

PITTSBURGH, PA DISTRICT

This District comprises part of eastern Ohio, western Pennsylvania, southwestern New York, northern West Virginia, and northwestern Maryland embraced in

drainage basin of Ohio River and Tributaries above mile 127 (below Pittsburgh, PA), immediately upstream from New Martinsville, WV.

IMPROVEMENTS

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Navigation

1. ALLEGHENY RIVER, PA

Location. The Allegheny River is 321 miles long. It rises in northern Pennsylvania, flows northwestward into New York, thence generally southwestward to Pittsburgh, PA, where it joins with Monongahela River to form the Ohio. (See Geological Survey Charts for western Pennsylvania and southwestern New York.)

Existing Project. The project consists of eight locks and dams to afford slack-water navigation for a length of 72 miles from Pittsburgh, PA to above East Brady, PA. Controlling depth through canalized portion is 9' at normal pool level. Channel width varies from a minimum of 200' to full width of river at mouth. Existing project is complete, the last lock, No. 9, was placed in service in 1938. Navigation channel has been widened at certain points and, in general, maintained to project depth, thus affording adequate depth for passage of commercial tows.

Local Cooperation. Fully complied with.

Terminal Facilities. City of Pittsburgh constructed a modern wharf for river freight. There are numerous privately maintained terminals and docks, consisting of tipples, various types of hoists, chutes, and pipelines for use in loading and unloading coal, stone, sand, gravel, petroleum products, steel products and other commodities. Transshipment of freight between river and railroads is handled at privately owned river-to-rail terminals. Existing private terminals are adequate for shipments and receipt in Pittsburgh District of type of commerce now in existence.

Licenses. The Federal Energy Regulatory Commission granted license for construction on non-federal hydropower facilities on the abutment side of the dam at the following locations: Lock 5, Allegheny - FERC license 3671, generating capacity 9.3 megawatt, start of operation October 1988; Lock 6, Allegheny - FERC license 3494, generating capacity 8.6 megawatt, start of operation December 1988; Lock 8, Allegheny - FERC license 3021, generating capacity 13.6 megawatts, start of operation November 1990; Lock 9, Allegheny - FERC license 3021, generating capacity 18.0 megawatts, start of operation November 1990.

Operations & Maintenance, General. In FY09, emergency scour repairs were done at Lock and Dam 6 for \$2,970,305, dredging of the approaches of locks 2, CW Bill Young (old Lock 3), Lock 4, and Lock 6 for \$372,436. Repair Party work to replace downstream miter gates and repair gate operating machinery at the CW Bill Young Lock for \$286,170.

2. CONSTRUCTION OF LOCKS & DAMS, OHIO RIVER

See this heading under Ohio River portion.

3. MONONGAHELA RIVER, PA & WV

Location. Formed by junction of Tygart and West Fork Rivers about one mile south of Fairmont, WV, and flows northerly for 128.7 miles to its junction with

Allegheny River, thus forming Ohio River at Pittsburgh, PA. (See Geological Survey Charts for southwestern Pennsylvania and northern West Virginia.)

Previous Project. For details see Annual Report for 1963, page 1070.

Existing Project. Provides for improvement of river by nine locks and dams to afford slack-water navigation for its entire length from Pittsburgh to above Fairmont, WV. Original Locks and Dams 7, 8 and 9 were replaced by new Locks and Dams 7 and 8 in 1925. Increased traffic necessitated enlargement and improvement of Locks and Dams 1 to 6 between Pittsburgh and Rices Landing, PA, by building two parallel chambers and fixed concrete dams during 1905 and 1932. Locks and Dam 1 were eliminated in 1938 by raising Emsworth Dam, Ohio River. Reconstruction of Lock 2 was completed in 1953 to provide two modern navigation chambers. The existing Locks and Dam 2 were originally completed in 1907; major modifications were made in 1923 and 1924, and in 1926 the upper guard and guide walls were extended. Construction of Maxwell Locks and Dam and the reconstruction of Dam 4 have allowed for removal of obsolete Locks and Dams 5 and 6. Small and antiquated original Locks and Dams 10 to 15, inclusive, have been replaced by three modern structures. Morgantown Lock and Dam, initial step in replacement program, was completed in 1950 replacing Locks and Dams 10 and 11. Hildebrand Lock and Dam, next upstream, was completed in 1959 replacing Locks and Dams 12 and 13. Raising crest of Dam 8 was also completed in 1959 as part of upper river improvement and eliminates restricted depth in upper reach of pool. Opekiska Lock and Dam were completed in 1967 replacing Locks and Dams 14 and 15. Completion of this link in upper river replacement program provides for entire river length of minimum channel depth of 9', varying in width from a minimum of 250' to practically full width at mouth.

Locks and Dam 3 showed advanced stages of deterioration and, because of its strategic location and its importance to industry throughout the greater Pittsburgh area and the nation, emergency remedial work had to be done in 1977. Major rehabilitation of Locks and Dam 3 was completed on October 27, 1980.

The Water Resources Development Act of 1986 authorized the replacement of Lock and Dam 7 with Grays Landing Lock and Dam and the construction of a new lock landward of the existing lock at Lock and Dam 8 (renamed Point Marion Lock and Dam). In accordance with the provisions of this act, 50% of the total cost of construction for the Grays Landing and Point Marion projects was derived from the Inland Waterways Trust Fund. Construction of a new lock at Point Marion was completed and put into service in December 1993. Construction of a new lock at Grays Landing was completed and put into service in May 1993. Construction of the dam at Grays Landing was completed in December 1995.

Supplemental Appropriations Act of 1985 for Engineering and Design and Land Acquisition and Water Resources Development Act of 1986; PL 99-662, Sec.301 (a) Water Resources Development Act of

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1992; PL 102-580, Sec. 10 Authorized the Navigation improvements to replace the fixed crest dam at Locks and Dam 2 with a gated dam; raises the existing pool 2 by 5', construct twin 84'x720' locks at Locks and Dam 4, and eliminates Locks and Dam 3; lowering the existing pool 3 by 3.2'. Authorized cost of \$750,000,000. Cost of construction is to be paid equally from the general fund of the Treasury and the Inland Waterways Trust Fund.

Local Cooperation. None required.

Terminal Facilities. City of Pittsburgh constructed a modern wharf for freight. Boat landings are maintained by some municipalities along the river. A large number of tipples at mines and various types of hoists at manufacturing plants and sand and gravel supply companies are maintained for private use in loading and unloading coal, coke, billets, steel products, sand, gravel, and other commodities. These terminals and docks are not available for general commerce. A number of docks and pipelines are also privately maintained for petroleum and acid products. Marine ways are maintained by some of the larger industries. These are also several terminals for rail-to-river and river-to-rail transfer. Facilities are considered adequate for existing commerce.

Operations during Fiscal Year. Work continues on cultural resources and finalizing real estate actions for the remainder of the Grays Landing and Point Marion projects. The present projects consist of 84 acres of fee land and 403.3 acres of easement. The Water Resources Development Act of 1992 authorized the District to proceed with navigation improvements on the Lower Monongahela River. Locks and Dams (L/D) 2, 3 and 4 are located within 50 miles of the "Point" in Pittsburgh. The authorized Lower Mon Project is a two-for-three improvement that will replace the 100-year old fixed-crest dam at L/D 2 with a gated dam (Braddock Dam) and replace the 74-year old, undersized Locks 4 with new twin 84' x 720' locks. The 102-year old L/D 3 will be removed and a new navigation pool will be established that will be 5' higher between Braddock and Elizabeth and 3.2' lower between Elizabeth and Charleroi. The project will adjust all municipally owned facilities adversely affected by these river level changes and dredge existing Pool 3. In addition, the Port Perry Railroad Bridge crossing at river mile 11.7 will be adjusted to accommodate the higher pool level under a cost sharing contract with Norfolk Southern Railroad. The new Braddock Dam has been in operation since 2004. Project focus has sense shifted to construction of the new locks at the Charleroi L/D. Approximately \$449 million has been invested in the project through FY09 on the following project features. The new Braddock Dam, Approach dikes for the Braddock and Charleroi Locks, Pool 3 dredging, Relocations for West Elizabeth, Municipal Authority of the City of McKeesport, Elizabeth Borough Municipal Authority, Borough of Dravosburg, City of Duquesne, Borough of Glassport, Authority of the Borough of Charleroi, North Versailles Sanitary Authority, and the Mon Valley Sewage Authority. Site development for the new Charleroi Locks, Demolition of the existing river

chamber at the Charleroi Locks, and Construction of the Charleroi River Wall. In August 2009 a contract was awarded for the Charleroi Upper and Lower Guard walls construction using American Recovery and Reinvestment Act funding. Efforts continuing in FY10 include construction of the Charleroi Locks River and Guard Walls, design for other project features, and design and construction of Pool 2 relocations. Contracts for the fabrication of miscellaneous Government furnished items for the Charleroi Locks which were substantially and/or fiscally completed in FY09 included: Filling Valves, Floating Mooring Bits, Mooring Cells, Maintenance and maintenance Bulkheads..

Operations & Maintenance, General. In FY09, Braddock repair auxiliary chamber gate operating machinery was repaired for \$1,305,000. The approach to Braddock and intermittent locations between RM 7.0 and RM 20.0 were dredged for \$988,552. The communication systems were upgraded from the Pt. Marion to Opekiska L/Ds for \$384,513. The Emergency Dam Stabilization Contract No. 2 at Mon L/D 3 was done for \$1,620,661. The Point Marion renovation of the landwall emptying valves were done for \$960,850. Lock 3 Dewater Auxiliary Chamber Repairs for \$2,263,000.

4. OPEN-CHANNEL WORK, OHIO RIVER

See this heading under Ohio River portion.

5. TYGART LAKE, WV

Location. Tygart Lake is located on the Tygart River in Taylor and Barbour Counties, north central WV. The lake is approximately 26 road miles due east of Clarksburg, WV and 30 road miles south of Morgantown. The dam is situated 22.7 river miles above the mouth of the Tygart River at Fairmont, or 2.25 miles upstream from Grafton, WV, and about 78 miles south of Pittsburgh, PA. (See Geological Survey Charts for Fairmont, Thornton, and Belington, WV.)

Existing Project. A reservoir for low water regulation and flood control. Dam is concrete gravity type with an uncontrolled center spillway flanked by abutment sections joining valley sides. Project was authorized by Public Works Administration January 11, 1934, and adopted by 1935 River and Harbor Act. For further project description see Annual Report for 1962. Authorized project is complete. Reservoir is in operation for low water control in Monongahela River and for purpose of flood protection in Monongahela and Ohio Valleys. Construction of dam was started in 1935 and placed in operation in 1938. Present project lands consist of 2,662.9 acres in fee, flowage easements over 1,216.9 acres and 1,731.9 acres of other easements. The project includes a Class C Visitor Center at the dam site and a day use picnic area outside the office, although no significant recreation exists on Corps managed land.

Tygart Dam was selected as a Dam Safety Assurance Project in March 1996. The Evaluation Report was initiated in March 1994 to address spillway

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capacity and structural stability in relation to the probable maximum flood event. Findings of the report concluded that under present conditions, the probable maximum flood would overtop the dam and cause failure. The report recommends protecting the dam from failure to include downstream erosion protection and stilling basin modifications. The Design Memorandum was completed in September 1998 and Plans and Specifications were completed in July 1999. The construction contract was advertised in August 1999 and awarded to Joseph B. Fay Co. on September 28, 1999 for \$5,628,929. The Notice to Proceed was issued in October 1999 and work was completed in November 2002. The project features included construction of a new road to provide access to the left. Bank abutment of the dam, new concrete channels consisting of a concrete wall (end sill) and concrete slope paving on the downstream side of the dam, new concrete lagging retaining walls on the left and right banks of the dam, modification of the existing parapet wall, and minor repairs to the roadway decking. The project is now in compliance with current Dam Safety Guidelines.

