

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation will provide a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement will consist of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at about mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1974) of \$115,060,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Construction of the canal and lock and dam was continued. Work was continued on highway and railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition at end of fiscal year.* Project is about 72 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing projects.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1974) of \$142,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at an estimated total Federal project cost (1974) of \$57,700,000; and (4) by construction of a fixed-crest rockfill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1974) is \$204,053,000. A small boat harbor opposite Chester, Ill., is inactive and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are

considered adequate for existing commerce.

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration. Chain of Rocks: Construction of guidewalls and tie down of upper sill is under way.

*Maintenance.* Work consisted of 25,070 feet of dike repair and 39,360 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 24 locations, removing 2,056,400 cubic yards of material from main channel. Channels dredged had a combined length of 9.9 miles, an average width of 290 feet, and an average gain in depth of 3.7 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition at end of fiscal year.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Project on Dam 27 is complete. Work on the project is about 48 percent complete. Work required to complete the project includes construction of 190,000 linear feet of dikes; 203,150 linear feet of revetment; removal of 100,000 cubic yards of rock; removal of 100,000 cubic yards by dredging; upper and lower guidewalls at Lock 27; and alterations to sills. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 20.43 feet for Fiscal Year 1973 and 17.58 feet for Fiscal Year 1974. A study has been completed which determined that a substantial increase in work is necessary to assure a dependable 9-foot project depth. This has caused the cost estimate for regulating works to be raised from \$81,000,000 to \$142,000,000.

## 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

## 6. ALTERATION OF BRIDGES

See Table 14-D.

## Flood Control

### 7. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1974) is \$1,860,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished a letter of intent to furnish the required assurances.

*Operations and results during fiscal year.* Preconstruction planning is complete.

*Condition at end of fiscal year.* General design memorandum is being revised in accordance with recommendations of higher authority.

### 8. EAST ST. LOUIS AND VICINITY, ILL.

*Location.* Project is in St. Clair and Madison Counties, Ill., on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.)

## ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts   | Work Authorized  | Documents   |
|--|--|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.   | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Mar. 2, 1907 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet).<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910  | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended.   | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jan. 21, 1927  | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.   | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Jul. 3, 1930   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Mar. 2, 1945   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, Ill.   | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>  | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.  | S. Doc. 7, 85th Cong., 1st sess.  |
|  | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 7 of Text)  |   |
| Oct. 23, 1962  | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
|  | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 8 of Text)   |   |
| Jun. 22, 1936  | Raise and enlarge existing levee.  | Special report on record in OCE.  |
| Oct. 27, 1965  | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.   |
|  | <b>HARRISONVILLE AND IVY LANDING DRAINAGE AND LEVEE DISTRICT NO. 2, ILL.</b> (See Section 9 of Text)   |   |
| Oct. 23, 1962  | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
|  | <b>KASKASKIA RIVER, ILL.</b> (See Section 10 of Text)  |   |
| Jul. 3, 1958   | Deletes Carlyle Reservoir and levees from New Athens to Carlyle from Upper Mississippi River Basin Plan and reauthorizes them as a part of the Kaskaskia River Plan. Construct dam at Shelbyville and six levee projects between Cowden and Vandalia and a local protection project at New Athens.   | H. Doc. 232, 85th Cong., 1st sess.  |
| Oct. 27, 1965  | Deleted requirement that local interests make a cash contribution to cost of levees between Cowden and Vandalia. Requires that local interests make a cash contribution equal to full cost of acquisition of flowage easements in those lands acquired by the United States which, upon completion of the levee in District No. 22, will not be required for construction, operation, and maintenance of Carlyle Lake. | H. Doc. 351, 88th Cong., 2d sess.   |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation will provide a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement will consist of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at about mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1975) of \$124,060,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Construction of the canal and lock and dam was continued. Work was continued on highway and railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition at end of fiscal year.* Project is about 73 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1975) of \$144,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at an estimated total Federal project cost (1975) of \$58,700,000; and (4) by construction of a fixed-crest rockfill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1975) is \$207,053,000. A small boat harbor opposite Chester, Ill., is inactive and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.



## ST. LOUIS, MO., DISTRICT

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration. Chain of Rocks: Construction of guidewalls and tie-down of upper sill is under way.

*Maintenance.* Work consisted of 3,400 feet of dike repair and 65,570 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 35 locations, removing 6,070,000 cubic yards of material from main channel. Channels dredged had a combined length of 29.9 miles, an average width of 290 feet, and an average gain in depth of 3.6 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition at end of fiscal year.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Project on Dam 27 is complete. Work on the project is about 51 percent complete. Work required to complete the project includes construction of 164,635 linear feet of dikes; 185,700 linear feet of revetment; removal of 100,000 cubic yards of rock; removal of 100,000 cubic yards by dredging; upper and lower guidewalls at Lock 27; and alterations to sills. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 17.58 feet for Fiscal Year 1974 and 12.04 feet for Fiscal Year 1975.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

#### Flood Control

### 6. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of

the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1975) is \$3,800,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation.

*Operations and results during fiscal year.* Preconstruction planning is complete.

*Condition at end of fiscal year.* General design memorandum was revised in accordance with recommendations of higher authority. Contract for the Franey Lake pumping station was awarded.

### 7. EAST ST. LOUIS AND VICINITY, ILL.

*Location.* Project is in St. Clair and Madison Counties, Ill., on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.)

*Existing project.* The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8

## ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts   | Work Authorized  | Documents   |
|--|--|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.   | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Mar. 2, 1907 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet).<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910  | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jan. 21, 1927  | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.   | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Jul. 3, 1930   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Mar. 2, 1945   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, Ill.   | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>  | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.  | S. Doc. 7, 85th Cong., 1st sess.  |
|  | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 6 of Text)  |   |
| Oct. 23, 1962  | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
|  | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 7 of Text)   |   |
| Jun. 22, 1936  | Raise and enlarge existing levee.  | Special report on record in OCE.  |
| Oct. 27, 1965  | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.   |
|  | <b>HARRISONVILLE AND IVY LANDING DRAINAGE AND LEVEE DISTRICT NO. 2, ILL.</b> (See Section 8 of Text)   |   |
| Oct. 23, 1962  | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
|  | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 9 of Text)  |   |
| Oct. 23, 1962  | Raise and enlarge existing levee.  | H. Doc. 519, 87th Cong., 2d sess.   |
|  | <b>KASKASKIA RIVER, ILL.</b> (See Section 10 of Text)  |   |
| Jul. 3, 1958   | Deletes Carlyle Reservoir and levees from New Athens to Carlyle from Upper Mississippi River Basin Plan and reauthorizes them as a part of the Kaskaskia River Plan. Construct dam at Shelbyville and six levee projects between Cowden and Vandalia and a local protection project at New Athens.   | H. Doc. 232, 85th Cong., 1st sess.  |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation will provide a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement will consist of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at about mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1976) of \$127,160,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during period.* Construction of the canal revetment was continued. Work was continued on railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep. 30.* Project is about 75 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1976) of \$151,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at an estimated total Federal project cost (1976) of \$59,800,000; and (4) by construction of a fixed-crest rockfill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1976) is \$215,153,000. A small boat harbor opposite Chester, Ill., is inactive and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.



## ST. LOUIS, MO., DISTRICT

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.

*Operations and results during period.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration. Chain of Rocks: Construction of guidewalls and tie-down of upper sill is under way.

*Maintenance.* Work consisted of 22,176 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 69 locations, removing 10,834,000 cubic yards of material from main channel. Channels dredged had a combined length of 55.5 miles, an average width of 290 feet, and an average gain in depth of 3.4 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Project on Dam 27 is complete. Work on the project is about 66 percent complete. Work required to complete the project includes construction of 164,635 linear feet of dikes; 185,700 linear feet of revetment; removal of 100,000 cubic yards of rock; removal of 100,000 cubic yards by dredging; upper and lower guidewalls at Lock 27; and alterations to sills. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 12.04 feet for Fiscal Year 1975 and 8.73 feet for Fiscal Year 1976 and 1976T.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

### 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

*Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).*

Costs for the period were \$13,550 for a study at Cape Girardeau, Scott County, Missouri.

## Flood Control

### 7. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1976) is \$4,090,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation.

*Operations and results during period.* Preconstruction planning is complete.

*Condition as of Sep. 30.* Construction of the Franey Lake pumping station was continued.

### 8. EAST ST. LOUIS AND VICINITY, ILL.

*Location.* Project is in St. Clair and Madison Counties, Ill., on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle

## ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts   | Work Authorized   | Documents   |
|--|---|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.  | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Mar. 2, 1907 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet).<br>Dredging introduced as part of the project.<br><br>These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.                       | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910  | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended.   | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jan. 21, 1927  | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.  | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Jul. 3, 1930   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Mar. 2, 1945   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, Ill.  | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>  | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.   | S. Doc. 7, 85th Cong., 1st sess.  |
| Oct. 23, 1962  | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 6 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
| Jun. 22, 1936  | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 7 of Text)<br>Raise and enlarge existing levee.   | Special report on record in OCE.  |
| Oct. 27, 1965  | Construct pumping plant and other modifications to reduce interior flooding.  | H. Doc. 329, 88th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>HARRISONVILLE AND IVY LANDING DRAINAGE AND LEVEE DISTRICT NO. 2, ILL.</b> (See Section 8 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.   | H. Doc. 542, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.  | H. Doc. 519, 87th Cong., 2d sess.   |
| Jul. 3, 1958   | <b>KASKASKIA RIVER, ILL.</b> (See Section 10 of Text)<br>Deletes Carlyle Reservoir and levees from New Athens to Carlyle from Upper Mississippi River Basin Plan and reauthorizes them as a part of the Kaskaskia River Plan. Construct dam at Shelbyville and six levee projects between Cowden and Vandalia and a local protection project at New Athens. | H. Doc. 232, 85th Cong., 1st sess.  |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1977) of \$129,560,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Construction of the canal revetment was continued. Work was continued on railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep. 30.* Project is about 77 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191; thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1977) of \$154,600,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rockfill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1977) is \$218,673,600. A small boat harbor opposite Chester, Ill., is inactive and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.



## ST. LOUIS DISTRICT

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration. Chain of Rocks: Construction of guidewalls and tie-down of upper sill is complete.

*Maintenance.* Work consisted of 14,905 feet of dike and 11,020 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 61 locations, removing 13,896,000 cubic yards of material from main channel. Channels dredged had a combined length of 43.3 miles, an average width of 290 feet, and an average gain in depth of 5.7 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 67 percent complete. Work required to complete the project includes construction of 148,720 linear feet of dikes; 173,880 linear feet of revetment; removal of 100,000 cubic yards of rock; and removal of 100,000 cubic yards by dredging. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 8.73 feet for Fiscal Year 1976 and 4.16 feet for Fiscal Year 1977.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

### 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

*Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).*

Costs for the period were \$41,375 for a study at Cape Girardeau, Scott County, Missouri.

## Flood Control

### 7. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1977) is \$3,000,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation.

*Operations and results during fiscal year.* Preconstruction planning is complete.

*Condition as of Sep. 30.* Project constructed under authority of Flood Control Act of 1936 is complete. Construction continued on a 30 cubic feet per second pumping station and initiated on a 200 cubic feet per second station. These modifications were authorized by the 1962 Flood Control Act.

