

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

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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. In the traditional Acequia program, La Cienega was completed in fiscal year 2002. Under the Section 215 Program, La Puebla was completed in 2002. El Cano, High Rolls, Las Joyas, El Cerrito Phase II, Abajo and Ancheta Galaz are scheduled for construction.

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 a concrete and riprap-lined diversion channel with 100-year flow capacity, 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 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. Plans and specifications for Phase II of the South Diversion are complete, and a construction award is scheduled for March 03. A re-evaluation of the North Diversion Channel was initiated at the request of local interest concerned with potential induced flooding along Red Arroyo. This study will evaluate the potential of replacing the North Diversion with a detention structure.

3. ALAMOS, CO

Location. The project lies in south-central Colorado along the Rio Grande, in the community of Alamosa, CO.

Project. The project consists of a levee system, which will replace and augment the existing spoil bank levees. (See Table 36-B for authorizing legislation).

Local cooperation. The Water Resources Development Act of 1992 applies.

Operation and results during fiscal year. Levee construction activities were completed September 1998. Environmental mitigation was completed May 2001.

Condition at end of the fiscal year. Construction completed. Environmental mitigation is complete.

4. 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 3.7 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. None needed.

Operations and results during fiscal year. The reservoir was operated for storage of floodwater and releases for irrigation purposes. Sediment damages of \$87,100 were prevented during FY 2002. There were no flood damages prevented in FY 2002. Estimated total accumulated flood and sediment damages prevented by the project through FY 2002 were \$4,904,300. Estimated irrigation benefits for FY 2002 were \$87,100. Estimated total accumulated irrigation benefits through FY 2002 were \$11,899,000. The pool elevation at the start of FY 2002 was \$4,170.61 feet with corresponding storage of 115,548 acre-feet. Total releases for this reporting period were 24,199 acre-feet. Releases of 22,876 acre-feet were made to Arch Hurley Conservancy District, 1,323 acre-feet to Bell Ranch, and 0 acre-feet with corresponding storage of 90,919 acre-feet.

Sediment deposition during the fiscal year was 292 acre-feet.

5. EL PASO, TX

Location. The project is located at El Paso, El Paso County, TX, which is on the left bank for 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 for 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 1998 and dates of completion of construction are as follows: Northgate and Range Dams (February 1973); 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); and Phelps Dodge Basin (January 1990); and Americas Basin (March 1993).

Condition at end of fiscal year. At the end of 2002, all construction work in Central and Northwest areas were complete. Construction was completed on the Phelps Dodge Basin in January 1990; Phelps Dodge Channel, June 1992; Americas Basin, March 1993;

and Bluff Channel in October 1998. Construction is ongoing for the Lomaland system.

6. 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, 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 106 feet above streambed, and an overflow, gated spillway 1,174 feet long. Total capacity of the reservoir at the top of flood control is 605,115 acre-feet (259,417 for flood control and 345,698 for conservation and recreation storage). This reservoir controls a contributing drainage area of 18,130 square miles and is operated as a unit of coordinate 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. Section 3 of the Flood Control Act of June 22, 1936 applies.

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 \$57,300 were prevented during FY 2002. Estimated total flood damages prevented by this project through FY 2002 were \$139,401,600. Estimated irrigation benefits for FY 2002 were \$241,100. Estimated total accumulated irrigation benefits were \$29,765,400. Maximum pool elevation of 3821.14 feet with corresponding storage of 91,980 acre-feet occurred on April 9, 2002. Total releases for FY 2002 were 85,924 acre-feet. Releases attributed to irrigation benefits amounted to 61,344 acre-feet. Sediment deposition was 512 acre-feet in FY 2002.

7. LAS CRUCES, NM

Location. The project is located in Las Cruces, NM 40 miles north of El Paso, Texas.

Proposed project. The project is authorized by the Water Resources Development Act of 1996. The project consists of enlargement and modifications of two existing detention basins and an irrigation ditch

in order to provide increased flood protection to the downtown commercial and residential district of Las Cruces. Total project cost is \$12,600,000 (\$9,450,000 Federal and \$3,150,000 non-Federal). Construction of the project was completed in March 2002.

Local cooperation. Water Resources Development Act of 1986 applies. The City of Las Cruces is the non-Federal local sponsor.