Local Cooperation. The State of West Virginia has assumed responsibility for the development and operation of hunting and fishing areas as well as the Tygart Lake State Park. Controlled releases for downstream navigation and recreation are also coordinated with others to the extent feasible. No local cooperation is required at completed project; however, future recreational developments are subject to certain conditions of non-federal cost-sharing under Federal Water Project Recreation Act of 1965. A cost-sharing agreement was executed with the West Virginia Department of Recreation in May 1981.

Licenses. The City of Grafton submitted an application for a preliminary permit on March 26, 2004, which was denied on February 7, 2007 by FERC and is currently being appealed by the City. There is currently no active license to construct and operate a hydro plant. However, a Preliminary Permit 12613 has currently been issued to "Tygart LLC".

Operations during Fiscal Year. Operations & Maintenance, General: Reservoir was operated for benefit of flood control and low water regulation, as required, and project structures were operated and maintained in a serviceable condition throughout the year. In FY08, contract was awarded for replacing the 7 dam service gates for \$2,650,000. Estimated flood control benefits achieved by this project for FY08 were \$6,365,000 and, revised to reflect damages prevented in downstream districts as well as Pittsburgh District, were \$1,159,983,000. Activities under reservoir management program comprising sanitation measures, conservation, land management, and operation and maintenance of public use facilities continued. This work was limited in scope as the State of West Virginia has jurisdiction over most of the recreation in the reservoir area.

6. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 18-C on other authorized navigation projects.

Flood Control - Local Protection

7. ELKINS, WV

Location. On Tygart River in north central Randolph County, WV, about 155 miles south of Pittsburgh, PA. It is at downstream end of a long, broad reach of upper Tygart Valley, about 75 miles above mouth of river. (See Geological Survey Chart for Elkins, WV.)

Existing Project. Provides flood protection by diverting flood discharges from upstream arm of loop of natural river channel into an artificial cutoff channel, thereby bypassing City of Elkins. Improvement is designed to accommodate discharges equivalent to maximum flood of reasonable expectancy. Project construction was started in May 1946 and completed in May 1949. Completed work, except that portion of channel maintained by federal government, has been operated and maintained by City of Elkins since March 31, 1949. Present project lands consist of 32.04 acres in fee and 526.01 acres in easements. Project was authorized by 1938 Flood Control Act. For further project description see Annual Report for 1962, page 1222. Federal cost of completed project was \$1,772,627; estimated non-federal cost for lands, easements, and rights-of-way was \$40,000.

Local Cooperation. Fully complied with.

Operations during Fiscal Year. Operation & Maintenance, General: routine investigations routine investigations and inspections were made. Project was inspected in 2009. Total benefits through September 2008, revised to reflect damages prevented in downstream districts as well as Pittsburgh District, were \$23,936,000.

8. JOHNSTOWN, PA

Location. Project is located in southwestern Cambria County, PA, about 58 miles east of Pittsburgh, PA. It is in a deep and comparatively narrow valley at junction of Stoney Creek and Little Conemaugh River, which unite to form Conemaugh River. (See Geological Survey Chart for Johnstown, PA.)

Existing Project. Provides for increased channel capacity by enlarging and realigning channels and protecting banks with concrete pavement. Improvement designed to accommodate discharges equivalent to those of March 1936 flood, maximum natural flow of record, and minimum of over-bank flow and to practically eliminate damages there from. Project construction began in August 1938 and was completed in November 1943. Footer protection for Unit 4 was completed in November 1949. Present project lands consist of easements over 199 acres. Project was authorized by Flood Control Acts of 1936 and 1937. For further project description see Annual Report for 1962, page 1215.

The FY 1991 Energy and Water Resources Development Appropriations Act authorized and

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directed the Corps to undertake a major rehabilitation of the existing project. The major rehabilitation work is to be accomplished under the Construction, General (CG) appropriation at an estimate cost of \$32,500,000. Contract plans and specifications were initiated in July 1995. The CG project was physically complete in September 2004 at a cost of \$30,000,000.

The Construction, General work consisted of the repair of 54 existing wall sections, slope paving and replacement of balustrade (safety) wall. Also included in the major rehabilitation is all the necessary Operation and Maintenance (O&M) funded work. The O&M work estimated to cost \$7,500,000 consists of concrete spall repairs, slope paving joint repairs, sediment removal and miscellaneous repairs. \$3,445,000 of O&M funded work is included in an ongoing construction contract scheduled to be completed in FY10.

Local Cooperation. The rules of local cooperation for the rehabilitation of the existing project are governed by the FY 1991 Energy and Water Resources Appropriations Act. Pursuant to this act, the City of Johnstown will have a limited role in securing the needed rights of access to non-federal structures included in the line of protection and will hold and save the United States from damages due to construction or operation and maintenance of the work on the non-federal structures, except for damages due to the fault or negligence of the United States or its contractors.

Operations during Fiscal Year. Operations & Maintenance, General: In FY09, routine inspections and investigations were made. Total flood damages prevented by the project through September 30, 2009 were estimated to be \$814,620,000.

9. PUNXSUTAWNEY, PA

Location. Borough of Punxsutawney is on Mahoning Creek in Jefferson County, PA, about 85 miles northeast of Pittsburgh, PA. It is on a comparatively wide, alluvial flood plain about 52 miles above mouth of stream and 30 miles above Mahoning Creek flood control dam. (See Geological Survey Charts for Punxsutawney and Smicksburg, PA.)

Existing Project. Provides flood protection by channel enlargement, dikes, and walls. Improvement is designed to accommodate discharges 20% greater than that of maximum flood of record. Construction was accomplished by construction of four units. Construction started in May 1946 and was completed in June 1950. Present project lands consist of perpetual easements over 72.6 acres. Completed works, except that portion of channel maintained by the Federal government, have been operated and maintained by Borough of Punxsutawney since July 31, 1950. Project was authorized by 1938 Flood Control Act. For further project description see Annual Report for 1962, page 1209.

Local Cooperation. Fully complied with.

Operations during Fiscal Year. In FY08 operation activities continued and routine investigations and inspections were made. Contract was awarded for sediment removal for \$350,000. Project was inspected

in 2008. The estimated total flood control benefits through September 2009 were \$98,684,000.

10. SAW MILL RUN, PITTSBURGH, PA

Location: The project is located within the City of Pittsburgh, Allegheny County, at Ohio River mile 0.7 and traverses upstream from the mouth of Saw Mill Run approximately 4,700 L.F.

Existing Project: The proposed project was authorized in the 1986 WRDA in accordance with the Chief of Engineers report dated January 30, 1978. The 1996 WRDA increased the project estimate to \$12,780,000 and increased to \$22,000,000 in the FY 2004 Appropriations Act. This project was included in the FY 1997 appropriations as a new construction start.

In October 1997, a Project Cooperation Agreement was executed with the City of Pittsburgh. In June 1998, the District executed a Memorandum of Agreement (MOA) for the purpose of allowing the District to acquire the real estate and complete relocation work on behalf of the city. With the MOA executed and the funds for this effort transferred to the District in July 1998, real estate acquisition was initiated, and was completed in November 2000. Plans and specifications for the project were completed in March 2000 and the construction contract was advertised in November 2000. The contract was awarded in April 2001 for \$12,881,875. The current construction contract was completed in May 2004 and turned over to the City of Pittsburgh for operation and maintenance responsibilities in June 2004.

Local Cooperation: The City of Pittsburgh is the local sponsor for this project and is responsible for real estate acquisition and relocation design and construction. The project will be cost shared 75% federal and 25% non-federal in accordance with the requirements of the 1986 WRDA.

Operations during Fiscal Year: Due to contract overruns and unforeseen conditions certain project features were deleted from the existing construction contract in order to maintain project cost within funding constraints. The project was completed to a 5-year level of protection in 2006. The plans and specifications were completed in 2007 and included a base contract with two options. Construction to complete the project to the authorized 20 year level of protection was advertised in FY08 as scheduled. However, due to the receipt of unawardable bids the construction contract was not awarded. The remaining work was repackaged into one construction contract with no options. This construction contract could not be advertised until the local sponsor resolved all real estate issues associated with the project. The local sponsor resolved all outstanding issues in August 2009 and the construction contract was advertised in September 2009 with a tentative award date of November 2009. This construction contract will complete the project to its authorized level of protection.

11. WEST VIRGINIA & PENNSYLVANIA FLOOD CONTROL

Location. Projects under this program in the

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Pittsburgh District are located in the Tygart River Basin in West Virginia and the lower Allegheny River in Pennsylvania. The priority (named in the legislation) communities located in West Virginia are Philippi, Belington, Parsons and Rowlesburg. The priority communities in Pennsylvania are New Bethlehem, Clymer, Benson, Hooversville, Meyersdale, Connellsville, Dubois, Millvale (Pine Creek Watershed), and Etna (Girty's Run Watershed). Section 581 of the Water Resources Development Act of 1996 authorizes the Secretary of the Army to design and construct flood control measures for these priority communities at a level of protection sufficient to prevent future losses from flooding equivalent to that which occurred in January 1996, but at least no less than a 100 year level of protection for projects that incorporate floodwalls or levees. Project development will consist of developing a least cost plan including structural and/or non-structural elements, to provide the authorized level of protection without regard to a benefit/cost ratio. As a result of WRDA 2007, new Implementation Guidance has been requested to consider upstream storm water management as a flood reduction measure.

Local Cooperation. The reconnaissance (initial assessment) phase is 100% federally funded. The Detailed Project Report (DPR), Plans and Specifications and Construction phases are cost shared at 65% federal funds and 35% non-federal funds. A Design Agreement is required to design efforts and a Project Cooperation Agreement is required prior to the project construction. In September 1998, Director of Civil Works, HQUSACE, approved the District's request for a waiver of the up-front cost sharing for the design portion of the West Virginia projects. The basis for the approval of the waiver was that the priority communities in West Virginia qualified for a reduced cost share (5%) based on the ability to pay provisions of Section 103(m) of the Water Resources Development Act of 1986.

In Pennsylvania, the General Management Plans for the seven communities were completed in January 1999. Project Study Plans (PSP) for the seven communities were completed in July 2000. Design Agreements are being prepared and current plans call for the execution of these agreements pending the local sponsors' ability to obtain the non-federal cost share. Design Agreements were executed for the Clymer, Meyersdale, and Hooversville projects.

In West Virginia, the PSPs for the two communities were completed in September 1998 and approved in November 1998. Since no Design Agreement is required for West Virginia communities, work on the Detailed Project Reports started in December 1998. Least cost plans and locally preferred plans for both communities have been developed. A decision to implement a Flood Warning System for the two communities as the first phase of the projects was made in September 1999. An interim DPR for the Flood Warning System for both was submitted in November 2001. Installation of the Flood Warning System was completed. The Philippi DPR was completed in FY 2004 and approved in FY 2005. In FY 2007 a 50%

DDR was completed for Philippi by the Huntingdon District, updating project information to include lessons learned from the Hurricane Katrina event. The Pittsburgh District will bring the Philippi DDR to 100% in FY10 and FY11.

Operation during Fiscal Year. In Pennsylvania, a Detailed Project Report (DPR) was executed for the Clymer Project. Phase I of the DPR was completed and presented to Local Sponsors (Borough of Clymer). It was determined that a Non-Structural Project was the least cost plan. Clymer Borough Officials have requested additional time for them to obtain non-federal funding to proceed into Phase II.

In West Virginia, the Design Phase continued for Philippi at a slower than expected pace. Post Katrina design changes are being incorporated into the Philippi Design Documentation Report. Efforts for Belington and Parsons were stalled in FY09 but will resume in late FY10

Flood Control – Reservoirs

12. BERLIN LAKE, OH

Location. Dam is on Mahoning River about 73 miles above its confluence with Shenango River. It is about 10 miles above existing Milton Reservoir Dam and 35 miles upstream from Warren, Ohio. Reservoir is in Portage, Mahoning and Stark Counties, OH. (See Geological Survey charts for Warren, Ravenna, and Alliance, OH.)

