set at $50 million. The Federal share may be in the form of grants or reimbursements; the Corps currently manages the program funds using reimbursements. A total of 19 Project Cooperation Agreements have been signed, totaling $38.6 million.

48. SACRAMENTO AREA, CA

(Previously reported as Regional Conjunctive Use, CA)

Location The project is located in Placer and El Dorado Counties and the San Juan Water District, California.

Existing Project This region participated in a Water Forum to provide a safe and reliable water supply while preserving the fishery, wildlife, and recreational values of the lower American River. Regional efforts have developed a master plan including conservation and recycling measures to meet water needs while protecting environmental and aesthetic resources. The project would identify water conservation and recycling opportunities, identify opportunities to improve the efficiency and use of existing water supplies through water and wastewater projects, programs, and infrastructures. Cost-sharing agreements would be executed to provide technical, design and construction assistance.

Local Cooperation Project Cooperation Agreements executed for Placer County Water Agency, San Juan Water District, Regional Water Authority, City of Roseville, City of Auburn, and El Dorado Irrigation District.

Historical Summary Placer County Water Agency meter installation commenced March 2005. San Juan Water District parts ordered in September 2008 for upgrade to water treatment plant. Regional Water Authority study contract awarded January 2005. City of Roseville water meters purchased and delivered October 2004 and January 2009. City of Auburn, Lincoln Creek restoration project expected to complete in FY 2009.

49. STOCKTON, FARMINGTON RECHARGE, CA

Location The project area includes Stockton

metropolitan and surrounding rural areas.

Existing project Groundwater is San Joaquin County's primary water source. Levels have dropped as much as 100 ft. the past 40 years and saline intrusion from the San Joaquin/Sacramento Delta worsens. A significant threat to the San Joaquin County economy exists if saline intrusion continues. Problems involve groundwater overdraft and resulting saline intrusion in the San Joaquin County area. The Corps/SEWD technical investigation concluded the aquifer is overdrafted and that a saline front is moving toward the aquifer. Field flooding within the recharge corridor was found to be the most cost effective method to recharge and reverse saline intrusion.

Local cooperation Stockton East Water District (SEWD)

Operations and results during fiscal year Project was appropriated funds in FY 2008. Water pumps were purchased, an Environmental Documentation contract was awarded, and a modification was done to extend the performance of a contract to prepare a Draft Environmental Assessment.

Historical summary Section 502 of the WRDA 1999 (amended Section 219 of WRDA 1992) authorized construction of a ground water recharge and conjunctive use project WRDA 1999 Section 502, Environmental Infrastructure, authorized the Corps to provide technical, planning, design and construction assistance to SEWD associated with groundwater recharge and conjunctive use projects in the SEWD, CA. The conjunctive use study completed in December 97 concluded that modifications to Farmington Dam could not provide sufficient replacement water supplies to fully meet the groundwater overdraft problem. In addition, it did not appear to be in the Federal interest at the time, to transfer Farmington Dam to either SEWD or another local entity. With these findings, a feasibility study was initiated to investigate multi-purpose groundwater recharge and wetland habitat features and resources. Construction funds were added in FY 02 to execute a PCA in February 2003, implement a groundwater recharge site selection process and initiate construction.

50. TAHOE BASIN RESTORATION

Location Project area is the 500 square mile Lake Tahoe watershed in the Sierra Nevada Mountains straddling the border of Nevada and California.

Existing Project This authority provides planning, design, and construction assistance to non-Federal entities in the implementation of projects included in the Environmental Improvement Program.

Local Cooperation The local sponsor for the Risk Analysis study, Mill Creek Restoration, and Third Creek Restoration is the Incline Village General Improvement District. Local sponsor for AIS Management, Angora Restoration, Lake Forest Restoration, Blackwood Creek Restoration, and Upper Truckee Restoration is the California Tahoe Conservancy.

Operations and results during the fiscal year Continued coordination with non-Federal sponsors.

Historical Summary Lake Tahoe is designated in the Clean Water Act as an Outstanding National Resource Water due to startling clarity and unique alpine environment. Habitats have been substantially altered through development and construction activities resulting in significant losses in water quality and ecosystem diversity. Restoration of this national treasure is being accomplished through the Environmental Improvement Program, a broadly supported $2.5 billion local, state, Federal, and private funded 20 year effort.

51. TRIBAL PARTNERSHIP, CALIFORNIA AND NEVADA

Location The 500 square mile study area is the Lake Tahoe Basin watershed in the Sierra Nevada Mountains straddling the border of California and Nevada. The basin is approximately 100 miles northeast of Sacramento, California and 50 miles southwest of Reno, Nevada.

Existing Project The Lake Tahoe Basin is land traditionally occupied by the Washoe Tribe. Habitats and pre-Columbian conditions have been substantially altered through construction and development activities. While an extensive physical watershed restoration effort funded by private local, state and Federal entities is currently underway, little attention has been paid to cultural watershed restoration outside of individual project mitigation. The principal purpose of this study is to initiate a watershed style report detailing specific prioritized activities that contribute to cultural restoration.

Local Cooperation Local interests, Washoe

Tribe of California and Nevada, who lobbied for this appropriation, strongly desire a Tahoe Basin cultural resource restoration effort.

Historical Summary Reconnaissance failed to identify viable project.

52. OTHER WORK UNDER SPECIAL AUTHORITY

Aquatic Ecosystem Restoration activities pursuant to sec 206, Public Law 303,104th Congress.

Fiscal Year 2008 Federal costs were $186,630.

Project Modification to Improve Projects Section 1135, Water Resource Development Act of 1986, Public Law 99-662)

Fiscal Year 2008 costs were $22,974.

Multiple-Purpose Projects including Power

53. NEW MELONES LAKE, CA

Location On Stanislaus River about three-quarters mile downstream from existing Melones Dam and about 35 miles northeast of city of Modesto (See Geological Survey quadrangles of the area)..

Existing project Provides for construction of (a) an earth and rockfill dam about 625 feet high to create a reservoir with gross storage capacity of about 2,400,000 acre-feet for flood control, irrigation, power, general recreation, fish and wildlife, and other purposes, and (b) a power plant below the dam with an installed capacity of 300,000 kilowatts. Upon completion of construction of dam and power plant by the Corps, the project became an integral part of Central Valley project and is being operated and maintained by the Secretary of the Interior pursuant to Federal reclamation laws, except that the flood control operation of the project shall be in accordance with rules and regulations prescribed by the Secretary of the Army. Maintenance of Stanislaus River channel from Goodwin Dam to San Joaquin River to a capacity of at least 8,000 cubic feet per second will also be Corps responsibility. Estimated (October 1996 price level) Federal cost is $402,000,000. For future non-Federal reimbursement, see Local cooperation paragraph. In addition, local interests expended $300,000 for levees along lower reaches of Stanislaus River. Existing project was adopted by 1962 Flood Control Act (H. Doc. 453, 87th Cong., 2d sess., contains latest published map). This act modified original authorization adopted by 1944 Flood Control Act. (H. Flood Control Committee Doc. 2, 78th Cong., 2d sess., contains latest published map). The 1944 Flood Control act established $8 million monetary limitation for partial accomplishment of project. Further monetary authorizations of $2.5 million, $5 million, $13 million, $2 million, $17 million, $18 million, $44 million, $83 million, $46 million, $6 million, and $61 million were provided for this project by Public Laws 235 and 780, 83d Cong., and 85-500, 90-17, 90-483, 91-282, 92-222, 93-251, 94-397, 95-104, and 95-189, making a total monetary authorization of $305,500,000 available for the basin plan comprising Lower San Joaquin River and tributaries, including Tuolumne and Stanislaus Rivers, CA. Since FY 1979, appropriations have not been subject to the river basin monetary limitation.

Local cooperation Based on approved preliminary cost allocation studies (July 1965) local interests will be required to pay 35.2 percent of first cost and 12.7 percent of annual operation and maintenance costs allocated to irrigation. In addition, 31.1 percent of first cost and 62.5 percent of annual cost would be allocated to power. Local interests must also maintain existing private levees along Stanislaus River from Goodwin Dam to San Joaquin River and prevent encroachment on channel and floodway between levees to preserve safe carrying capacity throughout the reach of at least 8,000 cubic feet per second. Recovery of costs allocated to irrigation and power will be the responsibility of the Bureau of Reclamation. Reimbursement of costs will be in accordance with Bureau policies and procedures for the Central Valley project. State of California officially adopted project by chapter 918 of statutes of 1963, and by chapter 1438 of those statutes authorized State Reclamation Board to furnish required assurances. The Board, by letter dated December 13, 1963, stated it would furnish required assurances when formally requested to do so. Assurances were requested by letter of December 30, 1977. On October 2, 1979, the Board reaffirmed its intent to furnish the required assurances. On January 6, 1983, the Board provided formal assurances of local cooperation.

Operations and results during fiscal year New work: Project close-out and flowage easement acquisition along the Lower Stanislaus River were continued. Maintenance: Maintenance and operation activities continued on Lower Stanislaus River.

Historical summary Construction was initiated in August 1966. Main dam contract which was awarded in March 1974 has been completed; dam dedication

ceremonies were held July 14, 1979. Cultural resources preservation, water intake facilities, flood control and irrigation tailrace modification, reservoir area clearing, Tuttletown Phase I recreation area, Oakdale recreation, Glory Hole Phase] [and Phase II recreation area, and operations access road contracts have all been completed. Glory Hole minimal recreation facilities contract has been completed. Boundary fencing, Lower Stanislaus Phase I and Phase II minimal recreation facilities, Lower Stanislaus Corporation Yard, and Lower Stanislaus Administration Building contracts have been completed. Tuttletown minimal recreation facilities, McHenry recreation area, Tuttletown wastewater treatment, Knights Ferry recreation area, Knights Ferry Covered Bridge, Glory Hole recreation area sanitary system, Two-Mile Bar recreation, administration building, and Glory Hole recreation area force main contracts have been completed. Parrotts Ferry Bridge modification, (Nov, 93), Widening Highway 49 Intersection, (Aug, 94); Tuttletown Recreation Campgrounds, and Tuttletown and Glory Hole Improvement (January 94) have been completed. Remaining recreation facilities were unscheduled pending development of cost sharing agreements and/or specific Congressional appropriation of funds. A Memorandum of Understanding between the Department of the Interior and the Department of the Army transferring the New Melones dam and reservoir from the Corps of Engineers to the Bureau of Reclamation was executed on November 20, 1979. Agreement provides that the Corps complete land acquisition actions and retain budgeting, design, and construction responsibility for reservoir clearing and recreation development; completion of cultural resources mitigation in project area was vested in the Department of the Interior. The California State Water Resources Control Board's Decision 1422 of April 1973 established conditions which impacted on the planned filling and operation of the project by the Department of the Interior. As a result, the Department of Interior brought suit against the State of California claiming State limitations on project operation were contrary to Congressional intent and authority. The case was heard before the U.S. District Court in Fresno, CA, and in early March 1981, a Federal judge ruled that the Federal Government could fill the New Melones reservoir for purpose of generating electrical power, but not for agricultural or other purposes. Both the Government and the California State Resources Control Board appealed this decision to the 9th Circuit Court of Appeals in San Francisco, CA.

On December 20, 1982, the Court upheld all 25 requirements placed on the Federal Government by the State Water Resources Control Board. The decision reversed the lower court's decision to permit filling of the reservoir for generating electrical power. The Bureau of Reclamation subsequently filed for a permit from the State Water Resources Control Board to fill the reservoir. Permit was approved. The Bureau had originally started generating power on a limited basis on July 1, 1979; however, after the filling of the reservoir in spring of 1983, full power generating benefits have been attained.

Investigations

54. SURVEYS

See Table 35-S.

55. COLLECTION AND STUDY OF BASIC DATA

Technical assistance was performed for other Federal agencies as well as non-Federal agencies in connection with Flood Plain Management Services Program at fiscal year Federal costs of $39,559. No Flood Plain Information Studies were prepared after FY 1980.

Fiscal year costs for hydrologic studies were $2,423.

56. RESEARCH AND DEVELOPMENT

The Hydrologic Engineering Center was designated as a separate Field Operating Agency as of January 1, 1979, in accordance with OCE permanent orders 1-1, January 10, 1979. In the reorganization of CEIWR, beginning in FY 2001 appropriations and costs will be reported in CEIWR's database not Sacramento District. Sacramento District will continue to provide advisory and administrative support services to HEC as specified in local support agreement DACW05-79-A-0038 of March 1979.

57. PRECONSTRUCTION ENGINEERING AND DESIGN

HAMILTON CITY, CA

The project area is in Glenn County along the west bank of the Sacramento River about 10 miles west of Chico and 85 miles north of Sacramento. The project

area includes Hamilton City and the surrounding rural area. The boundaries are the Sacramento River to the east, the Glenn Colusa Canal to the west and extends about two miles north and six miles south of Hamilton City. The project area lies just north of the existing Sacramento River Flood Control Project levees and within the area of extent of the Chico Landing to Red Bluff bank protection project. The feasibility study was accomplished as part of the Sacramento and San Joaquin River Basins Comprehensive Study with the non-Federal sponsor as the Reclamation Board of California. The project includes construction of 6.8 miles of setback levee to provide a more reliable form of flood protection to the community and surrounding area, degradation of the existing "J" levee to allow for reconnection of the river to the floodplain, and restoration of about 1,500 acres of native habitat between the new setback levee and the Sacramento River. The levee would perform at 3 distinct levels of protection that are associated with three different average levee heights: from north to south, four and two-fifths mile of levee averaging 7.5 feet would provide a 90 percent confidence of passing a 75-year event; 1,000 feet of levee averaging 6 feet in height would provide a 90 percent confidence of passing a 35-year event; and 1.6 miles of levee averaging 3 feet in height would provide a 90 percent confidence of passing an 11-year event.

Current Preconstruction Engineering and Design phase cost is estimated to be $3,359,000.

MIDDLE CREEK, CA

Middle Creek is located in Lake County, approximately 80 miles north of San Francisco. It is the main tributary that flows into Clear Lake, the largest natural lake entirely within the borders of California. Prior to channelization of Middle Creek by the Corps in 1958 and by others, flows spread out over a wide floodplain upstream of Clear Lake. This area was a significant wetland that provided natural biologic values including waterfowl habitat, water quality through filtering and trapping of sediments, and natural flood attenuation. The Middle Creek Ecosystem Restoration Project will develop a plan to restore the natural functions of the Middle Creek/Clear Lake ecosystem. Preconstruction Engineering and Design (PED) agreement was signed November 8, 2004.

Current PED phase cost is estimated to be $3,200,000.

TAHOE BASIN, CA & NV

Study area is in the Lake Tahoe Basin watershed in the Sierra Nevada Mountains, in both California and Nevada, approximately 100 miles northeast of Sacramento, CA and 50 miles southwest of Reno, NV, and covers an area of over 500 square miles. Lake Tahoe is a valuable environmental resource which provides the foundation for nearly all of the economic development in the Tahoe Basin. Habitats have been substantially altered through construction activities resulting in significant losses in water quality and ecosystem diversity. The principal purposes of this study are to examine implementing activities to improve environmental quality at Lake Tahoe, especially water quality, wetlands habitat and other environmental restoration opportunities.

The final Tahoe Framework Study, initiated in FY02, was transmitted to HQ in 2006 where it is in review before being sent to the ASA(CW). PED initiated in FY04 (Congressional Add) and is scheduled for completion in FY08. PED is very active with significant local participation, with initial products complete and next products in progress.

Current Preconstruction Engineering and Design phase cost is $3,685,000.

TRUCKEE MEADOWS, NV

The project is located along approximately 64 miles of the Truckee River from the Nevada - California Stateline through the metropolitan areas of Reno and Sparks in Washoe County, downstream to Pyramid Lake, NV. The project will provide flood protection from the Truckee River to the cities of Reno, Sparks, the Truckee Meadows, Rainbow Bend, Painted Rock and Wadsworth while re-establishing floodplains, removing exotic species, restoring the riparian forest along the Truckee River and providing recreation elements to the local populace.

The Truckee Meadows project was authorized for construction in the Water Resources Development Act (WRDA) of 1988 based on a 1985 Feasibility Report. During pre-construction, engineering and design (PED), a re-evaluation of project benefits and costs determined that the project, as then formulated, was no longer feasible due primarily to significant increases in land costs. In 1991 the project was deferred. In 1996, Congress appropriated funding for the Corps to prepare a General Reevaluation Report and evaluate the potential of ecosystem restoration. A re-analysis was completed in a reconnaissance study completed in August 1997. The Corps reactivated the PED phase of the project in March 1998 with the first step to conduct a General

Reevaluation Report and Environmental Impact Statement (GRR/EIS). At the request of the local sponsors, a Community Coalition process was initiated in April 2000 to assist in the formulation and selection of project alternatives.

Numerous studies have been completed that relate to environmental restoration, water use, hydrology, hydraulics, flooding, and urban development within the Truckee Meadows area and the Truckee River watershed. For the purposes of the Truckee Meadows project, the downtown Reno reach is considered to be hydraulically separate from the rest of the downstream project. Six alternatives were proposed for this area, that included variations on bridge replacements and floodwall placement Estimated costs varied between $30 and $50M. The economic analysis of Expected Annual Damages (EAD) indicated that there were sufficient benefits to warrant the cost of a project that provides protection to downtown near the 2% event for most structures. Additional project increments, which may provide further protection, resulted in a B/C ratio less than unity and were not economically feasible. Thus the Corps' NED plan proposes replacement of 4 bridges (Virginia Street, Sierra Street, Lake Street and Lower Wells Avenue), construction of improved fish passages and limited recreation features for the Reno downtown area. The City of Reno has made great progress to reduce flood impacts since the 1997 flood by removing structures out of the 100-yr floodplain, flood proofing new buildings along the river, placing a white water course near Arlington which lowered surface water levels and utilizing a Reno Flood Warning System.

Even with bridge replacement, there will still be overbank flooding in the downtown reach; however, the damages are not significant enough to justify additional flood control features such as floodwalls. The current Locally Preferred Plan (LPP) includes replacement of five bridges (Sierra Street, Lake Street, Lower Wells Ave, Virginia Street and Center Street), floodwalls through downtown Reno, fish passage improvements, and recreation elements. It should be noted that the LPP plan would provide a 75 to 100-yr level of protection.

Flood damage reduction features for the Meadows reach include flood water detention in the Meadows area, realignment of the North Truckee Drain, benching over several miles alongside the Truckee River for improved conveyance and ecosystem restoration. Levees and floodwalls are proposed for the north bank and for selected areas in the Meadows regions where subdivisions require protection. Two bridges in the Meadows reach (McCarran and Rock) will be modified with new channels.

Both the NED and LPP plans provide for a 117-yr level of protection. Significant recreation features are planned for the Meadows area, including multi-use recreation areas with baseball diamonds, soccer fields, amphitheaters, picnic areas, and covered gathering areas.

For ecosystem restoration both the federal plan and the LPP are nearly identical with riparian restoration being proposed at approximately 10 locations along the downstream reaches of the Truckee River. Other proposals for downstream features include construction of more efficient fish passage structures at multiple irrigation ditch diversion channels and hiking/biking trails with some park features. Removal of the Numana Dam, an earlier element of the Truckee Meadows project, is now being performed as a separate project by the Bureau of Reclamation via the Bureau of Indian Affairs.

Estimated preconstruction planning cost is $30,200,000 at 100% Federal expense. At this writing, construction of the NED plan is approximately $1.2 billion while construction of the LPP is estimated to be approximately $1.6 billion.

YUBA RIVER, CA

The Yuba River lies between the Feather and American Rivers in northern California. The study is located in Sutter and Yuba Counties approximately 50 miles north of Sacramento. The principal urban centers within the study area include Marysville, Yuba City, Linda and Olivehurst.

Recommended project, which lies downstream of Daguerre Point and goldfields, would include levee improvements including installation of slurry walls, constructing landside berms, toe drains, and levee raising along the Yuba and Feather Rivers. Area has experienced 7 major floods. Despite modifications for flood protection over past years, the area is still vulnerable to catastrophic flooding as demonstrated by floods of February 1986 and January 1997. Damages were estimated at $95 million and $82.4 million, respectively.

Section 104 - Sponsor has been approved to proceed with advance work in conjunction with the Marysville Yuba City project to assure at least a 200-year level of flood protection is obtained. In October 1996, ASA (CW) approved the advance work for possible Section 104 credit/reimbursement. Current

milestones for the project include: DE Notice - April 1998; Chief's Report - November 1998; PED Agreement — June 2000. Project authorized for construction WRDA 1999. GRR being prepared to modify project features due to underseepage issues. Completion is currently unscheduled.