Operations and results during the fiscal year. Operation and maintenance responsibilities for the project will become the City's responsibility upon completion.

8. 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 Chinflo Dam and Reservoir and spillway gate structure at Chamita Dam. Although recommended, Chinflo 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.

8A. 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 1,450 feet long, 325 feet high, with a 12-foot diameter controlled outlet, and an uncontrolled spillway in a natural saddle about 1 miles 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. A non-Federal hydropower plant was completed in 1990 by the County of Los Alamos. 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.

Local cooperation. None required.

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, 2001, the pool elevation was 6,201.05 feet. The maximum pool (6,212.88 feet) and storage (156,452 acre-feet) occurred on March 19, 2002. On September 30, 2002, the pool elevation was 6,174.78 feet with a corresponding storage of 47,225 acre-feet. There were 733 acre-feet of sediment deposition during FY 2002. There was \$21,300 in flood damages prevented during FY 2002. Sediment damages prevented were \$82,100. Accumulated flood and sediment damages prevented by the project since completion were \$391,582,600 through FY 2002.

Condition at end of fiscal year. The project was placed in operation in February 1963. The project structures are in good condition and operational.

8B. 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 a 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. None required.

Operations and results during fiscal year.

Operation of the dam and reservoir continued. The project was completed in June 1975. On October 1, 2001, the pool elevation was 5329.21 feet with a corresponding storage of 48,232 acre-feet. The maximum pool elevation was 5343.54 feet with a storage of 53,725 acre-feet on February 28, 2002. On September 30, 2002, the pool elevation was 5339.82 feet with a corresponding storage of 48,933 acre-feet. There were 526 acre-feet of sediment deposition during FY2002. There were no flood damages prevented during FY 2002. Sediment damages prevented were 58,900. Accumulated total damages prevented are \$435,528,400.

Condition at end of fiscal year. The dam and appurtenances were placed in operation in 1975. The Cochiti recreation area was completed in 1976, with the Visitors' Center completed in 1977. The Tetilla Peak recreation area was completed in 1981. Project structures are in good condition and in operation.

8C. 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 2,820 feet long with a maximum height of 158 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 contract was awarded in February 1998, and is scheduled to be completed in October 1999. The project has 79,600 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. None required.

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, 2001. No storage occurred during FY 2002. Peak inflow was 202 cfs and maximum outflow was 202 cfs. There were 2 acre-feet of sediment deposition during the year, and the reservoir was empty on September 30, 2002. Sediment damages prevented during FY 2002 were \$200 totaling \$176,500 through FY 2002.

Condition at end of fiscal year. The project was placed in operation in October 1970. The project structures are in good condition and in operation.

8D. 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 780 feet-long with maximum height of 146.6 feet above streambed, and off-channel uncontrolled saddle spillway 400 feet wide, and a 13-foot diameter gated outlet in the left abutment with discharge capacity of 8,340 cubic-feet-per-second, 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. None required.

Operations and results during fiscal year. On October 1, 2001, the pool elevation was 5171.60 feet with a corresponding storage of 3,617 acre-feet. The maximum pool elevation was 5171.60 feet with a storage of 3,617 acre-feet on October 1, 2001. On September 30, 2002, the pool elevation was 5155.0 feet with a corresponding storage of 0 acre-feet. The reservoir was regulated for sediment control during FY 2002. Sediment deposition during FY 2002 was 96 acre-feet. There were no flood damages prevented during FY 2002. Sediment benefits during FY 2002 were \$10,800. Estimated total accumulated flood and sediment damages prevented by the project through FY 2002 were \$25,184,500.

Condition at end of fiscal year. The project was placed in operation in October 1953. Project structures are in good condition and all structures are in operation.

8E. MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM

Location. The project is composed of 45 square miles of floodplain lying along the Rio Grande from the vicinity of Corrales to Belen, NM.

Proposed project. The project is authorized by the Water Resources Development Act of 1986. The project consists of raising and rehabilitating 51.5 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 \$62,400,000 (\$46,800,00 Federal and \$15,600,000 non-Federal) 1 Oct 97 price levels. (See Table 36-B for authorizing legislation).

Local cooperation. Water Resources Development Act of 1986 applies. The Middle Rio Grande Conservancy District is the local sponsor.

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 project that have changed since the project was authorized in 1986. The Reevaluation Report is scheduled to be completed in 2004.