Existing Project. A reservoir for flood control and water supply. Dam consists of a partially controlled, concrete gravity, center spillway flanked by rolled-earth fill abutment sections joining valley sides. Authorized project is complete and in operation for flood control and low water regulation purposes in industrialized Mahoning Valley below. Construction of dam was started in January 1942 and completed in June 1943. Present project lands consist of 6,885.3 acres in fee and 1,098.7 acres in easements. For further project description, see Annual Report for 1962, page 1233.

Local Cooperation. None required at completed project; however, future recreational developments are subject to certain conditions of non-Federal cost-sharing under Federal Water Project Recreation Act of 1965.

Operations during Fiscal Year. Operations & Maintenance, General: Reservoir was operated as required and necessary repairs were made to structures and appurtenances in FY09. The following major maintenance items was accomplished using ARRA funding: Replaced Maintenance Building Roof with contract of \$94,000. Completed repairs of the Tainter Crest Gates and machinery to reduce risk of complete gate failure and reduce future maintenance costs. (Total cost was \$3.6M of which \$2.4M were ARRA funds.) Repair and Seal Parking Lots & upgrade trails, Mill Creek Day Use Area utilizing \$89,116. In addition, the Mill Creek Recreation area paving contract was awarded to complete \$447,037 worth of additional paving and road maintenance using regular O&M funds. Estimated flood control benefits achieved by this

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reservoir for FY09 were \$12,851,000; total flood control benefits through September 2009 were \$1,386,497,000.

13. CONEMAUGH RIVER LAKE, PA

Location. Dam is on Conemaugh River in Indiana and Westmoreland Counties, PA, 7.5 miles above junction of Conemaugh River and Loyalhanna Creek, which form the head of the Kiskiminetas River. It is about 2 miles northeast of Tunnelton, PA, and about 42 miles east of Pittsburgh, PA. Reservoir is in Westmoreland and Indiana Counties, PA. (See Geological Survey Charts for Latrobe, New Florence and Elders Ridge, PA.)

Existing Project. A flood control reservoir dam of concrete gravity type with a gate-controlled center spillway flanked by abutment sections joining valley sides and an earth embankment ending in right abutment. Authorized project is complete. Reservoir system is designed for protection of Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Present project lands consist of 7608.7 acres in fee and 522.8 acres in easements. Project authorized by Flood Control Acts of 1936 and 1938. For further project description see Annual Report for 1962, page 1217.

Local Cooperation. None required by law.

Licenses. A non-federal hydropower project utilizing Conemaugh Lake was constructed downstream of the dam under FERC Licenses 3207. The 15-megawatt project began commercial operation on February 6, 1989. It is owned by National Renewable Resources, Inc.

Operations during Fiscal Year. Operation & Maintenance, General: In FY09, contract was awarded to do repairs on the concrete of the dam for \$125,000. A contract under ARRA for \$25,000 was awarded to re-roof the dam site recreation area restroom. Reservoir was operated for benefit of flood control as required, and necessary repairs were made to structures and appurtenances. Estimated flood control benefits achieved by this reservoir for FY09 were \$845,000; total flood control benefits through September 2009, revised to reflect damages prevented in downstream districts as well as Pittsburgh District, were \$2,157,007,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance of public use facilities were continued.

14. CROOKED CREEK LAKE, PA

Location. Dam is on Crooked Creek 6.7 miles above junction of creek with Allegheny River near Ford City, PA, and about 32 miles northeast of Pittsburgh, PA. (See Geological Survey Charts for Freeport and Elders Ridge, PA.)

Existing Project. A flood control reservoir dam of earth-fill type with separate uncontrolled saddle spillway and tunnel outlet works. Authorized project is complete. Reservoir is in operation as a unit of a coordinated reservoir system designed for protection of

Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Construction of dam was started in March 1938 and completed in October 1940. Present project lands consist of 2,561.7 acres in fee and 100.22 acres in easements. Project was authorized by Flood Control Acts of 1936 and 1938. For further project description see Annual Report for 1962, page 1213.

Local Cooperation. None required by law

Operations during Fiscal Year. Operation & Maintenance, General: Reservoir was operated for benefit of flood control, as required and necessary repairs were made to structures and appurtenances. In FY 09 furnaces in the resource manager's office were replaced for \$12,460. Repairs to the inside of the control tower for the dam are under contract for \$213,849. This work was completed under ARRA funds. Replacement of the Service Bridge Railing at the control tower was undertaken at a total cost of \$113,941. Congress has mandated the transfer of 97.48 acres of fee land to Manor Township for operation of the Armstrong Horse Park. Activities to facilitate this transfer continued in 2009. Estimated flood control benefits achieved by this reservoir for FY09 were \$59,000; total benefits achieved through September 30, 2009, revised to reflect damages prevented in down stream districts as well as Pittsburgh District, were estimated at \$539,629,000. Activities under reservoir management program comprising sanitation measures, conservation, land management, and operation and maintenance of public-use facilities continued.

15. EAST BRANCH, CLARION RIVER LAKE, PA

Location. Dam is in Elk County, PA on East Branch of Clarion River above Middle Fork, 7.3 miles above junction of East and West branches of Clarion River at Johnsonburg, PA, and about 105 miles northeast of Pittsburgh, PA. Reservoir is in Elk County, PA. (See Geological Survey Chart for Mount Jewett, PA.)

Existing Project. A reservoir for flood control and low-water regulation. Dam is rolled-earth fill type with gate-controlled concrete tunnel under right abutment and a paved uncontrolled spillway on left abutment slope. Authorized project is complete. Reservoir is in operation for low-water regulation purposes in Clarion River Valley below and for flood control as a unit of a coordinated reservoir system for protection of Pittsburgh and upper Ohio Valley, generally. Construction of dam was started in June 1947 and completed in July 1952. Present project lands consist of 287.2 acres in fee and 1,296.7 acres in easements. Project was selected for construction under general authorization for Ohio River Basin in Flood Control Acts of 1938 and 1944. For further project description. See Annual Report for 1962, page 1206.

In 2006 East Branch Dam was classified to be Dam Safety Action Class II (Urgent, unsafe or potentially unsafe). In January 2008 a potential failure mode analysis and risk assessment was conducted and concluded that the dam under normal operations presents a potential hazard to downstream life and

property that exceeds established standards. This led to the decision in February 2008 to operate the Lake at a lower pool until it can be determined what permanent measures would be implemented to reduce the risk of failure of the dam due to the potential for internal erosion of the embankment. An Interim Risk Reduction Measures Plan was completed and other measures were implemented including 24 hour a day seven days a week staffing. An Issues Evaluation Study was completed and concluded that the issues should be further evaluated and alternatives and a recommendation for permanent remediation be included in a Dam Safety Modification Study. The Dam Safety Modification Study is scheduled to be complete in FY10.

Local Cooperation. None required by law.

Operations during Fiscal Year. Operations & Maintenance, General: reservoir was operated for flood control and low-water regulation, as required; and necessary repairs were made to structures and appurtenances. For example, in FY09 a contract was awarded for \$133,500 to replace a fuel tank at the control tower, re-seal stilling basin joints, and provide the outflow gage house with upgraded electric service and heaters. In order to reduce risk to boating public and improve water safety due to the interim pool reduction measures currently in place, \$64,760 of ARRA funding was used to replace the boat launch dock system. A contract was awarded for \$29,000 to construct an extension of the boat ramp at the dam so as to not preclude all recreation use on the lake. Some reservoir management activity was performed throughout the year comprising sanitation measures, conservation, land management and operation of public-use facilities. Estimated flood control benefits achieved by this reservoir for FY09 were \$466,000; Total flood control benefits for this reservoir through September 30, 2009 were \$85,376,000.

16. KINZUA DAM & ALLEGHENY RESERVOIR, PA & NY

Location. Dam site is on Allegheny River 7 miles above Warren, PA, and 198 miles above mouth of river at Pittsburgh, PA. Reservoir is in Warren and McKean Counties, PA, and Cattaraugus County, NY. (See Geological Survey Charts for Warren and Kinzua, PA-NY, and Randolph and Salamanca, NY.)

Existing Project. Reservoir provides flood control, low water regulation and recreation. Dam consists of a combination concrete gravity structure and rolled earth embankment with gate-controlled spillway and discharge conduits controlled by slide-gates in gravity section. Construction of project, initiated in February 1960, is complete. Construction of dam was started in September 1960 and completed in December 1965. Development of recreation area at Onoville under a cost-sharing agreement with Cattaraugus County was completed in June 1978. Present project lands consist of 2,646 acres in fee and easements over 22,420.0 acres. For further details see Annual Report for 1962, page 1202. Project was authorized by Flood Control Acts of 1936, 1938 and 1941.

Local Cooperation. None required by law.

Licenses. The Federal Power Commission granted a license to Pennsylvania Electric Company and Cleveland Electric Illuminating Company on December 28, 1965, for the joint construction, operation and maintenance of a 435-megawatt pumped-storage installation (FPC Project No. 2280). The project is complete. Present ownership is with First Energy Corporation.

Operations during Fiscal Year. Operations and Maintenance, General: In FY09, Major maintenance items included awarding contracts totaling \$354,193 to complete remedial repairs to the dam service bridge and internal elevator. ARRA funding included a contract for improvements to the Dam Service Road security gate for 6,000, and a contract was awarded to replace the roof and gutters of the maintenance building for \$135,000. ARRA funds of \$55,000 were also used to replace a water line to an overlook restroom in the Bent Run Area. Reservoir was operated for benefit of flood control, hydropower, fish and wildlife, recreation and low water regulation, as required and necessary repairs were made to structures and appurtenances. Estimated flood control benefits achieved by this reservoir for FY09 were \$1,621,000. Total flood control benefits for this reservoir through September 30, 2009 were \$1,208,314,000.

17. LOYALHANNA LAKE, PA

Location. Dam is on Loyalhanna Creek, 4.5 miles above junction of creek with Conemaugh River at Saltsburg, PA, and about 29 miles east of Pittsburgh, PA. Reservoir is in Westmoreland County PA. (See Geological Survey Chart for Latrobe, PA).

Existing Project. A flood control reservoir dam of concrete gravity type with a gate-controlled center spillway flanked by abutment sections joining valley sides, and an earth embankment section ending in left abutment. Authorized project is complete. Reservoir is in operation as a unit of a coordinated reservoir system designed for protection of Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Construction of dam was started in October 1939 and completed in June 1942. Present project lands consist of 3,330.8 acres in fee and easements over 86.7 acres. Project was authorized by Flood Control Acts of 1936 and 1938. For further project description see Annual Report for 1962, page 1219.

Local Cooperation. None required by law.

Operations during Fiscal Year. Operations & Maintenance, General: In FY08, the reservoir was operated for benefit of flood control, as required and necessary repairs were made to structures and appurtenances. Major maintenance was performed to the dam service bridge replacing parts of the concrete decking and refurbishing bearing and crane rails at a cost of \$1,162,247. Replacement of the trash boom and gantry crane cable reels was completed at a cost of \$154,423. Estimated flood control benefits achieved by this project for FY09 were \$197,000. Total benefits for this reservoir through September 30, 2009 were \$519,511,000. Activities under reservoir management

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program comprising sanitation measures, conservation, land management and operation and maintenance of public use facilities continued.

18. MAHONING CREEK LAKE, PA

Location. Dam is on Mahoning Creek in Armstrong County, PA, 22.9 miles above junction of creek with Allegheny River. It is about 6.50 miles southeast of New Bethlehem, PA, and about 51 miles northeast of Pittsburgh, PA. Reservoir is in Armstrong, Indiana and Jefferson Counties, PA. (See Geological Survey Charts for Rural Valley and Smicksburg, PA).