TABLE 35-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY08	Total Cost to Sept. 30, 2008
1.	Sacramento River CA (Federal Funds)	New Work					
		Approp	-		-	-	40,331,192[1]
		Cost	-		-	-	40,331,192[1]
		Maint					
		Approp	977,500	3,380,000	1,519,000	2,848,000	75,671,447[2]
		Cost	844,296	2,391,779	1,145,671	2,454,790	73,792,013[2]
	(Contrib Funds. Other)	Maint					
		Contrib	-	-	-		85,000[3]
		Cost	-	-	-	-	85,000[3]
2.	Sacramento River Deep Water Ship (Required Contrib Funds)	New Work-	-				
		Approp	-5,700	-	-	-	7,779,300[4]
		Cost	-2,100	-	-	-	7,777,098[4]
		New Work					
		Contrib	-	-	-		2,610,000[4]
		Cost	-	-	-	-	2,600,469[4]
	(Contrib Funds, Other)	Maint.					
		Contrib	-	-	-		15,000
		Cost	-	-	-	-	14,578
3.	San Francisco Bay to Stockton, CA (John F. Baldwin and Stockton Ship Channels)	New Work					
		Approp	-109,000	-	-	-	64,699,100
		Cost	4,658	383	-	-	64,226,506
4.	San Joaquin River, CA	New Work					
		Approp	-	-	-		5,833,117
		Cost	-	-	-		5,833,117
		Maint					
		Approp	2,500,000	3,386,000	2,415,000	2,862,000	48,504,221
		Cost	2,450,553	1,818,356	3,603,359	2,660,160	47,860,948
5.	American River Watershed, CA (Common Elements)	New Work					
		Approp	4,142,000	4,361,000	19,400,000	9,372,000	124,371,900
		Cost	4,001,844	2,787,157	8,822,339	12,190,228	114,574,734
		New Work					
		Contrib	610,428	6,021,206	0	2,683,000	35,007,799
		Cost	1,692,363	1,013,028	5,601,029	940,645	33,239,594
6.	American River Watershed, CA Folsom Modifications	New Work					
		Approp	7,534,000	8,024,000	3,200,000	5,765,000	40,401,600
		Cost	7,661,887	4,697,524	4,393,868	4,527,997	36,800,263
		New Work					
		Contrib	4,198,870	3,557,750	2,108,419	3,395,000	25,257,726
		Cost	6,247,655	3,149,162	1,309,343	2,914,178	23,220,750

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
7.	American River Watershed, CA (Folsom Dam Raise and Bridge)	New Work Approp	7,942,000	14,850,000	53,000,000	17,220,000	96,317,000
		Cost	6,949,081	10,951,816	29,922,673	37,480,298	88,318,811
		New Work Contr.			18,474,225	0	18,474,225
		Cost			2,314,284	8,057,515	10,371,799
8.	American River Watershed, CA (Natomas)	New Work Approp	527,000	0	0	4,100,000	21,311,000
		Cost	522,574	4,903	0	0	17,210,963
9.	Buchanan Dam-H.V. Eastman Lake Chowchilla River, CA (Federal Funds)	New Work Approp	-	-	-		27,369,597
		Cost	-	-	-		27,369,597
		Maint Approp	2,014,000	1,473,000	1,612,000	2,035,000	37,845,308
		Cost	2,051,593	1,418,776	1,596,773	1,899,488	37,650,766
	(Contrib Funds Other)	New Work Contrib	-	-	-		111,187[5]
		Cost	-	-	-		111,187[5]
10.	Cache Creek Settling Basin, CA (Federal Funds)	New Work Approp-	13,000	0	0	-	13,747,900
		Cost	10,967	0	0	-	13,745,629
	(Required Contrib Funds)	New Work Contrib	-	-	0		1,279,000
		Cost	6,419	0	0	5,481	1,166,842
	(Contrib Funds, Other)	New Work Contrib	-	-	-		724,000[6]
		Cost	-	-	-		676,755[7]
11.	Calaveras River and Littlejohn Creek and Trib-utaries including New Hogan Lake & Farmington Dam CA (Federal Funds)	New Work Approp	-	-	-		23,723,144[8 9]
		Cost	-	-	-		23,723,144[8 9]
		Maint Approp	2,694,000	2,637,000	2,406,000	2,504,000	58,868,422[10]
		Cost	2,671,158	1,836,444	3,179,470	2,222,531	60,458,679[10]
	(Contrib Funds, Other)	New Work Contrib	-	-	-		101,700[11 12]
		Cost	0	0			101,691[11 12]
12.	Colorado River at Great Junction, CO (Federal Funds)	New Work Approp	-	-	-		834,900
		Cost	-	-	-		839,963
	(Required Contrib Funds)	New Work Contrib	-	-	-		96,733
		Cost	-	-	-		96,733

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
13.	Corte Madera	New Work					
	Creek, CA	Approp		-	-		12,452,725[13]
	(Federal Funds)	Cost		-	-		12,452,725[13]
	(Required Contrib	New Work					
	Funds)	Contrib	-	-	-		190,213[14]
		Cost	-	-	-		190,213[14]
	(Contrib Funds,	New Work					
	Other)	Contrib	-	-	-		804,761[15]
		Cost.	-	-	-		804,761[15]
14.	Coyote and Berryessa	New Work					
	Creeks, CA	Approp	367,000	371,000	100,000	0	30,346,000[16]
		Cost	368,436	267,048	3,312	156,653	30,409,961[16]
		New Work					
		Contrib	372,900	345,300	0	460,000	3,000,200[16]
		Cost	508,567	272,813	61,027	15,097	4,907,687[16]
15.	Fairfield Vicinity Streams,	New Work					
	CA	Approp		-	-		14,717,000
	(Federal Funds)	Cost		-	-		14,717,000
	(Required Contrib Funds)	New Work					
		Contrib	-	-	-		592,382
		Cost	-	-	-		592,381
	(Contrib Funds,	New Work					
	Other)	Contrib	-	-	-		3,779,000[17]
		Cost	-	-	-		3,770,498[18]
16.	Guadalupe River,	New Work					
	CA	Approp	7,230,000	5,489,000	5,600,000	533,000	141,525,753
		Cost	7,192,506	4,507,052	3,134,202	2,762,681	140,180,085
	(Required Contrib Funds)	New Work					
		Contrib	6,949,000	400,000	0	0	17,754,815
		Cost	7,801,263	2,151,617	-2,256,614	1,699,219	18,431,934
	(Contrib Funds,	New Work					
	Other)	Contrib	7,801,263	0	0	0	22,697,439[19]
		Cost	7,801,263	0	0	0	22,697,439[20]
17.	Hidden Dam	New Work					
	Hensley Lake,	Approp	-	-	-	750,000	31,305,426
	Fresno River, CA	Cost	-	-	-	69,217	30,624,643
	(Federal Funds)	Maint					
		Approp	2,191,000	1,656,000	1,897,000	2,108,000	41,519,454
		Cost	2,130,275	1,711,192	1,801,947	2,089,403	41,262,305
	(Contrib Funds	New Work					
	Other)	Contrib	-	-	-		165,112[21]
		Cost	-	-	-		165,112[21]

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
18.	Isabella Lake, Kern	New Work					
	River, CA	Approp	-	-	1,000,000	8,350,000	33,800,537[22]
	(Federal Funds)	Cost	-	-	60,574	4,720,152	29,231,263[22]
		Maint					
		Approp	1,932,000	2,464,000	5,042,000	887,000	63,298,489[23]
		Cost	1,722,715	1,311,470	4,926,266	2,322,913	62,696,766[24]
	(Contrib Funds,	New Work					
	Other)	Contrib	-	-	-		775,500[25]
		Cost	-	-	-		747,800[26]
19.	Kaweah and Tule	New Work					
	Rivers including	Approp	4,997,000	4,257,000	20,517,000	0	85,357,230[27]
	Terminus Dam and	Cost	4,919,592	2,326,074	8,253,969	506,477	71,550,925[27]
	Success Lake, CA	Maint					
	(Federal Funds)	Approp	4,013,200	2,042,200	3,400,000	0	92,334,709[28]
		Cost	4,753,984	2,783,796	3,543,543	0	92,610,857[28]
	(Contrib Funds,	New Work					
	Other)	Contrib	-	154,500	-	0	787,920[29 30]
		Cost	-	132,230	-	28,293	1,581,138[29 31]
20.	Little Dell	New Work					
	Lake, UT	Approp	0	-	-	0	40,494,900
	(Federal Funds)	Cost	0	-	94	0	40,494,483
	(Required Contrib	New Work					
	Funds)	Contrib	-	-	-		19,954,500
		Cost	-20,792	0	0		19,296,642
	(Contrib Funds,	New Work					
	Other)	Contrib	-	-	-		4,300,147[32]
		Cost	-	-	-		4,300,147[33]
21.	Martis Creek Lake,	New Work					
	Martis Creek, NV,	Approp	-	-	500,000	4,450,000	13,454,989[34]
	And CA	Cost	-	-	31,699	1,529,577	10,066,265[34]
		Maint					
		Approp	651,000	575,000	1,534,000	719,000	15,370,261
		Cost	624,374	557,515	901,905	1,213,771	15,058,234
22.	Merced County	New Work					
	Streams, CA	Approp	275,000	0	0	50,000	21,292,000
	(Federal Funds)	Cost	269,602	6,797	1,089	14,234	21,248,408
	(Required Contrib	New Work					
	Funds)	Contrib	-	-	-		614,505
		Cost		-	-		614,505
	(Contrib Funds	New Work					
	Other)	Contrib	-	-	-		5,034,990[35,36]
		Cost	-	-	-		5,026,341[35 36 37]

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
23	Merced County Stream Group, CA	Maint Approp	255,000	223,000	98,000	294,000	5,107,567
		Cost	251,912	192,598	130,746	266,028	4,946,533
24.	Napa River, CA (Federal)	New Work Approp	11,964,000	11,880,000	14,000,000	11,724,000	85,192,000
		Cost	8,022,378	11,424,240	14,780,007	7,408,796	76,909,922
	(Contrib Funds)	New Work Contrib	921,000	1,268,000	6,479,000	300,000	15,664,400
		Cost	599,207	1,511,785	1,996,028	5,498,047	14,713,894
25.	Pajaro River Basin CA (Federal Funds)	New Work Approp	-	-	-		8,686,968[38]
		Cost	-	-	-		8,686,967[38]
	(Required Contrib Fund)	New Work Contrib	-	-	-		37,250[39]
		Cost	-	-	-		37,250[40]
26.	Pine Flat Lake and Kings River, CA (Federal Fund)	New Work Approp	-	-	-		43,356,265[41]
		Cost	-	-	-		43,356,265[41]
		Maint Approp	3,070,000	2,471,000	3,020,000	3,371,000	75,046,965[42]
		Cost	3,740,927	1,995,221	2,721,827	3,176,912	74,339,317[42]
	(Contrib Funds, Other)	New Work Contrib	-	-	-		110,000
		Cost	-	-	-		110,000
		Cost	857,423	719,878	0	0	5,322,266
27.	Redbank and Fancher Creeks, CA (Federal Funds)	New Work Approp	-	3,000	0	0	46,670,000
		Cost		3,336	0	0	46,670,000
	(Required Contrib Funds)	New Work Contrib	-	-	-		3,412,954
		Cost	35,929	10,749	0	0	3,354,908
	(Contrib Funds, Other)	New Work Contrib	-	-	-		701,546[43]
		Cost	-	-	-		701,546[43]
28.	Regional Conjunctive Use, CA						

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
29.	Russian River Basin, CA, Coyote Valley Dam (Lake Mendocino) and Channel Improvements (Federal Funds)	New Work					
		Approp	-	-	-		14,435,869[44]
		Cost	-	-	-		14,135,869[44]
		Maint					
		Approp	-	-	-		44,777,546[45 46]
		Cost	-	-	-		44,777,546[45 46]
	(Contrib Funds, Other)	New Work					
		Contrib	-	-	-		589,911[44 47]
		Cost	-	-	-		581,774[44 48]
	Dry Creek (Warm Springs) Lake and Channel	New Work					
		Approp	1,000				333,365,645[49]
		Cost					333,360,175[49]
	Improvements, CA (Federal Funds)	Maint					
		Approp	-	-	-		32,915,552[50 51]
		Cost	-	-	-		31,836,635[50 51]
	(Contrib Funds, Other)	New Work					
		Contrib	-	-	-		230,574[52]
		Cost	-	-	-		228,732[53]
30.	Sacramento River And Tributaries, CA from Collinsville to Shasta Dam (Federal Funds)	New Work					
		Approp	3,979,000	29,200,000	21,000,000	14,932,000	228,794,344[54 55]
		Cost	4,010,192	15,553,199	9,129,247	12,154,161	194,975,563[54 55]
		Maint					
		Approp	2,085,000	1,733,000	1,900,000	2,278,000	50,436,782[56]
		Cost	1,962,955	1,775,340	2,045,382	2,109,130	50,256,753[56]
	(Required Contrib Funds)	New Work					
		Contrib	1,500,000	33,848,259	38,000,000	0	107,777,613
		Cost	985,458	11,269,461	42,907,956	3,379,065	92,197,305
	(Contrib Funds, Other)	New Work					
		Contrib	-	2,933	884	0	2,931,543[57 58]
		Cost	-	-	-		2,925,131[57 58]
31.	San Lorenzo, CA (Federal Funds)	New Work					
		Approp	1,155,000	720,000	0	0	21,151,000
		Cost	1,080,040	163,568	40,091	58,560	20,571,942
	(Required Contrib Funds)	New Work					
		Contrib	542,940	65,000	372,735	1,288,231	7,864,352
		Cost	1,055,980	122,676	21,895	1,380	6,059,217
32.	South Sacramento County Streams, CA	New Work					
		Approp	2,999,000	10,812,000	13,500,000	10,537,000	39,821,800[59]
		Cost	3,024,012	3,902,291	6,824,320	10,616,048	26,302,200
		New Work					
		Contrib	1,094,856	3,420,907	2,070,515	1,207,500	7,809,572
		Cost	938,277	2,028,062	984,460	2,998,593	6,949,392

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
33.	Stockton Metro Reimbursable	New Work Approp	2,221,000	4,950,000	1,000,000	0	22,872,200
		Cost	2,226,717	4,878,838	1,056,877	5,064	22,860,671
34.	Success DSAP	New Work Approp	3,383,000	7,920,000	20,000,000	5,008,000	41,386,700
		Cost	3,293,349	7,556,069	7,281,709	4,240,366	27,244,420
35.	Tule River, CA	New Work Approp	59,000	0	0	450,000	2,515,200
		Cost	82,570	0	0	0	2,063,836
		New Work Contrib	0	0	-	0	291,307
		Cost	-82,504	0	0	0	152,273
36.	Upper Jordan UT	New Work Approp	0	0	-	-	1,437,000
		Cost	3,000	4	0	0	1,436,525
37.	Walnut Creek, CA (Federal Funds)	New Work Approp	97,000	186,000	400,000	562,000	73,823,930[60] [61]
		Cost	87,455	78,235	132,848	233,585	73,096,302[62]
	(Required Contrib Funds)	New Work Contrib	0	0	0	0	5,949,662[63]
		Cost	-4,435	69,300	16,286	15,099	5,872,486[64]
	(Contrib Funds, Other)	New Work Contrib	-	-	-		14,783,553[65]
		Cost	-	-	-		14,783,553[65]
38.	West Sacramento, CA (Federal Funds)	New Work Approp	1,800,000	0	0	4,373,000	26,580,700
		Cost	1,813,985	-9,467	8,127	520,925	22,724,373
	(Require Contrib Funds)	New Work Approp	0	0	0	804,026	6,061,000
		Cost	638,790	174,494	162,697	72,800	5,146,304
39.	Wildcat and San Pablo Creeks, CA (Federal Funds)	New Work Approp	-	-	-	-	20,375,000[66]
		Cost	36,578	0	-	-	20,374,571[66]
	(Required Contrib Funds)	New Work Contrib	-	-	-	-	1,620,000
		Cost	670	329	0		1,601,873
	(Contrib Funds, Other)	New Work Contrib	-	-	-	-	1,937,000[67]
		Cost					1,906,943[68]

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
43.	Davis Lake, CA (Federal Funds)	New Work Approp	-	2,475,000	0	200,000	2,675,000
		Cost	-	59,320	52,800	341,404	453,524
	(Required Contrib Funds)	New Work Contrib	-	-	-	-	-
		Cost	-	-	-	-	-
44.	Placer County, CA (Federal Funds)	New Work Approp	-	1,980,000	0	936,000	2,916,000
		Cost	-	17,605	48,999	121,131	187,735
	(Required Contrib Funds)	New Work Contrib	-	-	-	-	-
		Cost	-	-	6,293	0	6,293
45.	Restoration of Abandoned Mines	New Work Approp	848,000	990,000	100,000	-	6,303,500
		Cost	857,423	719,878	725,582	189,613	6,247,461
46.	Rural Nevada, Section 595, NV	New Work Approp	6,063,000	10,368,000	10,157,000	9,348,000	41,695,000
		Cost	6,054,008	9,859,118	9,715,937	7,436,933	38,813,788
47.	Rural Utah, Section 595, UT	New Work Approp	64,000	9,284,000	0	9,840,000	19,188,000
		Cost	63,589	936,929	0	4,502,969	9,138,438
48.	Sacramento Area, CA [69]	New Work Approp	6,554,000	5,940,000	2,179,000	-200,000	16,266,000
		Cost	1,520,807	4,283,427	3,584,874	1,659,957	12,367,094
	(Required Contrib Funds)	New Work Contrib			90,000	876,100	966,100
		Cost			1,918,349	1,128,421	3,046,770
49.	Stockton Farmington Recharge, CA	New Work Approp	459,000	3,000	0	1,100,000	2,945,000
		Cost	281,246	402,970	115,410	20,426	1,818,758
		New Work Contrib		43	0	205,457	250,000
		Cost		10,565	6,293	936	27,617
50.	Tahoe Basin Restoration	New Work Approp	-	3,505,000	2,500,000	4,428,000	10,433,000
		Cost	-	474,670	1,040,726	845,704	2,361,100

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY 07	FY08	Total Cost to Sept. 30, 2008
51.	Tribal Partnership, CA & NV	New Work Approp	48,000	276,000	0	0	324,000
		Cost	41,595	77,745	39,710	84,800	243,850
		New Work Contrib			48,300	13,575	61,875
		Cost			0	31,219	31,219
52.	Lower San Joaquin River and Tributaries, CA including Tuolumne and Stanislaus Rivers, CA, New Melones Lake, CA (Federal Funds)	New Work Approp	0				371,153,896[70]
		Cost	0				371,153,665[71]
		Maint Approp	1,601,000	1,500,000	1,690,000	1,889,000	30,833,102
		Cost	1,544,916	1,517,562	1,697,243	1,827,093	30,686,216
	(Contrib Funds, Other)	New Work Contrib	-	-	-		80,000[72]
		Cost	-	-	-		80,000[72]

1. Includes the following amounts for new work: Regular Funds: Previous project, $185,198; existing project, $585,436 for shallow-draft and $39,650,558 for deep-draft.

2. Includes the following funds for maintenance: Regular Funds: Previous project, $553,720; existing project, $18,248,432 for shallow-draft and $43,739,526 for deep-draft; and deferred maintenance funds, $70,000 for shallow-draft.

3. Includes $85,000 contributed funds, other, from Sacramento-Yolo Port District for clearing and grubbing on dredged material deposit areas to be used on ship channel maintenance dredging work.

4. Includes Sacramento District costs only.

5. Contributed funds, other, from State of California for design and construction of downstream channel improvements on Ash and Berenda Sloughs below Buchanan Dam.

6. Includes $724,000 contributed funds, other, from State of California for relocation activities including demolition or salvage of various pipes and facilities, construction of ramps, turnouts, pipe gates and bank protection at Cache Creek Settling Basin.

7. Includes $676,755 contributed funds, other, costs for relocation activities for State of California.

8. Includes code 710 funds and costs for recreation facilities at New Hogan Lake: total to date $897,742.

9. For miscellaneous construction under local cooperation requirements, primarily for Bear Creek, San Joaquin County; includes $108,056 as related to Duck and Littlejohn Creeks channel improvements as part of Farmington Dam project unit.

10. Includes $99,000 special recreation use fees and costs at New Hogan Lake, and $826,600 maintenance and operation of dam funds and costs (96X5125) at New Hogan Lake beginning in FY 1988.

11. Includes $393,195 contributed funds, other from California Department of Boating and Waterways for design and construction of boat launching and related facilities, and $30,000 for design and construction of a boarding float at North Shore recreation area at New Hogan Lake.

12. Includes $101,700 contributed funds, other, and costs from Calaveras County Water District for New Hogan hydropower studies.

13. Includes $6,999,725 San Francisco District construction funds and costs for Corte Madera Creek.

14. $8,695 contributed funds transferred to Sacramento District in FY 1983. Includes $97,400 San Francisco District required contributed funds and costs.

15. Contributed funds, other, and costs, from Marin County including $536,921 for miscellaneous bridge and road relocations, and $267,840 for additional expenses for disposal sites at Corte Madera Creek.

16. Includes funds for Berryessa GRR.

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

17. Includes $3,643,000 contributed funds, other, from the State of California for relocation (automotive type bridge) at Laurel Creek Diversion near Fairfield, $113,000 from City of Fairfield for Phase III contract for channel development on Laurel Creek, and $23,000 from City of Suisun for Phase IIA contract for widening of Railroad Avenue.

18. Includes $3,638,022 contributed funds, other costs for relocations at Laurel Creek Diversion, $19,537 contributed funds, other costs for Phase III contract, and $112,939 for Phase IIA contract.

19. Includes contributed funds, other: $2,905,630 for recreation betterment, $2,195,591 for NED relocation and $70,000 for incremental relocations at Guadalupe River.

20. Includes contributed funds, other costs: $2,624,578 for recreation betterment, $1,496,809 for NED relocations and $0 for incremental relocations at Guadalupe River, and $1,175,848 for flood control betterments.

21. Contributed funds, other from the State of California for miscellaneous design and construction at Hidden Dam.

22. Includes $2,199,085 code 710 funds and costs for recreation facilities at Isabella Lake and $224,000 Code 713 funds and costs for improvement at Tillie Creek and Live Oak campgrounds.

23. Includes $407,640 special recreation use fees and costs at Isabella Lake.

24. Includes $131,900 maintenance and operation of dam funds and costs (96X5125) at Isabella Lake beginning in FY 1985.

25. Includes $438,000 contributed funds, other, from California Department of Boating and Waterways for design and construction of boat launching and related facilities at Old Isabella Road and Isabella Peninsula and $337,500 for Isabella Dam hydropower studies.

26. Includes $438,000 contributed funds, other, costs for boat launching and related facilities at Old Isabella Road and Isabella Peninsula, and $309,808 costs for Isabella Dam hydropower studies.

27. Includes code 710 funds and costs for recreation facilities: Success Lake: Total to date Terminus Dam hydropower studies, $422,697, and for Success Lake hydropower studies, $167,579. $747,048 Terminus Dam: Total to date: $704,000.

28. Includes $165,000 special recreation use fees and costs at Success Lake.

29. Includes contributed funds, other, from State of California Department of Boating and Waterways and costs for acquisition of a boarding float at Success Lake, $30,000 and at Terminus Dam, $12,420.

30. Includes contributed funds, other, from Kaweah River Power Authority, Visalia, California for Terminus Dam hydropower studies, $423,000; and from DITT, Inc., Paris, France, for Success Lake hydropower studies, $168,000.

31. Includes contributed funds, other, costs for

32. Includes $4,300,147 contributed funds, other from the Metropolitan Water District of Salt Lake City for relocation of State Highway 65 at Little Dell Lake.