8F. 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 commencing near Truth or Consequences (formerly Hot Springs) at about river mile 394. (See Table 36-D on Rio Grande Floodway).

Existing project. This project consists of flood protection and major drainage improvements by channel rectification, levee enlargement and construction, and bank stabilization work where needed 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 32-D 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. However, by letter dated 11 November 1998, the City has requested a feasibility study be completed to address river and tributary flooding in Española. Negotiations are underway to identify a non-Federal source of funds to cost-share in the study.

Operations and results during fiscal year. There were no flood damages prevented by the completed floodway project during FY 2002. Estimated total

accumulated flood damages prevented by the floodway project through FY 2002 amounted to \$487,592.00. The peak flow of the Rio Grande through the middle valley was 4,900 cfs at Albuquerque on September 14, 2002. The peak at San Acacia was 9,500 cfs on August 3, 2002.

Condition at end of fiscal year. Construction of the Albuquerque unit of the Rio Grande Floodway project is complete. The General Design Memorandum for the Bernalillo to Belen unit was completed in June 1986. Construction was completed on the Truth or Consequences unit in FY 1991.

8G. SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM

Location. The authorized project is located along the Rio Grande, extending from the upper end of the Rio Grande, 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 authorized project was authorized by the Flood Control Act of 1948. The project consists of the reconstruction of 42 miles of existing spoil bank levee, which separates the Rio Grande low-flow conveyance channel from the cleared floodway. The proposed project would be constructed at an estimated total cost of \$65,850,200 (\$57,107,730 Federal and \$8,231,274 non-Federal) 1 Oct 98 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 will be completed by April 2004. Pending headquarters approval, final report will be completed in May 2005 with construction starting in late 2005 on the San Acacia Diversion Dam.

9. SANTA ROSA DAM AND LAKE, NM

Location. The project is located on a lake 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 439,860 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 10,594 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. In addition to first costs, operation and maintenance of both reservoir is the responsibility of the Federal Government, however, the Carlsbad Irrigation District is required to contribute to operation and maintenance costs an equal amount to what they now pay toward Sumner Lake. The Carlsbad Irrigation District also agreed to use Sumner Lake for flood control. Because they realize equivalent benefits from storage capacity in Santa Rosa Lake, they will continue to fulfill their repayment obligation. The New Mexico Division of State Parks manages the recreation facilities. Activities include camping, picnicking, boating, and hiking.

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 4705.63 feet with storage of 13,836 acre-feet. Total releases for the fiscal year were 16,809 acre-feet. Pool elevation on September 30, 2002 was 4703.28 feet with a storage of 11,919 acre-feet. The maximum elevation was 4709.16 feet with a storage of 17,156 acre-feet on March 3, 2002. There were 96 acre-feet of sediment deposition during the fiscal year. Sediment damages prevented during the fiscal year were \$10,800. Accumulated flood and sediment damages prevented by the project since completion

were \$5,478,200 through FY 2002. Releases attributed to irrigation benefits were \$61,200 with an accumulative total of \$3,947,900 through FY 2002.

Condition at end of fiscal year. The project was complete in late 1979 and reservoir operation for irrigation was started in March 1980. Construction of the recreation area was completed in October 1980. Design studies for spillway modification were initiated in FY 1970, and construction was completed in FY 1982. The project structures are in good condition and in operation.

10. 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 6,620 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 5,800 cubic-feet-per-second 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 700 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. Assurances of local cooperation received from the City of Trinidad and Purgatorie River Water Conservancy District were formally accepted May 11, 1967, after execution of an irrigation repayment contract. For complete details of requirements and costs pertaining to the execution of the irrigation repayment contract and the addition of permanent storage for recreation facilities, see page 17-9 of Fiscal Year 1980 Annual Report.

Operations and results during fiscal year.

Operation of the dam and reservoir continued. On October 1, 2001, the pool elevation was 6170.57 feet with a corresponding storage of 14,207 acre-feet. The maximum pool elevation was 6177.80 feet with a corresponding storage of 18,439 acre-feet on April 9, 2002. On September 30, 2002, the pool elevation was 6168.69 feet with a corresponding storage of 13,242 acre-feet. Sediment deposition during FY 2002 was 32 acre-feet. Sediment damages prevented during FY 2002 was \$12,000. Accrued sediment benefits are \$2,769,900. Irrigation benefits for FY 2002 were \$20,900. Accrued irrigation benefits through FY 2002 were \$2,382,500. Irrigation benefit releases for the year were 5,299 acre-feet.