### 8. EAST ST. LOUIS AND VICINITY, ILL.

*Location.* Project is in St. Clair and Madison Counties, Ill., on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River

**REPORT OF THE CHIEF OF ENGINEERS, U. S. ARMY 1977**

**TABLE 14-B**

**AUTHORIZING LEGISLATION**

| Acts   | Work Authorized   | Documents   |
|--|---|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.  | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Mar. 2, 1907 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet).<br>Dredging introduced as part of the project.  | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910  | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jan. 21, 1927  | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended.   | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jul. 3, 1930   | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.  | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Mar. 2, 1945   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Sep. 3, 1954 <sup>3</sup>  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.  |
| Jul. 3, 1958 <sup>4</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, Ill.  | H. Doc. 230, 83d Cong., 1st sess.   |
|  | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.   | S. Doc. 7, 85th Cong., 1st sess.  |
| Oct. 23, 1962  | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 7 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
| Jun. 22, 1936  | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 8 of Text)<br>Raise and enlarge existing levee.   | Special report on record in OCE.  |
| Oct. 27, 1965  | Construct pumping plant and other modifications to reduce interior flooding.  | H. Doc. 329, 88th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>HARRISONVILLE AND IVY LANDING DRAINAGE AND LEVEE DISTRICT NO. 2, ILL.</b> (See Section 10 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 11 of Text)<br>Raise and enlarge existing levee.   | H. Doc. 519, 87th Cong., 2d sess.   |
| Jul. 3, 1958   | <b>KASKASKIA RIVER, ILL.</b> (See Section 12 of Text)<br>Deletes Carlyle Reservoir and levees from New Athens to Carlyle from Upper Mississippi River Basin Plan and reauthorizes them as a part of the Kaskaskia River Plan. Construct dam at Shelbyville and six levee projects between Cowden and Vandalia and a local protection project at New Athens. | H. Doc. 232, 85th Cong., 1st sess.  |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1978) of \$128,060,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Construction of the canal revetment was continued. Work was continued on railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep. 30.* Project is about 81 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1978) of \$154,600,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rockfill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1978) is \$218,673,600. A small boat harbor opposite Chester, Ill., was deauthorized and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration. Chain of Rocks is complete.

*Maintenance.* Work consisted of 12,570 feet of dike and 44,100 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 35 locations, removing 4,462,600 cubic yards of material from main channel. Channels dredged had a combined length of 17 miles, an average width of 290 feet, and an average gain in depth of 4.7 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 68 percent complete. Work required to complete the project includes construction of 145,380 linear feet of dikes; 149,280 linear feet of revetment; removal of 100,000 cubic yards of rock; and removal of 100,000 cubic yards by dredging. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 4.16 feet for Fiscal Year 1977 and 13.62 feet for Fiscal Year 1978.

## 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

## 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

*Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).*

Costs for the period were \$4,458 for a study at Cape Girardeau, Scott County, Mo., and \$580 for one at Jersey County Harbor, Ill.

## Flood Control

### 7. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1978) is \$3,000,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation.

*Operations and results during fiscal year.* Preconstruction planning is complete.

*Condition as of Sep. 30.* Project constructed under authority of Flood Control Act of 1936 is complete. Construction was completed on a 30 cubic feet per second pumping station and continued on a 200 cubic feet per second station. These modifications were authorized by the 1962 Flood Control Act.

### 8. EAST ST. LOUIS AND VICINITY, ILL.

*Location.* Project is in St. Clair and Madison Counties, Ill., on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River

## ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts   | Work Authorized   | Documents   |
|--|---|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.  | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Mar. 2, 1907 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet).<br>Dredging introduced as part of the project.                        | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910  | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jan. 21, 1927  | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jul. 3, 1930   | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.  | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Mar. 2, 1945   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Sep. 3, 1954 <sup>3</sup>  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.  |
| Jul. 3, 1958 <sup>4</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, Ill.  | H. Doc. 230, 83d Cong., 1st sess.   |
|  | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.   | S. Doc. 7, 85th Cong., 1st sess.  |
| Oct. 23, 1962  | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 7 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
| Jun. 22, 1936  | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 8 of Text)<br>Raise and enlarge existing levee.   | Special report on record in OCE.  |
| Oct. 27, 1965  | Construct pumping plant and other modifications to reduce interior flooding.  | H. Doc. 329, 88th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 9 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>HARRISONVILLE AND IVY LANDING DRAINAGE AND LEVEE DISTRICT NO. 2, ILL.</b> (See Section 10 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 11 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962  | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 12 of Text)<br>Raise and enlarge existing levee.   | H. Doc. 519, 87th Cong., 2d sess.   |



# REPORT OF THE CHIEF OF ENGINEERS, U. S. ARMY 1979

| <i>Multiple-Purpose Project<br/>Including Power</i> |   | <i>General Investigations</i> |       |
|---|---|-------------------------------|-------|
| 27.   | Clarence Cannon Dam and Reservoir, Salt River, Mo. .... | 14-13                         |       |
| 28.   | Surveys .....   |                               | 14-14 |
| 29.   | Collection and study of basic data .....                |                               | 14-14 |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of the State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1979) of \$129,060,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Construction of the canal revetment was continued. Work was continued on railroad alterations. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep. 30.* Project is about 87 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts. Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1979) of \$158,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of



## ST. LOUIS, MO., DISTRICT

Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1979) is \$222,073,600. A small boat harbor opposite Chester, Ill., was deauthorized and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion is \$166,600 including \$55,000 non-Federal contribution, and excluding \$1,000 Coast Guard cost. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike construction as was engineering and design and supervision and administration.

*Maintenance.* Work consisted of 1,000 feet of dike and 28,800 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 16 locations, removing 1,657,000 cubic yards of material from main channel. Channels dredged had a combined length of 12 miles, an average width of 290 feet, and an average gain in depth of 2.4 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 69 percent complete. Work required to complete the project includes construction of 135,910 linear feet of dikes; 133,280 linear feet of revetment; removal of 100,000 cubic yards of rock; and removal of 100,000 cubic yards by dredging. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel

depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 13.62 feet for Fiscal Year 1978 and 13.68 feet for Fiscal Year 1979.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

### Flood Control

### 6. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1979) is \$3,000,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation

*Operations and results during fiscal year.* Planning is complete.

*Condition as of Sep. 30.* Project constructed under authority of Flood Control Act of 1936 is complete. Construction is complete on a 30 cubic feet per second pumping station and was continued on a 200 cubic feet per second station.

# REPORT OF THE CHIEF OF ENGINEERS, U. S. ARMY 1979

**TABLE 14-B**

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.  | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.                        | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jan. 21, 1927   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jul. 3, 1930  | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.  | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Mar. 2, 1945  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.  |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, Ill.  | H. Doc. 230, 83d Cong., 1st sess.   |
|   | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.   | S. Doc. 7, 85th Cong., 1st sess.  |
| Oct. 23, 1962   | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 6 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 7 of Text)<br>Raise and enlarge existing levee.   | Special report on record in OCE.  |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.  | H. Doc. 329, 88th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HARRISONVILLE LEVEE AND DRAINAGE DISTRICT, ILL.</b> (See Section 9 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.   | H. Doc. 542, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 10 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 11 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.   |

# REPORT OF THE CHIEF OF ENGINEERS, U. S. ARMY 1980

| <i>Multiple-Purpose Project<br/>Including Power</i> |   | <i>General Investigations</i>                |       |
|---|---|--|-------|
| 27.   | Clarence Cannon Dam and Reservoir, Salt River, Mo. .... | 14-13  |       |
|   |   | 28. Surveys .....                            | 14-13 |
|   |   | 29. Collection and study of basic data ..... | 14-13 |

## Navigation

### 1. ILLINOIS WATERWAY, ILL. (ST. LOUIS DIST.)

See report on Illinois Waterway, Ill. and Ind., under Chicago District.

### 2. KASKASKIA RIVER, ILL.

*Location.* The river rises in Champaign County, Ill., about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, Ill., or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, Ill. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1980) of \$154,100,000. Non-Federal cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Work was continued on railroad relocation. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep 30.* Project is about 75 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.) (INCLUDES L & D REPLACEMENT)

See section of this annual report entitled "Mississippi River between Missouri River and Minneapolis, Minn."

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts. Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1980) of \$164,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of

## ST. LOUIS, MO., DISTRICT

\$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1980) is \$228,073,600. A small boat harbor opposite Chester, Ill., was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.

*Operations and results during fiscal year.* Regulating Works: Contract work was continued on stone dike and revetment construction as was engineering and design and supervision and administration.

*Maintenance.* Work consisted of 900 feet of dike and 30,924 feet of revetment repair. U. S. plant and hired labor performed channel dredging at 39 locations, removing 6,116,000 cubic yards of material from main channel. Channels dredged had a combined length of 18 miles, an average width of 290 feet, and an average gain in depth of 6.0 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 69 percent complete. Work required to complete the project includes construction of 126,010 linear feet of dikes; 129,160 linear feet of revetment; removal of 100,000 cubic yards of rock; and removal of 100,000 cubic yards by dredging. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during

which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 13.68 feet for Fiscal Year 1979 and 8.61 feet for Fiscal Year 1980.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.

### Flood Control

### 6. COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.

*Location.* In Monroe County, Ill., on left bank of the Mississippi River between river miles 156 and 166 above mouth of the Ohio River. (See St. Louis, Mo., map published by Army Map Service, scale 1:250,000.)

*Previous project.* For details, see page 653 of Annual Report for 1959.

*Existing project.* Project area contains about 13,600 acres protected from major floods of the Mississippi River, Columbia Creek, and Fountain Creek by levees. However, when Mississippi River stage exceeds 20 feet on the St. Louis, Mo., gage, substantial damage results from impoundment of precipitation which falls on the area, runoff from adjacent hill land, and Mississippi River seepage. The 1962 Flood Control Act (H. Doc. 543, 87th Cong., 2d sess.) provides for construction of two pumping stations to reduce interior flooding. Estimated cost (1980) is \$2,826,000.

*Local cooperation.* Local interests must provide lands, easements, and rights-of-way for construction; hold and save the United States free from damages; maintain and operate project, including pumping plants, after completion; prevent encroachment on improved channels and ponding areas and, if ponding area and capacities are impaired, provide substitute storage capacity or equivalent pumping capacity promptly without cost to the United States and comply with applicable provisions of Public Law 91-611 and Public Law 91-646. The proposed sponsors, the Commissioners of the Columbia Drainage and Levee District No. 3, have furnished assurances of local cooperation.

*Operations and results during fiscal year.* Planning is complete.

*Conditions as of Sep. 30.* Project constructed under authority of Flood Control Act of 1936 is complete. Construction is complete on the 30 cubic feet and the 200 cubic feet per second

## ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.   | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.   | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, Ill.   | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rock-fill dam 900 feet below Chain of Rocks Bridge.  | S. Doc. 7, 85th Cong., 1st sess.  |
|   | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 6 of Text)  |   |
| Oct. 23, 1962   | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 543, 87th Cong., 2d sess.   |
|   | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 7 of Text)   |   |
| Jun. 22, 1936   | Raise and enlarge existing levee.  | Special report on record in OCE.  |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.   |
|   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 8 of Text)  |   |
| Oct. 23, 1962   | Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
|   | <b>HARRISONVILLE LEVEE AND DRAINAGE DISTRICT, ILL.</b> (See Section 9 of Text)   |   |
| Oct. 23, 1962   | Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
|   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 10 of Text)   |   |
| Oct. 23, 1962   | Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
|   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 11 of Text)   |   |
| Oct. 23, 1962   | Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |

## REPORT OF THE CHIEF OF ENGINEERS, U.S. ARMY 1981

118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

*Previous project.* For details see Annual Report for 1896, page 171.

*Existing project.* Improvement for navigation provides a channel 9 feet deep and 225 wide from mouth to Fayetteville, Ill. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1981) of \$156,200,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

*Local cooperation.* State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. The State is continuing with land acquisition.