Existing Project. A flood control reservoir dam of concrete gravity type with a gate-controlled center spillway flanked by abutment sections joining valley sides. Authorized project is complete. Reservoir is in operation as a unit of a coordinated reservoir system designed for protection of Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Construction of dam started in February 1939 and was completed in June 1941. Present project lands consist of 2,519.36 acres in fee and easements over 83.5 acres. Project was authorized by Flood Control Acts of 1936 and 1938. For further project description see Annual Report for 1962, page 1210.

Operations during Fiscal Year. Operations & Maintenance, General: Reservoir was operated for benefit of flood control as required and necessary repairs were made to structures and appurtenances. In FY08 a contract was awarded for Dam Concrete Repairs for \$1,441,000. In FY09 ARRA funding of \$2,828,453 enabled the remainder of this critical maintenance to be completed. Contracts were also awarded with \$169,331 of ARRA funds for critical health and safety needs to replace the dam access road guard rail, replace the furnace and roof at the manager's office and replace unsafe playground equipment. Replacement of cable reels and wire ropes at the dam was also completed with \$179,955 of O&M funding. In FY09, estimated flood damages prevented by this project were \$137,000; total benefits through September 30, 2009, revised to reflect damages prevented in downstream districts as well as Pittsburgh District were \$670,295,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance for public-use facilities continued.

19. MICHAEL J. KIRWAN DAM & RESERVOIR, OH

Location. Dam site is on West Branch of Mahoning River which joins Mahoning River at Newton Falls, OH. It is 11 miles above mouth of branch and about 15 miles upstream from Warren, OH. Reservoir is in Portage County, OH. (See Geological Survey Charts for Ravenna, Garrettsville, Chagrin Falls, and Kent, OH.)

Existing Project. Reservoir provides flood control, low-water regulation and recreation. Dam consists of a rolled-earth embankment structure with gate-controlled outlet works and an uncontrolled side-hill spillway through left abutment. Authorized project is completed

and in operation for flood control and low water regulation purposes. Present project lands consist of 6,298.9 acres fee and easements over 27.9 acres. For further description see Annual Report for 1962, page 1231 (West Branch Reservoir, Mahoning River, Ohio). Project was authorized by 1958 Flood Control Act (H. Doc. 191, 85th Cong. 1st sess.), with local contribution requirements modified by Flood Control Act of 1960. Federal costs of completed project are \$17,370,000. Local interests contributed \$3,230,000 during period of construction bringing initial project cost to \$20,600,000. The State of Ohio has a lease from the Secretary of the Army for development and operation of recreation facilities in the reservoir area.

Local Cooperation. Local interests must contribute \$5,200,000 for water pollution abatement and for municipal and industrial water supply purposes, of which \$3,230,000 was paid in cash during construction. Unpaid balance at time project is placed in operation, \$1,970,000, will be paid in cash at that time or on an annual basis. Of the unpaid balance of contributed funds due and payable, payment in full of Trumbull County's share in the amount of \$663,040 has been received. Mahoning County elected to pay their share (\$1,306,960) in 50 annual installments of \$50,323.32, including interest.

Operations during Fiscal Year. Operations & Maintenance, General: Reservoir was operated for benefit of flood control and low-flow augmentation, as required and necessary repairs were made to structures and appurtenances. In FY09 \$497,902 was expended on major maintenance to repair a failed embankment area at the dam abutment, reline the culvert under the maintenance access road, resurface the maintenance access road, and re-roof the manager's office. ARRA funding was utilized to award a contract for \$140,497 to resurface the dam access and crest roadway. Estimated flood control benefits achieved by this project for FY09 were \$5,933,000. Total benefits for this reservoir through September 30, 2009 were \$632,244,000. Activities under reservoir management program comprising sanitation measures, conservation, land management, and operation and maintenance of public-use facilities continued. This work was limited in scope as state of Ohio has jurisdiction over most of the recreation in reservoir area.

20. MOSQUITO CREEK LAKE, OH

Location. Dam is on Mosquito Creek, 12.6 miles above junction of creek with Mahoning River at Niles, OH, and about 18 miles northwest of Youngstown, OH. (See Geological Survey Charts for Bristolville and Kinsman, OH, and PA.)

Existing Project. A reservoir for flood control, low-water regulation and water supply storage. Dam is rolled-earth fill type with outlet facilities through dam, and an uncontrolled natural wasteway to discharge overflow from reservoir. Authorized project is complete and in operation for flood control and low-water regulation purposes in industrialized Mahoning and Beaver Valleys below. Construction of dam was started in July 1943 and was ready for beneficial use in January

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1944. Present project lands consist of 11,180.4 acres in fees and easements over 276.0 acres. State of Ohio has a license from Secretary of the Army for development and operation of recreation facilities in reservoir area. Project was selected for construction under general authorization for Ohio River Basin in 1938 Flood Control Act. For further project description see Annual Report for 1962, page 1228.

Local Cooperation. There is a water supply agreement with the City of Warren for municipal and industrial water storage in an amount equal to 11.1% of total reservoir storage. The City makes annual payments for this storage. No other local cooperation is required at completed project; however, future recreational developments are subject to certain conditions of non-Federal cost-sharing under Federal Water Project Recreation Act of 1965.

Operations during Fiscal Year. Operation & Maintenance, General: Reservoir was operated for benefit of flood control and low-flow regulation as required and necessary repairs were made to structures and appurtenances. In FY09 \$121,127 was expended for sealing the outlet conduit and training wall joints at the dam. Estimated flood control benefits achieved by this reservoir for 2009 were \$3,597,000. Total flood control benefits for this reservoir through September 30, 2009 were \$277,133,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance of certain public-use facilities continued. This work was limited in scope as State of Ohio has jurisdiction over most of the recreation in reservoir area.

21. OHIO RIVER BASIN (PITTSBURGH DISTRICT)

Location. A series of dikes, floodwalls, channel improvements, and reservoirs/lakes in Ohio River Basin within Pittsburgh District.

Existing Project. Individual projects considered in comprehensive plan within Pittsburgh District. (See Tables 18-B, 18-E and 18-K on Acts authorizing existing projects, local protection projects and reservoirs.)

Operations during Fiscal Year. New Work: none by the United States except as stated in individual projects. Completed local protection projects operated and maintained by local interests, including those projects for which individual reports have been included.

22. SHENANGO RIVER LAKE, PA & OH

Location. Dam is on Shenango River about 0.8 mile above Sharpville, PA, and about 33 miles above junction of river with Mahoning River, which unite near New Castle, PA, to form Beaver River. Reservoir is in Mercer County, PA and Trumbull County, OH. (See Geological Survey Chart for Kinsman, OH, and Shenango, PA.)

Existing Project. A reservoir for flood control, low-flow augmentation and recreation. Dam consists of

a concrete gravity structure with gate-controlled outlet works and an uncontrolled center spillway section. Authorized project is complete. Reservoir is in operation for low-water regulation purposes in Shenango River valley below and for flood control as a unit of a coordinated reservoir system for protection of Shenango River valley and the Beaver and upper Ohio River Valley, generally. Construction of dam was started in March 1963 and completed in May 1965. Present project lands consists of 14,485.94 acres in fee and easements over 198 acres. Approximately 65.94 acres in abandoned railroad right-of-way were acquired for project use. Future work consists of completion of project lands of any additional recreation facilities as required to serve the public needs. For further project description, see Annual Report for 1962, page 1230. Project was authorized by 1938 Flood Control Act.

Local Cooperation. None required by law.

Operations during Fiscal Year. Operations and Maintenance, General: Reservoir was operated for benefit of flood control and low-flow augmentation, as required and necessary repairs were made to structures and appurtenances. In FY09, a contract was awarded to install a new roof on the dam pylon building for \$37,000. Under ARRA a contract was awarded to replace the Service Gate Position Indicators and Outflow warning system for \$304,494. Estimated flood control benefits achieved by this reservoir for FY09 were \$1,382,000; Total flood control benefits for this reservoir through September 30, 2009 were \$158,778,000. Continuing activities under the reservoir management program are comprised of sanitation measures, conservation, land management and operation and maintenance.

23. STONEWALL JACKSON LAKE, WV

Location. In Lewis County, North Central West Virginia, on the West Fork River, this joins the Tygart River at Fairmont, WV to form the Monongahela River. Dam site is located on Route 30 at Brownsville, WV, about 4 miles south of Weston and 72 miles above mouth of West Fork River at Fairmont, WV. (See Geological Survey Charts for Weston and Crawford, WV.)

Existing Project. Provides for construction of a reservoir for flood control, water supply, water quality control, area redevelopment and recreation. Dam is concrete gravity type, 95' high and 620' long. Outlet works consist of two multi-level sluices and three fixed-level sluices, spillway is uncontrolled. Storage capacity is 74,650 acre-feet controlling an area of 102 square miles. A station hydropower plant completed in 1995 supplies power to the dam, with excess power being sold to an electric utility company. Project was authorized by 1966 Flood Control Act. Estimated initial federal cost for new work (1991) is \$231,000,000 (includes an estimated \$24,900,000 reimbursement by non-federal interests.) Present project lands consist of 20,451 acres in fee and easements over 398 acres.

The Corps worked with the State of West Virginia to revise the Master Plan to incorporate higher revenue

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producing recreation facilities, including a lodge, golf course, cabins and camping. The revised Master Plan was approved by the Corps in 1992. The FY 1992 Energy and Water Development Appropriations Act allow the state cost-sharing credits for all of these facilities except the golf course. In March 1994, the State and the Assistant Secretary of the Army for Civil Works executed an amendment to the 1977 Stonewall Jackson Lake Recreation Cost-Sharing Contract to reflect these credits.

The state must design and build the approved remaining recreation facilities by March 2006, in accordance with the schedule and conditions set forth in the amended contract. The state broke ground in July 2001 for the \$50,000,000 Stonewall Resort, which includes a 200-room lodge, conference center, spa, cabins and more camping areas, in addition to a championship 18-hole golf course that is not eligible for cost share credit. By the end of FY 2002, the state had essentially completed and opened to the public all facilities except miscellaneous recreation facilities. The District is currently completing miscellaneous real estate actions related to the original construction with the project

Local Cooperation. The reservoir contains 2,200 acre feet of storage designated for the purpose of municipal and industrial water storage. The storage is not under contract and there are no prospects of near-term water supply agreements. In accordance with the Federal Water Project Recreation Act local interests are required to administer project land and water areas for recreation and fish and wildlife enhancement to make arrangements for repayment, under the provisions of the Water Supply Act of 1958, as amended, of that part of the construction cost and annual operation, maintenance and replacement costs allocated to municipal and industrial water supply, an amount presently estimated at \$4,350,000 for construction; and \$15,000 annually for operations, maintenance and replacements. Also, in accordance with Federal Water Project Recreation Act, local interests are required to administer project land and water areas for recreation and fish and wildlife enhancement, pay, contribute in kind or repay (which may be through user fees) with interest, one-half of the separable first costs of the reservoir project allocated to recreation and fish and wildlife enhancement, an amount presently estimated at \$24,810,000, bear all costs of operation, maintenance and replacement of recreation and fish and wildlife land and facilities, the amount involved being currently estimated on an average annual basis to be \$457,000, exercise to the full extent of their legal capability, control against removal of stream flow made available for water quality control; and contribute to the control of pollution of streams subject to low-flow augmentation by adequate treatment or other methods of controlling wastes at their source. The requirements of Section 221 were amended in 1971 to exempt assurances for future demands for water supply pursuant to the Water Supply Act of 1958 from the contractual requirements of the Act. Accordingly, the city of Weston, WV has provided assurances that it will enter into a water supply contract with the Department of the Army within a period of time which will permit paying out the costs allocated to

the water supply storage within the life of the project. A recreation cost-sharing contract, in accordance with the requirements of the Federal Water Project Recreation Act, PL 89-72, was executed by the State of West Virginia on March 27, 1977. Local cooperation assurances for recreation cost-sharing were executed by the Governor and Attorney General of West Virginia on May 29, 1973. In this connection, Section 8 of PL 92-222 deleted the requirement that the State of West Virginia "hold and save the United States free from damages resulting from water rights claims due to construction and operation of the project." Legislation relieving Stonewall Jackson Lake, WV, project of the requirements of Section 221, PL 96-611 was contained in Water Resources Development Act of 1974 signed by the President on March 7, 1974.