33. Includes $4,300,147 contributed funds, other, costs for relocation of State Highway 65 at Little Dell Lake.

34. Includes $1,200 initiation of plans for specifications for Code 710 recreation facilities, for FY 1978. Construction of recreation facilities at Martis Creek Lake under Code 720 was determined to be infeasible.

35. Includes contributed funds, other $4,572,938, for lands, easements and rights-of-way for Castle Dam from State of California and contributed funds, other costs for lands, easements and rights-of-way for Castle Dam.

36. Includes $274,000 contributed funds, other, relocation and $227,968 costs.

37. In addition, $66,532 expended for new work from contributed funds, other, miscellaneous construction under local cooperation requirements as related to acquisition of right-of-way and utility alterations for Merced County Stream Group.

38. Includes $1,949,968 San Francisco construction funds and costs and $260,000 Sacramento investigation funds and costs for Pajaro River.

39. Includes $37,250 contributed funds, other, from Santa Clara Valley Water District for bridge relocation at Pajaro River.

40. Includes $37,250 contributed funds, other, costs for bridge relocation at Pajaro River.

41. Includes code 710 funds and costs for recreation facilities at Pine Flat Lake: Total to date: $1,595,100. Includes Public Work Acceleration, Executive (PL 87-68) (Transfer to Corps of Engineers, Civil) 1963 funds and costs ($239,235) for recreation facilities and $19,600 Code 713 funds and costs for Pine Flat fish barrier.

42. Includes $158,300 special recreation fees and costs at Pine Flat Lake and $799,785 maintenance and operation of dam funds and costs at Pine Flat Dam.

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

43. Includes $701,546 contributed funds, other costs for road relocation (Nees Avenue) and betterments at Fancher Dam.

44. Excludes $5,598,000 contributed funds: $400,000 for recreation facilities at completed projects funded under Public Works Acceleration Program; and $1,628,411 for recreation facilities at completed projects funded under Code 711 at Coyote Valley Dam, Lake Mendocino.

45. Includes $94,459 special recreation use fees and costs (FY 1982-1983), but excludes prior special recreation fees and cost for Coyote Valley Dam, Lake Mendocino.

46. Includes $1,625,280 maintenance and operation of dam funds and costs at Coyote Valley Dam, Lake Mendocino for FY 1985 through FY 1996.

47. Includes $251,911 contributed funds, other from City of Ukiah for Coyote Valley Dam, Lake Mendocino, hydropower studies; and $338,000 from California department of Boating and Waterways for launching facility at Lake Mendocino.

48. Includes $250,117 contributed funds, other, costs for Coyote Valley Dam, Lake Mendocino, hydropower studies; and $331,657 for California Department of Boating and Waterways for launching facility at Lake Mendocino.

49. Includes $253,421,793 San Francisco construction funds and costs through August 1983 for Dry Creek, Warm Springs Dam.

50. Includes $964,114 San Francisco maintenance funds and costs through April 1982 for Dry Creek, Warm Springs Dam.

51. Includes $75,400 maintenance and operations of darn funds and costs at Dry Creek, Warm Springs Dam.

52. Includes $208,074 contributed funds, other, from Sonoma County for Dry Creek, Warm Springs, hydropower studies; and $22,500 from City of Ukiah for hatchery pump design at Lake Mendocino.

53. Includes $208,074 contributed funds, other, costs for Dry Creek, Warm Springs hydropower studies; and $20,658 costs for hatchery pump design.

54. Excludes $614,608 for Table Mountain (Iron Canyon) project, deauthorized August 5, 1977, and $531,000 for Sacramento River and Major and Minor Tributaries portions which are considered inactive and deferred.

55. Includes Code 710 funds and cost for recreation facilities at Black Butte Lake: Total to date $1,000,162.

56. Includes $104,100 special recreation use fees and costs at Black Butte Lake.

57. Miscellaneous construction and engineering and design services (non-project) accomplished at expense of State of California under local cooperation requirements in connection with acquisition of rights-of-way and utility alterations (primarily for Sacramento River and Major and Minor Tributaries project). Includes State Highway Commission payment, $789,008, for use of excess excavation from Chico and Mud Creeks and Sandy Gulch (Sacramento River and Major and Minor Tributaries) for freeway embankment through the city of Chico.

58. Includes $41,984 contributed funds, other, from State of California for required modification of existing private facilities and salmon rearing habitat, Sacramento River, Chico Landing to Red Bluff; $15,977 contributed funds, other, from State of California Department of Boating and Waterways for replacing a boarding float at Orland Buttes boat launching ramp at Black Butte Lake; $392,000 contributed funds, other, from the City of Santa Clara for hydropower studies at Black Butte Lake; and $59,334 contributed funds, other from State of California for relocation. Includes $389,335 contributed funds, other, costs for Black Butte hydropower studies; and $59,334 costs for relocations. $884.43 in Non-federal funds was for other than required contribution in FY07. Additionally, $2,933.31 of Non-federal funds were for other than required contribution in FY06.

59. Includes FY06 supplemental funding $7,100,000.

60. Includes GRR funding.

61. Includes $8,849,825 San Francisco construction funds for Walnut Creek.

62. Includes $9,049,609 San Francisco construction costs for Walnut Creek.

63. Includes $450,268 San Francisco required funds for Walnut Creek.

64. Includes $525,846 San Francisco required costs for Walnut Creek.

65. Includes $400,348 San Francisco contributed funds, other, and contributed funds costs for Walnut Creek.

66. Includes $1,110,000 allocated to SF District pre 1983.

67. Includes $1,937,000 contributed funds, other, from Contra Costa Flood Control and Water Conservation District for replacement of sewer line in Richmond for Wildcat and San Pablo Creeks Project.

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT

68. Includes $1,906,943 contributed funds, other, costs for replacement of sewer line in Richmond for Wildcat and San Pablo Creeks project.

69. Previously reported as Regional Conjunctive Use, CA

70. Excludes funds applicable to other units of this basin authorization (Lower San Joaquin River and Tributaries, and Tuolumne River Basin, California) (See Table 35-E). Includes $110,000 utilized for preparation of 1957 Economic Feasibility Report and of Revised Feasibility Report (FY 1960, 1961, and 1962) applicable to 1962 reauthorization of prefect.

71. Includes $110,000 utilized for preparation of 1957 Economic Feasibility Report and of Revised Feasibility Report (FY 1960, 1961, and 1962) applicable to 1962 reauthorization of project.

72. Includes $80,000 contributed funds, other, and costs, from the Bureau of Reclamation for visitors' center at Mark Twain area, New Melones Lake.

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT PRECONSTRUCTION ENGINEERING AND DESIGN

Project	Funding	FY 05	FY06	FY07	FY08	Total Cost to Sept. 30, 2008 [1 2]
American River	Approp	4896	0	-	-	29,521,777
Watershed CA,	Cost	0	0	-	-	29,521,777
Caliente Creek CA	New Work					
	Approp	-	-	-	-	60,000
	Cost	-	-	-	-	60,000
Coyote and	New Work					
Berryessa Creeks,	Approp	-	-	-	377,000	4,745,000
CA	Cost	-	-	-	-	4,368,000
Hamilton City, CA	New Work					
	Approp	50,000	248,000	621,000	590,000	1,509,000
	Cost	47,891	162,808	486,025	725,188	1,421,912
	New Work					
	Contr.		275,000	564,500	0	839,500
	Cost		58,602	602,170	0	660,772
Kaweah River	New Work					
	Approp	-	-	-	-	3,515,000
	Cost	-	-	-	-	3,515,000
Middle Creek	New Work					
	Approp	-	-	-	198,000	198,000
	Cost	-	-	-	28,478	28,478
	New Work					
	Contrib.	-	-	-	85,833	85,833
	Cost	-	-	-	13,974	13,974
Napa River, CA	New Work					
	Approp	-	-	-	-	12,947,000 [3]
	Cost		-	-	-	12,947,000 [3]
	Cost	-	-	-	-	3,515,000
South Sacramento	New Work					
	Approp		-	-	-	2,423,937
	Cost		-	-	-	2,423,937
	New Work					807,979
	Contr					
	Cost					807,979
San Lorenzo River,	New Work					
CA	Approp	-	-	-	-	934,000
	Cost	-	-	-		934,000
Tahoe Basin, CA & NV	New Work					
	Approp	801,000	801,000	800,000	295,000	2,697,000
	Cost	729,711	786,463	61,943	154,520	1,732,594
	New Work					
	Contri	235,780	149,970	214,518	84,550	684,818
	Cost	91,604	118,022	359,638	8,747	578,011
Truckee Meadows	New Work					
NV	Approp	2,474,000	3,465,000	1,300,000	4,920,000	25,173,330
	Cost	2,471,829	1,879,232	2,570,696	4,129,633	23,943,423
Tule River Basins	New Work					
	Approp	0	-	-		252,300
	Cost	0	0		-	252,300

TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT PRECONSTRUCTION ENGINEERING AND DESIGN

Upper Jordan	New Work					
River, CA	Approp	-	-	-	-	1,576,000
	Cost	-	-	-	-	1,576,000
West Sacramento	New Work					
CA	Approp	-	-	-	-	1,847,000
	Cost	-	-	-	-	1,847,000
	New Work					
Yuba River,	Approp					
CA		278,000	1,167,000	703,000	1,844,000	4,694,760
	Cost	2,616	274,518	802,889	1,241,599	6,003,233
	New Work					
	Contrib	72,000	300,000	0	348,000	1,375,000
	Cost	468,229	240,597	0	363,077	1,290,071

1. Beginning in FY 1982, Advance Engineering and Design (Preconstruction, Engineering and Design) programs are funded under Investigations Appropriations.

2. Includes FY 1985 unobligated carryover and FY 1986 allocation for CP&E funds and all AE&D funds to be included in project cost (for cost sharing) per TWX of September 9, 1985.

3. Excludes $2,639,955 funds and costs for a previous flood control project on Napa River (See Table 35-E).

TABLE 35-B AUTHORIZING LEGISLATION

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
1.		**SACRAMENTO RIVER, CA**	
	March 3, 1899	A depth of 7 feet below Sacramento works	H. Doc. 186, 55th Cong., 2d sess., and 48 55th Cong., 3d sess. (Annual Report 1898, p. 2844 and 1899, p. 3171).
	July 25,1912	For work above Sacramento.	H. Doc. 76, 62d Cong., 1st sess. [1]
	January 21, 1927	The 10-foot channel up to Sacramento	H. Doc. 123, 69th Cong., 1st sess. Rivers and Harbors Committee Doc. 35, 73d Cong., 2d sess.
	Aug 30, 1935	A depth of 6 feet between Sacramento and Colusa and 5 feet between Colusa and Chico Landing at a cost of $390,000 provided flow of rivers is increased to minimum flow of 5,000 cubic feet per second after Shasta Reservoir is built.	Rivers and Harbors Committee Doc. 35, 73d Cong., 2d sess.
	Aug 30, 1935	Authority for a special direct participation of Federal Government of $12 million in cost of Shasta Reservoir.	S. Doc. 142, 79th Cong., 2d sess.
	Aug 26, 1937	Transfer of authority for expenditure of above $12 million from Secretary of War to Secretary of the Interior.	
	July 24, 1946	Modified existing navigation project for Sacramento River, CA, to provide for construction of a ship channel 30 feet deep and 200 to 300 feet wide from deep water in Suisun Bay to Washington Lake, including such works as may be necessary to compensate for or alleviate any detrimental salinity conditions resulting from ship channel; a triangular basin of equal depth, 2,400 by 2,000 by 3,400 feet at Washington Lake; and connecting channel 13 feet deep and 120 feet wide, with lock and drawbridge, thence to Sacramento River.	Sec 1002, 1986 WRDA
	Nov 17, 1987	Deauthorization of shallow-draft channel, Colusa to Red Bluff, feature of project for navigation, Sacramento River, California.	

TABLE 35-B (Cont'd) AUTHORIZING LEGISLATION

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
	Dec 11, 2000	Reauthorization of Sacramento River, Major and Minor Tributaries and Chico Landing to Red Bluff, CA	Sec 350 (a) (1-2), WRDA 2000
13.		**CORTE MADERA CREEK, CA**	
	Oct 23, 1962	Levees and channel improvements lower 11 miles of Corte Madera Creek and tributaries, as modified by Chief of Engineers.	H. Doc. 545, 87th Cong., 2d sess.
	Nov 7, 1966	Local cooperation requirements modified to provide 1.5 percent cash contribution toward cost of Ross Valley unit.	Sec. 204, 1966 Flood Control Act.
	Nov 17, 1986	Modify existing project to direct construction of Unit 4 from Lagunitas Road Bridge to Sir Francis Drake Boulevard, and to include construction of flood-proofing measures in vicinity of Lagunitas Road Bridge to insure proper functioning of completed portions of authorized project. Further modify project to eliminate any channel modifications upstream of Sir Francis Drake Boulevard.	Sec 823, 1986 WRDA
28.		**RUSSIAN RIVER BASIN, CA**	
	May 17, 1950	Coyote Valley Dam (Lake Mendocino): Channel improvements on lower 98 miles of Russian River and lower reaches of tributaries.	H. Doc. 585, 81st Cong., 2d sess.
	Feb 10, 1956	Increased appropriation authorization for initial stage of project development.	PL 404, 84th Cong., 2d sess.
	Oct 23, 1962	Dry Creek (Warm Springs) Lake: Channel Improvements on Dry Creek below dam.	H. Doc. 547, 87th Cong., 2d sess.
	Mar 7, 1974	Dry Creek (Warm Springs) Lake and channel; compensate for fish losses on the Russian River which may be attributed to the operation of the Coyote Dam component of the project through measures such as possible expansion of the capacity of the fish hatchery at the Warm Springs Dam component of the project.	Sec. 95, 1974 WRDA
29.		**SACRAMENTO RIVER AND TRIBUTARIES, CA, FROM COLLINSVILLE TO SHASTA DAM**	

TABLE 35-B (Cont'd) AUTHORIZING LEGISLATION

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
	Dec 22, 1944	Modify Sacramento River Flood Control Project to provide for extensions in levees and other structures along Sacramento River and major and minor tributaries; construct Black Butte Dam and Reservoir; construct low-level Table Mountain Dam and Reservoir with power facilities; and provision of monetary authorization of $15 million for initiation of modification.	H. Doc. 649, 78th Cong., 2d sess. [2]
	May 17, 1950	Improvements for protection of Upper Butte Basin (included full monetary authorization).	H. Doc. 3667, 81st cong., 1st sess. [2]
	Jul 3, 1958	Extend existing Sacramento River Flood Control Project to Keswick Dam for purposes of zoning area below dam and modification of project by construction of bank protection and incidental channel improvements between Chico Landing and Red Bluff (included full monetary authorization).	H. Doc. 272, 84th Cong., 2d sess. [2]
	Jul 3, 1958	Additional authorization of $17 million for comprehensive plan approved in act of December 22, 1944.	
	Jul 14, 1960	Further modification of Sacramento River Flood Control Project by construction of initial 10- year phase of bank erosion control works and setback levees on Sacramento River and authorization of $14,240,000 for prosecution of modification.	S. Doc. 103, 80th Cong.,
	May 12, 1967	Additional authorization of $7 million for bank approved in act of July 14, 1960.	PL 90-17
	Mar 7, 1974	Initiation of construction of second phase of bank control works and setback levees on Sacramento River as approved in act of July 14, 1960, and additional authorization of $16 million for such purpose. [3]	PL 93-251
	Jun 19, 1975	Deauthorization of Table Mountain Dam and Reservoir. [4]	H. Doc. 94-192, 94th Cong., 1st sess

TABLE 35-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Cost to Sep. 30, 2005 Construction	Cost to Sep. 30, 2005 Operation and Maintenance
Feather River, CA		1951	$ 8,354 [3]	$ 5,752 [1 2]
Middle River and Connecting Channels, CA	Completed	1974	8,500	93,494
Mokelumne River, CA	Completed	1974	2,132 [5 6]	189,152
Navajo Reservoir, NM	Completed	-	23,185 [7]	-
Old River, CA	Completed	1970	-	-
Stockton and Mormon Channels, CA	Completed	1970	253,151 [8]	9,631,128
Suisun Bay Channel, CA	Completed	1974	200,928 [9 10 11]	218,854
Suisun Channel, CA	Completed	1973	217,677	3,316,622 [12 13]
Suisun Point Channel, CA	Completed	1965	191,728 [5 15]	733,489

1. Maintenance project, channels adequate for commerce.
2. Includes $10 for maintenance for previous project. Excludes $6,160 for previous project and $3,840 for existing project for maintenance expended from contributed funds.
3. Includes $1,600 for previous project.
4. Includes $790 for previous project.
5. Authorized by Chief of Engineers under authority of sec. 107, Public Law 86-64.5, as amended.
6. All costs transferred from Los Angeles District in FY 1968.
7. Estimated cost to local interests was $3,6000 for lands, damages and public landings. Remaining portion of project, consisting of side channel at Orwood and completion of project channels from mouth of Old River to Lammers Ferry rod and from Crocker Cut to Holly Sugar Factory was deauthorized November 17, 1986, by WRDA of 1986.
8. Upon completion of Mormon Slough, Calaveras River, CA in February 1970, local interests accepted maintenance responsibility for Mormon Slough as well as for Stockton and Mormon Channels CA, and Federal maintenance was discontinued. No Federal maintenance costs have been incurred since FY 1969.
9. Includes $58, 901 for previous project.
10. Excludes $59,551 expended from required contributed funds for previous project.
11. Excludes work accomplished under existing project at a cost of $207,198 from Public Works Administration funds allotted to San Joaquin River, CA.
12. Includes $59,817 for previous projects. Excludes $5,449 expended from required contributed funds for previous project.
13. Maintenance responsibility transferred to San Francisco District, January 1, 1974.
14. Includes reconnaissance and condition surveys of $5,496 and $483 for fiscal year 1963 and 1964, respectively.
15. Estimated cost (July 1964) to local interests was $12,000 for lands, damages, and spoil retention dikes.

TABLE 35-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Operation and Maintenance
Alameda Creek, CA		1978	$26,995,350	$54,778 [1 2]
American River, CA	Completed	1959	2,125,818 [3]	-
Aquatic Plant Control, CA	Completed	1967	1,000	-
Big Dry Creek Dam and Diversion, CA	Completed	1955	1,369,931 [4]	-
Big Wash, Milford, Beaver County, UT	Completed	1961	217,879 [5 6]	-
Burch Creek, Weber County, UT		1964	26,049 [5]	-
Cache Creek Basin, CA (Outlet Channel)	Active	1993	- [7]	-
Chester, CA	Active	1981	3,570,000 [8]	-
Cottonwood Creek, CA	Active	1991	15,765,000	-
Coyote Creek, CA	Completed	1968	705,622 [1 5]	-
Duck Creek, San Joaquin County, CA	Completed	1967	664,825 [5 9]	-
East Weaver Creek, CA	Completed	1965	220,636 [1 5 10]	-
Folsom Lake, American River, CA	Completed	1957	63,014,810 [11]	-
Green Valley Creek, Solano County, CA	Completed	1963	136,026 [5 12]	-
Kays Creek, UT	Completed	1973	407,989 [5 13]	-
Kern River-California Aqueduct Intertie, CA	Completed	1977	1,503,073 [5 14]	-
Klamath River, CA	Completed	1972	4,838,000 [5]	-
Lake Comanche, CA	Completed	1976	10,252,950 [15]	-
Lake Oroville, CA	Completed	1981	70,425,470 [16]	-
Lower San Joaquin River and Tributaries, including Tuolumne and Stanislaus Rivers, CA	Completed	1976	27,835,263 [17]	-
Marysville Lake, CA	Active	1980	- [17]	-
Merced River, CA	Completed	1976	10,918,796 [19]	-
Middle Creek, CA	Completed	1967	2,643,499 [20]	-
Mormon Slough, CA	Completed	1976	2,965,402 [21]	-
Napa River Basin, CA	Active	1979	2,639,955 [1 22]	-
New Bullards Bar, CA	Completed	1972	12,890,625 [23]	-
North Fork, Pit River at Alturas, CA	Completed	1972	904,278 [5 24 25]	-
Pinole Creek, CA	Completed	1968	885,750 [1 5]	-
Redwood Creek, Humboldt County, CA	Completed	1970	4,620,070 [1 26]	-
Reese River, Battle Mountain, NV	Completed	1969	133,339 [5 27]	-
Rheem Creek, CA	Completed	1962	400,000 [1 5 28]	-
Rodeo Creek, CA	Completed	1966	974,100 [1 5]	-
Salinas River, CA	Inactive	1952	94,213 [1 29]	-
Salt Lake City, Jordan River, UT	Completed	1961	1,227,570 [30]	-
San Leandro Creek, CA	Completed	1973	1,000,000 [1 31]	-
San Lorenzo Creek, CA	Completed	1962	5,130,821 [1 32]	-
San Lorenzo River, CA	Completed	1966	4,314,406 [1 33]	-
Sevier River near Redmond, UT	Completed	1952	919,000 [1 34]	-
Sonoma Creek, CA	Inactive	1973	781,500 [1 35]	-
Truckee River and Tributaries, CA and NV	Active	1968	1,038,960	-

TABLE 35-E (Cont'd) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

1. Project responsibility transferred from San Francisco District to Sacramento District April 1, 1982.
2. Scheduling of reservoir operations costs.
3. Excludes $54,919 other contributed funds for miscellaneous construction for local interests pursuant to requirements of local cooperation were $951,000 (1959) for lands and relocations.
4. Excludes $44,008 other contributed funds for construction in connection with bridge construction pursuant to requirements of local cooperation. Total cost to local interests for all requirements of local cooperation was $370,000 (9159) for lands and relocations.
5. Authorized by Chief of Engineers under authority of sec. 205, Public Law 80-858, as amended.
6. Excludes $22,000 for preauthorization studies.
7. Project not economically feasible; preconstruction planning was terminated in FY 1993.
8. Excludes $69,262 other contributed funds from State of California for two low water crossings and appurtenances at Chester. A fish ladder modification project was continued under sec. 1135 in FY 2001 at fiscal year cost of $38,765.
9. Excludes $50,000 for preauthorization studies. Estimated costs to local interests were $665,000 for lands and damages including relocations.
10. Includes $174,938 Public Works Acceleration Program Funds.
11. Transferred to Bureau of Reclamation in May 1956 for operation and maintenance by that agency in conjunction with other units of Central Valley project.
12. Excludes $20,000 for preauthorization studies.
13. Includes $30,000 for preauthorization studies. Estimated costs (FY 1973) to local interest for all requirements of local cooperation were $150,117 for lands and damages including relocation.
14. Includes $73,000 for preauthorization studies. Non-Federal (Kern County Water Agency) cost for road relocation was $18,260 (required contributed funds).
15. Constructed by East Bay Municipal Utility District. Final Federal contribution of $51,202 made July 18, 1978 (total $10,111,684). Non-Federal costs $34,988,536.16.
16. Constructed by State of California. Final Federal contribution of $64,186 was made on February 9, 1981 (total $69,994,105) for flood control reservation.
17. Cherry Valley and New don Pedro Reservoirs constructed by local interests. Federal contribution of $9,000,000 and $5,464,000, respectively, for flood control reservation. Final
18. Federal contribution of $308,898 was made on January 18, 1972, for New don Pedro. Excludes $3,004,946, contributed funds, other, for miscellaneous engineering and construction (non-project) at local interest expense under local cooperation requirements for acquisition of rights-of-way for levee and channel improvement on Lower San Joaquin River and Tributaries.
19. Unconstructed portion of snagging and clearing project modification of Lower San Joaquin River and Tributaries) was classified as "deferred" on April 9, 1993. For full report see Annual Report for FY 1993.
20. Planning and any future development is uncertain awaiting State of California's position on support of Marysville project.
21. Constructed by Merced Irrigation District, Final Federal contribution of $839 was made December 2, 1975 (total $10,818,638) for flood control reservation.
22. Estimated costs (FY 1967) to local interests for all requirements of local cooperation were $1,340,000 for lands and damages including relocation.
23. Non-Federal cost $2,965,402 (FY1976) for lands and relocations. Federal contribution of $599,336 made to State Reclamation Board.
24. This project was reclassified as "active" on August 3, 1987.
25. Constructed by Yuba County Water Agency. Final Federal contribution of $33,470 was made in FY 1972 (total $12,759,127) for flood control reservation.
26. Includes $41,800 for preauthorization studies.
27. Excludes $146,000 other contributed funds for miscellaneous construction and engineering and design services under local cooperation requirements in connection with acquisition of rights-of-way, relocation and utility alterations.
28. Includes $107,000 costs for remedial work to drainage system completed in FY 1977.
29. Includes $52,549 contributed funds.
29. Cost includes engineering and design prior to June 30, 1952 and costs of $4,288 (FY 1962-1963) to determine if project classification to an active category was justified.
30. Estimated cost to local interest for all requirements of local cooperation were $463,000 (July 1962) for lands and damages including relocations. Project prevented $4,544,000 in damages from the April-May 1994 snowmelt runoff.
31. Excludes $285,329 contributed funds.
32. Excludes $200,000 estimated value of work performed in lieu of cash contribution.
33. Excludes $421,182 contributed funds.
34. Excludes $48,000 required contributed funds toward first cost. Costs to local interests for all requirements of local cooperation, including required contributions, were $118,000 (1951). Project prevented $9,000 in damages from the April-May 1994 snowmelt runoff.
35. Place inactive 1974.