*Operations and results during fiscal year.* Work was continued on railroad relocation. Engineering and design was continued on remaining construction items.

*Maintenance.* Hired labor performed operation and maintenance of the project.

*Condition as of Sep 30.* Project is about 77 percent complete.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MINN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, Minn.," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO. AND ILL.

*Location.* Mississippi River rises in Lake Itasca, Minn., and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts. Middle and Upper Mississippi River, Cairo, Ill., to Minneapolis, Minn.

*Previous projects.* For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

*Existing project.* The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels,

contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1981) of \$164,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1981) is \$228,073,600. A small boat harbor opposite Chester, Ill., was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

*Local cooperation.* None required.

*Terminal facilities.* Existing facilities are considered adequate for existing commerce.

*Operations and results during fiscal year.* Regulation Works: Contract work was continued on stone dike and revetment construction as was engineering and design and supervision and administration.

*Maintenance.* Work consisted of 1,000 feet of dike and 6,000 feet of revetment repair. U.S. plant and hired labor performed channel dredging at 39 locations, removing 6,220,000 cubic yards of material from main channel. Channels dredged had a combined length of 28 miles, an average width of 290 feet, and an average gain in depth of 3.9 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

*Condition as of Sep. 30.* Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 70 percent complete. Work required to complete the project includes construction of 118,850 linear feet of dikes; 123,160 linear feet of revetment; removal of 100,000 cubic yards of rock; and removal of 100,000 cubic yards by dredging. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. Navigation season formerly extended from mid-February to mid-December, the river is generally closed by ice the remainder of year. However, in recent years increased demands of commerce and use of steel-hull boats have combined to extend navigation season throughout the year except when blocked by heavy ice or gorges. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 8.61 feet for Fiscal Year 1980 and 9.54 feet for Fiscal Year 1981.

### 5. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 14-C.



# ST. LOUIS, MO., DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, ILL.</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, Ill.   | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | H. Doc. 50, 61st Cong., 1st sess., and H. Doc. 168, 58th Cong., 2d sess. <sup>2</sup> |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern boundary of city of St. Louis.   | Rivers and Harbors Committee Doc. 9, 69th Cong., 2d sess.                             |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.                           |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, Ill.   | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   | S. Doc. 7, 85th Cong., 1st sess.  |
| Oct. 23, 1962   | <b>COLUMBIA DRAINAGE AND LEVEE DISTRICT NO. 3, ILL.</b> (See Section 6 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.   | H. Doc. 543, 87th Cong., 2d sess.   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, ILL.</b> (See Section 7 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.  |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HARRISONVILLE LEVEE AND DRAINAGE DISTRICT, ILL.</b> (See Section 9 of Text)<br>Construct pumping plants and other modifications to reduce interior flooding.  | H. Doc. 542, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 10 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, ILL.</b> (See Section 11 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Chicago District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1982) of \$163,100,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965. Work was completed on the grade control structure and the railroad relocations. Engineering and design was continued on remaining construction items. Project is about 78 percent complete.

**Maintenance.** Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts,

Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1982) of \$164,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1982) is \$228,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 71 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. Mean stage of river, St. Louis gage, was 9.54 feet for FY 1981 and 15.19 feet for FY 1982.

**Maintenance.** Work consisted of 1,450 feet of dike and 8,300 feet of revetment repair. U.S. plant and hired labor performed channel dredging at 29 locations,

removing 5,352,000 cubic yards of material from main channel. Channels dredged had a combined length of 17.6 miles, an average width of 290 feet, and an average gain in depth of 5.4 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## Flood Control

### 5. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Estimated total Federal project cost of work under this authorization is \$58,400,000 (1981), \$29,390,000 for Cahokia Creek Dam, and \$35,010,000 for Interior Flood Control. Non-Federal cost is \$18,230,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. Formal assurances for the Cahokia-Harding Areas will be requested upon approval of the plan of improvement currently scheduled after FY 88, due to lack of funding for FY 84 through FY 88.

**Operations and results during fiscal year.** Planning was continued on project modifications authorized by Flood Control Act of 1965 and construction was initiated on first ditching contract. Work authorized by Flood Control Act of 1936 is complete.

### 6. ELDRED AND SPANKEY DRAIN—AGE, AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County, IL, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1982) is \$6,000,000. Non-Federal cost is \$940,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2nd sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

### 7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1982) is \$11,600,000. Non-Federal cost is \$1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-5 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

## ST. LOUIS, MO, DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                               |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                                   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                          |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.     |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                              |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                               |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 5 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.                                |
| Oct. 27, 1965<br><i>Oct. 22, 1976</i>   | Construct pumping plant and other modifications to reduce interior flooding.<br><i>authorized construction of Blue Water Ditch as independent section.</i>   | H. Doc. 329, 88th Cong., 2d sess.                               |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee and other modifications.   | <i>Sec. 137, PL 94-587</i><br>H. Doc. 472, 87th Cong., 2d sess. |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 7 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                               |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                               |
| Oct. 23, 1962   | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.   | H. Doc. 519, 87th Cong., 2d sess.                               |
| Jun. 28, 1938   | <b>MERAMEC RIVER BASIN, MO</b> (See Section 10 of Text)<br>Construct reservoirs and local protection project.  | Flood Control Committee Doc. 1, 75th Cong., 1st sess.           |
| Nov. 7, 1966  | Construct Pine Ford, Irondale, and I-38 dams and 19 Angler-use sites.  | H. Doc. 525, 89th Cong., 2d sess.                               |
| Oct. 23, 1962   | <b>MC GEE CREEK DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 11 of Text)<br>Reconstruct existing levee and construct pumping plant to reduce flooding.   | H. Doc. 472, 87th Cong., 2d sess.                               |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Chicago District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1983) of \$152,725,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965.

**Operations and results during fiscal year.** Work is complete on the lock and dam, railroad relocations, and the grade control structure. Engineering and design continued on remaining construction items. Project is about 84 percent complete.

**Maintenance.** Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Mis-

souri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Channel, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1839 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1983) of \$186,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1983) is \$250,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 668 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dikes and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 65 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

**Maintenance.** Work consisted of 6,575 feet of dikes and 8,856 feet of revetment repair. U.S. plant and hired labor performed channel dredging at 18 locations.

removing 4,900,000 cubic yards of material from main channel. Channels dredged had a combined length of 11.4 miles, an average width of 290 feet, and an average gain in depth of 6 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## Flood Control

### 5. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Estimated total Federal project cost of work under this authorization is \$34,900,000 (1983), \$22,020,000 for Cahokia-Harding Ditch Area, and \$12,880,000 for Blue Waters Ditch. Non-Federal cost is \$20,760,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. Formal assurances for the Cahokia-Harding Areas will be requested upon approval of the plan of improvement currently scheduled after FY 88, due to lack of funding for FY 84 through FY 88.

**Operations and results during fiscal year.** Planning was continued on project modifications authorized by Flood Control Act of 1965 and construction was continued on ditching contracts. Work authorized by Flood Control Act of 1936 is complete.

### 6. ELDRED AND SPANKEY DRAIN—AGE, AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County, IL, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1983) is \$6,000,000. Non-Federal cost is \$940,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2nd sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

### 7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1983) is \$11,600,000. Non-Federal cost is \$1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-5 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.



TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.                        | Annual Report, 1881, p. 1536.                               |
| Jan. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jan. 21, 1927   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  |   |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
|   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 5 of Text)<br>Raise and enlarge existing levee.   | Special report on record in OCE.                            |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.  | H. Doc. 329, 88th Cong., 2d sess.                           |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.   | Public Law 94-587, 94th Cong.                               |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 7 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.  | H. Doc. 519, 87th Cong., 2d sess.                           |
| Jun. 28, 1938   | <b>MERAMEC RIVER BASIN, MO</b> (See Section 10 of Text)<br>Construct reservoirs and local protection project.   | Flood Control Committee Doc. 1, 75th Cong., 1st sess.       |
| Nov. 7, 1966  | Construct Pine Ford, Irondale, and I-38 dams and 19 Angler-use sites.   | H. Doc. 525, 89th Cong., 2d sess.                           |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Chicago District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965.

**Operations and results during fiscal year.** Work is complete on the lock and dam, railroad relocations, and the grade control structure. Engineering and design continued on remaining construction items. Project is about 87 percent complete.

**Maintenance.** Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Mis-

souri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1984) of \$183,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1984) is \$247,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 67 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

**Maintenance.** Work consisted of 1,565 feet of dike and 17,422 feet of revetment repair. U.S. plant and hired labor performed channel dredging removing

2,421,000 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## Flood Control

### 5. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Estimated total Federal project cost of work under this authorization is \$32,709,000 (1984), \$22,020,000 for Cahokia-Harding Ditch Area, and \$10,680,000 for Blue Waters Ditch. Non-Federal cost is \$20,650,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. Formal assurances for the Cahokia-Harding Areas will be requested upon approval of the plan of improvement currently scheduled after FY 89, due to lack of funding for FY 85 through FY 89.

**Operations and results during fiscal year.** Planning was continued on project modifications authorized by Flood Control Act of 1965 and construction was continued on ditching contracts and was initiated on the pumping station. Work authorized by Flood Control Act of 1936 is complete.

### 6. ELDRED AND SPANKEY DRAIN—AGE, AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County, IL, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1984) is \$6,250,000. Non-Federal cost is \$950,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2nd sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

### 7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1984) is \$12,100,000. Non-Federal cost is \$1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-5 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

## ST. LOUIS, MO, DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 5 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.                            |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.                           |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.  | Public Law 94-587, 94th Cong.                               |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 7 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.   | H. Doc. 519, 87th Cong., 2d sess.                           |
| Jun. 28, 1938   | <b>MERAMEC RIVER BASIN, MO</b> (See Section 10 of Text)<br>Construct reservoirs and local protection project.  | Flood Control Committee Doc. 1, 75th Cong., 1st sess.       |
| Nov. 7, 1966  | Construct Pine Ford, Irondale, and I-38 dams and 19 Angler-use sites.  | H. Doc. 525, 89th Cong., 2d sess.                           |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sept. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of PL 91-646.

**Operations and results during fiscal year.** Work is complete on the lock and dam, railroad relocations, and the grade control structure. Engineering and design continued on remaining construction items. Project is about 92 percent complete.

**Maintenance.** Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNE- APOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion

included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the Gulf. See folder by Corps of Engineers of Navigational Charts, Middle and Upper Mississippi River, Cairo, IL to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from Gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1985) of \$181,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1985) is \$245,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 70 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

**Maintenance.** Work consisted of 1,964 feet of dike and 20,812 feet of revetment repair. U.S. plant and



hired labor performed channel dredging removing 4,191,000 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## Flood Control

### 5. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Estimated total Federal project cost of work under this authorization is \$33,600,000 (1985), \$22,020,000 for Cahokia-Harding Ditch Area, and \$11,580,000 for Blue Waters Ditch. Non-Federal cost is \$20,770,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. Formal assurances for the Cahokia-Harding Areas will be requested upon approval of the plan of improvement currently scheduled after FY 89, due to lack of funding for FY 85 through FY 89.

**Operations and results during fiscal year.** Planning was continued on project modifications authorized by Flood Control Act of 1965 and construction was continued on ditching contracts and on the pumping station. Work authorized by Flood Control Act of 1936 is complete.