Operations during Fiscal Year. Operations and Maintenance, General: In FY09 the reservoir was operated for benefit of flood control and low-flow augmentation, as required and necessary repairs were made to structures and appurtenances. Estimated flood control benefits achieved for this project for FY09 were \$8,886,000; total flood control benefits through September 30, 2009, were \$205,049,000. Activities under reservoir management program comprising sanitation measures, conservation, land management, and operation and maintenance of public-use facilities continued. This work was limited in scope as State of West Virginia has jurisdiction over most of the recreation in reservoir area.

24. TIONESTA LAKE, PA

Location. Dam is on Tionesta Creek, 1.25 miles above junction of creek with Allegheny River at Tionesta, PA, and about 78 miles northeast of Pittsburgh, PA. Reservoir is entirely in Forest County, PA. (See Geological Survey Charts for Tionesta, Tidioute and Sheffield, PA.)

Existing Project. A flood control reservoir dam of earth fill type with separate uncontrolled saddle spillway and tunnel outlet works. Authorized project is complete. Reservoir is in operation as a unit of a coordinated reservoir system designed for protection of Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Construction of dam was started in May 1938 and completed in January 1941. Present project lands consists of 2,794.77 acres in fee and easement over 13.1 acres. Approximately 2.53 acres of fee were disposed at the project. Future work consists of provision on project lands of additional recreational facilities as required to serve public needs. Project was authorized by Flood Control Acts of 1936 and 1938. For further project description see Annual Report for 1962, page 1203.

Local Cooperation. None required by law.

Operations during Fiscal Year. Operation & Maintenance, General: reservoir was operated for benefit of flood control, as required and necessary repairs were made to structures and appurtenances. In FY09 major maintenance was completed in the dam control tower and on gate machinery for a cost of \$578,058. Work included refurbishing gate no. 3 and

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emergency gate, completing electrical upgrades and motorizing the 36-inch gate valves, installing 3 new flat wire ropes on gates, and renovating service gate #2. A contract was awarded to replace two failed drainage culverts and sixty feet of sewer line for \$74,432 in order to assure continued health and safety for employees and recreationists. Estimated flood control benefits achieved for this project for FY09 were \$159,000; total flood control benefits through September 30, 2009, were \$543,588,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance of public-use facilities continued.

25. UNION CITY DAM, PA

Location. In Erie County, northwestern PA, on French Creek, a tributary of Allegheny River. Dam site is 24 miles upstream from Cambridge Springs, PA, and 41 miles upstream from Meadville, PA. (See Geological Survey Chart for Union City, PA - NY.)

Existing Project. A flood control reservoir dam of earth embankment non-gated type with uncontrolled side-channel spillway. Outlet works consist of a lower outlet located in valley floor constructed of reinforced concrete conduit 8' by 4.5' and an upper outlet consisting of an uncontrolled slot 9.5' wide through the north end of the ogee weir in the spillway. Dam is 1,420' long at top rising 88' above streambed and provides gross capacity of 47,640 acre-feet from a drainage area of 222 square miles. Project authorization was modified to provide for a conservation pool and addition of recreation facilities. On November 5, 1974, a referendum proposal was defeated by the constituents of Erie County in regard to the cost-sharing for construction of recreation facilities. In view of the foregoing, all action toward implementation of the authorized project modification was discontinued. Reservoir is operated as one of a two-reservoir system for reduction of flood stages in French Creek Basin between dam site and mouth, Allegheny River from Franklin, PA, to Pittsburgh, PA, inclusive, and upper Ohio River Valley. Initial highway relocations were completed in October 1968 and remaining highway relocations were completed in May 1972. Construction of the dam was started in July 1968 and completed in September 1971. Present project lands consist of 161.4 acres in fee and easements over 2,410.29 acres. Existing project was authorized by 1962 Flood Control Act.

Local Cooperation. Local interests are required to inform affected interests in French Creek Basin at least annually, that the system of reservoirs of which Union City Dam is a part, will not provide protection against maximum floods. On November 10, 1964 the Department of Forests and Waters of the Commonwealth of Pennsylvania furnished formal assurances of local cooperation in respect to notifying local interests at least annually that the system of reservoirs will not provide protection against maximum floods. A referendum on the ballot during the November 1974 election regarding the approval to cost-share the maintenance of a summer pool was defeated

by the local voters.

Operations during Fiscal Year. Operation & Maintenance, General: In FY09 maintenance of the structure and appurtenances was performed as required. The right bank dam drainage gutter was repaired for \$73,000. This dam acted as an uncontrolled detention type dam during the fiscal year. Estimated flood control benefits achieved for this project for FY09 were \$3,474,000; Total flood control benefits for this reservoir through September 30, 2009, revised to include downstream districts, were \$74,926,000.

26. WOODCOCK CREEK LAKE, PA

Location. In Crawford County, northwestern PA, on Woodcock Creek, a tributary of French Creek. Dam site is about 4.1 miles above mouth of Woodcock Creek and about 5 miles northeast of Meadville, PA. (See Geological Survey Chart for Meadville, PA.)

Existing Project. A flood-control reservoir dam of rolled-earth embankment type, gate-controlled outlet works with a 6 foot-wide by 7.75 foot-high conduit and uncontrolled saddle spillway on the left abutment. Dam is 4,650' long at top rising 90' above streambed and provides for gross capacity of 20,000 acre-feet from a drainage area of 46 square miles. Reservoir is operated as one of a two-reservoir system for reduction of flood stages in French Creek Basin between dam site and mouth, Allegheny River from Franklin, PA, to Pittsburgh, PA, inclusive, and upper Ohio River Valley. Authorized project is complete. Construction of dam was started in July 1970 and completed in July 1973. Land acquired for project consists of 1,731.5 acres in fee and easements over .56 acres. Project was authorized for flood control and recreation by 1962 Flood Control Act. Storage for water quality control was added to the project during the preconstruction planning stage.

Local Cooperation. Local interests must inform affected interests in French Creek Basin at least annually, in a manner satisfactory to District Engineer, that a system of reservoirs of which Woodcock Creek is a part, will not provide protection against maximum floods. Pennsylvania Department of Forests and Waters assumed responsibility of local cooperation for project.

Operations during Fiscal Year. Operation & Maintenance, General: In FY09 maintenance of the structure and appurtenances was performed as required. Estimated flood control benefits achieved by this project for FY09 were \$385,000; Total flood control benefits achieved by this project through September 30, 2009, revised to include downstream districts were \$33,035,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance of public use facilities continued.

27. YOUGHIOGHENY RIVER LAKE, PA & MD

Location. Dam is on Youghiogheny River about 74.2 miles above its junction with Monongahela River at McKeesport, PA. It is 1.2 miles upstream from Confluence, PA, and about 57 miles southeast of

Pittsburgh, PA. Reservoir is in Fayette and Somerset Counties, PA, and Garrett County, MD. (See Geological Survey Charts for Confluence, PA, Accident, MD, West Virginia and Pennsylvania.)

Existing Project. Reservoir for flood control, low-flow augmentation, pollution abatement, and recreation purposes. Dam is rolled-earth fill type with separate uncontrolled side channel spillway and tunnel outlet works. Authorized project is complete. For flood control, reservoir is operated as a unit of a coordinated reservoir system designed for protection of Pittsburgh and reduction of flood heights in upper Ohio Valley, generally. Construction of dam was started in June 1940 and completed in May 1944. Present project lands consist of 3,914.9 acres in fee and easements over 0.62 acres.

Project was selected for construction under general authorization for Ohio River Basin in 1938 Flood Control Act. For further project description see Annual Report for 1962, page 1223.

Local Cooperation. None required.

Licenses. A non-federal hydropower project utilizing releases from Youghiogheny River Lake was constructed in accordance with FERC License 3623. D/R Hydro Company is the authorized representative of the Licensee, Youghiogheny Hydroelectric Authority, and is responsible for operation of the plant. It has a 10-megawatt capacity. The plant began commercial operation on December 7, 1989.

Operations during Fiscal Year. Operations & Maintenance, General: In FY09 the reservoir was operated for benefit of flood control and low flow augmentation, as required and necessary repairs were made to structures and appurtenances. Total flood control benefits achieved by this project through September 30, 2009 were \$3,827,000; revised to include damages prevented in downstream districts, were \$538,948,000. Activities under reservoir management program comprising sanitation measures, conservation, land management and operation and maintenance of public use facilities continued.

28. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Flood Control Act of June 22, 1936, and subsequent acts require local interests to furnish assurances that they will maintain and operate certain local protection projects after completion in accordance with regulations prescribed by Secretary of the Army. District Engineers are responsible for administration of these regulations within boundaries of their respective districts. Inspections were made of completed units transferred to local interests for maintenance and operation and local interests were advised, as necessary, of measures required to maintain these projects in accordance with standards prescribed by regulations. (See Table 18-L for dates of inspections.)

Costs for FY09 were \$302,060; total cost to September 30, 2009 was \$3,400,073.

29. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 18-E on other authorized flood control projects.

30. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATIONS

For emergency bank protection pursuant to Section 14, 1946 Flood Control Act, PL 79-526, as amended

See Table 18-M.

For flood control activities pursuant to Section 205, 1948 Flood Control Act, PL 80-858, as amended

See Table 18-M.

For aquatic ecosystem restoration pursuant to Section 206, 1996 WRDA, PL 104-303, as amended

See Table 18-M.

For modification for improvement of the environment pursuant to Section 1135, 1986 WRDA, PL 99-662, as amended

See Table 18-M.

For flood control and coastal emergencies pursuant to 1955 Emergency Flood Control Funds Act, PL 84-99 and antecedent legislation

See Table 18-M.

Environmental

31. CONEMAUGH RIVER BASIN, NANTY GLO, PA ENVIRONMENTAL RESTORATION

Location. Conemaugh River Basin is an area of 1,372 square miles located in southwestern Pennsylvania in Cambria and Indiana Counties. The Nanty Glo project is located in the headwaters of South Branch Blacklick Creek in the Borough of Nanty Glo, Cambria County.

Existing Projects. Authorized by WRDA 1992 (PL 102-580), Section 331, the Conemaugh River Basin Reconnaissance Report completed in February 1994 identified seven sites as candidates for ecosystem restoration studies. Remediation of a site at Nanty Glo, PA was identified as highest priority. The project involves restoration of environmental damage caused by the abandoned Webster Coal Mine. Its discharge accounts for much of the acid load in the creek and approximately 5% of the acid load downstream at the Corps' Conemaugh River Lake. Water from the mine is discharged into Pergrin Run, approximately 1,300' upstream from its confluence with South Branch Blacklick Creek. The project will involve a passive treatment system consisting of dual vertical flow ponds and a wetland. The project will treat the Webster Mine discharge, design flow of 450 gallons per minute with a PH of 3.0. The vertical flow ponds provide 3.9 acres of surface treatment area and the wetland provides 2.3 acres of surface treatment area. A pipe will carry water from Webster Mine to the vertical flow ponds. The PH of the treated design flow discharged from the wetland

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to Pergrin Run will be 6.5 Project implementation will restore the lower seven miles of the creek and promote return of a viable fishery to the waters.

Notice to proceed issued September 20, 2002. Amount of contract was \$4,200,000. Contractor was Charles J. Merlo Construction Incorporated. Contract was completed in October 2004.

Local Cooperation. The non-federal cost-sharing sponsor is the Cambria County Conservation and Recreation Authority (CCCRA). CCCRA has been the cost-sharing partner on this project since inception in 1994. The CCCRA will cost share 25% of total project costs.