TABLE 35-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Alhambra Creek, CA	1981	1986	$300,000	-
Bear River, CA	1980	1986		-
Cottonwood Creek	1991	1998	15,765,000	- [2]
Eel River, CA	971	1986	1,272,816	-
Gleason Creek, NV	1977	1986	215,826	-
Humboldt River and And Tributaries, NV	1982	1986	1,532,932	-
Lakeport Lake, CA ~	1976	1993	2,353,000	-
Little Valley Wash, Magna, UT	1951	1977		-
Lower San Joaquin River And Tributaries, CA	1993	1998	27,835,263	- [2]
Mad River Basin, CA	1973	1986	4,243,750	-
Spanish Fork River, UT	1955	1977	20,000	-
Weber River and Tributaries, UT (Morgan County)	1974	1972	75,120	-
Wildcat and San Pablo Creek Reach 2, CA	1997	1998		-

1. Lakeport Lake was deauthorized on November 17, 1988; and deauthorized November 18, 1993.
2. Requested reauthorization March 2001.

TABLE 35-H SACRAMENTO RIVER, CA: TIDAL AND FLOOD CONDITIONS PREVAILING (See Section 1 of Text)

Place	Miles from Mouth of River	Range in Feet: Mean Tidal [1]	Extreme Tidal 2	Ordinary Flood [3]	Extreme Flood [4]
Collinsville	0	4.3	7	8	10
Sacramento	59	2.0 [2]	3	20	28
Verona (Mouth of Feather River)	80	-	Trace	22	30
Colusa	144	-	-	26	32
Chico Landing	193	-	-	20	25
Red Bluff	248	-	-	24	30

1. Mean lower low water to mean higher high water
2. Tide at low water season only.
3. Mean lower low water to flood stage.
4. Extreme low water to indicated flood condition.

TABLE 35-I SAN JOAQUIN RIVER, CA: TOTAL COST OF NEW WORK FOR PROJECT [1] (See Section 4 of Text)

	Federal			Non-Federal [2]		
Modification	Corps of Engineers (Construction)	Coast Guard (Construction)	Required Cash Contribution	Lands and Damages (including Relocations)	Total	Total Project
Prior to 1950 Modification	$4,009,938	$80,000	$1,307,500	$1,042,000	$2,349,500	$6,439,438
1950 Modification	1,823,179		35,000	135,00	170,000	1,993,170
Total	5,833,117	80,000	1,342,500	1,177,000	2,519,500	8,432,617

1. Completed in May 1960.
2. Excludes $5,865,000 (Feb 1954) local interests costs for Stockton Deep Water Channel terminal facilities required under terms of project authorization.

TABLE 35-J SAN JOAQUIN RIVER, CA: PROJECT UNITS (1950 MODIFICATION) RECLASSIFIED AND EXCLUDED FROM PROJECT COST, (See Section 4 of Text)

Unit	Federal Corps of Engineers	Required Cash Contributions	Non-Federal Lands and Damages (including Relocations)	Total	Total Project
Settling Basin above head of Burns Cutoff [1]	$1,073,000	$30,000	$200,000	$230,000	$1,303,000
Burns Cutoff improvement; new turning basin; dredging Mormon Channel [2 5]	7,882,000[3]	431,000	1,455,000	1,886,000	9,768,000
Upper Stockton Channel enlargement [4 5]	535,000	34,000	15,000	49,000	584,000

1. July 1959 price index. Deauthorized August 5, 1977.
2. Deferred; July 1960 price index.
3. For lands and construction
4. Deleted by 1965 River and Harbor Act authorization of San Francisco Bay to Stockton Channel, Sacramento District
5. No. 3.
6. Deauthorized November 17, 1986.

TABLE 35-K MERCED COUNTY STREAM GROUP, CA
MAXIMUM INFLOW, STORAGE, AND OUTFLOW FOR PROJECTS
(See Section 23 of Text)

Stream	Maximum Inflow (c.f.s.) (hourly)	Maximum Storage (acre-feet)	Maximum Outflow (c.f.s.)
Burns	1,208	180	990
Bear	902	192	745
Owens	219	142	83
Mariposa	1,382	1,312	474

TABLE 35-N SACRAMENTO RIVER AND TRIBUTARIES, CA, COLLINSVILLE TO SHASTA DAM:
PROJECT UNITS RECLASSIFIED AND EXCLUDED FROM COST ESTIMATE
(See Section 30 of Text)

Unit	Current Classification	Estimated Cost Federal	Non-Federal	Total
1944 Modification:				
Antelope Creek[2]	Inactive	$1,400,000	$340,000	$1,740,000
Lower Butte Basin[3]	Deferred	7,286,000	2,285,000	9,571,000
Thomas Creek [2]	Deferred	1,140,000	140,000	1,280,000
Willow Creek [2]	Inactive	1,290,000	120,000	1,410,000
Bypass Levees [4]	Deferred	7,100,000	940,000	8,040,000
Bypass Levees [4]	Inactive	3,010,000	-	3,010,000
1950 Modification:				
Upper Butte Basin [2]	Deferred	3,530,000	1,787,000	5,317,000

1. For lands and damages, including relocation.
2. July 1960 price level.
3. Excludes work applicable to extension of Moulton weir (July 1954 price level).
4. July 1961 price level

TABLE 35-P FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION FLOOD CONTROL ACTIVITIES PURSUANT TO SECTION 205, PUBLIC LAW 80-858 AS AMENDED (PREAUTHORIZATION)

(See Section 41 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Coordination Account	Coordination	31,911
Battle Mountain, NV	Plans and Specification	2,120
Calaveras County Watershed	Feasibility	0
Cosgrove Creek, CA	Feasibility	2,944
Tehama, CA	Construction	54,445
Magpie Creek, CA	Feasibility	0
Total		91,420

TABLE 35-Q AQUATIC ECOSYSTEM RESTORATION (SECTION 206, PUBLIC LAW 104-303)

(See Section 52 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Coordination Account	Coordination	11,385
Incline & 3rd Creeks, NV	Plans and Specs	1,137
North Fork Gunnison River, CO	Plans and Specs	16,157
Tamarisk Eradication, CO	Feasibility	157,952
Carson River City, NV	Feasibility	0
Total		186,631

TABLE 35-R PROJECT MODIFICATION TO IMPROVE PROJECTS (SECTION 1135, WATER RESOURCE DEVELOPMENT ACT OF 1986 PUBLIC LAW 99-662)

(See Section 52 of Text)

Study	Stage	Fiscal Year Cost (Federal)
Coordination Account	Coordination	10,374
Murphy Slough, CA	Construction	10,803
Putah Creek South Fork Preserve, CA	Construction	1,798
TOTAL		22,975

TABLE 35-S SURVEYS
(See Section 54 of Text)

Fiscal year costs were as follows:

Navigation Studies	$ 0
Flood Damage Prevention Studies	1,738,150
Required Cost Contributions	0
Non-Federal Contributions (not required)	0
Special Studies/Ecosystem Restoration	632,948
Review of Authorized Project	0
Special Investigations	17,906
Review of FERC Licenses	0
Interagency Water Resources Development	24,055
National Estuary Program	4,292
American Waterfowl Management Plan	2,279
Coordination with Other Water Resource Agencies	6,687
CAL-FED	109,546
Lake Tahoe Partnership	378,879
Planning Assistance to States	124,844
Flood Plain Management Services	152,101
Hydrologic Studies	2,424
Total	3,194,111

TABLE 35-T EMERGENCY STREAMBANK & SHORELINE PROTECTION (SECTION 14, 1946 FLOOD CONTROL ACT)
(See Section 41 of Text)

Study	Construction	Fiscal Year Cost (Federal)
Sand Cove Park, CA		27,950
Coordination Account		12,883
Total		$40,833

SACRAMENTO, CA DISTRICT

PROJECTS SPECIFICALLY AUTHORIZED UNDER THE FORMER CALIFORNIA DEBRIS COMMISSION

The California Debris Commission, consisting of three Corps officers appointed by the President with the consent of the Senate, created by act of March 1, 1893 (27 Stat. L., p. 507), was organized in San Francisco, CA, on June 8, 1893, and has jurisdiction and duties extending over drainage area of Sacramento and San Joaquin Rivers, comprising great central valley of California and extending from crest of the Sierra Nevada on the east to that of the Coast Range on the west, and from Mount Shasta and Pit River Basin on the north to Tehachapi Mountains on the south. These rivers empty into head of Suisun Bay ultimately discharging into the Pacific Ocean through connecting bays and straits and the Golden Gate. Duties of the Commission comprise regulation of hydraulic mining in drainage area of Sacramento and San Joaquin Rivers, CA, so that debris will not be carried into navigable waters or otherwise cause damage; jurisdiction over construction and control of water storage facilities for domestic, irrigation, and power development purposes; and direction of improvements for control of floods on Sacramento River. On November 19, 1986, the Commission was abolished by the Water Resources Development Act of 1986 (PL 99-662) and all authorities, powers, functions, and duties were transferred to the Secretary of the Army. All acquired lands and other interests presently under jurisdiction of the Commission were authorized to be retained and administered under direction of the Secretary.

IMPROVEMENTS

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Flood Control

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Navigation

1. REGULATION OF HYDRAULIC MINING AND PREPARATION OF PLANS

Location. Operations largely limited to territory between Mount Lassen on the north and Yosemite Valley on the south, on western watershed of Sierra Nevada. (See Geological Survey sheets for the area, 2:5 in number.)

Existing project. Provided for regulating hydraulic mining operations, planning improvement of conditions upon Sacramento and San Joaquin Rivers and their tributaries affected by such operations, and preparation of plans to enable hydraulic mining to be resumed in their drainage areas. In addition, the Secretary of the Army is authorized to enter into contracts to supply storage for water and use of outlet facilities from debris-storage reservoirs for domestic and irrigation purposes and power development upon such conditions of delivery, use, and payment as he may approve. Applications of prospective miners were fully investigated by the former California Debris Commission and permits to operate were issued to those who provide satisfactory debris-restraining basins by construction of suitable dams where necessary or agree to make payment for storage in Government-constructed debris-restraining reservoirs constructed under act of June 19, 1934, as set forth below. For location and description of Government-constructed, debris-restraining reservoirs for general hydraulic mining, see Improvement 2.

Local cooperation. Mine owners bore all expenses incurred in complying with orders of the former Commission for regulation of mining and restraint of debris.

Operations and results during fiscal year. Minor administrative duties were accomplished. Administrative work overlaps that of improvements 2, 3, and 4, hereunder, and that of Sacramento District.

Historical summary. The former Commission received 1,292 applications for hydraulic mining licenses; 1 mine is licensed, but does not use storage behind Government debris dams. Work remaining is, in general, continuation of above or similar operations.

2. SACRAMENTO RIVER AND TRIBUTARIES, CA (DEBRIS CONTROL)

Location. Project reservoirs are to be constructed in watersheds of Yuba, Bear, and American Rivers, CA (See Geological Survey sheets for basin areas, seven in number.)

Existing project. For description of completed North Fork and Harry L. Englebright projects and authorizing act, see Annual Report for 1975. Initial recreation facilities were provided in FY 1959. Recreation areas at Harry L. Englebright Dam are maintained by the Corps. Recreation areas at North Fork Dam are no longer maintained and operated by Auburn Recreation Park and Parkway District, but have been turned over to the Bureau of Reclamation (known as the Water and Power Resources Service between November 6, 1979, and May 18, 1981) on a permit basis. Total Federal cost of new work for construction of these reservoirs was $4,646,872, including $40,000 and $25,000, respectively, for basic recreation facilities at Englebright Dam and North Fork Dam. Reservoir project sites on Middle Fork of American River and on Bear River have been deauthorized and excluded from foregoing cost. The 90-day Congressional project review period, required by Sec. 12, Public Law 93-251,as amended, ended August 5, 1977, and resulted in deauthorization of that portion of the project. Estimated cost of that portion is $1,820,000 (1935).

Local cooperation. Fully complied with. Improvements made to facilities at North Fork Dam by Auburn Recreation Park and Parkway District under a lease agreement with the Secretary of the Army and Auburn Boat Clubs (concessionaire) at an estimated cost of $46,000 since September 1953. On March 1, 1979, lands and waters at North Fork Dam were turned over to the Bureau of Reclamation on a 5-year renewable basis. Permit No. DACW05-4-79-527 was renewed for 5 years on March 1, 1984, March 1, 1989, and on March 1, 1994. Bureau will operate and maintain such use until Auburn project is completed, then a fee transfer will be made. Actual operation and maintenance of the recreation resource is being done by State of California by contract with the Bureau.

Licenses. Under provisions of Contract No. W-1105-eng-2998 with Pacific Gas and Electric Co., (PG&E) (a 1941 contract which expired July 31, 1991) payment was made to Federal Government of $18,000 per year for first 30 years and $48,000 per year for the

next 20 years in return for use of head at Englebright Dam and generation of hydroelectric power. These funds are now paid to the Secretary of the Army and deposited for return to the Treasury. PG&E obtained a new license, Federal Energy Regulatory Commission License No. 1403-004, issued February 11, 1993, for continued operation of Narrows No. 1 Hydroelectric Project and has entered into a new storage agreement and an operation agreement with the Federal Government (Corps). Payments under new agreement are effective as of Fiscal Year 1993 and will be 8.2 percent of previous fiscal year's total costs for operation and maintenance. License No. 2246, effective April 9, 1970 (date New Narrows power plant was put in operation) was issued by Federal Power Commission (known as the Federal Energy Regulatory Commission since January 9, 1978) to Yuba County Water Agency for hydroelectric power development of Yuba River by the company upstream from Englebright Dam. Under provisions of Contract No. DA-04-167-CIV-ENG-66-95 with Yuba County Water Agency, payment is to be made to the Federal Government of $100,000 per year for no more than 50 years.

Operations and results during fiscal year. New work: Maintenance and operation activities continued at Harry L. Englebright Dam at a cost of 1,452,794 including recreation facilities.

Historical summary. Construction of dams was initiated in 1937; North Fork project was completed and in use at end of FY 1939, and Harry L. Englebright project was completed in January 1941. The two debris-control structures are in good condition. Public use of these reservoir recreation areas greatly overtaxes present capacities. Dam safety assurance studies were initiated at Englebright Dam in FY 1981 and were completed in FY 1987.

3. TREATMENT OF YUBA RIVER DEBRIS SITUATION-RESTRAINING BARRIERS, CA

Location. Works are on Yuba River between Marysville and where the river emerges from the foothills, near Hammonton, some 10 miles easterly from Marysville, or about 9 miles below the Narrows. (See Geological Survey Topographic map of Sacramento Valley, CA.)

Existing project. For description of completed project and authorizing act, see Annual Report for 1975. Total cost of new work was $723,259, of which $361,482 was U.S. funds and $361,777 required contributed funds by State of California. (For details of project in its original form, see Annual Report, 1917, p. 1810.) In February 1963, center section of dam failed and major rehabilitation of structure was completed in December 1964. Total cost for required rehabilitation was $1,660,000, of which $830,000 was Federal cost and $830,000 required contribution by State of California toward rehabilitation cost. During the December 24, 1964, floodflows on the Yuba River, the rehabilitated Daguerre Point Dam sustained considerable damage. (See 1965 Annual Report, p. 1647 "Operations and results during fiscal year.") The reconstructed portion of the dam completed earlier in December 1964 was undamaged by the flood. Permanent repair of Daguerre Point Dam abutment and fish facilities was completed in October 1965 at a cost of $447,808 with Federal and required State contributed funds on a matching basis.

Local cooperation. Fully complied with for new work and major rehabilitation work. Total first cost to local interests for new work was $361,777 (required contribution by State of California). In addition, training walls were built on each bank below Daguerre Point for 11,250 feet and just above Daguerre Point, on the south bank, for 11,000 linear feet by two gold-dredging companies in connection with their dredging operations. To build these training walls would have cost the United States $450,000 (1902 estimate). Flood channels were also built by gold-dredging companies within confines of project works. Cost to the United States of equally effective works to restrain debris movement would have been more than $776,000 (1926 estimate). Total costs to local interests for initial and permanent major rehabilitation works were $830,000 and $223,904, respectively, (required contribution by State of California). State of California must contribute annually an amount equal to the Federal allotment for maintenance.

Operations and results during fiscal year. Maintenance: Operations consisted of condition and operation studies by hired labor on Yuba River.

Historical summary. Construction of project works was initiated in November 1902. Construction of Daguerre Point Dam was completed in May 1906; diversion of river over dam was completed in 1910; training walls and dikes were completed in 1935. About 149 million cubic yards of debris are held in lower 7 miles of Yuba River between Marysville and downstream end of training walls. About 20 million

cubic feet, are confined in river channel by Daguerre Point Dam. Additional millions of yards of loose material are in mine tailing fields adjacent to project training walls in upper 7-mile reach of project. Initial rehabilitation of Daguerre Point Dam begun in Jul) 1963 was completed in December 1964. Contract for permanent rehabilitation of structure was initiated in July and completed in October 1965.

Flood Control

4. SACRAMENTO RIVER, CA

Location. Works covered by this improvement are on Sacramento River and tributaries in north-central California from River Mile (RM) 0.0 to at Collinsville to RM 194.0 above Red Bluff.

Previous project. For details see page 1815 of Annual Report for 1917, page 1995 of Annual Report for 1938, and page 2262 of Annual Report for 1907.

Existing project. Sacramento River flood control project is a comprehensive plan of flood control for Sacramento River and lower reaches of its principal tributaries. The long range program provides bank protection to the water-side levees, tributaries and by-passes within the system. The project solves and prevents levee erosion problems while providing fish and wildlife mitigation features. As a part of this project, some recreational facilities have been provided along the river. The existing Sacramento River levees are seriously threatened by erosion and unless continued corrective measures are taken, levee failures may occur with resultant catastrophic damage and possible loss of many lives. Areas protected by the levees are comprised of over 1 million acres, 50 communities, $38 billion worth of improvements and approximately 2.3 million people.

Estimated (October 1987) cost for original project (exclusive of supplemental levee improvements), including new work and maintenance, is $163,925,000 of which $68,925,000 is Federal cost and $95 million non-Federal ($90,050,562 for lands and damages and relocations and $4,949,438 required contributed funds for levee construction, bank protection works, and levee setbacks). Of this amount, $4,939,752 was for new work and $9,686 for maintenance. Estimated October 2004 total project cost is $266,600,000, of which $193,200,000 is Federal and $73,300,000 is non-Federal. Total estimate includes remedial levee work for Yolo Bypass and Cache Slough (Unit 109) and land acquisition for Little Holland Tract as hydraulic and environmental mitigation in potential projects impacting stages of the Sacramento River, but excludes Sacramento Urban Area; Marysville/Yuba City Area; Mid-Valley Area; Lower Sacramento Area; and Upper Sacramento Area Levee Reconstruction Projects. Colusa Basin Drain and Knights Landing (West Levee) are not incrementally economically feasible, but these sites have been transferred to Upper Sacramento Area. Knights Landing (East Levee) has been included with Mid-Valley Area. In addition to project requirements, local interests constructed several pumping plants for drainage of agricultural and urban land protected by project levees. Some channel clearing work was accomplished by State of California and other local interests to supplement project levee construction. Dredging below Cache Slough and reconstruction of Cache Creek settling basin weir are considered deferred and excluded from foregoing cost estimate. Operation and maintenance of completed project will be responsibility of local interests; as units of project are completed, they are transferred to agencies of State of California for operation and maintenance. Existing project was adopted by 1917 Flood Control Act (H. Doc 81, 62d Cong., 1st sess., as modified by Rivers and Harbors Committee Doc. 5, 63d Cong., 1st sess.), 1928 Flood Control Act (S. Doc. 23, 69th Cong., 1st sess.), River and Harbor Act of 1937 (S. Committee print 75th Cong., 1st sess.), and 1941 Flood Control Act (H. Doc. 205, 77th Cong., 1st sess.).