### 6. ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County, IL, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1985) is \$6,380,000. Non-Federal cost is \$953,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

### 7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1985) is \$12,400,000. Non-Federal cost is \$1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-5 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general



## ST. LOUIS, MO, DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.   |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.  | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jan. 21, 1927   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended.   |   |
| Jul. 3, 1930  | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.<br>Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends. | Committee Doc. 9, 69th Cong., 2d sess.<br>Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.  |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.   |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 5 of Text)<br>Raise and enlarge existing levee.   |   |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.  | Special report on record in OCE.  |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.   | H. Doc. 329, 88th Cong., 2d sess.<br>Public Law 94-587, 94th Cong.                                    |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 7 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.  | H. Doc. 472, 87th Cong., 2d sess.   |
| Oct. 23, 1962   | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.  | H. Doc. 519, 87th Cong., 2d sess.   |
| Jul. 14, 1984   | <b>MAUVAISE TERRE DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 10 of Text)<br>Raise and enlarge existing levee and other modifications.   | Energy and Water Development Approp. Act of 1985, 98th Cong., 2d sess.                                |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sept. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of PL 91-646.

**Operations and results during fiscal year.** Work is complete on the lock and dam, railroad relocations, and the grade control structure. Engineering and design continued on remaining construction items. Project is essentially complete.

**Maintenance.** Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion

included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1986) of \$181,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1986) is \$245,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 71 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

**Maintenance.** Work consisted of 2,230 feet of dike and 18,755 feet of revetment repair. U.S. plant and

hired labor performed channel dredging removing 2,925,100 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## Flood Control

### 5. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Post authorization studies have indicated that flood plain detention areas, the reservoir on Little Canteen Creek and other related flood control measures in the Cahokia-Harding Ditch Area are not economically feasible. Also, further studies of the channel stabilization dam in Cahokia Creek diversion channel have been deferred due to lack of support from the local sponsor of the project. Estimated total Federal project cost of work under this authorization is \$33,600,000 (1985), \$22,020,000 for Cahokia-Harding Ditch Area, and \$11,580,000 for Blue Waters Ditch. Non-Federal cost is \$20,770,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work autho-

rized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981.

**Operations and results during fiscal year.** Construction of project modifications authorized by Flood Control Act of 1965 was continued. This work included ditching contracts and the Blue Waters Ditch pumping station. Work authorized by Flood Control Act of 1936 is complete.

### 6. ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County, IL, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1985) is \$6,380,000. Non-Federal cost is \$953,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2nd sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

**Operations and results during fiscal year.** Pre-construction planning was continued under the general investigation appropriation. Construction has not begun.

### 7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

**Location.** The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

**Existing project.** Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1985) is \$12,400,000. Non-Federal cost is \$1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

**Local cooperation.** Requirements of local cooperation are fully described on page 14-5 of Fiscal Year

ST. LOUIS, MO, DISTRICT

TABLE 14-B

AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                                       |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.   |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                                  |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.             |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                                      |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                                       |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 5 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.  |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.                                       |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.  | Public Law 94-587, 94th Cong.   |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                                       |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 7 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                                       |
| Oct. 23, 1962   | <b>HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 8 of Text)<br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                                       |
| Oct. 23, 1962   | <b>KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 9 of Text)<br>Raise and enlarge existing levee.   | H. Doc. 519, 87th Cong., 2d sess.                                       |
| Jul. 14, 1984   | <b>MAUVAISE TERRE DRAINAGE AND LEVEE DISTRICT, IL</b> (See Section 10 of Text)<br>Raise and enlarge existing levee and other modifications.  | Energy and Water Development Approp. Act of 1985, 98th Cong., 2nd sess. |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sept. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of PL 91-646.

**Operations and results during fiscal year.** Construction of remaining project items (Redressing and Revetment) was completed.

A contract was awarded for replacement of the floating guidewall timber fenders. Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340

miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1987) of \$181,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1986) is \$245,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 76 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.



**Maintenance.** Work consisted of 2,475 feet of dike and 20,443 feet of revetment repair. U.S. plant and hired labor performed channel dredging removing 2,925,100 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## 5. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River at river mile 30 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2000 feet long, 230 feet wide and 9 feet deep is being constructed. This project will provide a navigation channel for development of a port and related facilities at this location. Total estimated cost is \$4,256,000 (1,971,200 non-federal).

**Location cooperation.** On May 22, 1987, a Local Cooperation Agreement was signed between the Port District and the St. Louis District, Corps of Engineers.

**Results during fiscal year:** Construction work began on August 8, 1987. The contractor has completed an estimated 18 percent of the work by the end of the Fiscal Year 1987.

## Flood Control

## 6. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with

and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Post authorization studies have indicated that flood plain detention areas, the reservoir on Little Canteen Creek and other related flood control measures in the Cahokia-Harding Ditch Area are not economically feasible. Also, further studies of the channel stabilization dam in Cahokia Creek diversion channel have been deferred due to lack of support from the local sponsor of the project. Estimated total Federal project cost of work under this authorization is \$33,600,000 (1985), \$22,020,000 for Cahokia-Harding Ditch Area, and \$11,580,000 for Blue Waters Ditch. Non-Federal cost is \$20,770,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981.

**Operations and results during fiscal year.** Construction of project modifications authorized by Flood Control Act of 1965 was continued. This work included ditching contracts and the Blue Waters Ditch pumping station. Work authorized by Flood Control Act of 1936 is complete. The East St. Louis Pumping Station, which was constructed under the authority of the Flood Control Act of 1936, underwent major repairs to pumping units, gates and other equipment.

## 7. KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL

**Location.** In Randolph County, IL, on the right bank of the Mississippi River between miles 111 and 116 above the mouth of the Ohio River. (See Paducah, KY, IL, MO, IN, map published by Army Map Service, scale 1:250,000.)

**Previous project.** For details, see page 1375 of Annual Report for 1950.

**Existing project.** Project area contains about 9,460 acres only partially protected against flood stage of 38.5 feet on the Chester, IL, gage. Flooding occurs about once in every 7.3 years with an average duration of 26 days, causing substantial damage. The 1962 Flood Control Act (H. Doc. 519, 87th Cong., 2d sess.) provides for enlarging and raising the existing levee about 8 feet to provide protection against a flood having a frequency of once in 50 years. Estimated total

# REPORT OF THE CHIEF OF ENGINEERS, U.S. ARMY 1987

**TABLE 14-B**

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Oct. 21, 1978   | <b>LOCK AND DAM NO. 26 (REPLACEMENT)</b><br>Construct new Dam and a 1,200 Foot Lock approximately two miles downstream of the existing structure.  | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981   | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.  | Public Law 97-118, 97th Congress.                           |
| Aug. 15, 1985 and Nov. 17, 1986.  | Construct a second lock, 600 feet long the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| 1960 River and Harbor Act as amended, Section 107                                       | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 5 of Text)<br>Construct harbor channel with adjacent landfill.   |   |
| Nov. 17, 1986   | <b>CAPE GIRARDEAU, JACKSON METROPOLITAN AREA, MO</b><br>As outlined in the Report of the Chief of Engineers dated Dec. 8, 1984, the Water Resources Development Act of 1986 authorizes flood control and related recreational improvements in the Cape La Croix Creek Watershed.   | Public Law 99-662, 99th Cong., 2d Sess.                     |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.                            |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.                           |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.  | Public Law 94-587, 94th Cong.                               |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b><br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |
| Oct. 23, 1962   | <b>HARTWELL DRAINAGE AND LEVEE DISTRICT, IL</b><br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of state. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and results during fiscal year.** The project is physically complete. Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340

miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1988) of \$182,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1986) is \$245,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 76 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

**Maintenance.** Work consisted of 8,725 feet of dike and 47,935 feet of revetment repair. U.S. plant and hired labor plus contract dredging performed channel dredging removing 6,079,800 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## 5. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River at river mile 30 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000 feet long, 230 feet wide, and 9 feet deep is being constructed. This project will provide a navigation channel for development of a port and related facilities at this location. Total estimated cost is \$5,410,000 (2,149,000 non-Federal).

**Location cooperation.** On May 22, 1987, a Local Cooperation Agreement was signed between the Port District and the St. Louis District, Corps of Engineers.

**Results during fiscal year.** Construction of the channel was completed in early Fiscal Year 1988. Soon thereafter, a large slide occurred on the south bank of the harbor at the location where Southeast Missouri Port Authority has undertaken construction of a dock. Repair of this slide will be done in early Fiscal Year 1989, with repair costs to be shared in accordance with the local cooperation agreement.

## Flood Control

## 6. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottom lands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and

approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Postauthorization studies have indicated that flood plain detention areas, the reservoir on Little Canteen Creek and other related flood control measures in the Cahokia-Harding Ditch Area are not economically feasible. Also, further studies of the channel stabilization dam in Cahokia Creek diversion channel have been deferred due to lack of support from the local sponsor of the project. Estimated total Federal project cost of work under this authorization is \$33,600,000 (1985), \$22,020,000 for Cahokia-Harding Ditch Area, and \$11,580,000 for Blue Waters Ditch. Non-Federal cost is \$20,770,000.

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981.

**Operations and results during fiscal year.** Construction of project modifications authorized by Flood Control Act of 1965 was continued. This work included ditching contracts and the Blue Waters Ditch pumping station. Work authorized by Flood Control Act of 1936 is complete. The East St. Louis pumping station, which was constructed under the authority of the Flood Control Act of 1936, underwent major repairs to pumping units, gates, and other equipment.

## 7. KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL

**Location.** In Randolph County, IL, on the right bank of the Mississippi River between miles 111 and 116 above the mouth of the Ohio River. (See Paducah, KY, IL, MO, IN, map published by Army Map Service, scale 1:250,000.)

**Previous project.** For details, see page 1375 of Annual Report for 1950.

**Existing project.** Project area contains about 9,460 acres only partially protected against flood stage of

**REPORT OF THE CHIEF OF ENGINEERS, U.S. ARMY 1988**

**TABLE 14-B**

**AUTHORIZING LEGISLATION**

| <b>Acts</b>   | <b>Work Authorized</b>   | <b>Documents</b>  |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.  |   |
| Jan. 21, 1927   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   |   |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
|   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Oct. 21, 1978   | <b>LOCK AND DAM NO. 26 (REPLACEMENT)</b><br>Construct new Dam and a 1,200 Foot Lock approximately two miles downstream of the existing structure.  | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981   | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.  | Public Law 97-118, 97th Congress.                           |
| Aug. 15, 1985 and Nov. 17, 1986   | Construct a second lock, 600 feet long the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| 1960 River and Harbor Act as amended, Section 107                                       | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 5 of Text)<br>Construct harbor channel with adjacent landfill.   |   |
| Nov. 17, 1986   | <b>CAPE GIRARDEAU, JACKSON METROPOLITAN AREA, MO</b><br>As outlined in the Report of the Chief of Engineers dated Dec. 8, 1984, the Water Resources Development Act of 1986 authorizes flood control and related recreational improvements in the Cape La Croix Creek Watershed. | Public Law 99-662, 99th Cong., 2d Sess.                     |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.                            |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.                           |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.  | Public Law 94-587, 94th Cong.                               |
| Oct. 23, 1962   | <b>ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL</b><br>Raise and enlarge existing levee and other modifications.   | H. Doc. 472, 87th Cong., 2d sess.                           |



## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of state. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details see Annual Report for 1896, page 171.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1984) of \$145,060,000. Non-Federal project cost is \$7,665,000, of which \$1,500,000 is local contribution.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and results during fiscal year.** The project is physically complete. Hired labor performed operation and maintenance of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340

miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1989) of \$199,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1986) is \$245,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 77 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 and FY 1989 low water

conditions (drought) have increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 through FY 1989 (81% of original contract).