Operations during Fiscal Year. None. Closeout scheduled in FY 2007

32. SOUTH CENTRAL, PA ENVIRONMENTAL IMPROVEMENT WORK

Location. Projects under this program in the Pittsburgh District are located in the South Central, PA counties of Allegheny, Armstrong, Cambria, Fayette, Greene, Indiana, Somerset Washington and Westmoreland.

Existing Projects. Section 313 authorizes the Secretary of the Army to establish a program to provide design and construction assistance to non-federal interests in south central Pennsylvania including projects for waste water treatment and related facilities, water supply, storage, treatment, and distribution facilities, and surface water resource protection and development. A total of 54 projects are physically complete. The largest project was a regional wastewater treatment plant and interceptor system for the Forest Hills Municipal Authority located in the suburbs of Johnstown, PA.

Local Cooperation. Legislation requires the project to be cost shared at no more than 75% federal funds and a minimum of 25% non-federal funds. Project Partnership Agreements are executed between the Corps of Engineers and the non-federal sponsors. Operation and maintenance of the projects will be at 100% non-federal costs.

Operations during Fiscal Year. During FY09 completed work at Lower Ten Mile, Menallen (Phase II), and Sutersville-Sewickley. Continued design of projects at Bentleyville, Center-West, Derry-New Alexandria, Dry Tavern, Dunbar (Wastewater Treatment Facility), Dunbar (Sewage System), El Rama, German Township, Gilpin, Jackson Township, Kiski Township, Lower Ten Mile (Phase II), Mt Pleasant, Pegasus, Perry Township, Point Marion (Waterline), Point Marion (Sewer), Ralphton, SW PA Water, Swan Plan, Upper Allegheny and Washington Township. Continued construction of projects at North Union, Parks Township, and Tri-County.

Other projects will be identified as funds become available.

33. THREE RIVERS WET WEATHER DEMONSTRATION PROJECT

Location. The Three Rivers Wet Weather

Demonstration Program administers grants to Allegheny County communities for innovative, cost-effective, watershed-based methods of wet weather sewer overflow elimination and management.

Existing Project. The District is working with the Three Rivers Wet Weather Demonstration Program under Section 219 of the 1992 WRDA, as amended. Under this program, the District is authorized to provide assistance to non-federal interests for carrying out water-related environmental infrastructure and resource protection and development project in Allegheny County. These projects include wastewater treatment and related facilities and water supply, storage, treatment and distribution facilities. Projects worked on during FY09 were Aspinwall Borough, Homestead Run, Pine Hollow Run, Sheraden Park, and Sheraden Park (Phase II).

Local Cooperation Legislation requires the project to be cost shared at 75% federal and 25% non-federal. Project Partnership Agreements are executed between the Corps of Engineers and the non-federal sponsors. Projects are operated and maintained at 100% non-federal costs.

Operations during Fiscal Year. In FY09, the District worked on design of projects at Aspinwall Borough, Homestead Run, Sheraden Park (Phase II), and Pine Hollow Run. Continued construction of the Sheraden Park project.

Other projects will be identified as funds become available.

34. FORMERLY USED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

Location. Shallow Land Disposal Area (SLDA) is a 44-acre site in Armstrong County, Pennsylvania, about 23 miles east-northeast of Pittsburgh.

Existing Project. The site includes ten trenches containing estimated 23,500-36,000 cubic yards of potentially contaminated waste and soil. The total trench surface-area is 1.2 acres. The trenches are separated into two general areas; one area containing trenches 1 through 9 and a second area containing trench 10. Uranium and thorium contaminated wastes consisting of process wastes; equipment, scrap and trash from the nearby Apollo nuclear fuel fabrication facility were disposed of in the SLDA between 1961 and 1970. The uranium in the trenches is present at various levels of enrichment from highly depleted to highly enrich. Americium and plutonium, whose presence is attributed to storage of equipment used in the Parks Facility, have been detected in surface soils in trench 10 area. Nuclear Materials and Equipment Corporation (predecessor of current owner BWX Technologies) conducted the disposals according to the Atomic Energy Commission regulations. The NRC license requires BWXT to properly maintain the site to ensure the protection of workers and the public.

PL 107-117, Section 8143 directs the Corps of Engineers to clean up radioactive waste at the SLDA site, consistent with the Memorandum of Understanding between the United States Nuclear

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Regulatory Commission and United States Army Corps of Engineers dated July 5, 2001 for the coordination of cleanup and decommissioning of FUSRAP sites with NRC-licensed facilities and in accordance with Section 611 of PL 106-60. The SLDA site will be remediated following the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process.

Local Cooperation. The project is currently conducted with congressionally authorized FUSRAP funds.

Operations during Fiscal Year. Significant accomplishments for Parks Township, PA Shallow Land Disposal Area included the completion of the Proposed Plan and the Record of Decision (ROD), and the initiation of the remedial design for \$1,000,000. The ROD recommends excavation and disposal of radioactively contaminated material out of state at a licensed facility. The remedial design was completed in FY09 as scheduled along with the Final Status Survey Plan. Mobilization at the site is scheduled to occur 2nd Qtr FY10 with remediation of the trenches scheduled to begin in the 4th Qtr 2010.

35. SURVEYS

General Investigations

Navigation Studies	\$3,795,420
Flood Damage Prevention Studies	2,773
Special Studies	0
Review of Authorized Projects	0
Miscellaneous Activities	72,637
Coordination with other Federal Agencies	19,657
Total Federal Cost for Fiscal Year	\$3,890,487

36. COLLECTION & STUDY OF BASIC DATA

Federal costs this fiscal year were \$127,157 for flood plain management services.

37. PRECONSTRUCTION, ENGINEERING & DESIGN

	\$0
	\$0
	\$0
Mon River, WV (project close out)	
Weirton Port, WV	
Total Federal Costs for Fiscal Year	

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TABLE 18-A COST & FINANCIAL STATEMENT

See Sect. in Text	Project	Funding	FY06	FY07	FY08	FY09	Total Cost to Sept 30, 2009
NAVIGATION							
1	Allegheny River, PA	New Work Approp	---	---	---	---	18,157,860 ¹
		New Work Cost	---	---	---	---	18,157,860 ¹
		Maint Approp	4,037,000	5,730,281	6,512,000	13,707,880	248,607,485 ²
		Maint Cost	3,935,426	5,723,622	6,435,828	9,458,432	244,143,283 ²
2	Emsworth, PA	New Work Approp	---	---	---	17,335,000	17,335,000
		New Work Cost	---	---	---	---	0
		Maint Approp	---	---	---	---	0
		Maint Cost	---	1,699	1,356	---	3,055
		Rehab Approp	---	17,000,000	42,312,000	25,800,000	85,112,000
		Rehab Cost	---	13,579,653	9,410,430	3,200,429	26,190,512
3	Monongahela River, PA & WV	New Work Approp	49,745,000	63,272,000	40,400,000	57,387,800	916,692,635 ³
		New Work Cost	40,179,338	37,515,282	36,800,456	21,349,067	828,883,653 ⁴
		Maint Approp	16,221,000	12,467,000	15,884,000	29,825,234	490,743,822 ⁵
		Maint Cost	16,997,244	13,456,041	14,505,051	17,277,493	465,978,466 ⁶
		Rehab Approp	---	---	---	---	15,857,000
		Rehab Cost	---	---	---	---	15,857,000
5	Tygart Lake, WV	New Work Approp	---	---	---	---	28,022,534 ⁷
		New Work Cost	---	---	---	---	28,022,533 ⁷
		Maint Approp	1,437,000	945,564	3,472,000	1,485,745	45,086,877 ⁸
		Maint Cost	1,725,411	960,249	1,144,648	3,711,178	44,976,643 ⁸
		Rehab Approp	---	---	---	---	89,000
		Rehab Cost	---	---	---	---	88,999
FLOOD CONTROL – LOCAL PROTECTION							
6	Chartiers Creek, PA	New Work Approp	---	---	---	---	30,818,153 ⁴¹
		New Work Cost	---	---	---	---	30,818,513 ⁴¹
		Maint Approp	---	---	---	---	0
		Maint Cost	---	---	---	---	0
7	Elkins, WV	New Work Approp	---	---	---	---	1,772,627
		New Work Cost	---	---	---	---	1,772,627
		Maint Approp	14,000	17,000	12,000	12,740	526,898
		Maint Cost	14,071	15,814	13,170	12,771	526,899
8	Johnstown, PA	New Work Approp	---	---	---	---	8,865,388 ⁹
		New Work Cost	---	---	---	---	8,865,388 ⁹
		Maint Approp	987,000	149,105	1,253,000	2,239,900	18,877,167
		Maint Cost	946,102	169,685	124,599	2,292,586	17,794,932
		Rehab Approp	---	---	---	---	36,690,000 ⁴³
		Rehab Cost	---	---	---	5,249	36,431,708 ⁴⁴
9	Punxsutawney, PA	New Work Approp	---	---	---	---	3,586,107 ¹⁰
		New Work Cost	---	---	---	---	3,586,107 ¹⁰
		Maint Approp	12,000	14,000	727,000	18,620	2,523,189 ¹¹
		Maint Cost	12,249	13,686	96,704	647,326	2,521,222 ¹¹
10	Saw Mill Run Pittsburgh, PA	New Work Approp	688,000	2,940,000	0	800,000	19,931,435 ⁶
		New Work Cost	72,987	2,322,664	38,167	31,463	17,011,474 ⁶
		Maint Approp	---	---	---	---	0
		Maint Cost	---	---	---	---	0

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TABLE 18-A COST & FINANCIAL STATEMENT

See Sect. in Text	Project	Funding	FY06	FY07	FY08	FY09	Total Cost to Sept 30, 2009
11	West Virginia & PA Flood	New Work Approp	1,010,000	---	1,673,000	2,000,000	10,660,647 ⁴⁷
		New Work Cost	230,284	490,504	328,106	146,401	1,208,497
		Maint Approp	---	---	---	---	0
		Maint Cost	---	---	---	---	0
FLOOD CONTROL - RESERVOIR							
12	Berlin Lake, OH	New Work Approp	---	---	---	---	8,739,987 ¹²
		New Work Cost	---	---	---	---	8,739,987 ¹²
		Maint Approp	1,413,000	1,692,500	3,090,000	7,184,641	71,979,887 ¹³
		Maint Cost	1,454,474	1,548,485	3,221,176	2,171,968	66,948,366 ¹³
13	Conemaugh River Lake, PA	New Work Approp	---	---	---	---	46,012,411 ¹⁴
		New Work Cost	---	---	---	---	46,012,411 ¹⁴
		Maint Approp	951,000	1,135,000	1,507,000	1,947,468	35,331,865 ³⁹
		Maint Cost	968,110	1,108,702	964,996	2,081,887	34,877,240 ³⁹
14	Crooked Creek Lake, PA	New Work Approp	---	---	---	---	4,482,933 ¹⁵
		New Work Cost	---	---	---	---	4,482,933 ¹⁵
		Maint Approp	949,000	1,132,850	1,348,000	2,305,620	46,993,898 ¹⁶
		Maint Cost	1,039,855	1,126,748	1,308,850	2,095,974	46,738,601 ¹⁶
15	East Branch, Clarion River Lake, PA	New Work Approp	---	---	1,920,000	---	11,459,586 ¹⁷
		New Work Cost	---	---	954,509	---	10,494,095 ¹⁷
		Maint Approp	904,000	899,000	1,666,000	2,583,740	31,548,044 ¹⁸
		Maint Cost	1,043,266	893,160	1,461,398	1,923,098	30,575,003 ¹⁸
16	Kinzua Dam & Allegheny Reservoir, PA & NY	New Work Approp	---	---	---	---	109,305,076 ¹⁹
		New Work Cost	---	---	---	---	109,305,076 ¹⁹
		Maint Approp	1,422,000	1,620,309	1,274,000	2,254,719	45,013,074 ¹⁹
		Maint Cost	1,685,955	1,587,577	1,319,203	1,426,536	45,223,143 ¹⁹
		Rehab Approp	---	---	---	---	2,921,000
		Rehab Cost	---	---	---	---	2,921,000
17	Loyalhanna Lake, PA	New Work Approp	---	---	---	---	5,727,531 ²⁰
		New Work Cost	---	---	---	---	5,727,531 ²⁰
		Maint Approp	864,000	944,526	1,093,000	2,542,540	35,392,626 ²¹
		Maint Cost	891,461	944,060	1,079,688	1,499,640	34,330,902 ²¹
18	Mahoning Creek Lake, PA	New Work Approp	---	---	---	---	7,144,973 ²²
		New Work Cost	---	---	---	---	7,144,973 ²³
		Maint Approp	837,000	732,000	2,228,000	4,710,160	34,698,036 ⁴⁰
		Maint Cost	835,113	735,543	959,912	2,962,782	30,927,856 ⁴⁰
		Rehab Approp	---	---	---	---	47,033
		Rehab Cost	---	---	---	---	47,033
19	Michael J. Kirwan Dam & Reservoir, OH	New Work Approp	---	---	---	---	17,376,097 ²⁴
		New Work Cost	---	---	---	---	17,376,097 ²⁴
		Maint Approp	730,000	709,000	1,409,000	2,814,440	27,424,358 ²⁵
		Maint Cost	716,583	724,537	987,900	2,086,915	26,277,665 ²⁵
20	Mosquito Creek Lake, OH	New Work Approp	---	---	---	---	4,253,029 ²⁶
		New Work Cost	---	---	---	---	4,253,029 ²⁶
		Maint Approp	635,000	825,000	1,600,000	1,354,370	29,086,401 ⁴⁵
		Maint Cost	637,938	832,485	1,193,932	1,631,715	28,953,197 ⁴⁵