Conditions at end of fiscal year. The project was placed in operation in 1977. The recreation facilities were completed in 1980. The Dam Safety Assurance contract was completed in May 1983. The project structures are good and in operation.

11. 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 will be controlled so that flows through Roswell will not exceed the Rio Hondo channel capacity, which is 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 regulated runoff from 1,027

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square miles of drainage area. For details of completed improvement and authorizing legislation, see page 17-18 of Annual Report for 1973.

Local cooperation. Section 2 Flood Control Act of 1938 applies and compliance is satisfactory.

Operations and results during fiscal year.

Operation of the dam and reservoir continued. The reservoir was empty on October 1, 2001. There were no flood damages prevented during FY 2002. There was \$100 in sediment damages prevented during FY 2002. Estimated total accumulated flood and sediment damages prevented through FY 2002 were \$190,605,200. There was 1 acre-foot of sediment deposition during FY 2002. The accrued sediment benefits through FY 2002 were \$1,108,000.

12. 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. Projects in Texas, Colorado, and New Mexico were inspected. Federal costs for FY 2002 were \$176,308.71.

13 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. Platoro is operated by the Conejos Water Conservancy District. 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.). Construction of this project was completed by the Bureau of Reclamation in 1952.

On October 1, 2001, storage in Platoro Reservoir was 18,946 acre-feet at elevation 9981.08 feet. Maximum storage of 18,946 acre-feet at elevation 9981.08 occurred on October 1, 2001. On September 30, 2002, storage was 10,506 acre-feet at elevation 9964.07 feet. There were no flood damages prevented by this project during FY 2002. Total flood damages prevented to date are at \$6,094,200.

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, 2001 was 98,514 acre-feet, elevation 4834.03 feet. Maximum storage during the year was 145,618 acre-feet at elevation 4851.67 on March 17, 2002. Storage on September 30, 2002 was 78,076 acre-feet at elevation 4826.27 feet. There were no flood damages prevented in FY 2002. Total flood damages prevented to date are \$11,316,700.

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, 2001 was 4,528 acre-feet at elevation 4234.95 feet. Maximum storage for FY 2002 was 14,232 acre-feet at elevation 4248.52 on February 13, 2002. Storage on September 30, 2002 was 3,938 acre-feet at elevation 4235.17 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 1,708,600 acre-feet. The project controls a drainage area of 3,230 square miles.

Storage on October 1, 2001 was 1,407,800 acre-feet, elevation 6064.63 feet. Maximum storage for FY 2002 was 1,407,800 acre-feet, elevation 6064.63 feet on October 1, 2001. Storage on September 30, 2002 was 871,700 acre-feet, elevation 6015.62 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 for the elimination of the hazards of failure of the McMillan and the Avalon Dams. The total storage is 348,544 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, 2002, the storage was 13,478 acre-feet at elevation 3242.92 feet.

14. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 36-D

15. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

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 2002 were \$426,796.53. Individual costs per project were: Little Puerco River, Gallup, NM \$293,155.15; Section 205 Coordination Account \$7,082.35; Flume at Willow Creek, Creede, CO \$86.45; Unnamed Arroyo, Hernandez, NM \$278.97; Columbus, NM \$5,000.14; Sun Valley, El Paso, TX \$10,792.49; Cheyenne Creek, Colorado Springs, CO \$22,475.89; Raton Creek, Raton, NM \$650.89; Oak Creek, Florence, CO \$11,360.40; Arroyo de la Manteca, Las Vegas, NM \$11,616.78; Lower Palomas Creek, Sierra County, NM \$17,995.66; Taos, NM \$9,871.23; Estancia, NM \$9,862.80; N. Valley, Bernalillo County, NM \$10,071.03; Hatch, NM \$8,347.60; N. Albuquerque Acres, Bernalillo County, NM \$7,968.70.

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

There were no Federal costs in FY 2002 for advance preparation, none for flood emergency operations, and there were no repair and restoration costs.