**Maintenance.** Work consisted of 8,725 feet of dike and 47,935 feet of revetment repair. U.S. plant and hired labor plus contract dredging performed channel dredging removing 6,079,800 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## 5. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River at river mile 30 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000 feet long, 230 feet wide, and 9 feet deep is being constructed. This project will provide a navigation channel for development of a port and related facilities at this location. Total estimated cost is \$5,410,000 (2,149,000 non-Federal).

**Location cooperation.** On May 22, 1987, a Local Cooperation Agreement was signed between the Port District and the St. Louis District, Corps of Engineers.

**Results during fiscal year.** Construction of the channel was completed in early Fiscal Year 1988. Soon thereafter, a large slide occurred on the south bank of the harbor at the location where Southeast Missouri Port Authority has undertaken construction of a dock. Repair of this slide was done in early Fiscal Year 1989, with repair costs shared in accordance with the local cooperation agreement.

## Flood Control

## 6. EAST ST. LOUIS AND VICINITY, IL

**Location.** Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottom lands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Existing project.** The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of

levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is \$22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Postauthorization studies have indicated that flood plain detention areas, the reservoir on Little Canteen Creek and other related flood control measures in the Cahokia-Harding Ditch Area are not economically feasible. Also, further studies of the channel stabilization dam in Cahokia Creek diversion channel have been deferred due to lack of support from the local sponsor of the project. Estimated total Federal project cost of work under this authorization is \$33,600,000 (1985), \$22,020,000 for Cahokia-Harding Ditch Area, and \$11,580,000 for Blue Waters Ditch. Non-Federal cost is \$20,770,000. The 1988 Energy and Water Development Appropriations Act authorized repair and rehabilitation of pump stations and appurtenant works, channels and bridge structures. The estimated total cost of this work, as shown in the Committee Report, is \$25,000,000. (The unapproved estimated total cost, Oct. 84 price level, is \$42,620,000.)

**Local cooperation.** Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. For work under the 1988 authorization, local interests have provided a letter of intent and a Local Cooperation Agreement is currently being processed for the first item of construction.

**Operations and results during fiscal year.** Scheduled construction of project modifications authorized by Flood Control Act of 1965 is complete. This work included ditching contracts and the Blue Waters Ditch pumping station. Work authorized by Flood Control Act of 1936 is also complete. The East St. Louis pumping station, constructed under the authority of the Flood Control Act of 1936, sustained damage during an October 1986 flood event and major repairs were accomplished with non-Corps of Engineers funds.

# REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 1989

**TABLE 14-B**

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b> (See Section 2 of Text)<br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 4 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>3</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>4</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Oct. 21, 1978   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b><br>Construct new Dam and a 1,200 Foot Lock approximately two miles downstream of the existing structure.  | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981   | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.  | Public Law 97-118, 97th Congress.                           |
| Aug. 15, 1985 and Nov. 17, 1986   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.  | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| 1960 River and Harbor Act as amended, Section 107                                       | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 5 of Text)<br>Construct harbor channel with adjacent landfill.   |   |
| Nov. 17, 1986   | <b>CAPE GIRARDEAU, JACKSON METROPOLITAN AREA, MO</b><br>As outlined in the Report of the Chief of Engineers dated Dec. 8, 1984, the Water Resources Development Act of 1986 authorizes flood control and related recreational improvements in the Cape La Croix Creek Watershed.   | Public Law 99-662, 99th Cong., 2d Sess.                     |
| Jun. 22, 1936   | <b>EAST ST. LOUIS AND VICINITY, IL</b> (See Section 6 of Text)<br>Raise and enlarge existing levee.  | Special report on record in OCE.                            |
| Oct. 27, 1965   | Construct pumping plant and other modifications to reduce interior flooding.   | H. Doc. 329, 88th Cong., 2d sess.                           |
| Oct. 22, 1976   | Construct Blue Waters Ditch as independent section.  | Public Law 94-587, 94th Cong.                               |
| —   | Repair and rehabilitate pump stations and appurtenant works, channels and bridges.   | Public Law 100-202, 100th Cong.                             |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1990) of \$200,600,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of

\$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1990) is \$264,736,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 79 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) have increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and continued through FY 1990. Contract is 99% complete.

**Maintenance.** Work consisted of 3,800 feet of dike and 19,480 feet of revetment repair. U.S. plant and hired labor plus contract dredging performed channel dredging removing 12,865,273 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River between river mile 47.5 to 48.8 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000 feet long, 230 feet wide, and 9 feet deep is being

TABLE 14-B

**ST. LOUIS, MO, DISTRICT**  
**AUTHORIZING LEGISLATION**

| Acts  | Work Authorized   | Documents   |
|---|---|---|
|   | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                                     | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
|   | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)   |   |
|   | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                                      | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                                     |   |   |
| Mar. 2, 1907 <sup>1</sup>                         |   |   |
| Mar. 3, 1905 <sup>1</sup>                         |   |   |
| Jun. 25, 1910                                     | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works. Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                                     | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                                      | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                                      | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>3</sup>                         | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>4</sup>                         | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                                     | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                                     | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986                   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
|   | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 4 of Text)  |   |
| 1960 River and Harbor Act as amended. Section 107 | Construct harbor channel with adjacent landfill.  |   |
|   | <b>ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL &amp; MO</b> (See Section 5 of Text)   |   |
| Jun. 22, 1936                                     | Authorized construction of levees to protect area from flooding from the Mississippi River.   | Special report on record in OCE                             |
| Jun. 28, 1938                                     |   | Flood Control Committee Doc. 1, 75th Cong., 1st sess.       |
| 1946  |   |   |



## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1990) of \$200,600,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam

about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1991) is \$264,673,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

**Maintenance.** Work consisted of 1,580 feet of dike and 7,285 feet of revetment repair. U.S. plant and hired labor plus contract dredging performed channel dredging removing 10,975,849 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River between river mile 47.5 to 48.8 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000 feet long, 230 feet wide, and 9 feet deep is being constructed. This project will provide a navigation channel for development of a port and related facilities at this location. Total estimated cost is \$5,405,600 (\$2,139,000 non-Federal).

ST. LOUIS, MO, DISTRICT

TABLE 14-B

AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
|   | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                                     | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
|   | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS (See Section 3 of Text)</b>   |   |
|   | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                                      | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                                     |   |   |
| Mar. 2, 1907 <sup>1</sup>                         |   |   |
| Mar. 3, 1905 <sup>1</sup>                         | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jun. 25, 1910                                     | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                                     | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                                      | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                                      | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>3</sup>                         | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>4</sup>                         | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                                     | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                                     | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986                   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990                                     | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
|   | <b>SOUTHEAST MISSOURI PORT, MO (See Section 4 of Text)</b>  |   |
| 1960 River and Harbor Act as amended. Section 107 | Construct harbor channel with adjacent landfill.  |   |
|   | <b>ST. LOUIS HARBOR, MO &amp; IL (See Section 5 of Text)</b>  |   |
| Nov 26, 1986                                      | As outlined in the Report of the Chief of Engineers, dated Apr. 30, 1984, the Water Resources Development Act of 1986 authorizes navigation improvements.   | Public Law 99-662 99th Cong., 2d sess.                      |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1992 price level) of \$211,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest

rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1992) is \$275,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction as is engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River between river mile 47.5 to 48.8 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000 feet long, 230 feet wide, and 9 feet deep is being constructed. This project will provide a navigation channel for development of a port and related facilities

## ST. LOUIS, MO, DISTRICT

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
|   | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                                     | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
|   | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)   |   |
|   | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                                      | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                                     |   |   |
| Mar. 2, 1907 <sup>1</sup>                         |   |   |
| Mar. 3, 1905 <sup>1</sup>                         | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jun. 25, 1910                                     | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                                     | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                                      | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                                      | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>                         | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>                         | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                                     | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                                     | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986                   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990                                     | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
|   | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 4 of Text)  |   |
| 1960 River and Harbor Act as amended. Section 107 | Construct harbor channel with adjacent landfill.  |   |
|   | <b>ST. LOUIS HARBOR, MO &amp; IL</b> (See Section 5 of Text)  |   |
| Nov 26, 1986                                      | As outlined in the Report of the Chief of Engineers, dated Apr. 30, 1984, the Water Resources Development Act of 1986 authorizes navigation improvements.   | Public Law 99-662 99th Cong., 2d sess.                      |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1993 price level) of \$215,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest

rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1993) is \$217,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction as is engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. SOUTHEAST MISSOURI PORT, MISSOURI

**Location.** The project is located on the right bank of the Mississippi River between river mile 47.5 to 48.8 above the Ohio River in the counties of Scott and Cape Girardeau in Southeast Missouri.

**Existing project.** Pursuant to Sec. 107, Public Law 86-645, as amended, a slackwater channel, 2,000

TABLE 14-B

## AUTHORIZING LEGISLATION

| Acts   | Work Authorized  | Documents   |
|--|--|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, IL</b><br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Jun. 25, 1910 | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.<br><br>These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | Annual Report, 1881, p. 1536.                               |
| Jan. 21, 1927  | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>  | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Oct. 21, 1978  | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b><br>Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.  | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981  | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.  | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986  | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.  | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990  | Modified to provide construction of cost-shared recreation facilities within the state of Illinois   | Public Law 101-640, 101st Cong.                             |
| 1960 River and Harbor Act as amended.<br>Section 107   | <b>SOUTHEAST MISSOURI PORT, MO</b> (See Section 4 of Text)<br>Construct harbor channel with adjacent landfill.   |   |
| Nov 26, 1986   | <b>ST. LOUIS HARBOR, MO &amp; IL</b> (See Section 5 of Text)<br>As outlined in the Report of the Chief of Engineers, dated Apr. 30, 1984, the Water Resources Development Act of 1986 authorizes navigation improvements.  | Public Law 99-662 99th Cong., 2d sess.                      |



## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1993 price level) of \$210,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of

\$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering bendway weir design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The

TABLE 14-B

AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b><br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
| Jun. 25, 1910   | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.<br>Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.  | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930  | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.   | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945  | Modified to provide construction of a lateral canal with lock at Chain of Rocks.   | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>   | Modified to provide construction of a small-boat harbor opposite Chester, IL.  | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>   | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.   |   |
| Oct. 21, 1978   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b><br>Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.  | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981   | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.  | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.  | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990   | Modified to provide construction of cost-shared recreation facilities within the state of Illinois   | Public Law 101-640, 101st Cong.                             |
| 1960 River and Harbor Act as amended. Section 107                                       | <b>SOUTHEAST MISSOURI PORT, MO</b><br>Construct harbor channel with adjacent landfill.   |   |
| Nov 26, 1986  | <b>ST. LOUIS HARBOR, MO &amp; IL</b> (See Section 4 of Text)<br>As outlined in the Report of the Chief of Engineers, dated Apr. 30, 1984, the Water Resources Development Act of 1986 authorizes navigation improvements.  | Public Law 99-662 99th Cong., 2d sess.                      |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DIST.) (INCLUDES MELVIN PRICE LOCKS & DAM)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1994 price level) of \$210,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast

Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering bendway weir design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the

**TABLE 14-B** **AUTHORIZING LEGISLATION**

| Acts   | Work Authorized   | Documents   |
|--|---|---|
| Oct. 23, 1962  | <b>KASKASKIA RIVER, IL</b><br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup><br>Jun. 25, 1910 | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.<br><br>These acts practically abrogated that part of project for middle Mississippi which proposed regulating works. Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. | Annual Report, 1881, p. 1536.                               |
| Jan. 21, 1927  | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930   | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945   | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>  | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>  | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
| Oct. 21, 1978  | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b><br>Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981  | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986  | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990  | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
| Oct. 31, 1992  | Modified to allow cost-shared recreation with other non-Federal interests and authorized a 24,000 square foot visitor center.   | Public Law 102-580, 102nd Cong.                             |
| 1960 River and Harbor Act as amended.<br>Section 107   | <b>SOUTHEAST MISSOURI PORT, MO</b><br>Construct harbor channel with adjacent landfill.  |   |

**Navigation**

**1. ILLINOIS WATERWAY, IL  
(ST. LOUIS DIST.)**

See report on Illinois Waterway, IL and IN, under Rock Island District.