Phase I - Sacramento River Flood Control System Evaluation recommended reconstruction of 32 miles of Sacramento area levees. Report was approved and in March 1989, Sacramento Urban Area Levee Reconstruction project was established under authority of Sacramento River Flood Control Project. New project is located within boundaries of Sacramento River Flood Control System in highly urbanized area around city of Sacramento, near confluence of Sacramento and American Rivers. It includes reconstructing the Left Bank levees of the Sacramento River from the Natomas Cross Canal to the Freeport Bridge by installing 17.1 miles of slurry wall, 5.7 miles of stability berm and drainage blanket, and reconstructing 2.0 miles of flood walls. It also includes reconstructing the Right Bank levees of the Sacramento River from the Barge Canal to Riverview b) constructing 2.7 miles of stability berm and drain blanket, restoring levee cross-section for 1.0 mile, and developing about 123 acres of fish and wildlife mitigation. Estimated (October 2005) cost for

Sacramento Urban project is $42,900,000 of which $28,215,000 is Federal and $14,685,000 is non-Federal (including a cash contribution of $2,135,000).

Sacramento River Flood Control Project (Glenn-Colusa Irrigation District) (G.C.I.D.) is part of the fishery/irrigation enhancement project being developed by G.C.I.D. The project is located between RM 202 and 206 on the Sacramento River near the Glenn-Tehama county line. The need for additional work near River Mile 208 was also reviewed. Since 1970, flood flows in the Sacramento River have altered the river channel and lowered the water surface at the Glenn-Colusa Irrigation Hamilton City pumping plant. Changing conditions cause significant adverse impacts to river stability, water supply and anadromous fishery resources in the area. The gradient facility (GF) includes use of multiple sheet piles coupled with stone to replicate a natural riffle in the river to restore river hydraulic gradient to approximate pre-1970 conditions. Concurrently, GCID, the Bureau of Reclamation and the State of California built new screens at the pumping plant.

Estimated (October 2006) project cost is $37,130,000, of which $20,350,000 is Federal and $6,780,000 is non-Federal. Project was established under authority of the 1917 Sacramento River Flood Control Project (see Energy and Water Development Appropriations Act of 1990 and Water Resources Development Act of 1996 and 1999).

Phase II - Marysville/Yuba City Area Levee Reconstruction. Project is located within boundaries of the Sacramento River Flood Control System in Butte, Sutter and Yuba counties in north-central California. Area includes Feather and Yuba Rivers and their tributaries, Sutter Bypass, cities of Marysville and Yuba City and communities of Linda and Olivehurst. An evaluation of about 134 miles of Sacramento River Flood Control Project levees in Marysville/Yuba City area identified about 30 miles of levees as being structurally unstable. Project consists of reconstructing those levees by installing a combination of slurry cut-off wall, toe drain, stability berm, seepage blanket, relief wells, levee freeboard restoration, irrigation ditch relocation, relocation of drainage pump station, and fish and wildlife mitigation. Estimated (October 2006) project cost is $51,000,000, of which $38,250,000 is Federal and $12,750,000 is non-Federal (including a cash contribution of $5,067,500). Project was established under authority of Sacramento River Flood Control Project.

Phase III - Mid-Valley Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood Control System in Placer, Solano, Sutter, Yolo and Yuba Counties in north-central California. Area includes the Sacramento and Feather Rivers, Knights Landing Ridge Cut, Sutter and Yolo Bypasses and portions of the Bear River including Yankee Slough, Dry, Cache, Putah Creeks and the Natomas Cross Canal. Communities in the area include Knights Landing, Robbins, Davis and Woodland. An evaluation of about 240 miles of the Sacramento River Flood Control Project levees in the Mid-Valley area identified about 18 miles of levees that are structurally deficient. Project consists of reconstructing about 18 miles of levees by installing about 15.1 miles of slurry walls, replacement of 1.2 miles of unsuitable levee embankment on landside, relocation of drainage ditches, restoration of levee height, and developing about 17 acres of fish and wildlife mitigation. Estimated (October 2006) project cost is $44,050,000, of which $33,100,000 is Federal and $10,950,000 is non-Federal (including a cash contribution of $6,526,000). Project was established under authority of the Sacramento River Flood Control Project.

Phase IV - Lower Sacramento Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood Control System in Sacramento, Solano, and Yolo Counties in north-central California. Area includes the lower Sacramento River and its distributary sloughs and the city of Clarksburg. An evaluation of about 295 miles of the Sacramento River Flood Control Project levees in the Lower Sacramento area identified about 47 miles of levees that are structurally deficient. Project consists of reconstructing about 2.6 miles of levees by installing landside berms with toe drains, backfilling of existing drainage collector systems, slurry cut-off walls, the restoration of levee height, and fish and wildlife mitigation. Estimated (October 2005) project cost is $5,150,000, of which $3,930,000 is Federal and $1,220,000 is non-Federal (including a cash contribution of $640,000). Project was established under authority of Sacramento River Flood Control Project.

Phase V - Upper Sacramento Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood System in Colusa, Glenn, Sutter, and Yolo Counties in north-

central California. Area includes the upper Sacramento River and its tributaries and the city of Colusa. An evaluation of about 350 miles of the Sacramento River Flood Control Project levees in the Upper Sacramento area identified about 12 miles of levees that are structurally deficient. Project consists of reconstruction of about 3.7 miles of levees by installing landside berms with toe drains, slurry cut-off walls, the restoration of levee height, and fish and wildlife mitigation. Estimated October 2006 project cost is $14,380,000 of which $10,760,000 is Federal and $3,620,000 is non-Federal (including a cash contribution of $2,150,000). Project was established under authority of Sacramento River Flood Control Project.

Operations and results during fiscal year. New work: (a) Sacramento Urban Area Levee Reconstruction: Construction is complete, however, final payment and contract close-out activities remain. (b) Sacramento River Flood Control Project (Glenn Colusa Irrigation District (G.C.I.D.)): Construction was complete on riffle restoration on Sacramento River including building of multiple sheet piles coupled with stone to replicate natural riffle and bank protection to restore river hydraulic gradient to approximate pre-1970 conditions. Concurrently, GCID, The Bureau of Reclamation and the State of California are designing a project to build new screens near GCID pumping facilities. Subsequent to original authority in FY90 EWDAA, sponsor selected a flat screen design and determined that a larger gradient facility was required for proper operation of the fish screens. As a result, an LRR and ROD for the larger facility was approved in April 1998. Plans and specs were initiated in January 1999. The Project Cooperation Agreement was executed in December 1999. The Gradient Facility construction contract was awarded in February 2000. The mitigation contract was awarded August 2002. West Bank mitigation installation completed November 2003. Revegetation Contract completed January 2006. O&M work for West Bank mitigation to continue. (c) Marysville/Yuba City Area Levee Reconstruction: Scheduled construction activities are 100% complete. Construction activities associated with extension of Site 7 were completed in November, 2004. Mitigation site monitoring and project closeout activities remain. (d) Mid-Valley Area Levee Reconstruction: Construction for Area 1 is complete. Continued work on a limited reevaluation report for the second Project Cooperation Agreement for Areas 2, 3 and 4. (e) Lower Sacramento Area Levee Reconstruction: LRR updating the economic justification for Sites 2 and 3 was completed in November 2002. Construction of Site 2 was completed in October 2003. Additional reconstruction is not currently anticipated due to a lack of non-Federal interest. (f) Upper Sacramento Area Levee Reconstruction: In accordance with Section 215 agreement signed September 22, 1997, local sponsor constructed 1,000 lineal feet of seepage/stability berm along the Sacramento River (Site E). LRR updating the economic justification for the project was completed in September 2002. Construction of Site D was completed in December, 2002. Construction of first phase at Site E was completed in December 2003. The final reconstruction contract at Site E was awarded in September 2004 and completed in August 2005.

Historical summary Construction of existing project began in FY 1918 and is about 99 percent complete. Channel improvement to date has produced a channel with a capacity of 579,000 cubic feet per second in Sacramento River below Cache Slough. In addition, discharges up to 21,000 cubic feet per second can be diverted from Sacramento River through Georgiana Slough. Completed major project items include about 977 miles of levees; five weirs with a combined discharge capacity of 602,000 cubic feet per second; two cutoff channels; two sets of outfall gates; channel improvement and clearing in Sacramento River, Butte Creek, Putah Creek, and Sutter and Tisdale Bypasses; construction of two main bypasses or floodways and secondary bypasses at Tisdale and Sacramento weirs and at Wadsworth Canal; construction of Knights Landing ridge cut and of Cache Creek settling basin; installation of gauging stations; and enlargement of Sacramento River below Cache Slough. Cutoffs at Collins Eddy and between Wild Irishman and Kinneys Bends were made in 1918 and 1919, respectively. Sacramento weir was completed in 1917, Fremont weir in 1924, Tisdale and Moulton weirs in 1932, and Colusa weir in 1933. Outfall gates at Knights Landing were constructed in 1930 and at mouth of Butte Slough in 1936. Pumping plants on Sutter Bypass were completed in 1944. Work items with reference to clearing, snagging, rectification of channels, and bank protection on Sacramento River and tributaries in Tehama County and from Red Bluff southerly, provided for by 1941 Flood Control Act were accomplished in fiscal years 1947, 1948, 1949, and 1951. Yolo Bypass and Cache Slough (Unit 109) was completed in 1990. Work remaining comprises completion of levee stage construction Mid-Valley Area; Lower Sacramento Area; and Upper Sacramento Area Levees.

TABLE 35-AA COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY08	Total Cost to Sept. 30, 2008	
	1. Regulation of Hydraulic Mining and Preparation of Plans	Maint. Approp.	-	-	-	-	821,325	
		Cost	-	-	-	-	821,325	
	2. Sacramento River and Tributaries. CA (Debris Control)	New Work Approp.	-	-	-	-	5,093,999	1 2
		Cost	-	-	-	-	5,093,999	1 2
		Maint. Approp.	1,423,300	1,179,000	1,200,000	1,324,000	29,943,303	3
		Cost	1,219,259	1,085,449	1,220,194	1,452,794	29,683,752	4
	(Contributed Funds Other)	New Work Contrib.	-	-	-	-	323,420	5
		Cost	-	-	-	-	315,777	6
	3. Treatment of Yuba River Debris Situation Restraining Barries, CA (Federal Funds) (Required Contributed Funds)	New Work Approp.	-	-	-	-	361,482	7
		Cost	-	-	-	-	361,482	
		Maint. Approp.	96,000	38,000	40,000	108,000	3,086,372	
		Cost	92,147	42,111	58,872	104,948	3,101,947	
		New Work Contrib.	-	-	-	-	361,777	
		Cost	-	-	-	-	361,777	
		Maint. Contrib.	-	156,000	0	0	2,305,338	
		Cost	-	26,046	0	0	1,913,598	
		Rehab. Approp.	-	-	-	-	1,053,904	
		Cost	-	-	-	-	1,053,904	
	(Contributed Funds, Other)	New Work Contrib.	-	-	-	-	36,000	8
		Cost	-	-	-	-	34,000	
	4. Sacramento River, CA including Sacramento River Flood Control Project (Federal Funds)	New Work Approp.	-	-	-	-	80,739,471	9
		Cost	-	-	-	-	80,739,471	9
		Maint. Approp.	-	-	-	-	1,979,104	
		Cost	-	-	-	-	1,979,104	

TABLE 35-AA COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY08	Total Cost to Sept. 30, 2008	
	(Contributed Funds)	New Work Contrib.	-	-	-	-	10,724,085	10
		Cost	-	-	-	-	10,724,085	10
		Maint. Contrib.	-	-	-	-	9,686	11
		Cost	-	-	-	-	9,686	11
	Sacramento Urban Area Levee Reconstruction (Federal Funds)	New Work Approp.	0	-	-	-	28,003,000	
		Cost	0	271	58	0	28,002,762	
	(Required Contributed Funds)	New Work Contrib.	0	0		-	2,616,943	
		Cost	165,994	0	0	-	2,621,139	
	(Contributed Funds, Other)	New Work Contrib.	-	-	-	-	5,867,175	12,13
		Cost	-	-	-	-	5,867,175	
	Sacramento River Flood Control (G.C.I.D), CA (Federal Funds)	New Work Approp	500,000	0	100,000	0	19,830,500	14
		Cost	515,044	21,805	100,908	0	19,815,868	
		New Work Contrib.	0	-		-	4,260,000	
		Cost	-100,202	66,209	23,991	0	4,195,823	
	Sacramento River Flood Control (Marysville/Yuba City Area levees) CA (Federal Funds) (Required Contributed Funds)	New Work Approp.	374,000	365,000	150,000	0	36,282,794	15
		Cost	378,799	114,676	53,256	0	35,925,302	
		New Work Contrib.	391,537	0	0	-	9,493,849	
		Cost	922,022	83,299	31,279	0	9,450,908	
	Sacramento River Flood Control (Mid-Valley Area Levee Reconstruction) (Federal Funds)	New Work Approp.	618,000	0	0	-	11,123,300	
		Cost	608,035	0	0	-	11,109,503	
		New Work Approp.	0	0		-	2,431,000	
		Cost	-62,410	95,633	12,417	0	1,831,055	
	Sacramento River Flood Control (Lower Sacramento Area Levee Reconstruction) (Federal Funds)	New Work Approp.	0	0		-	3,015,965	
		Cost	-287	940	0	0	3,015,372	
		New Work Contrib.	0	-		-	619,000	
		Cost	7,991	798	1,355	0	539,190	

TABLE 35-AA COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 05	FY 06	FY07	FY08	Total Cost to Sept. 30, 2008
	Sacramento River Flood Control (Upper Sacramento Area Levee Reconstruction) (Federal Funds)	New Work Approp.	4,247,000	900,000	0	0	9,270,206
		Cost	4,216,404	924,471	9,607	0	9,245,713
		New Work Contrib.	335,364	80,000	133,445	0	1,654,796
		Cost	521,891	40,888	11,315	0	1,411,541

1. Exclusive of $644,503 appropriation and cost on inactive portion of project.

2. Includes $477,127 for recreational facilities at North Fork ($32,473) and Harry L. Englebright ($414,654), Code 710 appropriations and costs.

3. Includes $19,948,940 from regular funds and $2,303,635 from Hydraulic Mining in California funds.

4. Includes $19,984,169 from regular costs and $2,271,891 from Hydraulic Mining in California costs.

5. Includes $12,420 contributed funds, other, from State of California Department of Navigation and Ocean Development for acquisition of a boarding float; and $311,000 funds from State of California Department of Boating and Waterways for refurbishing restrooms and launching facilities at Englebright Dam.

6. Includes $12,420 costs for acquisition of boarding float and $280,317 costs for refurbishing restrooms and launching facilities at Englebright Dam.

7. Includes deferred maintenance funds in amount of $207,500.

8. Miscellaneous engineering and construction accomplished at expense of local interests in connection with rehabilitation of Daguerre Point Dam necessitated by December 1964 floodflows. Includes $2,000 from Yuba County Water Agency in May 1994.

9. Includes appropriation and cost of $680,000 for new work for previous project and $1,486,469 public works funds for new work for existing project.

10. Includes $680,000 required contribution for previous project;$4,939,752 required contributed funds for existing project; and $310,801 voluntary contribution for bank protection for existing project.

11. Includes $9,686 required contributed funds for existing project.

12. Includes contributed funds, other, from the State of California for relocation of utilities, irrigation ditch, access ramps, and miscellaneous small structures in the Natomas, Greenhaven Pocket and West Sacramento areas. (Sacramento Urban Area).

13. Includes $1,328,842 contributed funds, other cost for relocations of utilities, irrigation ditch, access ramps, and miscellaneous small structures in the Natomas, Greenhaven Pocket, and West Sacramento areas.

14. G.C.I.D. construction funds received in FY 1991, but no costs were incurred. Includes $493,000 total funds and costs under General Investigations for Preconstruction Engineering and Design.

15. Not reflected in actual annual accounting records for Marysville/Yuba City are $1,710,000 costs for FY 91 and FY 92 incurred under Sacramento River Flood Control Project for design effort. These costs are considered part of Marysville/Yuba City cost-shared project.

TABLE 35-BB AUTHORIZATION LEGISLATION

See Section in Text	Date of Authorization Act	Project and Work Authorized	Documents
1.		**REGULATION OF HYDRAULIC MINING AND PREPARATION OF PLANS**	
	Mar. 1, 1893	Created California Debris Commission and authorized:(a) Hydraulic mining under its regulation in drainage areas of Sacramento and San Joaquin Rivers, if possible without injury to navigability of these river systems or to lands adjacent thereto; and (b) preparation of plans by Commission for improvement of navigability of these river systems, and flood and debris-control therein.	Ex. Doc. 267, 51st Cong., 2d sess., Ex. Doc. 98, 47`h Cong., 1 S` sess. i
	Feb 27, 1907	Authorized California Debris Commission to permit hydraulic mining without construction of impounding works, provided there is no injury to navigability of above river systems or :lands adjacent thereto.	(Amendment of sec. 13, Act of Mar. 1, 1893.) i
	June 19, 1934	Amended act of Mar. 1, 1893, which provides for construction of debris dams or other restraining works by California Debris Commission and collection of a3-percent tax on gross proceeds of each mine using such facilities, so as to eliminate this tax and substitute an annual tax per cubic yard mined, obtained by dividing total capital cost of each dam, reservoir, and rights-of-way, by total capacity of reservoir for restraint of debris; and authorized revocation of Commission orders permitting such mining, for failure to pay this annual tax within 30 days after its due date; and also authorized receipt of money advances, from mine owners to aid such construction, to be refunded later from annual payments of yardage taxes on material mined.	
	June 25, 1938	Added at end of sec. 23 of above act, a provision that the Secretary of the Army is authorized to enter into contracts to supply storage for water and use of outlet facilities from debris-storage reservoirs for domestic and irrigation purposes and power development, upon such conditions of delivery, use, and payment as he may approve, these payments are to be deposited to credit of such reservoir project, reducing its capital cost to be repaid by tax on mining operations.	
	Nov. 17, 1986	Abolished the California Debris Commission and transferred all authorities, powers, functions, and duties to the Secretary of the Army. Authorized all acquired land and other interests presently under jurisdiction of the Commission to be retained and administered under direction of the Secretary.	Sec. 1001, 1986 WRDA

TABLE 35-BB (Cont'd) AUTHORIZATION LEGISLATION

See Section in Text	Date of Authorization Act	Project and Work Authorized	Documents
4.		**SACRAMENTO RIVER, CA**	
	Dec. 22, 1944 and May 17, 1950	Additional levee construction and reconstruction, Including levee protection of Upper Butte Basin, and multipurpose reservoirs. 2	H. Doc. 649, 78th Cong., 2d sess., and 367, 81S' Cong., l's' sess.
	July 3, 1958	Bank protection and incidental channel improvements, Sacramento River from Chico Landing to Red Bluff, and local interests flood plain zoning above Chico Landing. 2	H. Doc. 272, 84th Cong., 2d sess.
	July 14, 1960	Bank protection works at critical locations, Sacramento River. 2	S. Doc. 103, 86th Cong., 2d sess.
	May 24, 1994	Acquiring and permanently restoring Little Holland Tract to tidal lands with seasonal and emergent marshlands would not only have substantial environmental benefits, but measurable flood control benefits as well.	H. Doc. 533, we Cong., 2d sess.

1. For latest published map, see Annual Report for1913, p. 3170, and Rivers and Harbors Committee Document 50, 74th Cong., 1st sess.

2. This supplemental work is reported in detail under Sacramento District, Improvement No. 23.

Albuquerque, NM, District*

The district comprises the watershed of the Canadian River and its tributaries in New Mexico; the watershed of the Arkansas River and its tributaries in Colorado; the watershed of the Rio Grande and its tributaries, including the Pecos River and its tributaries upstream of Amistad Lake; and the San Juan River Basin in New Mexico; and the watershed of the Gila, San Francisco, and Mimbres Rivers and its tributaries in New Mexico. Note: The district watershed boundaries were revised in June 1986 to include the portion of New Mexico west of the Continental Divide.

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Flood Control

1. ACEQUIAS IRRIGATION SYSTEM, NM

Location. There are about one thousand Acequias throughout the state of New Mexico, most of which are located in north-central New Mexico.

Proposed project. Authorized by the Water Resources Development Act of 1986, Section 1113, the project consists of about one thousand acequias throughout the state of New Mexico. These community ditch systems provide irrigation water to about 160,000 acres on an estimated 12,000 farms.

Acequias have been in existence since the early Spanish Colonization period of the 17th and 18th Centuries, and represent one of the oldest forms of cooperative institutions in the United States. They are an integral part of the culture and heritage of New Mexico. Diversion structures, many of which are constructed of available materials such as rock and brush, are frequently destroyed by flows greater than normal resulting from spring runoff or summer thunderstorms. Disruption of the ditches usually occurs during peak irrigation season and severely impacts crop production. The Water Resources Development Act of 1986 directs the U.S. Army Corps of Engineers to undertake measures, without regard to economic analysis, as are necessary to protect and restore the river diversion structures and associated canals.

Local cooperation. The local sponsor, the State of New Mexico, has a law whereby the State of New Mexico provides 17.5% of the project costs, and low interest loans to the local Acequias for the remaining 7.5%. The State of New Mexico has appropriated, and will appropriate, on an annual basis, the funds necessary to meet the requirements of local sponsorship.