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TABLE 18-A COST & FINANCIAL STATEMENT

See Sect. in Text	Project	Funding	FY06	FY07	FY08	FY09	Total Cost to Sept 30, 2009
21	Ohio River Basin, PA (Pittsburgh District)	New Work Approp	---	---	---	---	985,197 ²⁷
		New Work Cost	---	---	---	---	985,197 ²⁷
		Maint Approp	---	---	---	---	0
		Maint Cost	---	---	---	---	0
22	Shenango River Lake, PA & OH	New Work Approp	---	---	---	---	40,217,201 ²⁸
		New Work Cost	---	---	---	---	40,217,201 ²⁸
		Maint Approp	1,604,000	1,971,262	2,777,000	3,210,080	66,835,080 ²⁹
		Maint Cost	1,625,918	1,855,304	2,163,479	2,938,818	63,864,744 ²⁹
23	Stonewall Jackson Lake, WV	New Work Approp	---	---	---	838,000	212,367,741
		New Work Cost	22,906	1,056	---	32,661	211,582,287
		Maint Approp	782,000	787,611	1,036,000	1,084,720	18,902,915 ⁵¹
		Maint Cost	792,093	789,453	944,362	983,511	18,882,083 ⁵¹
24	Tionesta Lake, PA	New Work Approp	---	---	---	---	7,792,378 ³⁰
		New Work Cost	---	---	---	---	7,792,378 ³¹
		Maint Approp	1,687,000	1,443,500	2,282,000	3,168,410	48,829,615 ³²
		Maint Cost	1,694,100	1,447,300	1,919,860	2,856,417	48,130,508 ³²
25	Union City Lake, PA	New Work Approp	---	---	---	---	14,559,800
		New Work Cost	---	---	---	---	14,559,800
		Maint Approp	130,000	303,115	296,000	787,120	9,330,743 ⁵²
		Maint Cost	136,201	155,462	433,821	752,841	9,285,398 ⁵²
26	Woodcock Creek Lake, PA	New Work Approp	---	---	---	---	20,545,065 ³³
		New Work Cost	---	---	---	---	20,545,065 ³⁴
		Maint Approp	906,000	740,526	885,000	1,045,855	22,760,824 ³⁵
		Maint Cost	911,408	738,970	877,944	882,209	23,191,482 ³⁵
27	Youghiogheny River Lake, PA & MD	New Work Approp	---	---	---	---	12,521,167 ³⁶
		New Work Cost	---	---	---	---	12,521,167 ³⁶
		Maint Approp	1,874,000	1,834,486	2,003,500	2,847,020	60,237,691 ³⁷
		Maint Cost	1,877,810	1,830,073	1,981,094	2,300,884	59,623,203 ³⁷
ENVIRONMENTAL							
	Central West Virginia Environmental Infrastructure, WV	New Work Approp	---	825,000	-400,000	220,000	685,000
		New Work Cost	14,123	14,465	374,297	169,916	601,960
31	Nanty Glo, PA Environmental Restoration	New Work Approp	---	---	---	---	4,186,337 ⁴⁹
		New Work Cost	---	---	---	---	3,988,866 ⁴⁹
	Ohio Environmental Infrastructure, OH	New Work Approp	657,500	1,214,000	3,099,000	1,925,000	8,574,500
		New Work Cost	103,121	92,847	672,242	1,316,502	3,211,008
32	South Central, PA Environmental Improvement Program	New Work Approp	4,455,000	6,967,000	4,133,000	14,550,000	81,939,925 ⁴²
		New Work Cost	3,204,848	1,396,312	1,801,463	3,584,407	58,721,216 ⁴²
33	Three Rivers Wet Weather Demo	New Work Approp	668,000	2,094,250	468,000	7,650,000	11,787,250 ⁵⁰
		New Work Cost	184,831	61,906	1,127,287	1,528,136	3,437,017 ⁵⁰
34	Formerly Used Sites Remedial Action Program	New Work Approp	1,410,000	1,000,000	1,250,000	3,500,000	61,779,925 ⁴²
		New Work Cost	1,085,681	744,935	982,626	1,177,421	57,240,361 ⁴²

¹ Includes \$2,453,737 from emergency relief funds and \$1,250,049 from public works funds.

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- ² Includes \$64,365 public works acceleration, executive funds (1963) and \$191,400 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds. Includes \$995,000 appropriated and expended for major maintenance at L&D 2, 3 & 4. Includes \$3,824,000 appropriated and \$2,447,324 expended on maintenance for ARRA.
- ³ Includes amounts appropriated to date for: Point Marion, L&D 8, PA - \$113,013,400 for CG and IWTF, \$3,322,057 for raising crest of dam in 1958-9, \$2,086,438 for original reconstruction years 1923-26 and \$618,758 for AE&D. Grays Landing, L&D 7, PA - \$172,793,200 for CG and IWTF, and \$803,000 for AE&D. L&D 2, 3 & 4 - \$237,481,700 for CG and IWTF. Includes \$55,198,800 appropriated for ARRA.
- ⁴ Includes amounts expended to date on: Point Marion, L&D 9, PA - \$112,667,403 for CG and IWTF, \$3,322,057 for raising crest of dam in 1958-9, \$2,086,438 for original reconstruction years 1923-6 and \$618,758 for AE&D. Grays Landing, L&D 7, PA - \$172,751,744 for CG and IWTF, and \$803,000 for AE&D. L&D 2, 3 & 4 - \$237,123,612 for CG and IWTF. Includes \$6,752,350 expended for ARRA.
- ⁵ Includes \$22,549 public works acceleration, executive funds (1963), \$742 for maintenance for previous project and \$582,000 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds. Includes \$2,904,094 appropriated for ARRA.
- ⁶ Includes \$22,549 public works acceleration, executive funds (1963), \$742 for maintenance for previous project and \$464,508 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds. Includes \$497,453 expended for ARRA.
- ⁷ Includes \$1,999,995 emergency relief funds, \$10,000,000 public work funds, \$234,000 Code 711 funds and \$412,088 Code 713 funds, \$462,000 appropriated to and \$218,374 expended on the Dam Safety Assurance Program - CG; excludes \$409,622 contributed by local interest.
- ⁸ Includes \$89,000 provided from the Productive Employment Appropriations, Act (PL 98-8) 1983 funds. Also includes \$425,000 appropriated to and \$424,493 expended on the Dam Safety Assurance Program O&M. Includes \$101,985 appropriated and \$21,591 expended for ARRA.
- ⁹ Includes \$33,423 from emergency relief funds.
- ¹⁰ Excludes \$180,485 for new work expended from contributed funds.
- ¹¹ Includes \$283,988 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds.
- ¹² Includes \$1,542,500 Code 711 funds, \$809,700 Code 712 funds and \$99,111 Code 713 funds; excludes \$100,000 contributed by local interest.
- ¹³ Includes \$40,000 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds. Includes \$7,679 appropriated to and expended from M&O of dams in FY97 and \$703,407 expended to date on M&O of dams. Includes \$3,357,001 appropriated and \$199,604 for ARRA.
- ¹⁴ Includes \$5,351 from emergency relief funds and \$328,000 Code 711 funds.
- ¹⁵ Includes \$63,788 from emergency relief funds. Also includes \$278,044 Code 711 funds.
- ¹⁶ Includes \$45,000 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds. Includes \$1,918 appropriated to and expended from M&O of dams in FY97 and \$697,646 expended to date on M&O of dams. Includes \$353,600 appropriated and \$152,449 expended for ARRA.
- ¹⁷ Includes \$156,812 Code 711 funds.
- ¹⁸ Includes \$322,000 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$12,674 appropriated to and \$12,674 expended to date on M&O of dams. Includes \$222,100 appropriated and \$71,609 expended for ARRA.
- ¹⁹ Includes \$2,791 emergency relief funds, \$14,622 Code 711 funds, \$568,265 Code 713 funds; excludes \$389,370 contributed by local interest. Includes \$330,999 appropriated and \$63,901 expended for ARRA.
- ²⁰ Includes \$7,339 from emergency relief funds and \$274,669 Code 711 funds.
- ²¹ Includes \$256,000 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$104,866 appropriated to and \$104,864 expended to date on M&O of dams. Includes \$123,000 appropriated and \$40,625 expended for ARRA.
- ²² Includes \$25,671 emergency relief funds, \$162,381 Code 711 funds, \$561,247 Code 713 funds; excludes \$500,086 contributed by local interests.
- ²³ Includes \$25,671 emergency relief funds, \$162,381 Code 711 funds, \$561,247 Code 713 funds; excludes \$456,611 contributed by local interests.
- ²⁴ Includes \$74,900 Code 711 funds; excludes \$4,585,627.29 for new work contributed by local interest.
- ²⁵ Includes \$315,500 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$3,174 appropriated to and \$3,713 expended to date on M&O of dams. Includes \$635,000 appropriated and \$53,733 expended for ARRA.
- ²⁶ Includes \$122,729 Code 711 funds and \$94,900 Code 713 funds.
- ²⁷ Includes \$8,914 from emergency relief funds.
- ²⁸ Includes \$1,730,100 Code 711 funds and \$1,618,300 Code 713 funds.
- ²⁹ Includes \$152,000 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$11,896 appropriated to and \$11,891 expended to date on M&O of dams. Includes \$1,058,000 appropriated and \$252,300 expended for ARRA.
- ³⁰ Includes \$2,303,076 Code 711 funds (\$256,760 provided from the Productive Employment Appropriations Act PL 98-8, 1983 funds), \$275,900 Code 712 funds, and \$24,201 emergency relief funds.
- ³¹ Includes \$2,303,077 Code 711 funds, (\$256,531 provided from the Productive Employment Appropriations Act PL 98-8, 1983 funds), \$275,900 Code 712 funds, and \$24,201 emergency relief funds.
- ³² Includes \$203,000 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$9,362 appropriated to and \$9,360 expended to date on M&O of dams. Includes \$536,950 appropriated and \$147,559 expended for ARRA.
- ³³ Includes \$1,671,366 Code 711 funds.
- ³⁴ Includes \$1,671,366 Code 711 funds.
- ³⁵ Includes \$85,000 provided from the Productive Employment Appropriations Act (PL 98-8) 1983 funds). Includes \$106,035 appropriated and \$37,875 expended for ARRA.
- ³⁶ Includes \$2,846,263 Code 711 funds (\$293,000 provided from the Productive Employment Appropriations Act. (PL 98-8) 1983 funds).
- ³⁷ Includes \$591,000 provided from the Protective Employment Appropriations Act (PL 98-8) 1983 funds. Also includes \$22,240 appropriated to and \$22,236 expended to date on M&O of Dams. Includes \$502,000 appropriated and \$176,430 expended for ARRA.
- ³⁸ Includes \$1,840,000 (non-federal) original construction cost and an additional \$4,205,000 (non-federal) contributed and \$4,159,759 (non-federal) expended to date.
- ³⁹ Includes \$701,504 appropriated to and \$701,504 expended to date on M&O of dams. Includes \$335,000 appropriated and \$166,547 expended for ARRA.
- ⁴⁰ Includes \$104,684 appropriated to and \$104,683 expended to date on M&O of dams. Includes \$3,052,000 appropriated and \$902,019 expended for ARRA.
- ⁴² Includes \$285,000 (non-federal) contributed funds and \$282,914 (non-federal) expended to date. Includes \$6,550,000 appropriated and \$13,071 expended for ARRA.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

⁴³ Includes \$4,894,000 appropriated to date for Rehab O&M and \$2,925,000 appropriated to date for Rehab Construction, General. Also includes \$222,000 (non-federal) contributed funds to date.