**2. MISSISSIPPI RIVER BETWEEN  
MISSOURI RIVER AND  
MINNEAPOLIS, MN  
(ST. LOUIS DIST.)**

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

**3. MISSISSIPPI RIVER BETWEEN  
OHIO AND MISSOURI RIVERS,  
MO AND IL**

**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1996 price level) of \$278,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945

River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering bendway weir design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 82 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were initiated during FY 96 and will be completed in FY 97. In FY 96, repairs and rehabilitation of the relief well system were completed. In FY 97, work will be initiated and completed on the relocation of a drainage ditch at the toe of the levee. The total cost of the emergency repairs is estimated to be \$12,000,000. A design deficiency report has been submitted to Headquarters recommending additional

## ST. LOUIS, MO, DISTRICT

berms, relief wells and a pump station. However, no further remedial measures are scheduled, pending approval of this report.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (1993) is \$13,200,000 Federal and \$26,135,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its location so that it is a northern extension of the

existing Tri-City harbor (the authorized project length of 6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

**Operations and results during the fiscal year.** In January 1992 District completed a letter report that documented a preliminary analysis of the costs and benefits of the PRAIS and the Tri-City harbor projects. Headquarters reviewed the letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan (PSP) will describe how the reevaluation studies will be accomplished. In FY 96, the PSP began and was completed. The start of the GRR is scheduled for FY 97.

### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity for FY 96.

### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1996) is \$21,018,000 Federal and \$4,218,000 non-Federal.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662, the Local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been executed for the portion of the remedial work that is 100% federally funded.

**Operations and results during fiscal year.** PL 84-99, 1995 Flood Repair completed (see paragraph 19). Resumption of project initiated. New slides discovered during the 1996 spring levee inspections.



# REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 1996

**TABLE 14-B**

## AUTHORIZING LEGISLATION

| Acts  | Work Authorized   | Documents   |
|---|---|---|
|   | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                                     | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
|   | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS (See Section 3 of Text)</b>   |   |
|   | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                                      | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                                     |   |   |
| Mar. 2, 1907 <sup>1</sup>                         |   |   |
| Mar. 3, 1905 <sup>1</sup>                         | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jun. 25, 1910                                     | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                                     | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                                      | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                                      | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>                         | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>                         | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|   | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                                     | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                                     | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986                   | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990                                     | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
| Oct. 31, 1992                                     | Modified to allow cost-shared recreation with other non-Federal interests and authorized a 24,000 square foot visitor center.   | Public Law 102-580, 102nd Cong.                             |
|   | <b>SOUTHEAST MISSOURI PORT, MO</b>  |   |
| 1960 River and Harbor Act as amended. Section 107 | Construct harbor channel with adjacent landfill.  |   |

**Navigation**

**1. ILLINOIS WATERWAY, IL  
(ST. LOUIS DIST.)**

See report on Illinois Waterway, IL and IN, under Rock Island District.

**2. MISSISSIPPI RIVER BETWEEN  
MISSOURI RIVER AND  
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See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

**3. MISSISSIPPI RIVER BETWEEN  
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**Location.** Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

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**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1997 price level) of \$272,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act,

which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

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**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering bendway weir design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 68 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging. During FY 1988 through FY 1990 low water conditions (drought) increased maintenance dredging. To improve navigation depths a rock removal contract began Oct. 1988 and was completed in July 1991.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. In FY 96, repairs and rehabilitation of the relief well system were completed. In FY 97, work was completed on the relocation of a drainage ditch at the toe of the levee. The cost of the emergency repairs totals nearly \$12,000,000. A design deficiency report has been submitted to Headquarters recommending additional

berms, relief wells and a pump station. However, no further remedial measures are scheduled, pending final approval of this report and subsequent funding.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

#### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (1996) is \$14,367,000 Federal and \$28,715,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its

location so that it is a northern extension of the existing Tri-City harbor (the authorized project length of 6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

**Operations and results during the fiscal year.** In January 1992 District completed a letter report that documented a preliminary analysis of the costs and benefits of the PRAIS and the Tri-City harbor projects. Headquarters reviewed the letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan (PSP) will describe how the reevaluation studies will be accomplished. Preparation of the GRR began in FY 97 and will continue in FY 98.

#### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity for FY 96.

#### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been executed for the portion of the remedial work that is 100% federally funded.

**Operations and results during fiscal year.** PL 84-99, 1995 Flood Repair completed (see paragraph 19). Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. A contract was awarded in July 1997 to repair the Blue

TABLE 14-B

AUTHORIZING LEGISLATION

| Acts  | Work Authorized  | Documents   |
|---|--|---|
| Oct. 23, 1962   | <b>KASKASKIA RIVER, IL</b><br>Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.  | S. Doc. 44, 87th Cong., 1st sess.                           |
| Oct. 12, 1996   | "... is modified to add fish and wildlife and habitat restoration as project purpose."   | Public Law 104-303  |
| Jun. 3, 1896<br>Jun. 13, 1902<br>Mar. 2, 1907 <sup>1</sup><br>Mar. 3, 1905 <sup>1</sup> | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)<br>Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)<br>Dredging introduced as part of the project.   | Annual Report, 1881, p. 1536.                               |
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## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

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**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi", between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1998 price level) of \$274,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act,

which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

#### Operations and results during fiscal year.

**Regulating Works:** contracts continue on stone dike and revetment construction; as well as engineering bendway weir design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 68 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. In FY 96, repairs and rehabilitation of the relief well system were completed. In FY 97, work was completed on the relocation of a drainage ditch at the toe of the levee. The cost of the emergency repairs totals nearly \$12,000,000. In Jan 1998, Headquarters approved the design deficiency report, recommending additional berms, relief wells, and a pump station. Funds to initiate deficiency corrections were budgeted for FY 1999.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

#### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (1998) is \$15,074,000 Federal and \$29,734,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its location so that it is a northern extension of the existing Tri-City harbor (the authorized project length of

6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

#### **Operations and results during the fiscal year.**

In January 1992 District completed a letter report that documented a preliminary analysis of the costs and benefits of the PRAIS and the Tri-City harbor projects. Headquarters reviewed the letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan (PSP). Preparation of the GRR began in FY 97 and continued in FY 98.

#### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity for FY 98.

#### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies, increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been executed for the portion of the remedial work that is 100% federally funded.

**Operations and results during fiscal year.** PL 84-99, 1995 Flood Repair completed (see paragraph 19). Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. The contract to repair the Blue Waters Levee in the Metro East Drainage and Levee District was completed Oct. 1997.



**TABLE 14-B AUTHORIZING LEGISLATION**

| Acts                            | Work Authorized   | Documents   |
|---------------------------------|---|---|
|                                 | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                   | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
| Oct. 12, 1996                   | "... is modified to add fish and wildlife and habitat restoration as project purpose."  | Public Law 104-303  |
|                                 | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS (See Section 3 of Text)</b>   |   |
|                                 | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                    | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                   |   |   |
| Mar. 2, 1907 <sup>1</sup>       |   |   |
| Mar. 3, 1905 <sup>1</sup>       | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jun. 25, 1910                   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                    | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                    | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>       | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>       | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|                                 | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                   | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                   | Change name from "Lock and Dam No. 26" to "Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986 | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990                   | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
| Oct. 31, 1992                   | Modified to allow cost-shared recreation with other non-Federal interests and authorized a 24,000 square foot visitor center.   | Public Law 102-580, 102nd Cong.                             |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 3. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi", between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 1999 price level) of \$274,374,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act,

which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 76 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$23,728,000 (Oct 1999 price level). These corrections were initiated in FY 99.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies,

recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

#### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (1998) is \$15,074,000 Federal and \$29,734,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its location so that it is a northern extension of the existing Tri-City harbor (the authorized project length of 6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

**Operations and results during the fiscal year.** Headquarters reviewed the District's 1992 letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan

(PSP). Preparation of the GRR began in FY 97. In FY 99, Tri-City Regional Port District requested an evaluation of a new harbor location just below the mouth of the Chain of Rocks Canal. Evaluation of this site began in FY 99 and will continue in FY 00.

#### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 99.

#### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal. Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. The contract to repair the Blue Waters Levee in the Metro East Drainage and Levee District was completed Oct. 1997.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been executed for the portion of the remedial work that is 100% federally funded.

#### Operations and results during fiscal year.

No activity in FY 99.

#### 7. CAPE GIRARDEAU-JACKSON, MO

**Location.** Missouri, along the right bank of the Mississippi River between River Miles 50 and 55 above the Ohio River.

**Existing Project.** The project includes a 157 acre dry detention reservoir; approximately one mile of

**TABLE 14-B**

**AUTHORIZING LEGISLATION**

| <b>Acts</b>                     | <b>Work Authorized</b>  | <b>Documents</b>  |
|---------------------------------|---|---|
|                                 | <b>KASKASKIA RIVER, IL</b>  |   |
| Oct. 23, 1962                   | Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.   | S. Doc. 44, 87th Cong., 1st sess.                           |
| Oct. 12, 1996                   | "... is modified to add fish and wildlife and habitat restoration as project purpose."  | Public Law 104-303  |
|                                 | <b>MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS</b> (See Section 3 of Text)   |   |
|                                 | Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)  | Annual Report, 1881, p. 1536.                               |
| Jun. 3, 1896                    | Dredging introduced as part of the project.   |   |
| Jun. 13, 1902                   |   |   |
| Mar. 2, 1907 <sup>1</sup>       |   |   |
| Mar. 3, 1905 <sup>1</sup>       | These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.   |   |
| Jun. 25, 1910                   | Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of \$21 million, exclusive of amounts previously expended. |   |
| Jan. 21, 1927                   | For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.   | Committee Doc. 9, 69th Cong., 2d sess.                      |
| Jul. 3, 1930                    | Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.  | Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess. |
| Mar. 2, 1945                    | Modified to provide construction of a lateral canal with lock at Chain of Rocks.  | H. Doc. 231, 76th Cong., 1st sess.                          |
| Sep. 3, 1954 <sup>2</sup>       | Modified to provide construction of a small-boat harbor opposite Chester, IL.   | H. Doc. 230, 83d Cong., 1st sess.                           |
| Jul. 3, 1958 <sup>3</sup>       | Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.  |   |
|                                 | <b>MELVIN PRICE LOCKS &amp; DAM (FORMERLY LOCK AND DAM NO. 26 (REPLACEMENT))</b>  |   |
| Oct. 21, 1978                   | Construct new dam and a 1,200-foot lock approximately 2 miles downstream of the existing structure.   | Public Law 95-502, 95th Cong.                               |
| Dec. 29, 1981                   | Change name from Lock and Dam No. 26" to Melvin Price Lock and Dam" upon termination of service in U.S. Congress.   | Public Law 97-118, 97th Cong.                               |
| Aug. 15, 1985 and Nov. 17, 1986 | Construct a second lock, 600 feet long at the Lock and Dam No. 26. (Replacement) Project.   | Public Law 99-88 and Public Law 99-662, 99th Cong.          |
| Nov. 28, 1990                   | Modified to provide construction of cost-shared recreation facilities within the state of Illinois  | Public Law 101-640, 101st Cong.                             |
| Oct. 31, 1992                   | Modified to allow cost-shared recreation with other non-Federal interests and authorized a 24,000 square foot visitor center.   | Public Law 102-580, 102nd Cong.                             |

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Hired labor performed operation (\$968,953) and maintenance (\$1,222,210) of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2000 price level) of \$269,273,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.**

**Regulating Works:** contracts continue on stone dike and revetment construction; as well as engineering design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 76 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$24,756,000 (Oct 2000 price level). These corrections were initiated in FY 99 and continued in FY 00.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

**5. ST. LOUIS HARBOR, MO AND IL**

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900

ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (1999) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its location so that it is a northern extension of the existing Tri-City harbor (the authorized project length of 6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

**Operations and results during the fiscal year.** Headquarters reviewed the District's 1992 letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan (PSP). Preparation of the GRR began in FY 97. In FY 99, Tri-City Regional Port District requested an evaluation of a new harbor location just below the mouth of the Chain of Rocks Canal. Evaluation of this site began in FY 99 and continued in FY 00.