Operations and results during fiscal year. Funds to initiate construction were received in Fiscal Year 1988. Construction contracts have been awarded every year since FY 1988.

Condition at end of fiscal year. There are several projects in various stages of design and construction. Projects completed in FY 2008 include: Red River, Los Trigos, Labadie and La Mesilla.

2. ALAMOGORDO, NM

Location. The project is located in south-central New Mexico in Otero County, in and near Alamogordo, NM. The city is situated at the foot of the Sacramento Mountains near the eastern edge of the Tularosa Basin.

Proposed project. The authorized project consists of two concrete and riprap-lined diversion channels with 100-year flow capacity and a flood detention structure, which will intercept flows from the Sacramento Mountains east of the city. For a description of the complete improvement and authorizing legislation, see page 694 of Annual Report for 1966.

Local cooperation. The local cooperation agreement reflects the cost sharing requirements in the Water Resources Development Act of 1986 applies.

Condition at end of the fiscal year. Construction of Phase I of the South Diversion Channel was completed in June 2002. Construction of Phase II was completed in May 2005. Construction of Phase III was completed in December 2007. Phase IV was awarded in May 2007. Construction of Phase IV continued throughout 2008.

3. CONCHAS DAM, NM

Location. The dam is located in San Miguel County, NM, on the Canadian River, just below the confluence of the Canadian and Conchas Rivers. (See Geological Survey State Map of New Mexico, scale 1:500,000, and Geological Survey topographic map, Tucumcari quadrangle, scale 1:250,000).

Existing project. The dam consists of a concrete gravity main section 1,250 feet long with a maximum height of 200 feet above streambed, located in the Canadian River canyon together with earth dikes on each side, having an overall length of about 3.07 miles. The main section contains conduits in its base for the release of water from the reservoir, and an overflow ungated spillway 300 feet long. The earth dikes vary in height up to 100 feet and the north dike contains a concrete ogee-type emergency spillway 3,000 feet long. The reservoir has a gross storage capacity of 513,900 acre-feet (198,170 for flood control; 254,200 for water conservation and irrigation; and 61,530 dead storage). The dam controls 7,409 square miles of drainage area. (See

pages 17-16 of Annual Report of 1973 for authorizing legislation).

Local cooperation. Conchas staff worked with the New Mexico State Parks and State Police during body recovery efforts following a diving accident from private land in the headwaters area of the project. New Mexico State Parks continued to manage recreation areas throughout the project in accordance with the Corps lease agreement.

Operations and results during fiscal year. The reservoir was operated for storage of floodwater and releases for irrigation purposes. Sediment damages of $44,000 were prevented during FY 2008. There were no flood damages prevented in FY 2008. Estimated total accumulated flood and sediment damages prevented by the project through FY 2008 are $5,331,500. Estimated irrigation benefits for FY 2008 is $97,000. Estimated total accumulated irrigation benefits through FY 2008 are $12,443,800. The pool elevation at the start of FY 2008 was 4,170 feet with corresponding storage of 114,792 acre-feet. Total releases for this reporting period were 38,994 acre-feet. Sediment deposition during the fiscal year was 393 acre-feet.

Condition at end of the fiscal year. A number of non-routine projects were awarded and some were completed at the end of FY 2008. The remaining projects will be completed in FY 2009. The projects include; completion of boat ramp construction, award of electrical systems upgrade and rehabilitation, award of painting of the irrigation headworks, and installation of a water tower safety ladder. Additionally, design and study work continued for the Southside recreation area campground and for dewatering and inspecting the stilling basin. The total execution for all non-routine projects in FY 2008 was $2.4M.

4. EL PASO, TX

Location. The project is located at El Paso, El Paso County, TX, which is on the bank of the Rio Grande in the reach that forms part of the international boundary between the United States and the Republic of Mexico. (Geological Survey Map for El Paso, TX; New Mexico quadrangle, scale 1:250,000).

Existing project. This project consists of a single-purpose flood control system of detention dams, diversion dikes, conduits, and channels to collect, regulate and discharge arroyo runoff into the Rio Grande. Runoff from the tributary arroyos on the eastern, southern, and western slopes of the adjacent Franklin Mountains often inundates sections of the city and its outlying suburban developments. The project is divided up into three independent elements: Northwest area, Central area, and Southeast area. The project plan satisfies the 1933 U.S. and Mexico agreement on limited tributary discharge into the Rio Grande in El Paso, Texas. (See Table 36-B for authorizing legislation).

Local cooperation. Section 2 of the Flood Control Act of June 28, 1938 applied to the Northwest and Central areas. The Local Cooperation Agreement for the Southeast area reflects the cost sharing requirements contained in the Water Resources Development Act of 1986.

Operations and results during fiscal year. Flood control dams in operation during FY 2006 and dates of completion of construction are as follows: Northgate and Range Dams (February 1970; Sunrise and Mountain Park Dams (October 1974); and Pershing Dam (March 1977); Fort Bliss Diversion Channel (November 1978); Oxidation Pond Outlet Conduit (November 1980); Mulberry and Thorn Drive Dams (June 1982); Mesa Dam (September 1982); McKelligon Canyon Dam (October 1982); Keystone Dam (September 1983); Keystone Outlet Conduit (March 1984); Highway Diversion Channel (May 1985); Dam Safety Assurance Program to the existing Range and Northgate Dams (September 1986); Borderland Diversion Channel (September 1986); Phelps Dodge system (June 1992); Americas Basin (March 1993); Bluff Channel (October 1998) and the Lomaland system in November 2004.

Condition at end of the fiscal year. Project features already constructed in the El Paso area have worked as designed. A letter of intent from the City of El Paso was received in August 2006 to pursue a General Reevaluation Report (GRR) for the Chevron Basin. This feature was not constructed due to environmental concerns at the site. Alternatives will be developed for the southeast and central area residual flooding in El Paso in the GRR.

5. JOHN MARTIN RESERVOIR, CO

Location. The project is located on the Arkansas River in Bent County, 1,159 miles upstream from its mouth, 300 miles downstream from its source and about 18 miles upstream from the city of Lamar, CO. (See Geological Survey maps for Lamar and Las Animas, CO quadrangle, scale 1:125,000).

Existing project. The project consists of a concrete and earth fill structure about 2.6 miles long with a maximum height of 120 feet above streambed, and an overflow, gated spillway 1,024 feet long. Total capacity of the reservoir at the top of flood control is 603,465 acre-feet (259,417 for flood control and 344,048 for conservation and recreation storage). This reservoir controls a contributing drainage area of 18,130 square miles and is operated as a unit of a coordinated reservoir system for flood control in the Arkansas River Basin. Public Law 89-298 modified the act of June 22, 1936 (49 Stat. 1570) to authorize 10,000 acre-feet of reservoir flood control storage space for fish and wildlife and recreation purposes. For details of the complete improvement and authorizing legislation, see page 17-16 of Annual Report for FY 1973.

Local cooperation. The Colorado State Parks and Division of Wildlife continued to manage recreation and natural resource areas throughout the project in accordance with the Corps lease agreements. An issue came up regarding a local landowner along the south shore who objected to the Corps plans to install a fence along the property boundary. The land owner elevated the issue to State and Federal congressional representatives and engaged legal counsel. Several meetings and negotiations have taken place. The Corps intends to build the fence in FY 2009.

Operations and results during fiscal year. Operation of the dam and reservoir continued. Regulation of conservation storage continued under rules and regulations of the Arkansas River Compact. Sediment damages of $183,100 were prevented during FY 2008. Estimated total flood and sediment damages prevented by this project through FY 2008 are $140,354,000. Estimated irrigation benefits for FY 2008 are $227,600. Estimated total accumulated irrigation benefits are $31,109,100. Maximum pool elevation of 3,815 feet with corresponding storage of 66,425 acre-feet occurred on March 23, 2008. Total releases for FY 2008 were 222,612 acre-feet. Releases attributed to irrigation benefits amounted to 57,916 acre-feet. Sediment deposition was 1,635 acre-feet in FY 2008.

Condition at end of the fiscal year. There were three different break-ins at the maintenance building resulting in damage to the fence, doors, and building and theft of copper wire and tools. The total estimated cost of damage and theft was $6,000. The incidents were investigated by local law enforcement. Measures were taken to secure the area by installing security fencing and gates, enhanced lighting, motion detectors, and security cameras. A number of non-routine projects were awarded and some were completed at the end of FY 2008. The remaining projects will be completed in FY 2009. The projects include; completion of replacement of tainter gate line shaft bearings, completion of monorail crane bus bar repair, and award of the sediment removal dredging project. Additionally, the ecological risk assessment study for dewatering and inspecting the stilling basin was completed. Design work for the stilling basin project continued. The total execution for all non-routine projects in FY 2008 was $3.6M.

6. RIO GRANDE BASIN, NM

Location. Improvements are located on the Rio Grande and tributaries in New Mexico. More definitive locations and descriptions of individual projects are in the following paragraphs, and individual reports by projects.

Existing project. The Flood Control Act of 1948 authorized the flood control phase of the comprehensive plan of development of water resources of the Rio Grande Basin in New Mexico (H. Doc 243, 81st Cong., 1st sess.) with the exception of Chiflo Dam and Reservoir and spillway gate structure at Chamita Dam. Although recommended, Chiflo Dam and Reservoir was deleted from the authorized plan. Congress excluded it without prejudice from future consideration. It was requested at that time, by the States of Colorado and Texas, that the project be deferred for re-study regarding required storage and methods of operation. By the same Act, Congress also authorized for the construction irrigation phase of the comprehensive plan as recommended by the Bureau of Reclamation (H. Doc. 653, 81st Cong., 2nd sess.). The Act also stipulated that work should be prosecuted in accordance with a joint agreement approved by the Secretary of the Army and Acting Secretary of the Interior on November 21, 1957. In addition, under that agreement, the Bureau of Reclamation was given responsibility for construction, operation, and maintenance of channel rectification, and drainage rehabilitation and extension phases of the unified plan of improvement. Authority for the Chamita Dam and Reservoir was abrogated when Cochiti Dam and Reservoir was authorized. (See Table 36-B for authorizing legislation and Table 36-F for existing projects).

All operations and costs for projects contained in the authorized plan are reflected in individual reports on the following pages.

6A. ABIQUIU DAM, NM

Location. The project is one unit of the flood control plan for the Rio Grande and tributaries, New Mexico. Abiquiu Dam is located on the Rio Chama near the town of Abiquiu, NM, about 32 miles upstream from the confluence of the Rio Chama and the Rio Grande. (See Geological Survey map for plan and profile of Rio Chama, NM, from mouth to mile 103, sheet 1, and Army Map Service, Aztec, NM; Colorado NJ 13-1, scale 1:250,000).

Existing project. The project consists of an earth fill dam 1,800 feet long, 341 feet high, with a 12-foot diameter controlled outlet, and an uncontrolled spillway in a natural saddle about 1 mile north of the left abutment. The reservoir provides 545,784 acre-feet of flood control and sediment storage. Total capacity at the spillway crest is 1,192,801 acre-feet. For a detailed description of the completed improvements and authorizing legislation, see Annual Report of 1973. A major rehabilitation project was completed in September 1980 and the recreation facilities were completed in FY 1981. The County of Los Alamos completed a non-Federal hydropower plant in 1990. The capacity of this plant is 13.2 MW. Drainage adits were completed in 1990 to alleviate seepage problems in the north and south abutments. In 2001 repairs were initiated to the downstream north abutment of the dam where rock movement had been observed. Work continued through 2005. Removal of rock, cutback, rock bolting and some netting has taken place. A study will determine current slope conditions.

Local cooperation. The corps continued to work closely with the downstream Rio Chama acequias during flow spring runoff releases. A site visit was conducted to inspect their rock and brush diversion dams and other bank erosion areas of concern to the acequias.

Operations and results during fiscal year. Operation of the dam and reservoir continued. Storage and flows were regulated in accordance with Section 203, Flood Control Act of 1960. On October 1, 2007, the pool elevation was 6,220 feet. The maximum pool (6,223 feet) and storage (194,201 acre-feet) occurred on June 5, 2008. On September 30, 2008, the pool elevation was 6,218 feet with a corresponding storage of 175,898 acre-feet. There were 1,213 acre-feet of sediment deposition during FY 2008. There was $54,600 in flood damages prevented during FY 2008. Sediment damages prevented were $135,900. Accumulated flood and sediment damages prevented by the project since completion are $481,893,000 through FY 2008.

Condition at end of fiscal year. The bank stabilization project was awarded and work continued on the piezometer automation project. The total execution for all non routine projects in FY 2008 was $3.3M.

6B. ALBUQUERQUE LEVEES, NM

Location. The project is located in the City of Albuquerque, NM and surrounding communities. The project study area includes the east side and west side levee areas within the Albuquerque reach of the Middle Rio Grande from the Corrales Siphon North southward to the South Diversion Channel.

Proposed project. Funds were provided to evaluate the existing condition of the levees.

Local Cooperation. None required

Condition at end of fiscal year. The study is complete and concludes that the levee system protecting Albuquerque is in need of reconstruction and rehabilitation. The preliminary costs estimate for this work is $120,000,000.

6C. COCHITI DAM AND LAKE, NM

Location. The dam is located at river mile 340 on the Rio Grande (river mile 0 being at the intersection of the New Mexico-Texas state line with international boundary at El Paso, TX), near Pueblo de Cochiti, which is about 50 miles upstream from Albuquerque, NM. (See Geological Survey Map, Cochiti Dam, NM quadrangle and Santo Domingo Pueblo, NM quadrangle, scale 1:24,000).

Existing project. This project consists of an earth fill dam about 5.4 miles long with a maximum height of 251 feet above streambed. The project extends generally in an east-west line across the Rio Grande to a point about 2 miles east of the Rio Grande, and then southward across the Santa Fe River. An uncontrolled spillway with a 460 foot-long ogee-weir and a 160-foot notch 10.6 feet deep in the center is part of the embankment on the south side of the Santa Fe River. Operational releases for flood control and irrigation are made through a 3-barrel gated conduit in the left abutment on the Rio Grande. The reservoir has a storage capacity of 582,019 acre-feet at the spillway crest, of which 78,640 acre-feet is dedicated for recreation and sediment control. The project

controls flood waters from an 11,695 square-mile drainage area. For more improvement details, see page 17-7 of Annual Report for 1980. See page 17-15 of fiscal year 1981 Annual Report for authorizing legislation.).

Local cooperation. District and project staff continued to work closely with the Pueblo de Cochiti staff and Governor's office by conducting monthly partnering meetings to help strengthen working relationships and achieve mutually beneficial project goals.

Operations and results during fiscal year. Operation of the dam and reservoir continued. The project was completed in June 1975. On October 1, 2007, the pool elevation was 5,341 feet with a corresponding storage of 50,614 acre-feet. The maximum pool elevation was 5,345 feet with storage of 55,328 acre-feet on June 7, 2008. On September 30, 2008, the pool elevation was 5,341 feet with a corresponding storage of 49,840 acre-feet. There were 1,173 acre-feet of sediment deposition during FY 2008. There were $0 flood damages prevented during FY 2008. Sediment damages prevented were $131,400. Accumulated total damages prevented are $540,976,500.

Condition at end of fiscal year. Perhaps the most significant event that took place in FY 2008 was the leak that was discovered in the upstream interior wall of the gate chamber. After the leak was discovered, a series of non-destructive investigations were performed using ground penetrating radar and an underwater camera. The results indicated a possible problem with the integrity of the concrete, namely Alkali-Silica Reaction (ASR). Further destructive testing of core samples taken from the gate chamber walls revealed no apparent evidence of ASR. The problem appears to be the result of cracks and voids in the original concrete as a result of poor consolidation. The voids allowed for easy passage of water through the gate chamber walls. Simple grouting repairs to seal the cracks will be performed in FY 09. Bottom line is the structure is sound. Another significant event that took place at Cochiti was the historic Memorandum of Understanding (MOU) that Mr. John Paul Woodley, Jr., the Assistant Secretary of the Army (Civil Works), signed with Pueblo de Cochiti (Pueblo). The MOU enabled the Corps to enter into Cooperative Agreements with the Pueblo to carry out mutually beneficial O&M activities at the dam. Other projects in FY 2008 include; installation of the outlet monorail man basket, installation of fish screen monorail hoists installation of automated weather station, award of the campground construction contract, and award of the Endangered Species Act (ESA) Biological Opinion Baseline Study Cooperative Agreement. The Baseline Study work is scheduled to continue through FY 2010 subject to the availability of funds. The total execution of all non-routine projects in FY 2008 was $5.2M.

6D. GALISTEO DAM, NM

Location. The dam is located at river mile 12 on Galisteo Creek, a tributary of the Rio Grande. The reservoir extends upstream from the dam for about 4 miles, near the village of Waldo, NM (see Geological Survey map, San Pedro 1, NM, quadrangle, scale 1:24,000).

Existing project. This project consists of an earth fill dam 3,210 feet long with a maximum height of 165 feet above streambed. The outlet works consist of a 10-foot diameter uncontrolled outlet with maximum discharge capacity of 4,980 cubic-feet-per-second with a pool at the spillway crest elevation. The dam was raised 7 feet and the spillway was widened 575 feet to provide adequate discharge capacity to accommodate the revised probable maximum flood. The dam safety modification was complete in October 1998. The project has 89,468 acre-feet of flood control space and 10,200 acre-feet of sediment space. For more details of completed improvements and authorizing legislation, see page 17-17 of Annual Report for 1973).

Local cooperation. District staff worked with the Pueblo of Santo Domingo on the Galisteo Land Transfer agreement. Completion of the effort and actual transfer of project lands to the Pueblo will likely take place in FY 2009. District and project staff continued to work closely with the Santo Domingo Pueblo staff and Governor's office by conducting regularly scheduled partnering meetings to help strengthen working relationships and achieve mutually beneficial project goals.

Operations and results during fiscal year. Operation of the dam and reservoir continued. Operation of the project began on October 11, 1970. The reservoir was empty on October 1, 2007. No storage occurred during FY 2008. Peak inflow was 264 cfs and maximum outflow was 264 cfs. There were 22 acre-feet of sediment deposition during the year, and the reservoir was empty on September 30, 2008. Sediment damages prevented during FY 2008

were $2,500 and now total $190,100 through FY 2008.

Condition at end of fiscal year. Approximately 100 acres of non-native and invasive salt cedar were removed from the project. Additionally, an ADA compliant restroom was installed and picnic shelter repairs were completed. The total execution of all non-routine projects in FY 2008 was $0.6M.

6E. JEMEZ CANYON DAM, NM

Location. The project is located in Sandoval County, NM, on the Jemez River, about 2 miles upstream from the confluence of the Jemez River and the Rio Grande, about 5 miles northwest of Bernalillo, NM. (See Geological Survey map for Bernalillo, quadrangle scale 1:125,000).

Existing project. This project consists of an earth fill dam 861 feet-long with maximum height of 150 feet above streambed, an off-channel uncontrolled saddle spillway 428 feet wide, and a 13-foot diameter gated outlet in the left abutment with discharge capacity of 8,340 cubic-feet-per-seconds, with a pool at spillway crest elevation. The dam was raised 14.1 feet and the spillway widened 28 feet in 1986 and 1987 to provide adequate discharge capability to accommodate the revised probable maximum flood. The reservoir has a capacity of 97,425 acre-feet at spillway crest (73,000 acre-feet for flood control and 24,425 acre-feet for sediment control). For more detailed description of completed improvements and authorizing legislation, see page 17-17 of Annual Report for 1973).

Local cooperation. District and project staff continued to work closely with the Santa Ana Pueblo staff and Governor's office by conducting regularly scheduled partnering meetings to help strengthen working relationships and achieve mutually beneficial project goals.

Operations and results during fiscal year. Jemez Canyon is operated as a dry reservoir, with occasional flood storage. On October 1, 2007, the pool elevation was 5,155 feet with a corresponding storage of 0 acre-feet. The maximum pool elevation was 5,155 feet with storage of 0 acre-feet on October 1, 2007. On September 30, 2008, the pool elevation was 5,155 feet with a corresponding storage of 0 acre-feet. The reservoir was emptied during FY 2002. There was no sediment deposition during FY 2008. There were no flood damages prevented during FY 2008. Sediment benefits during FY 2008 were $0. Estimated total accumulated flood and sediment damages prevented by the project through FY 2008 are $25,184,500.

Condition at end of the fiscal year. In addition to signing an MOU with Pueblo de Cochiti, Mr. John Paul Woodley, Jr., the Assistant Secretary of the Army (Civil Works), also signed an MOU with Santa Ana Pueblo (Pueblo) for the same purpose of enabling the Corps to enter into Cooperative Agreements with the Pueblo to carry out mutually beneficial O&M activities at the dam. The Corps entered into a Cooperative Agreement with the Pueblo for portions of work associated with the sediment mobilization study. Work also continued on the reservoir pool mitigation study. Both studies have ESA Biological Opinion requirements in addition to addressing impacts to other environmental and cultural resources. Work also continued on the Tamaya Village drainage study. All these projects affect the cultural resources of the Pueblo of Santa Ana and are key to the Corps' meeting its Indian Trust responsibilities. Additionally, rock fall protection work was performed downstream of the dam and an emergency generator was replaced. The total execution of all non-routine projects in FY 2008 was $2.1M.

6F. MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM

Location. The project area is composed of 50 square miles of floodplain lying along the Rio Grande from the vicinity of Bernalillo to Belen, NM.

Proposed project. The project was authorized by the Water Resources Development Act of 1986. The project consists of raising and rehabilitating 49.6 miles of levees to provide the 270-year level of protection, and the creation of 75 acres of wetlands from borrow areas within the bosque, and acquisition of 200 acres to satisfy fish and wildlife mitigation requirements. The proposed project will be constructed at an estimated total cost of $77,200 ($57,900,000 Federal and $19,300,000 non-Federal) 1 October 08 price levels. (See Table 36-B for authorizing legislation).

Local cooperation. The local cooperation agreement reflects the cost sharing requirements in the Water Resources Development Act of 1986 applies.