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

Total Federal costs for Section 14 projects for FY 2002 were \$114,342.01. Individually, the costs were as follows: Section 14 Coordination Account \$12,369.04; Isidro Road, Santa Fe, NM \$12,350.19; Unnamed Arroyo, Highway 371, near Crownpoint, NM \$4,847.23; Paseo del Norte, Albuquerque, NM \$9,552.62; Power Blvd., Colorado Springs, CO \$28,289.44; Chelton Road Bridge over Sand Creek, Colorado Springs, CO \$24,768.58; 27th Street Bridge, Glenwood Springs, CO \$22,164.91.

Snagging and Clearing for Flood Control (Section 208 of the 1954 Flood Control Act, 83rd Cong.)

There were no costs in FY 2002.

ENVIRONMENTAL INFRASTRUCTURE

16. 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 included in Central, New Mexico, are responsible for 25% of the costs associated with the project. The Federal share is 75%.

Condition at the end of the fiscal year. To date, seven PCAs have been signed. Of those seven, two projects have been completed, two are under construction, and the remaining three are in various stages of design. At least two more PCAs are anticipated during fiscal year 2003.

General Investigations

17. SURVEYS

Costs for the fiscal year were 41,063,900.31 of which \$238,517.26 was for flood damage prevention studies, \$559,533.33 for special studies; \$111,641.59 for watershed/comprehensive studies; \$43,243.32 for miscellaneous activities; \$110,964.81 for coordination with other Federal agencies and non-Federal interests.

18. COLLECTION AND STUDY OF BASIC DATA

Fiscal year costs were \$356,313.85 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 \$7,667.79.

19. ENVIRONMENTAL DATA STUDIES

There were no Environmental Data Studies for FY 2002.

20. PRECONSTRUCTION ENGINEERING AND DESIGN

There were no Continuation of Engineering and Design Costs in FY 2002.

21. 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 \$690,651.11 of which \$15,063.78 was for coordination account funds; \$3,703.96 was for preliminary restoration plans; \$101.71 for Fountain Creek Habitat Restoration; \$165,399.79 for riparian/wetland restoration; \$123,004.27 for Albuquerque Biological Park Wetland Restoration; \$182,973.06 for Abiquiu Dam Oxygenator, Abiquiu; \$3,512.83 for Rio Grande Silvery Minnow Habitat Restoration; \$22,654.15 for Pecos River Restoration, Chaves County; \$24,581.23 for Aquatic Habitat Restoration at Pueblo of Santa Ana; and \$149,656.33 for Ecosystem Revitalization at Route 66, Albuquerque, NM.

Aquatic Ecosystem Restoration pursuant to Section 206 of the Water Resources Development Act of 1986.

Federal cost for Section 206 was \$568,588.07 of which \$15,426.94 was for coordination account funds; \$1,927.05 was for preliminary restoration plans; \$19,240.50 for Rio Grande Wetland Restoration; \$393,735.47 for Arkansas River Fisheries Habitat Restoration; \$50,205.57 for Jemez River Aquatic and Riparian Habitat Restoration; \$3,756.50 for Confluence Park Restoration; \$58,464.68 for Longs Canyon Creek Aquatic & Riparian Restoration; \$12,395.16 for Las Cruces Wetland Restoration; \$2,418.69 for Bottomless Lakes State Park; \$9,147.29 for El Paso, TX, and \$1,950.22 for Rocky Ford Wetland Restoration.