**6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION**

No activity in FY 00.

**7. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO**

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events.



**Navigation**

**1. ILLINOIS WATERWAY, IL  
(ST. LOUIS DISTRICT)**

See report on Illinois Waterway, IL and IN, under Rock Island District.

**2. KASKASKIA RIVER, IL**

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Hired labor performed operation (\$914,837) and maintenance (\$1,112,507) of the project.

**3. MISSISSIPPI RIVER BETWEEN  
MISSOURI RIVER AND  
MINNEAPOLIS, MN  
(ST. LOUIS DISTRICT)**

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

**4. MISSISSIPPI RIVER BETWEEN  
OHIO AND MISSOURI RIVERS,  
MO AND IL**

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2001 price level) of \$267,780,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: contracts continue on stone dike and revetment construction; as well as engineering design, supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 79 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River Flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee was not performing as intended. Sand boils were developing along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$29,200,000 (Oct 2001 price level). These corrections were initiated in FY 99 and continued in FY 01.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

## 5. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along

6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (2000) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis Port Authority supports the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider the possibility of reducing the length of their Phase I harbor to 1,800 ft. and shifting its location so that it is a northern extension of the existing Tri-City harbor (the authorized project length of 6,900 ft. would be maintained by increasing the length of the Phase 2 harbor to 5,100 ft.).

**Operations and results during the fiscal year.** Headquarters reviewed the District's 1992 letter report and directed that new economic studies and other work be accomplished and documented in a General Reevaluation Report (GRR) with a Project Study Plan (PSP). Preparation of the GRR began in FY 97. In FY 99, Tri-City Regional Port District requested an evaluation of a new harbor location just below the mouth of the Chain of Rocks Canal. Evaluation of this site began in FY 99 and continued in FY 01.

## 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 01.

### Flood Control

## 7. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Hired labor performed operation (\$1,318,004) and maintenance (\$714,642) of the project.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (2000) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis is unable to continue as a sponsor for the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider a project location just below the mouth of the Chain of Rocks Canal adjacent to the former Charles Melvin Price Support Center that the sponsor recently acquired. The proposed reconfigured harbor facility is considerably smaller than the authorized 6,900-foot facility.

**Operations and results during the fiscal year.** The District submitted a plan formulation package for Division and Headquarters review in April 2002. Since then, the District has addressed preliminary comments; policy review is continuing in FY 2003.

### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 02.

**Navigation****1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)**

See report on Illinois Waterway, IL and IN, under Rock Island District.

**2. KASKASKIA RIVER, IL**

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Hired labor performed operation (\$2,115,956) and maintenance (\$190,709) of the project.

**3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)**

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

**4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL**

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2003 price level) of \$270,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: purchased easements and continued tree planting contract for the Thompson Bend riparian corridor, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 80 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$33,400,000 (Oct 03 price level). These corrections were initiated in FY 99 and continued in FY 04.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. In Aug 04, performed emergency repair work on the lock gates at Lock and Dam 27, which is in need of major rehabilitation. (Major rehabilitation report was approved in Aug 02.)

## 5. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control struc-

ture in the river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (2000) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis is unable to continue as a sponsor for the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider a project location just below the mouth of the Chain of Rocks Canal adjacent to the former Charles Melvin Price Support Center that the sponsor recently acquired. The proposed reconfigured harbor facility is considerably smaller than the authorized 6,900-foot facility.

**Operations and results during the fiscal year.** A draft negative report is being prepared, which will terminate the Corps' effort on this project.

## 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 04.

## Flood Control

## 7. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Operation and maintenance costs totaled \$1,882,641.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2004 price level) of \$266,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.



**Operations and results during fiscal year.** Regulating Works: purchased 52 acres of easements, continued tree planting contract for the Thompson Bend riparian corridor, completed Mosenthien Phase 1 dike and revetment contract, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 80 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$34,700,000 (Oct 04 price level). These corrections were initiated in FY 99 and continued in FY 05.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. In FY 05, fabricated lift gate machinery for Locks 27, which is in need of major rehabilitation. (Major rehabilitation report was approved in Aug 02.)

## 5. ST. LOUIS HARBOR, MO AND IL

**Location.** The project area includes both sides of the Mississippi River from miles 138.8 to 208.8 above the Ohio River (generally, the limits of the Port of Metropolitan St. Louis).

**Existing project.** The project was authorized by the Water Resources Development Act of 1986. The authorized project includes improvements in two areas: the North Riverfront area in Missouri (which is served by the St. Louis Municipal Docks) and the Tri-City Port area along the east bank of the Chain of Rocks Canal in Illinois. The principal project at the St. Louis Municipal Docks is an L-dike sediment control structure in the

river to provide reliable water access to the dock when the river is low. The principal project at the Tri-City Port area is a 210 ft. wide harbor along 6,900 ft. of the Chain of Rocks Canal. The North Riverfront project and half the Tri-City harbor (3,450 ft.) would be constructed in Phase 1, and the second half of the Tri-City harbor in Phase 2 approximately 10 years later. Estimated cost of the project (2000) is \$15,524,000 Federal and \$30,624,000 Non-Federal. A March 1986 Reevaluation Report described model tests which showed that the L-dike sediment control structure recommended for the St. Louis Municipal Docks would not be effective but that appropriate configuration of a new outer wall for the docks, referred to as the Prototype River Access Improvement Structure (PRAIS), would divert currents so as to control scour and sedimentation and maintain sufficient water depths for the needs of the harbor.

**Local cooperation.** The District coordinated with the two local sponsors and found that (1) the city of St. Louis is unable to continue as a sponsor for the PRAIS project and (2) the Tri-City Regional Port Authority wants the Corps to consider a project location just below the mouth of the Chain of Rocks Canal adjacent to the former Charles Melvin Price Support Center that the sponsor recently acquired. The proposed reconfigured harbor facility is considerably smaller than the authorized 6,900-foot facility.

**Operations and results during the fiscal year.** Terminated the Corps' effort on this project.

## 6. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 05.

## Flood Control

## 7. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing Project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal.

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Operation and maintenance costs totaled \$1,846,385.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2005 price level) of \$267,600,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor, initiated and completed Ft. Chartres Dike and Revetment (Phase 4) contract, initiated and completed Dike and Revetment River Mile 195-0 contract, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 80 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$38,200,000 (Oct 05 price level). These corrections were initiated in FY 99 and continued in FY 06.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. In FY 05, fabricated lift gate machinery for Locks 27, which is in need of major rehabilitation. (Major rehabilitation report was approved in Aug 02.)

##### **5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION**

No activity in FY 06.

##### **Flood Control**

##### **6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO**

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal. Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. The contract to repair the Blue Waters Levee in the Metro East Drainage and Levee District was completed Oct. 1997.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been completed for a portion of the remedial work that was 100% federally funded. In Nov. 2000, ASACW granted an exception to the policy requiring non-Federal cost sharing for deficiency corrections. As a result, 44 levee slides were repaired at 100 percent Federal cost. This portion of work was completed in 2002.

**Operations and results during fiscal year.** Not applicable; project was last funded in FY 2004.

##### **7. BOIS BRULE, MO**

**Location.** The Bois Brule project is located on the right bank of the Mississippi River, and is predominately in Perry County, Missouri, but has a small part in Randolph County, Illinois.

**Existing project.** The existing project was authorized by the Flood Control Acts of 1936 and 1965. It consists of 33.1 miles of levee, 341 relief wells, and 4 pump stations. The Energy and Water Development Appropriations Act of 2002 provided directive language and funding to undertake design deficiency repairs with cost sharing consistent with the original project authorization. The deficiency correction project consists of 297 relief wells, seepage berms, a seepage cutoff trench, ditching, 3 pump stations, and restoration of 4.2 miles of the back levee to its design grade. The deficiency correction project is approximately 20 percent complete.

**Local cooperation.** The Bois Brule Levee and Drainage District is the local sponsor and is responsible

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and result during fiscal year.** Operation and maintenance costs totaled \$1,825,066.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate chapter entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 2006 price level) of \$268,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor, initiated Mosenthein Reach/Ivory Landing Dike and Revetment (Phase 2) contract, initiated Kaskasia Bend Dike and Revetment (Phase 5) contract, initiated and completed Dike and Revetment River Mile 195-0 contract, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 80 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$46,400,000 (Oct 06 price level). These corrections were initiated in FY 99 and continued in FY 07 with the construction of seepage berms.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. In FY 05, fabricated lift gate machinery for Locks 27, which is in need of major rehabilitation. (Major rehabilitation report was approved in Aug 02.)

##### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

No activity in FY 07.

##### Flood Control

##### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events. The recommended plan will correct these slides by a lime stabilization procedure. Estimated cost (1997) is \$109,018,000 Federal and \$4,374,000 non-Federal. Resumption of project initiated. New slides were discovered during the 1997 spring levee inspections. The contract to repair the Blue Waters Levee in the Metro East Drainage and Levee District was completed Oct. 1997.

**Local cooperation.** The cost sharing applicable for the Alton to Gale Levee Slide repairs is in accordance with policies established for the Water Resources Development Act of 1986, PL 99-662. The local sponsor is required to operate and maintain all works after completion. Supplemental assurances have been completed for a portion of the remedial work that was 100% federally funded. In Nov. 2000, ASACW granted an exception to the policy requiring non-Federal cost sharing for deficiency corrections. As a result, 44 levee slides were repaired at 100 percent Federal cost. This portion of work was completed in 2002.

**Operations and results during fiscal year.** Not applicable; project was last funded in FY 04.

##### 7. BOIS BRULE, MO

**Location.** The Bois Brule project is located on the right bank of the Mississippi River, and is predominately in Perry County, Missouri, but has a small part in Randolph County, Illinois.

**Existing project.** The existing project was authorized by the Flood Control Acts of 1936 and 1965. It consists of 33.1 miles of levee, 341 relief wells, and 4 pump stations. The Energy and Water Development Appropriations Act of 2002 provided directive language and funding to undertake design deficiency repairs with cost sharing consistent with the original project authorization. The deficiency correction project consists of 297 relief wells, seepage berms, a seepage cutoff trench, ditching, 3 pump stations, and restoration of 4.2 miles of the back levee to its design grade. The deficiency correction project is approximately 20 percent complete.

**Local cooperation.** The Bois Brule Levee and Drainage District is the local sponsor and is responsible for land acquisition and relocations. The design and

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and results during fiscal year.** Operation and maintenance costs totaled \$2,699,549 (includes \$20,325 for FY 08 War Supplemental funds used for environmental habitat dredging).