Operations and results during fiscal year. Construction of the Corrales Unit was completed in July 1997. A General Reevaluation Report study for

the remaining units (Mountainview, Isleta, and Belen), is currently underway. The study will update costs, benefits, and environmental impacts of the 1986 authorized project. The General Reevaluation Report is scheduled for completion in 2010.

6G. RIO GRANDE BOSQUE REHABILITATION/ BOSQUE WILDFIRES, NM

Location. The authorized project is located within the city of Albuquerque, New Mexico and surrounding communities. The project area includes the east and west bank of the bosque (forest) along the Rio Grande from Bernalillo to Belen.

Proposed project. The project was authorized by the FY04 Energy and Water Appropriations bill, following severe wildfires that occurred in 2003 in the Rio Grande bosque in and near Albuquerque. The project consists of management measures to reduce the potential for fires in the future and to restore fire damage that occurred in 2003. These measures include, but are not limited to: fuel reduction of dead wood; removal of non-native and invasive species; planting of native species; removal of unnecessary jetty jacks; and improvement of emergency vehicle access points and roads into the bosque.

Local Cooperation. Funding for the implementation effort of this project is 100 percent Federal. The City of Albuquerque, the Middle Rio Grande Conservancy District and the Pueblos of Isleta and Sandia will assume all operation and maintenance costs of the project following implementation.

Condition at end of fiscal year. Design and implementation of management measures continued through FY08. Completion of construction is projected for FY12. Total cost is currently estimated at $25 million.

6H. RIO GRANDE FLOODWAY, NM

Location. The project is one unit of the flood control phase of the comprehensive plan of improvement for the Rio Grande Basin in New Mexico. It is located on the Rio Grande and covers a section of the river extending from approximately Velarde, New Mexico to Elephant Butte, New Mexico, a distance of approximately 213 miles.

Existing project. The project consists of flood protection and major drainage improvements by channel rectification, levee enlargement and construction, and bank stabilization work to protect the levees. Construction of the project is a joint undertaking by the Bureau of Reclamation and the Corps. Portions to be done by the Corps will consist of levee enlargement, construction of bank protection work, with channel rectification and drainage rehabilitation work being the responsibility of the Bureau of Reclamation. Levees constructed by local interests exist throughout the reach of the river involved, but are not uniform as to grade, section, or standard of construction, and in many places are threatened by the meandering river. (See Table 36-F on existing project and Table 36-B for authorizing legislation).

Local cooperation. In addition to the usual requirements, local interests are responsible for all highway, bridge, and public utility relocations or replacements required in construction of the project. Local interests will also be required to comply with requirements of Section 221, 1970 Flood Control Act, Section 401, 1986 Water Resources Development Act, and PL 91-646 Uniform Relocation Assistance Act of 1970. Total costs for all requirements for the completed Albuquerque unit under terms of project authorization were $75,000. There were no non-Federal costs in connection with the construction of the Cochiti to Rio Puerco unit of the floodway. The Española Valley unit is in the deferred category.

Operations and results during fiscal year. There were no flood damages prevented by the completed floodway project during FY 2008. Estimated total accumulated flood damages prevented by the floodway project through FY 2008 amounted to $59,185,000. The peak flow of the Rio Grande through the middle valley was 5,400 cfs at Albuquerque on May 25, 2008. The peak at San Acacia was 6,340 cfs on July 23, 2008.

Condition at end of fiscal year. Construction of the Albuquerque unit of the Rio Grande Floodway project is complete. Construction was completed on the Truth or Consequences unit in FY 1991.

6I. SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM

Location. The authorized project is located along the middle Rio Grande's west bank, extending from the upper end of the Rio Grande low-flow

conveyance channel at the San Acacia diversion works to the head of Elephant Butte Reservoir.

Proposed project. The project was authorized by the Flood Control Act of 1948 and consists of the reconstruction of 42 miles of existing spoil bank levee that separates the Rio Grande low-flow conveyance channel from the river floodway and replacing the San Marcial railroad bridge. The proposed project's estimated total cost is $77,600,000 ($67,900,000 Federal and $9,700,000 non-Federal) 1 Oct 97 price levels. (See Table 36-B for authorizing legislation).

Local cooperation. The Water Resources Development Act of 1986 and the Water Resources Development Act of 1992 apply. The Water Resources Development Act of 1992 modified the local sponsor's required contribution.

Condition at end of fiscal year. The draft LRR/SEIS (dated May 99) was sent forward to higher authority for review and approval. Responses to headquarters review comments and action items concerning the draft LRR/SEIS were completed in May 2003. Pending headquarters approval, the final report will be completed in October 2009 with construction starting in September 2011.

6J. SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION, NM

Location. The project is located in southwest Albuquerque approximately between Coors Boulevard on the west and the Rio Grande on the east and between Bridge Boulevard and the Isleta Pueblo on the south.

Proposed Project. The project was authorized for construction in the Water Resources Development Act of 2007. The Southwest Valley is subject to flooding from west mesa runoff. Storm waters flood developed areas in the southwest valley because the valley property is lower than the river. The main existing drainage facility in the southwest valley is the Isleta Drain, an agricultural drain constructed by the Middle Rio Grande Conservancy District.

Local cooperation. The Project Cooperation agreement was executed by the Local Sponsors, the Albuquerque Metropolitan Arroyo Flood Control Authority and Bernalillo County, on June 17, 2008.

Condition at end of fiscal year. Draft plans and specifications are completed. Final review and coordination in preparation for construction are underway. Construction start is pending receipt of the remaining construction funding.

7. SANTA ROSA DAM AND LAKE, NM

Location. The project is located in Guadalupe County on the Pecos River, at river mile 766.4, approximately 7 miles north of Santa Rosa, NM (see Geological Survey map, Corazon, NM, sheet, scale 1:125,000).

Existing project. Operation of the project began in November 1979. It consists of an earth and rock fill dam 1,950 feet long and 212 feet maximum height above the streambed. The purposes of this project are flood control, irrigation, and sediment retention. An unlined, open rock cut about 1,000 feet back from the left abutment serves as an uncontrolled spillway. The outlet works, located in the left abutment, consists of a control tower, intake structure with gates, and a 10-foot diameter concrete-lined tunnel with a terminal flip bucket energy dissipater. Storage capacity at the spillway crest is 438,364 acre-feet, which includes 82,860 acre-feet sediment reserve, 200,000 acre-feet irrigation, and 167,000 acre-feet flood control storage. The surface area of the reservoir at the spillway crest is 10,581 acres. The contributing drainage area at the dam site is 2,434 square miles.

For a more detailed report of the authorized project, including the modification to existing Sumner Lake, see page 17-8 of FY 1981 Annual Report. For authorizing legislation, see page 17-14 of FY 1981 Annual Report.

Local cooperation. The Carlsbad Irrigation District (CID) agreed to use Sumner Lake for flood control as a Section VII Project. In 1974, irrigation storage from Sumner Lake was transferred to Santa Rosa Dam and Lake (formerly Los Esteros Lake). CID fulfilled their construction repayment obligation to the Bureau of Reclamation (Reclamation) for Sumner Lake. The title for the dam and appurtenant structures remains with Reclamation. CID is currently responsible for all operation and maintenance (O&M) of Sumner Lake and therefore they do not make any annual O&M reimbursement payments to reclamation. There have been internal Corps discussions about whether the CID should reimburse the Corps for the portion of O&M costs for Santa Rosa Lake as a result of the transfer of irrigation storage from Sumner Lake to Santa Rosa

Lake. Currently no formal contracts or agreements exist for such reimbursement.

For more requirements and details on final approval in 1974 for transfer of irrigation storage from Sumner Lake to Santa Rosa Dam and Lake (formerly Los Esteros Lake), see page 17-5 of Annual Report for 1980.

Operations and results during fiscal year. Operation of the dam and reservoir continued. Pool elevation at the start of the fiscal year was 4,729 feet with storage of 50,566 acre-feet. Total releases for the fiscal year were 68,696 acre-feet. Pool elevation on September 30, 2008 was 4,719 feet with storage of 29,344 acre-feet. The maximum elevation was 4,733 feet with storage of 58,349 acre-feet on June 15, 2008. There were 313 acre-feet of sediment deposition during the fiscal year. Sediment damages prevented during the fiscal year were $35,100. Accumulated flood and sediment damages prevented by the project since completion are $5,737,000 through FY 2008. Estimated irrigation benefits were $228,700 with an accumulative total of $5,022,000 through FY 2008.

Condition at end of the fiscal year. Work continues on repairs to the hydraulic system leaks and HVAC system. Work was completed on backfilling the sewage lagoon and relocation of the communication lines. The total execution of all non-routine projects in FY 2008 was $0.4M

8. TRINIDAD LAKE, CO

Location. This project is located on the Purgatorie River about 161 miles above its junction with the Arkansas River. The project is about 4 miles upstream from the city of Trinidad, CO. (See Geological Survey map, Trinidad, CO, quadrangle, scale 1:24,000).

Existing project. The project consists of an earth fill dam 6,610 feet long with a maximum height of 200 feet above streambed, an uncontrolled spillway 1,000 feet wide in the left abutment, and a 10-foot diameter gate-controlled conduit in the right abutment with discharge capability of 5,700 cubic-feet-per-seconds with a water surface at top of the flood control pool. In 1985, a 3-foot high parapet wall on top of the upstream face of the dam and a supplemental 710 foot-wide rock cut emergency spillway located on the right abutment were constructed to provide adequate discharge capability and freeboard allowance to accommodate the revised probable maximum flood. In 1989, the recreation pool was increased from 4,500 to 15,967 acre-feet, utilizing some originally unallocated space in the project. The reservoir provides for storage of 51,000 acre-feet for flood control, 35,045 acre-feet for sediment, 20,000 acre-feet for irrigation, and 17,179 acre-feet for recreation, a total of 123,224 acre-feet. The reservoir controls a drainage area of 671 square miles and is operated for flood and sediment control, irrigation, and recreation purposes. For authorizing legislation, see page 17-14 of FY 1981 Annual Report.

Local cooperation. The Purgatorie River Water Conservancy District (PRWCD) made its annual payment to the Bureau of Reclamation (i.e. the United States) for original construction of Trinidad Dam in accordance with Articles 5 and 6 of Contract No. 7-07-70-W0095. PRWCD also made its annual payment of $147,970 for their allocation of joint use operation and maintenance costs to the Corps in FY 2008 in accordance with Article 8 of the same contract. Work on design and construction of recreation facilities at Trinidad Lake continued with the Colorado State Parks in accordance with cost share Agreement DACW47-03-3-001 (PCA). A total of $545,000 was made available from the Corps in FY 2008. The remaining balance of funds for the PCA is expected to be made available in FY 2009.

Operations and results during fiscal year. Operation of the dam and reservoir continued. On October 1, 2007, the pool elevation was 6,179 feet with a corresponding storage of 19,130 acre-feet. The maximum pool elevation was 6,195 feet with a corresponding storage of 31,046 acre-feet on May 5, 2008. On September 30, 2008, the pool elevation was 6,172 feet with a corresponding storage of 15,237 acre-feet. Sediment deposition during FY 2008 was 175 acre-feet. Sediment damages prevented during FY 2008 was $65,500. Accrued sediment benefits are $3,117,100. Irrigation benefits for FY 2008 were $82,300. Accrued irrigation benefits through FY 2008 are $2,816,400. Irrigation benefit releases for the year were 20,935 acre-feet.

Conditions at end of fiscal year. Work continued on repairs to the hydraulic system leaks and installation of gabion baskets for erosion protection in the downstream channel. Work also continued on food plot development for wildlife. The total execution of all non-routine projects in FY 2008 was $0.7M.

9. TWO RIVERS DAM, NM

Location. The project is located about 14 miles southwest of Roswell, NM on the Rio Hondo and the Rocky Arroyo. The Rio Hondo is formed at the confluence of the Rio Ruidoso and the Rio Bonito, near the village of Hondo, NM, in the foothill region east of Sierra Blanca in the southeastern part of Lincoln County, NM, and flows generally easterly to its confluence with the Pecos River near Roswell, NM. (See Geological Survey map, Hondo Reservoir quadrangle, scale 1:24,000).

Existing project. The Two Rivers project consists of two dams: Diamond "A" and Rocky. The Diamond "A" Dam is an earth fill structure, 4,885 feet long and 98 feet high, with a gated outlet. The Rocky Dam is an earth fill structure 2,940 feet long and 118 feet high with an uncontrolled outlet. No provision is made for water storage, except for flood control. Flood releases are controlled so that flows through Roswell will not exceed the Rio Hondo channel capacity, which are about 600 cubic-feet-per-second. A Dam Safety Reconnaissance Report, approved in June 1996, identified the need to increase the size of the spillway on the left abutment of the Rocky Dam by 1,170 feet in order to accommodate the revised Probable Maximum Flood flows for the Dam. The spillway was widened 1,170 feet in 1998 to provide adequate discharge capability to accommodate the revised probable maximum flood. The capacity of the Two Rivers Reservoir at its spillway crest is 163,773 acre-feet of which 13,775 acre-feet are provided for sediment reserve. Together, these dams regulate runoff from 1,027 square miles of drainage area. For details of completed improvement and authorizing legislation, see page 17-18 of Annual Report for 1973.

Local cooperation. The option year was exercised for O&M Contract W912PP-06-C-0018 with Chavez County Flood Control Commission (Commission). Recent concerns have surfaced regarding proper operation of the dam in accordance with the contract and Water Control Manual. It appears the Commission may be making unilateral decisions on how the gates are operated. A meeting with the Commission is planned for FY 2009 to resolve any issues. The Commission is doing an excellent job with proper maintenance of the dam.

Operations and results during fiscal year. Operation of the dam and reservoir continued. The reservoir was empty on October 1, 2007. There were no flood damages prevented during FY 2008. There was $8,500 in sediment damages prevented during FY 2008. Estimated total accumulated flood and sediment damages prevented through FY 2008 are $214,578,800. There were 276 acre-feet of sediment deposition during FY 2008. The accrued sediment benefits through FY 2008 are $1,146,300. The refurbishing of the service gates and contract for the replacement of the gate motors were completed in FY 2007.

Condition at end of the fiscal year. There was no non-routine project work performed in FY 2008.

10. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Included under this heading is inspection of completed flood control projects transferred to local interests for operation and maintenance. Forty-five total projects throughout Texas, Colorado, and New Mexico were inspected in 2008. Federal costs for FY 2008 were $603,367.00.

11. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS.

Pursuant to Section 7, Flood Control Act of 1944, five projects are operated by others for flood control. These projects are Platoro, Pueblo, Sumner, Navajo, and Brantley Dams.

Platoro Dam on the Conejos River above the town of Platoro, Conejos County, CO, controls runoff from 40 square miles of high mountain area. The authorized purposes are irrigation storage and flood control. The Conejos Water Conservancy District operates Platoro. Total storage is 59,571 acre-feet with the top 6,000 acre-feet solely for flood control. The 53,571 acre-feet is joint-use storage with flood control on a forecast basis during spring runoff. Platoro Dam was authorized by the Interior Appropriation Act of 1941. (See H. Doc. 693, 76th Cong. 3rd Sess.). The Bureau of Reclamation completed construction of this project in 1952.

On October 1, 2007, storage in Platoro Reservoir was 16,022 acre-feet at elevation 9,976 feet. Maximum storage of 33,793 acre-feet at elevation 10,004 occurred on July 16, 2008. On September 30, 2008, storage was 15,943 acre-feet at elevation 9,976 feet. There were $199,300 flood damages prevented by this project during FY 2008. Total flood damages prevented to date are $7,413,100.

Pueblo Dam is part of the Fryingpan-Arkansas project that was authorized under Public Law 98-590,

87th Congress, HR 2206 on August 16, 1962. The project was completed in August 1975. Pueblo is operated by the Bureau of Reclamation and is located at river mile 1,293.7 on the Arkansas River in Pueblo County, CO. Pueblo Reservoir has a total capacity of 349,940 acre-feet at the top of the flood pool with 27,000 acre-feet exclusive flood space and 66,000 acre-feet joint use space.

Operation of Pueblo Reservoir began on February 10, 1974. Storage on October 1, 2007 was 154,384 acre-feet, elevation 4,854 feet. Maximum storage during the year was 256,073 acre-feet at elevation 4,880 on April 3, 2008. Storage on September 30, 2008 was 178,565 acre-feet at elevation 4,861 feet. There were no flood damages prevented in FY 2008. Total flood damages prevented to date are $31,475,300.

Sumner Dam is located on the Pecos River at river mile 710.8 in De Baca County, New Mexico. Sumner Dam was authorized as Alamogordo Dam by the Secretary of the Interior under a Finding of Feasibility approved by the President of the United States on November 6, 1935, under the Federal Reclamation laws. The original project was completed in 1937. Modification work of raising the dam 16 feet, adding a spillway and limiting the service spillway floor to 56,000 cubic-feet-per-second, was completed in 1957. A twenty-four inch bypass line was installed in 1977 to pass flows less than 100 cfs.

The Carlsbad Irrigation District operates Sumner Dam. Storage on October 1, 2007 was 20,168 acre-feet at elevation 4,253 feet. Maximum storage for FY 2008 was 28,612 acre-feet at elevation 4,257. Storage on September 30, 2008 was 13,307 acre-feet at elevation 4,249 feet.

Navajo Dam and Reservoir is located on the San Juan River at river mile 298.6 in San Juan County, New Mexico. Navajo Dam was authorized as part of a Colorado River Storage Project by an act of the 84th Congress, 11 April 1956 (PL 485). The Bureau of Reclamation constructed and is responsible for operation of the project. Construction was initiated in June 1958, and the project was completed and placed in operation in March 1963. Total capacity at spillway crest is 1,701,300 acre-feet. The project controls a drainage area of 3,230 square miles.

Storage on October 1, 2007 was 1,509,900 acre-feet, elevation 6,072 feet. Maximum storage for FY 2008 was 1,511,000 acre-feet, elevation 6,072 feet on October 21, 2007. Storage on September 30, 2008 was 1,319,344 acre-feet, elevation 6,058 feet.

Brantley Dam, on the Pecos River, above the town of Carlsbad in Eddy County, NM, controls runoff from 13,208 square miles of uncontrolled area. The authorized purposes are irrigation, flood control, fish and wildlife, recreation, and the elimination of the hazards of failure of the McMillan and the Avalon Dams. The total storage is 347,700 acre-feet with 189,700 acre-feet for flood control. Public Law 92-514 authorized Brantley Dam for construction on 20 October 1972, with the cost ceiling raised for the project in October 1980 by Public Law 96-375. On September 6, 1988, the conduits were closed and Brantley Dam started its initial filling. On September 30, 2008 the storage was 30,653 acre-feet at elevation 3,252.10 feet.

12. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 36-D

13. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATIONS

Flood control activities pursuant to Section 205, Public Law 858, 80th Congress, as amended (pre-authorization)

Total Federal costs for Section 205 projects during FY 2007 were $122,546. Individual costs per project were: Little Puerco River, Gallup, NM $4,124; Section 205 Coordination Account $29,426; Oak Creek, Florence, CO $469;Gila River Grants, Hildago, NM $9,767; Sun Valley, El Paso, TX $13,879; Hatch, NM $54,826; and Vado, Del Cerro, Berino, Mesquite, Dona Ana County, NM $7,960.

Emergency flood control activities; repair, flood fighting, and rescue work. (Public Law 99, 84th Cong., and antecedent legislation.)

Total Federal costs in FY 2007 were $17,201. All funds were used for flood emergency operations.

Emergency bank protection (Sec. 14, 1946 Flood Control Act, Public Law 526, 79th Cong.)

Total Federal costs for Section 14 projects for FY 2006 were $36,571. Individually, the costs were as follows: Section 14 Coordination Account $22,804; Rio Puerco River, I-40 Bridge, Gallup, NM $10,654;

Powers Blvd., Colorado Springs, CO $2,988; Elephant Mountain, TX $123.

Snagging and Clearing for Flood Control (Section 208 of the 1954 Flood Control Act, 83rd Cong.)

There were no costs in FY 2006.

ENVIRONMENTAL INFRASTRUCTURE

14. CENTRAL, NM

Location. Central, NM is defined as Bernalillo, Sandoval, and Valencia counties in central New Mexico.

Proposed project. Section 593 of the Water Resources Development Act of 1999 authorized the Corps of Engineers to provide assistance to non-Federal sponsors in the form of design and construction for water-related environmental infrastructure and resource protection and development of publicly-owned projects, including projects for wastewater treatment and related facilities, water supply, conservation and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

Local cooperation. Local sponsors of the projects are responsible for 25% of the costs associated with each project. The Federal share is 75%.

Condition at the end of the fiscal year. To date, sixteen Project Cooperation Agreements (PCA) have been signed. Of those sixteen, nine projects have been completed and the remaining projects are in various stages of design and construction. Projects that were completed in FY 2008 are: Bernalillo Arsenic Treatment and the Rio Rancho Wells.

15. MIDDLE RIO GRANDE RESTORATION, NM

Location. The project is located in the Middle Rio Grande Bosque through the City of Albuquerque between the Pueblos of Isleta and Sandia.

Proposed project. The Middle Rio Grande Restoration project was authorized by Section 3118 of the Water Resources Development Act of 2007. Section 3118 directs the Secretary to select and implement restoration projects within the Middle Rio Grande from Cochiti Dam to Elephant Butte that will produce ecosystem and recreation benefits. The authorization requires that the projects selected for implementation by the Secretary must be coordinated with the Middle Rio Grande Endangered Species Act Collaborative Program and the Bosque Improvement Group of the Middle Rio Grande Bosque Initiative.

Local cooperation. Non-Federal Sponsor (NFS) must provide lands, easements, rights of way, relocation and disposal areas.

Condition at the end of the fiscal year. Project pending construction start until Feasibility Report is approved by the South Pacific Division and Headquarters.

16. NM ENVIRONMENTAL INFRASTRUCTURE

Location. New Mexico Environmental Infrastructure includes the entire state of New Mexico.

Proposed project. Section 595 of the Water Resources Development Act of 1999 as amended authorized the Corps of Engineers to provide assistance to non- Federal sponsors in the form of design and construction for water-related environmental infrastructure and resource protection and development of publicly-owned projects, including projects for wastewater treatment and related facilities, water supply, conservation and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development. Initial funding was received in FY05.