TABLE 36-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY99	FY00	FY01	FY02	Total Cost to Sept. 30, 2002
1.	Acequias Irrigation System, NM	New Work					
		Approp.	465,000	550,000	1,369,000	4,495,000	18,358,000 ¹
		Cost	690,372	802,924	1,115,112	3,273,020	16,730,781 ¹
		(Contributed Funds)					
		Approp.	-	-	337,500	-	337,500
		Cost	-	-	163,928	320,788	484,716
2.	Alamogordo, NM	New Work					
		Approp.	299,000	700,000	2,289,000	2,656,000	10,620,000
		Cost	228,541	758,867	1,953,469	2,924,001	10,489,843
		(Contributed Funds)					
		Approp.	-	-	1,725,000	595,000	2,320,000
		Cost	-	-	25,801	2,259,877	2,285,678
3.	Alamosa, CO	New Work					
		Approp.	(100,000)	30,000	-	-	5,630,000 ²
		Cost	455,632	55,835	4,285	43,999	5,622,431 ²
		(Contributed Funds)					
		Approp.	-	-	-	-	-
		Cost	-	14,743	-	-	14,743
4.	Conchas, NM	New Work					
		Approp.	-	-	-	-	13,821,499 ³
		Cost	-	-	-	-	13,821,499 ³
		Maint					
		Approp.	1,477,636	1,372,500	1,030,820	1,444,707	30,353,383
		Cost	1,494,868	1,372,305	1,037,043	1,341,527	30,235,997
5.	El Paso, TX	New Work					
		Approp.	4,849,000	2,776,000	4,358,000	2,622,000	114,529,000 ⁴
		Cost	4,824,405	3,987,235	4,577,844	2,348,261	114,163,458 ⁴
		(Contributed Funds)					
		Approp.	-	-	1,633,000	249,000	1,882,000
		Cost	-	-	195,619	1,669,224	1,864,843
6.	John Martin, Reservoir	New Work					
		Approp.	-	-	-	-	15,555,358 ⁵
		Cost	-	-	-	-	15,555,358 ⁵
		Maint					
		Approp.	2,811,031	2,016,748	3,008,370	4,549,077	46,332,379
		Cost	2,849,179	1,949,323	3,091,583	3,588,445	45,347,681
7.	Las Cruces, NM	New Work					
		Approp.	651,000	2,913,000	3,580,000	300,000	8,494,050 ⁶
		Cost	537,388	1,965,936	4,295,249	706,732	8,440,896 ⁶
		(Contributed Funds)					
		Approp.	-	1,000,000	1,094,156	-	2,094,156
		Cost	-	543,090	642,067	908,731	2,093,888

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TABLE 36-A COST AND FINANCIAL STATEMENT
(Continued)

See Section In Text	Project	Funding	FY99	FY00	FY01	FY02	Total Cost to Sept. 30, 2002
8A.	Abiquiu Dam, NM	New Work					
		Approp.	3,319,000	100,000	-	-	34,054,028
		Cost	3,253,305	422,849	-	-	33,823,528
		Maint					
		Approp.	1,185,843	1,470,574	1,727,360	2,572,652	43,674,953
		Cost	1,210,038	1,466,183	1,715,049	2,504,269	43,621,217
8B.	Cochiti Lake, NM	New Work					
		Approp.	-	-	-	-	96,956,559
		Cost	-	-	-	-	96,956,559
		Maint					
		Approp.	1,964,795	3,151,643	2,223,426	3,172,994	39,039,025
		Cost	1,985,713	3,013,894	2,173,010	2,503,671	38,171,777
8C.	Galisteo Dam, NM	New Work					
		Approp.	2,975,000	476,000	-	-	18,283,053
		Cost	2,810,773	674,146	-	-	18,213,168
		Maint					
		Approp.	273,994	261,564	282,564	292,287	4,882,474
		Cost	280,130	256,764	288,060	284,056	4,873,806
8D.	Jemez Canyon Dam, NM	New Work					
		Approp.	-	-	-	-	6,293,972
		Cost	-	-	-	-	6,293,972
		Maint					
		Approp.	326,310	586,700	3,330,721	1,964,220	17,021,683
		Cost	332,557	569,144	3,347,130	1,884,377	16,939,836
8E.	Middle Rio Grande Flood Protection, Bernalillo to Belen, NM	Approp.	224,000	515,000	393,000	229,000	9,513,000 ⁷
		Cost	340,297	448,369	387,135	304,053	9,983,382 ⁷
8F.	Rio Grande Floodway, NM	Approp.	-	-	-	-	4,794,868 ⁸
		Cost	-	-	-	-	4,794,868 ⁸
8G.	Rio Grande Floodway, San Acacia to Bosque del Apache, NM	Approp.	337,000	515,000	73,000	162,000	5,300,000 ⁹
		Cost	346,573	400,084	233,727	132,460	5,257,276 ⁹
9.	Santa Rosa Dam, NM	New Work					
		Approp.	-	-	-	-	41,039,741
		Cost	-	-	-	-	41,039,056
		Maint					
		Approp.	823,829	852,295	855,514	1,223,151	15,919,813
		Cost	860,651	850,637	860,392	1,130,117	15,969,953

TABLE 36-A COST AND FINANCIAL STATEMENT
(Continued)