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate chapter entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as "Middle Mississippi," between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 07) price level) of \$269,000,000; (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for



development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor, continued Mosenhein Reach/Ivory Landing Dike and Revetment (Phase 2) contract, completed Kaskaskia Bend Dike and Revetment (Phase 5) contract, initiated Dike and Revetment River Mile (RM) 195-0 contract (Water's Point dikes), negotiated purchase of 119 acres of easements, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed along a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$48,500,000 (Oct 07 price level).

These corrections were initiated in FY 99 and continued in FY 08 with the construction of seepage berms. Additionally, land was purchased for project mitigation.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair yearly. U.S. plant and hired labor plus contract dredging perform channel dredging removing 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. During FY 08, the following funds were expended: \$5,470,808 Regulating Works; \$6,300,821 Chain of Rocks; and \$770,762 L&D 27, Rehabilitation for a total cost of \$12,542,391. FY 08 War Supplemental funds of \$1,098,283 were used for debris, silt, and vegetation removal; herbicide application; shoreline revetment; and recreation area flood cleanup

## 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

**Projects not specifically authorized by Congress pursuant to Sec. 107, 1960 Act and Modifications.**

During FY 08, funds were expended as follows: \$9,974 CAP Section 107.

**Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111).**

In FY 08, funds were expended as follows: \$6,163 CAP Section 111 Coordination Account.

## Flood Control

## 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL and MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events.

Navigation**1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)**

See report on Illinois Waterway, IL and IN, under Rock Island District.

**2. KASKASKIA RIVER, IL**

**Location.** The Kaskaskia River rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,00.)

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and results during fiscal year.** Operation and maintenance costs totaled \$4,445,570 (includes \$1,209,579 for FY 08 War Supplemental funds used for side channel cleanout/habitat maintenance, bulkhead repairs, and relief/drainage system repairs and \$420,930 in American Recovery and Re-investment Act (ARRA) funds used to award contracts for dredging of main channel, oxbows, road surfacing, two new comfort stations, and repair of miscellaneous items)..

**3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)**

See separate chapter entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

**4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL**

**Location.** The Mississippi River rises in Lake Itasca, MN, and from there flows southerly about 2,340 miles and empties into the Gulf of Mexico. This portion of the river is the 195-mile section known as "Middle Mississippi," between tributaries Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for dredging and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 09) price level) of \$350,000,000; (2) by dredging to maintain project channels; (3) by construction of works for Chain of Rocks reach authorized in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a

cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor; completed Mosenstein Reach/Ivory Landing Dike and Revetment (Phase 2) contract; initiated Dike and Revetment River Mile (RM) 195-0 contract (Merchant's Bridge scour protection); purchased 119 acres of easements; initiated Eliza Point/Greenfield Bend Dike and Revetment (Phase 2) contract; initiated Grand Tower Dike and Revetment (Phase 4) contract; initiated Dogtooth Bend Dike and Revetment (Phase 3, ARRA funds) contract; and initiated rock removal (Phases 2-4) contract, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed within a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 97. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$53,400,000 (Oct 08 price level).

These corrections were initiated in FY 99 and continued in FY 09 with the award of a task order for continuing work on the construction of the north seepage berms. ARRA funds were used to award a task order to complete the dredging requirements for the north seepage berms and a task order for development of land purchased for project mitigation requirements.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair annually. U.S. plant and hired labor plus contract dredging perform channel maintenance by dredging 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued. During FY 09, the following funds were expended: \$4,625,091 Regulating Works; \$2,191,916 Chain of Rocks; and \$2,929,626 L&D 27, Rehabilitation for a total cost of \$9,746,633. FY 08 War Supplemental funds of \$6,412,824 were used for repair to existing dike and revetment and dredging.

## 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

**Projects not specifically authorized by Congress pursuant to Sec. 107, 1960 Act and Modifications.**

During FY 09, funds were expended as follows: \$4,992 CAP Section 107.

**Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111).**

In FY 09, funds were expended as follows: \$11,680 CAP Section 111 Coordination Account.

### Flood Control

## 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL and MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The Kaskaskia River rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River.

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a 36-mile channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on Sep. 10, 1965; these assurances were supplemented on Aug. 7, 1972, to incorporate the provisions of Public Law 91-646.

**Operations and results during fiscal year.** Operation and maintenance costs totaled \$16,338,908 (includes \$14,065,572 in American Recovery and Reinvestment Act (ARRA) funds) expended on critical maintenance to lock and dam electric system/machinery and completion of remote lock control capability, resurfaced project roads and parking lots, replacement of miter gate strut arms, asbestos removal from project buildings, installation of toilets in parks, navigation channel dredging, silt removal at the mouths of numerous remnant side channels and connection to municipal potable water supply.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate chapter entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from there flows southerly about 2,340 miles and empties into the Gulf of Mexico. This portion of the river is the 195-mile section known as "Middle Mississippi," between tributaries Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for dredging and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (Oct 09) price level) of \$350,000,000; (2) by dredging to maintain project channels; (3) by construction of works for Chain of Rocks reach authorized in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a

## ST. LOUIS, MO, DISTRICT

cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor; completed Mosenstein Reach/Ivory Landing Dike and Revetment (Phase 2) contract; initiated Dike and Revetment River Mile (RM) 195-0 contract (Merchant's Bridge scour protection); purchased 119 acres of easements; initiated Eliza Point/Greenfield Bend Dike and Revetment (Phase 2) contract; initiated Grand Tower Dike and Revetment (Phase 4) contract; initiated Dogtooth Bend Dike and Revetment (Phase 3, ARRA funds) contract; and initiated rock removal (Phases 2-4) contract, engineering and design, and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed within a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 1997. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$53,400,000 (Oct 2009 price level). These corrections were initiated in FY 1999 and

continued in FY 2010 with the award of a contract for construction of the south seepage berms. ARRA funds were used to complete the dredging requirements for the north seepage berms, award a contract to complete construction of the north seepage berms, award two contracts for relief well construction, and award a task order to fully fund construction of the south seepage berms.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair annually. U.S. plant and hired labor plus contract dredging perform channel maintenance by dredging 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Locks 27 continue. During FY 2010, the following funds were expended: \$9,806,321 Regulating Works; \$9,513,669 Chain of Rocks; and \$10,580,618 Locks 27, Rehabilitation for a total cost of \$29,900,609. FY 2008 War Supplemental funds \$1,089,682 and FY 2009 CRA Supplemental funds \$951,891 were used to repair existing dike and revetment and dredging.

### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

**Projects not specifically authorized by Congress pursuant to Sec. 107, 1960 Act and Modifications.**

During FY 2010, funds were expended as follows: \$4,973 CAP Section 107.

**Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111).**

In FY 2010, funds were expended as follows: \$12,494 CAP Section 111 Coordination Account.

### Flood Control

### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL and MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many

## Navigation

### 1. ILLINOIS WATERWAY, IL (ST. LOUIS DISTRICT)

See report on Illinois Waterway, IL and IN, under Rock Island District.

### 2. KASKASKIA RIVER, IL

**Location.** The Kaskaskia River rises in Champaign County, IL, about 5 miles northwest of Urbana, in the east-central part of the state. It flows southwesterly about 325 miles and empties into the Mississippi River about 8 miles above Chester, IL, or about 118 miles above the mouth of the Ohio River.

**Previous project.** For details, see Annual Report for 1986.

**Existing project.** Improvement for navigation provides a 36-mile channel 9 feet deep and 225 feet wide from the mouth to Fayetteville, IL. Improvements included channel enlargement and a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long. Federal cost totaled \$147,387,000; non-Federal cost totaled \$7,665,000, which included \$1,118,160 local contributions. Fish and wildlife and habitat restoration added in 1996 and recreation in 2000 as project purposes.

**Local cooperation.** State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted on behalf of the United States on September 10, 1965; these assurances were supplemented on August 7, 1972, to incorporate the provisions of P.L. 91-646.

**Operations and results during fiscal year.** Operation and maintenance costs totaled \$6,659,070 (includes \$3,627,641 in American Recovery and Reinvestment Act (ARRA) funds) expended on critical maintenance to lock and dam, potable water, complete dredging of channel between New Athens and Fayetteville, and cleanout of side channels. Culvert valve replacement was accomplished with FY 2010 Supplemental Appropriation funds of \$534,992 and FY 2009 CRA Supplemental funds of \$559,682.

### 3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN (ST. LOUIS DISTRICT)

See separate chapter entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers. This section includes Lock & Dam 24 Major Rehabilitation, Lock & Dam 25 Major Rehabilitation, and Melvin Price Locks & Dam.

### 4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

**Location.** The Mississippi River rises in Lake Itasca, MN, and from there flows southerly about 2,340 miles and empties into the Gulf of Mexico. This portion of the river is the 195-mile section known as "Middle Mississippi," between tributaries Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. (See folder by Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

**Previous projects.** For details, see page 1879 of Annual Report for 1915 and page 1014 of Annual Report for 1938.

**Existing project.** The existing project provides for dredging and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of City of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (October 2009 price level) of \$350,000,000; (2) by dredging to maintain project channels; (3) by construction of works for Chain of Rocks reach authorized in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of \$59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at a



## ST. LOUIS, MO, DISTRICT

cost of \$4,353,000, excluding \$7,000 costs to Coast Guard for aids to navigation. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3rd sess.) for report of Chief of Engineers dated February 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

**Local cooperation.** None required.

**Terminal facilities.** Existing facilities are considered adequate for existing commerce.

**Operations and results during fiscal year.** Regulating Works: continued tree planting contract for the Thompson Bend riparian corridor; completed Mosenstein Reach/Ivory Landing Dike and Revetment (Phase 3) contract; and completed the Eliza Point Greenfield Bend Dike and Revetment (Phase 3) contract. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Following the great Mississippi River flood of 1993, it became apparent that the Chain of Rocks, East Canal Levee, was not performing as intended. Sand boils developed within a sizeable reach at flood elevations considerably below design height. Emergency repairs were completed in FY 1997. Deficiency corrections (additional berms, relief wells, and a pump station) are estimated at \$54,800,000 (October 2009 price level). These corrections were initiated in FY 1999 and continued in FY 2011 with the award of a contract to construct the pump station. ARRA funds were used to complete the dredging requirements for the north seepage berms, complete development of mitigation lands, continue construction to complete the north seepage berms, complete two contracts for relief well construction, and continue construction of the south seepage berms.

**Maintenance.** Work consists of approximately 2,000 feet of dike repair and 5,000 feet of revetment repair annually. U.S. plant and hired labor plus contract dredging perform channel maintenance by dredging 5,000,000 to 10,000,000 cubic yards of material (average year) from main channel. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Locks 27 continue. During FY 2011, the following funds were expended: \$10,326,939 Regulating Works; \$7,767,385 Chain of Rocks; and \$12,664,512 Locks 27, Rehabilitation for a total cost of \$30,758,836. FY 2008 War Supplemental funds \$1,000, FY 2009 CRA Supplemental funds \$1,103,249 and FY 2010 Supplemental funds \$8,999,391 were used to repair existing dike and revetment and dredging.

### 5. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

#### Projects not specifically authorized by Congress pursuant to Sec. 107, 1960 Act and Modifications.

During FY 2011, funds were expended as follows: \$3,127 CAP Section 107.

#### Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111).

In FY 2011, funds were expended as follows: \$5,558 CAP Section 111 Coordination Account.

### Flood Control

### 6. ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL and MO

**Location.** The levee system is located adjacent to the Mississippi River between Alton and Gale, Illinois.

**Existing project.** The project is authorized by the Flood Control Acts of 1936, 1938 and 1946. Construction of the Alton to Gale levee system was completed in 1977. Some reaches of this levee system have, for many years, been experiencing a significant number of slides associated with design deficiencies increasing the probability of levee failure during flood events.