Local cooperation. Local sponsors of the projects are responsible for 25% of the costs associated with each project. The Federal share is 75%.

Condition at the end of the fiscal year. To date fifteen Project Cooperation Agreements (PCA) have been executed. Three projects were completed, while others were in various stages of design and construction.

17. TRIBAL PARTNERSHIP PROGRAM, NM

Location. Tribal Partnership Program, NM includes all Indian lands within the state of New Mexico, Southwest Texas and Southern Colorado.

Proposed project. Section 203 is a broad mandate wherein the Corps may determine the feasibility of water and other resource development projects that substantially benefit Indian Tribes and are primarily located in Indian country. Such studies may address flood damage reduction, environmental restoration and protection, watershed studies and the preservation of cultural and natural resources. The Tribes have numerous water, natural and cultural resource challenges, including persistent flooding within their historic and culturally significant ancestral villages, management and operational problems with several aging dams and reservoirs, degradation of significant cultural and environmentally sensitive areas, and drought planning and management.

Local cooperation. Feasibility studies are currently cost-shared as 50% Federal and 50% non Federal. An issue remains to be resolved regarding guidance for use of ability to pay provisions for Section 203.

Condition at the end of the fiscal year. Coordination was initiated with the Navajo Nation and Pueblos of Isleta, Santa Clara and Ohkay Owingue regarding project initiation. Coordination continued with the Pueblos of San Ildefonso, Santo Domingo, San Felipe and Jemez regarding cost-share agreement and reconnaissance completion for a study under this authority.

18. OTHER WORK UNDER SPECIAL AUTHORITY

Modifications to Structures and Operations of Constructed Corps Projects to Improve the Quality of the Environment, Pursuant to Section 1135 of the 1986 Water Resources Development Act, Public Law 662, 99th Congress, as amended.

Federal cost for Section 1135 was $333,069 of which $3,703 was for coordination account funds; $2,558 for Riparian/Wetland Restoration, Pueblo of Santa Ana, NM; $61 for Albuquerque Biological Park Wetland Restoration; $3,011 for Pecos River Restoration, Chaves County; $48,762 for Aquatic Habitat Restoration at Pueblo of Santa Ana; $43,160 for Ecosystem Revitalization at Route 66, Albuquerque, NM; $1,811 for Santa Fe, Pojoaque, Rio Grande, NM and $230,002 for Las Cruces Dam, Environmental Restoration, NM.

Aquatic Ecosystem Restoration pursuant to Section 206 of the Water Resources Development Act of 1996, Public Law 303, 104th Congress, as amended.

Federal cost for Section 206 was $681,577 of which $3,945 was for Coordination Account funds; $522,229 for Arkansas River Fisheries Habitat Restoration; $37,247 for Jemez River Aquatic and Riparian Habitat Restoration; $113,996 for Bottomless Lakes State Park; $73 for Janes Wallace Memorial Dam, NM; and $4,087 for Tamarisk Eradication, CO.

Investigations

19. SURVEYS

Costs for the fiscal year were $2,258,700 of which $120,310 was for flood damage prevention studies, $821,872 for special studies; $765,930 for watershed/comprehensive studies; $48,021 for miscellaneous activities; $502,567 for coordination with other Federal agencies and non-Federal interests.

20. COLLECTION AND STUDY OF BASIC DATA

Fiscal year costs were $148,749 for floodplain management and technical services.

Hydrological studies involving collection and study of basic data, such as stream flow data, collection of suspended sediment samples, recording rain gage data, special studies, hydro-meteorological studies, sedimentation studies, and environmental data studies continued. Costs during the fiscal year were $0.

21. PRECONSTRUCTION ENGINEERING AND DESIGN

Current fiscal year costs were $91,730 on Southwest Valley Flood Damage Reduction Study, NM for Preconstruction Engineering and Design Costs. This effort completed the plan and specs for this project. Construction start is anticipated in FY09.

TABLE 36-A **COST AND FINANCIAL STATEMENT**

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sept. 30, 2008
1.	Acequias Irrigation System, NM	New Work					
		Approp.	424,000	2,302,000	2,400,000	2,246,000	28,911,000
		Cost	1,550,586	1,311,854	2,146,104	1,860,906	26,817,574
	(Contributed Funds)	Approp.	-	548,250	655,125	513,053	5,729,547
		Cost	227,045	246,997	278,617	133,142	3,915,968
2.	Alamogordo, NM	New Work					
		Approp.	4,464,000	4,158 ,000	4,200,000	3,932,000	31,274,997[2]
		Cost	4,452,329	4,014,758	1,611,086	6,708,460	31,406,615[2]
	(Contributed Funds)	Approp.	1,460,000	1,400,000	800,000	2,000,000	8,880,000
		Cost	1, 490,552	306,542	1,090,721	2,794,485	8,871,749
3.	Conchas, NM	New Work					
		Approp.	-	-	-	-	13,821,499[4]
		Cost	-	-	-	-	13,821,499[4]
		Maint					
		Approp.	2,520,300	2,692,000	2,648,000	4,593,000	46,001,113
		Cost	3,016,685	2,030,273	2,203,601	3,499,102	43,521,215
4.	El Paso, TX	New Work					
		Approp.	260,000	-	-	141,000	122,105,861
		Cost	248,561	21,178		62,846	121,999,284
	(Contributed Funds)	Approp.	-	-	-	-	5,991,104
		Cost	-	-	(-114)	726,000	6,713,095
5.	John Martin Reservoir, CO	New Work					
		Approp.	-	-	-	-	15,555,358[5]
		Cost	-	-	-	-	15,555,358[5]
		Maint					
		Approp.	2,413,576	3,139,000	2,629,000	5,294,000	66,077,565
		Cost	1,690,612	2,368,218	2,846,465	2,980,572	62,452,663
6A.	Abiquiu Dam, NM	New Work					
		Approp.	-	-	-	-	34,054,028
		Cost	-	-	-	-	33,823,528
		Maint					
		Approp.	2,008,000	3,018,000	2,434,200	5,807,000	62,891,358
		Cost	1,989,912	2,175,508	2,709,607	3,046,522	59,365,941
6B.	Albuquerque Levees, NM	Approp.	152,000	1,980,000	-	-	2,132,000
		Cost	151,386	543,767	871,120	231,138	1,797,411

TABLE 36-A (Continued) **COST AND FINANCIAL STATEMENT**

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sept. 30, 2008
6C.	Cochiti Lake, NM	New Work					
		Approp.	-	-	-	-	96,956,559
		Cost	-	-	-	-	96,956,559
		Maint					
		Approp.	3,709,441	4,456,000	6,225,900	7,421,000	68,962,867
		Cost	3,501,940	3,049,740	3,925,511	7,009,534	64,092,280
6D.	Galisteo Dam, NM	New Work					
		Approp.	-	-	-	-	18,283,053
		Cost	-	-	-	-	18,222,362
		Maint					
		Approp.	378,883	767,000	688,000	1,063,000	8,529,261
		Cost	386,981	441,056	721,288	706,663	7,879,823
6E.	Jemez Canyon Dam, NM	New Work					
		Approp.	-	-	-	-	6,293,972
		Cost	-	-	-	-	6,293,972
		Maint					
		Approp.	2,823,836	4,300,000	394,000	2,035,000	32,547,270
		Cost	1,002,088	2,968,948	1,438,201	2,241,500	30,615,095
6F.	Middle Rio Grande Flood Protection, NM Bernalillo to Belen, NM (Contributed Funds)	Approp.	322,000	314,000	350,000	295,000	12,033,202[7]
		Cost	298,369	275,502	268,582	360,979	11,928,411[7]
		Approp.	-	-	-	-	2,149,750
		Cost	-	-	-	-	2,109,494
6G.	Rio Grande Bosque Rehabilitation, NM	Approp.	4,677,000	3,960,000	248,900	3,739,000	15,624,900
		Cost	4,222,076	2,023,620	2,302,445	1,821,525	13,015,745
6H.	Rio Grande Floodway, NM	Approp.	-	-	-	-	4,794,868[8]
		Cost	-	-	-	-	4 ,794,868[8]
6I.	Rio Grande Floodway, San Acacia to Bosque del Apache, NM	Approp.	548,000	966,000	800,000	749,000	9,493,000
		Cost	541,996	950,545	789,703	428,521	9,123,628
6J.	Southwest Valley Flood Damage Reduction, NM	Approp.	-	-	-	984,000	984,000
		Cost	-	-	-	984,000	984,000
7.	Santa Rosa Dam, NM	New Work					
		Approp.	-	-	-	-	41,039,741
		Cost	-	-	-	-	41,039,056
		Maint					
		Approp.	918,700	1,130,000	1,401,000	1,622,000	23,193,687
		Cost	1,145,234	937,012	1,167,420	1,499,334	22,569,323

TABLE 36-A (Continued) **COST AND FINANCIAL STATEMENT**

See Section In Text	Project	Funding	FY05	FY06	FY07	FY08	Total Cost to Sept. 30, 2008
8.	Trinidad Lake, CO	New Work					
		Approp.	-	-	-	-	55,774,758
		Cost	-	-	-	-	55,774,758
		Maint					
		Approp.	907,664	1,857,000	968,000	1,795,000	19,584,672
		Cost	887,230	684,607	1,400,962	1,158,415	18,161,795
9.	Two Rivers Dam, NM	New Work					
		Approp.	-	-	-	-	6,759,244
		Cost	-	-	-	-	6,757,619
		Maint					
		Approp.	495,000	821,000	231,600	640,000	9,689,966
		Cost	587,548	385,765	674,420	476,942	9,524,602
14.	Central, NM	New Work					
		Approp	5,538,000	4,748,000	2,003,000	7,380,000	31,534,000
		Cost	2,643,426	4,353,019	919,272	7,740,754	26,627,926
	(Contributed Funds)	Approp.	1,215,252	156,951	(-515,437)	706,698	6,095,186
		Cost	1,440,929	1,104,693	(-429,018)	159,409	5,538,963
15.	Middle Rio Grande Restoration, NM	New Work					
		Approp	-	-	-	984,000	984,000
		Cost	-	-	-	984,000	984,000
16.	NM Environmental Infrastructure	New Work					
		Approp	586,000	4,605,000	506,000	10,824,000	16,521,000
		Cost	419,981	746,726	2,372,613	3,122,064	6,661,384
	(Contributed Funds)	Approp.	-	371,500	416,414	50,512	838,426
		Cost	-	-	223,360	540,925	764,285
17.	Tribal Partnership Program, AK, NM NV, ID	New Work					
		Approp	133,000	297,000	-	-	430,000
		Cost	103,000	140,176	89,551	38,958	371,685

[1] Includes $200,000 PED funds.

[2] Includes $1,186,000 PED funds.

[4] Includes $3,492,696 maintenance and improvement costs and $869,978 for emergency relief, excludes $2,279,326 cost of initiating project under the authority of Emergency Relief Appropriations Act of 1935, and $222,669, the cost for work performed with funds transferred to the Corps under Public Works Acceleration Act of 1962.

[5] Excludes $59,977 emergency relief funds for new work. Includes $30,000 for Code 710.

[7] Includes $1,187,000 PED funds.

[8] Includes funds for pre-construction planning of Española Valley unit. Excludes $1,000,011 appropriated funds transferred to Bureau of Reclamation under memorandum of agreement between that agency and the Corps.

[9] Includes $1,658,000 PED funds.

TABLE 36-B **AUTHORIZING LEGISLATION**

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
1.	Nov 17, 1986	**ACEQUIAS IRRIGATION SYSTEM** An irrigation system dating back to the eighteenth century with significant engineering work in the settlement and development of the western portion of the United States. Restoration and of this system has a cultural and historical value to the region. Measures are necessary to restore and protect the river division structures and associated costs.	Public Law 662, 99th Cong., 2nd sess. (Sec.1113)
	Oct 12, 1996	Except that the Federal share of reconnaissance studies carried out by the Secretary under this section shall be 100%.	Public Law 104-30 104th Cong., (Sec. 101)
4.	Oct 27, 1965	**EL PASO, TEXAS** A single-purpose flood control system of detention dams, diversion dikes and channels to collect, regulate, and discharge arroyo runoff in the Rio Grande. Consists offour independent units (NW Area, Central Area, and two units, Copper system and Bluff Channel of the SE Area).	H. Doc. 207, 89th Cong. 1st sess.[1]
6.	Jun 30, 1948	**RIO GRANDE BASIN, NEW MEXICO** Authorized to be appropriated $3,500,000 to be expended by the Dept. of the Army for partial accomplishment of approved general comprehensive plan for the Rio Grande Basin in NM and Colorado.	H. Doc. 243, 81st Cong., 1st sess.
	May 17, 1950	Authorized to be appropriated and additional $39,000,000 for Department of the Army for prosecution of comprehensive for the Rio Grande Basin.	Public Law 516, 81st Cong., 2nd Sess.
	Jul 14, 1960	Authorized Cochiti Dam on Rio Grande and Galisteo Dam on Galisteo Creek as additions to authorized comprehensive plan for Rio Grande Basin (Cochiti Dam was authorized in lieu of Low Chamita Dam of Chamita Dam Reservoir Project on Rio Chama under "substitute plan"). Also authorized to be appropriated an additional $58,300,000 for Dept. of the Army for an addition to comprehensive plan for the Rio Grande Basin.	S. Doc. 94, 86th Cong.
	Nov 17, 1986	Authorized legislation of the Abiquiu Dam Emergency Gates by the Water Resources Development Act of 1986 (PL 99-662).	Public Law 662, 99th Cong., 2nd sess.
	Sep 30, 1997	The emergency gate construction project for Abiquiu Dam, NM, Authorized by Section 1112 of the Water Resources Development Act of 1986 (PL 99-662, 100 Stat. 4232) is modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to Construct the project at an estimated cost of $7,000,000. The non-Federal share of the project shall be 25 percent of those costs of the project attributable to an increase in flood protection as a result of the installation of such gates.	
6B.	Nov 20, 2004	**ALBUQUERQUE LEVEES, NM** The Secretary of the Army, acting through the Chief of Engineers, is authorized to undertake, at full federal expense, a detailed evaluation of the Albuquerque levees for purposes of determining structural integrity, impacts of vegetative growth, and performance under current hydrological conditions.	Public Law 108-447 108th Cong (Title I)

TABLE 36-B AUTHORIZING LEGISLATION

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
6F.	Nov 17, 1986	**MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM** Authorized project for flood control, Middle Rio Grande Flood Protection, Bernalillo to Belen, NM. Authorized increase of flood protection through the dredging of the bed of the Rio Grande in the vicinity of Albuquerque, NM, to an elevation lower than existed on the date of enactment of this Act. The project shall include the establishment of 75 acres of wetlands for fish and wildlife habitat and the acquisition of 200 acres of land for mitigation of fish and wildlife losses.	Public Law 662, 99th Cong., 2nd sess.
6G.	Nov 07, 2003	**RIO GRANDE BOSQUE REHABILITATION, (BOSQUE WILDFIRES), NM** The Secretary of the Army, acting through the Chief of Engineers, is authorized to undertake appropriate planning, design, and construction measures for wildfire prevention and restoration in the Middle Rio Grande bosque in and around the City of Albuquerque. Work shall be directed toward those portions of the bosque which have been damaged by wildfire or are in imminent danger of damage from wildfire due to heavy fuel loads and impediments to emergency vehicle access.	Public Law 108-137 108th Cong
6H.	Jun 30, 1948 and May 17, 1950	**RIO GRANDE FLOODWAY, NM** Channel rectification, levee enlargement and construction, and bank stabilization on Rio Grande between river mile 123 and 394 (San Acacia to Bosque del Apache Unit).	Con., 1st Sess.[1] and Public Law 516, 81st Cong., 2nd sess.
6I.	Oct 31, 1992	**RIO GRANDE FLOODWAY, SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM** Modified the cost sharing to more equitably reflect the non-Federal contribution for the project by that percentage of benefits which is attributable to the Federal properties; except that, for purposes of this subsection, Federal property benefits may not exceed 50 percent of the total project benefits.	Public Law 102-580 102d Cong., (Sec. 102(e)).
6J.	Nov 8, 2007	**SOUTHWEST VALLEY, BERNALILLO COUNTY, NEW MEXICO** The project for flood damage reduction, Southwest Valley, Bernalillo County, New Mexico: Report of the Chief of Engineers dated November 29, 2004, at a total cost of $24,840,000, with an estimated Federal cost of $16,150,000 and an estimated non-Federal cost of $8,690,000.	Public Law 110-114
14.	Aug 17, 1999	**CENTRAL, NM** For the counties of Bernalillo, Sandoval and Valencia, New Mexico design and construction assistance for water-related environmental infrastructure and resource protection and development projects to include wastewater treatment and related facilities, water supply, conservation and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development. Federal costs under each local cooperation agreement shall be 75 percent in the form of grants or reimbursements. The non-Federal share of operation and maintenance costs shall be 100 percent. Authorized appropriation is $25,000,000 available in FY 2000 and remain available until expended.	Public Law 106-53, 106th Cong., (Sec. 593)
15.	Nov 8, 2007	**MIDDLE RIO GRANDE RESTORATION, NEW MEXICO.** (a) RESTORATION PROJECTS DEFINED. - In this section, the term "restoration Project" means a project that will produce, consistent with other Federal programs, projects, and activities, immediate and substantial ecosystem restoration and recreation benefits. (b) PROJECT SELECTION. – The Secretary shall select and shall carry out restoration Projects in the Middle Rio Grande from Cochiti Dam to the headwaters of Elephant Butte Reservoir in the State of New Mexico. (c) LOCAL PARTICIPATION. – In carrying out subsection (b), the Secretary shall consult with and consider the activities being carried out by— (1) the Middle Rio Grande Endangered Species Act Collaborative Program; and (2) the Bosque Improvement Group of the Middle Rio Grande Bosque Initiative. (d) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated $25,000,000 to carry out this section.	Public Law 110-114

16.	Aug 17, 1999 and Nov 07, 2003	**NM ENVIRONMENTAL INFRASTRUCTURE** For the state of New Mexico, design and construction assistance for water-related environmental infrastructure and resource protection and development projects, including projects for wastewater treatment and related facilities; water supply and related facilities; environmental restoration; and surface water resource protection and development. The Federal share of project costs under each local cooperation agreement shall be 75 percent and may be in the form of grants or reimbursements. The non-Federal share of operation and maintenance costs shall be 100 percent. Authorized appropriation is $25,000,000 available in FY 2004 and to remain available until expended.	Public Law 108-137, 108th Cong (Sec 117) and Public Law 106-53 106th Cong (Sec 595)
17.	Dec 11, 2000	**TRIBAL PARTNERSHIP PROGRAM** In cooperation with Indian tribes and the heads of other Federal agencies, the Secretary may study and determine the feasibility of carrying out water resources development projects that will substantially benefit Indian tribes and are located primarily within Indian country. Studies may address projects for flood damage reduction, environmental restoration and protection, and preservation of cultural and natural resources; and such other projects as the Secretary, in cooperation with Indian tribes and the heads of other Federal agencies, determines to be appropriate.	Public Law 106-541 106th Cong (Title II)

TABLE 36-D OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report, See Annual For	Construction	Cost to September 30, 2005 Operation & Maintenance
Alamogordo Diversion Channel, Tularosa (closed) Basin, NM	1996	$ 189,356	-
Alamosa, Colorado[1]	2004	5,630,000	-
Albuquerque Diversion Channels	1998	19,348,480	-
Alpine, Texas	1977	130,488	-
Cibolo Creek, Texas[1]	1983	829,500	-
Cochiti Wetfields, New Mexico	1994	13,921,290	-
Colorado Springs, Fountain que Bouille River, Colorado (Templeton Gap Floodway) [1]	1959	881,262	-
Creede, Willow Creek, Pueblo, Colorado[1]	1952	219,875	-
Fountain Creek, Pueblo, Colorado`[1]	1993	6,564,399	-
Highway 12, Colorado[1]	1985	120,500	-
Holly, Colorado[1]	1985	2,021,400	-
Las Animas, Colorado[2]	1980	4,956,000	-
Las Cruces, New Mexico[1]	2004	8,456,009	-
Las Cruces Dam, New Mexico[2]	1980	5,521,968	-
Pecos, Texas[3]	1977	480,273	-
Piñon Canyon Dam, Trinidad, Colorado (Sec. 212)[1]	-	130,678	-
Pueblo, Arkansas River, Colorado (floodway levee extension)[1]	1954	201,958	-
Puerco River, Gallup, New Mexico[1]	1993	4,971,394	-
Rio Grande Floodway, T or C Unit, New Mexico[1]	1994	12,955,052	-
Santa Fe River and Arroyo Mascaras, New Mexico[1]	1983	1,136,250	-
Smith Creek, Colorado[1]	1985	219,000	-
Socorro Diversion Channel, Tributaries of Rio Grande, NM	1965	2,259,328	-

[1] Completed [2] Responsibility of Local Interests [3] Inactive [4] Deferred

TABLE 36-F

RIO GRANDE BASIN, NM
RIO GRANDE BASIN, NM: EXISTING PROJECT
(See Section 6 of Text)

Project	River	Miles Above Mouth	Nearest Town	Drainage Area (square miles)	Description	Total Estimated Cost
Abiquiu Dam	Rio Chama	32	Española, NM	2,146 1,192,801 af cap.	Earthfill 341 feet high	$34,054,028[3]
Jemez Canyon	Jemez Creek	2	Bernalillo, NM	1,034 97,425 af cap.	Earthfill 149.6 feet high	$ 6,293,000
Rio Grande Floodway	Rio Grande	123 to 394	-	-	Channel rectification, levee enlargement & construction	$25,744,000[2]
Cochiti Lake	Rio Grande	340[1]	Cochiti, NM	11,695 491,259 af cap.	Earthfill 251 feet high	$96,956,559
Galisteo Dam	Galisteo Creek	8	Waldo, NM	596 89,468 af cap.	Earthfill 165 feet high	$18,283,053

[1] River mile 0 is at intersection of New Mexico-Texas state line with international boundary at El Paso, Texas.

[2] Does not include non-Federal costs.

[3] Includes $5,383,000 major rehabilitation, $138,900 for recreation facilities, and $3,600,000 for emergency gates.