See Section In Text	Project	Funding	FY99	FY00	FY01	FY02	Total Cost to Sept. 30, 2002
10.	Trinidad Lake, NM	New Work					
		Approp.	-	-	-	-	55,774,758
		Cost	-	-	-	-	55,774,758
		Maint					
		Approp.	544,645	599,977	577,924	1,051,458	12,400,033
		Cost	548,131	601,525	580,793	739,079	12,087,086
11.	Two Rivers Dam, NM	New Work					
		Approp.	(20,000)	-	-	-	6,759,244
		Cost	54,973	-	-	-	6,757,619
		Maint					
		Approp.	346,517	253,459	317,553	276,932	6,351,494
		Cost	356,314	251,444	319,857	272,834	6,347,372
16.	Central, NM	New Work					
		Approp.	-	-	2,514,000	596,000	31,000,000
		Cost	-	-	263,349	1,529,324	1,792,673
	(Contributed Funds)	Approp.	-	-	-	545,521	893,021
		Cost	-	-	-	329,259	329,259

¹ Reflects PED funding appropriations beginning in FY 1986. Includes non-Federal contributions of \$2,412,000.

⁵ Excludes \$59,977 emergency relief funds for new work. Includes \$30,000 for Code 710.

² PED activities were initiated in FY 1991.

⁶ Includes \$514,741 PED funds.

³ 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.

⁷ Includes \$1,177,000 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.

⁴ Does not include non-Federal contributions of \$2,657,653.

⁹ Includes \$1,658,000 PED funds.

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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, 99 th Cong., 2 nd 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 104-30 104 th Cong., (Sec. 101)
3.	Oct. 31, 1992	ALAMOSA, COLORADO Authorized a flood control project for Alamosa, CO.	Public Law 102-580 102d Cong., (Sec. 101)
5.	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 of four independent units (NW Area, Central Area, and two units, Copper system and Bluff Channel of the SE Area).	H. Doc. 207, 89 th Cong. 1 st sess. ¹
7.	Oct. 12, 1996	LAS CRUCES, NEW MEXICO The project for flood control, Las Cruces, NM; Report of the Chief of Engineers, dated June 24, 1996, at total of \$8,278,000, with an estimated Federal cost of \$5,494,000 and an estimated non-Federal cost of \$2,784,000.	Public Law 104-303 104 th Cong., (Sec.)
8.	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, 81 st Cong., 1 st 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, 81 st Cong., 2 nd 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, 86 th 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, 99 th Cong., 2 nd 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.	

TABLE 36-B

AUTHORIZING LEGISLATION

See Section In Text	Date Authorizing Act	Project and Work Authorized	Documents
8E.	Nov. 17, 1986	<p>MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM</p> <p>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.</p>	Public Law 662, 99 th Cong., 2 nd sess.
8F.	Jun. 30, 1948 and May 17, 1950	<p>RIO GRANDE FLOODWAY, NM</p> <p>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).</p>	Con., 1 st Sess. ¹ and Public Law 516, 81 st Cong., 2 nd sess.
8G.	Oct. 31, 1992	<p>RIO GRANDE FLOODWAY, SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM</p> <p>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.</p>	Public Law 102-580 102d Cong., (Sec. 102(e)).
16.	Aug. 17, 1999	<p>CENTRAL, NM</p> <p>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 FY 2000 and remain available until expended.</p>	Public Law 106-53, 106 th Cong., (Sec. 593)

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TABLE 36-D OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report, See Annual For	Construction	Cost to September 30, 2002
			Operation & Maintenance
Alamogordo Diversion Channel, Tularosa (closed) Basin, NM	1996	\$ 189,356	-
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 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 8 of Text)**

Project	River	Miles Above Mouth	Nearest Town	Drainage Area (square miles)	Description	Total Estimated Cost
Abiquiu Dam	Rio Chama	32	Española, NM	2,147 1,212,000 af cap.	Earthfill 325 feet high	\$30,901,028 ³
Jemez Canyon	Jemez Creek	2	Bernalillo, NM	1,034 106,100 af cap.	Earthfill 136 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	11,695 596,300 af cap.	Earthfill 158 feet high	\$96,956,559
Galisteo Dam	Galisteo Creek	8	Waldo, NM	596 89,000 af cap.	Earthfill 158 feet high	\$17,807,053

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.