⁴⁴ Includes \$4,880,202 expended to date for Rehab O&M and \$2,824,695 expended to date for Rehab Construction, General. Also includes \$205,323

(Non-federal) expended to date.

⁴⁵ Includes \$701,504 appropriated to and \$701,504 expended to date on M&O of dams. Includes \$96,050 appropriated and \$33,128 expended for ARRA.

⁴⁶ Includes \$3,244,435 (non-federal) contributed funds and \$2,565,808 (non-federal) expended to date.

⁴⁷ Includes \$131,618 (non-federal) contributed funds and \$102,016 (non-federal) expended to date.

⁴⁹ Includes \$867,703 (non-federal) contributed funds and \$852,806 (non-federal) expended to date.

⁵⁰ Includes \$125,000 (non-federal) contributed funds and \$99,511 (non-federal) expended to date. Includes \$7,250,000 appropriated and \$28,925 expended for ARRA.

⁵¹ Includes \$140,000 appropriated and \$31,828 expended for ARRA.

⁵² Includes \$12,000 appropriated and \$3,759 expended for ARRA.

PITTSBURGH, PA DISTRICT

TABLE 18-B

AUTHORIZATION LEGISLATION

Section in Text	Authorizing Act Date	Project and Work Authorized	Documents	
1.	Aug 5, 1886	Allegheny River, PA For lock and dam 1. (Fixed dam contemplated. Sep 29, 1891 Secretary of War authorized change to a moveable dam.)	Annual Report, 1886, p. 1545 Annual Report, 1891, p. 2366	
	Jun 3, 1896	For locks and dams 2 and 3.	H. Doc. 204, 54 th Cong., 1 st Sess. Annual Report 1896, p. 2212	
	Jul 25, 1912	For locks and dam 4 to 8 inclusive.	H. Doc. 540, 62 nd Cong., 2 nd Sess.	
	Jul 3, 1930	For a depth of 9' in the lower 61 miles.	H. Doc. 356, 71 st Cong., 2 nd Sess.	
	Aug 30, 1935 ¹	Replace lock and dam 1 by a dredged channel, 9' deep and 200' wide up to lock 2, and construct new locks and Dams 2 and 3, to replace existing locks and dams 2 and 3.	Rivers and Harbors Committee, Doc. 16, 72 nd Cong., 1 st Sess.	
	Aug 30, 1935 ¹	Construct locks and dam 9, raising crest of dam 8, and Dredging a navigable channel to head of pool 8.	H. Doc. 721, 71 st Cong., 3 rd Sess. Rivers and Harbors Committee, Doc. 27, 73 rd Cong., 2 nd Sess.	
	Jun 26, 1934 ²	Operation and care of locks and dams provided for with funds from War Department appropriation for rivers and harbors.		
	3.	Mar 3, 1899	Monongahela River, PA & WV Enlarge and improve lock and dam 6, additional work at lock 3; new repair steamer and new dredge boat with equipment; all at an estimated cost of \$185,556.	Annual Report, 1897, p. 2423
		Jun 13, 1902	Rebuild lock and dam 2 at estimated cost of \$655,961. (Estimate increased in 1910 to \$698,961.)	Annual Report, 1909, p. 1756
		Mar 3, 1905	Acquisition of land and additional improvements at 5 and 6 At a cost of \$7,850.	Annual Report, 1904, p. 460
Mar 3, 1905		Rebuild lock and dam 3 at estimated cost of \$589,196.	H. Doc. 209, 58 th Cong., 2 nd Sess.	
Mar 2, 1907		Reconstruct lock and dam 5 at estimated cost of \$756,042.	H. Doc. 209, 58 th Cong., 2 nd Sess.	
Mar 4, 1913		Reconstruct lock and dam 6 at estimated cost of \$356,400. (Estimate increased in 1916 to \$418,860.)	H. Doc. 1217, 62 nd Cong., 3 rd Sess.	
Sep 22, 1922		Additional improvements at estimated cost as follow: Guide walls and guard walls, 1 to 6, \$1,255,130; lengthen land chamber of lock 3 to 720', \$787,722; new chamber (360' \$1,161, 24 long), lock 4, \$699,786; lock and dam 7, Lock and dam 8, \$1,165,758; lock and dam 7 second chamber, \$419,126; Lock and dam 8 second chamber, \$504,465; reconstruction dam 4, \$397,211; marine ways, repair plant, office and warehouse, \$250,000 for a total of \$6,640,439.	H. Doc. 288, 67 th Cong., 2 nd Sess.	
Jul 3, 1930		Construct new locks and dam 2.5 miles below existing structure, at estimated cost of \$2,175,000 in lieu of work authorized at old lock and dam 4.	Rivers and Harbors Committee, Doc. 22, 70 th Cong., 2 nd Sess.	
Jan 31, 1931 ³		Chief of Engineers authorized to locate new locks and dam 4 above existing structure and on such site as they may deem most desirable.		
Jun 26, 1934 ²		Operation and care of locks and dams provided for with funds from War Department appropriations for rivers and harbors.		
May 17, 1950	Modification of existing project as follows: Provide 2 new locks and dams similar to Morgantown lock and dam to replace existing locks and dams 12 to 15 inclusive. Provide a movable crest on existing dam 8 to raise existing pool full elevation 4'. Provide a navigation channel of 300' minimum bottom width and a 9' project depth above lock and dam 8. Provide an extension of navigable channel of upper Monongahela River, into lower Tygart River for 2.1 miles at a maximum bottom width of 200' and a 9' project depth.	S. Doc. 100, 81 st Cong., 1 st Sess.		

TABLE 18-B

AUTHORIZATION LEGISLATION

Section in Text	Authorizing Act Date	Project and Work Authorized	Documents
	Nov 17, 1986	Construct new lock and dam 7 (Grays Landing Lock and Dam) as follows: The Grays Landing Lock and Dam will be located 3.0 miles downriver from existing Lock and Dam 7. It will consist of a single lock chamber, 84' wide by 720' long, with a fixed crest dam 576' in length. The existing Maxwell Pool at elevation 763.0 will be shortened 3 miles and the existing Pool 7 at elevation 778.0 will be extended downriver to the new dam. There will be no change in pool elevation above existing Dam 7. Upon completion of the new replacement lock and dam, existing Lock and Dam 7 will be removed. Total authorized cost is \$181,000,000.	Supplemental Appropriations Act of 1985 for Engineering and Design and Land Acquisition and Water Resources Development Act of 1986; PL 99-662, Sec. 301(a)
	Nov 17, 1986	Replace existing 56' by 360' lock chamber at Point Marion Lock and Dam (Lock and Dam 8) with new 84' x 720' chamber. Existing movable crest dam to remain; no change in pool elevations. Total authorized cost is \$53,600,000.	Supplemental Appropriations Act of 1985 for Engineering and Design and Land Acquisition and Water Resources Development Act of 1986; PL 99-662, Sec. 301 (a)
	Oct 31, 1992	Navigation improvements as follows: The project replaces the fixed crest dam at Locks and Dam 2 with a gated dam; raises the existing pool 2 by 5', constructs twin 84' x 720' locks at Locks and Dam 4, and eliminates Locks and Dam 3; lowering the existing pool 3 by 3.2'. Authorized cost is \$750,000,000. Cost of construction is to be paid equally from the general fund of the Treasury and the Inland Waterways Trust Fund.	Water Resources Development Act of 1992; PL 102-580, Sec. 101
5.		Tygart Lake, WV	
	Jan 11, 1934	Construction of a dam and reservoir for low water regulation and flood control.	H. Doc. 1792, 64 th Cong., 2 nd Sess.
	Aug 30, 1935		H. Doc 106, 76 th Cong., 1 st Sess.
7.		Elkins, WV	
	Jun 28, 1938	For construction of local flood protection projects.	H. Doc 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
8.		Johnstown, PA	
	Jun 28, 1938	For construction of local flood protection projects.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
9.		Punxsutawney, PA	
	Jun 28, 1938	For construction of local flood protection projects.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
10.		Saw Mill Run, Pittsburgh, PA	
	Nov 17, 1986	For construction of local flood protection projects.	Water Resources Development Act of 1986
	Oct 12, 1996		Water Resources Development Act of 1996
11.		West Virginia & Pennsylvania Flood Control	
	Oct 12, 1996	For construction of local flood protection projects.	Water Resources Development Act of 1996, PL 102-580, Sec 313
12.		Berlin Lake, OH	
	Jun 28, 1938	Construction of a dam and reservoir for flood control and low water regulation.	H. Doc. 306, 74 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
13.		Conemaugh River Lake, PA	
	Jun 22, 1936 amended by Jun 28, 1938	Construction of a dam and reservoir for flood control.	H. Doc, 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944

PITTSBURGH, PA DISTRICT

TABLE 18-B

AUTHORIZATION LEGISLATION

Section in Text	Authorizing Act Date	Project and Work Authorized	Documents
14.	Jun 22, 1936 amended by Jun 28, 1938	Crooked Creek Lake, PA Construction of a dam and reservoir for flood control.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
15.	Jun 28, 1938	East Branch, Clarion River Lake, PA Construction of a dam and reservoir for flood control and low water regulation.	H. Doc. 306, 74 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
16.	Jun 22, 1936 amended by Jun 28, 1938 modified by Aug 18, 1941	Kinzua Dam & Allegheny Reservoir, PA & NY Construction of a dam and reservoir for flood control and low Water regulation and recreation.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
		Construction of a dam and reservoir for flood control, pollution Abatement, low water regulation and recreation.	H. Doc. 300, 76 th Cong., 1 st Sess.
	Dec 22, 1944	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
		Lower Girard Dam, OH Design and construction assistance to non-federal interests For repair and rehabilitation of the Lower Girard Dam	Sec 507, WRDA 1996 PL 104-303
	Nov 7, 2007	Special Rules – the project for Lower Girard Lake Dam, Ohio is justified on the basis of public safety	Sec 3129, WRDA 2007 PL 110-114
17.	Jun 22, 1936 amended by Jun 28, 1938	Loyalhanna Lake, PA Construction of a dam and reservoir for flood control.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
18.	Jun 22, 1936 amended by Jun 28, 1938	Mahoning Creek Lake, PA Construction of a dam and reservoir for flood control.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
19.	Jul 3, 1958	Michael J. Kirwan Dam & Reservoir, OH Construction of a dam and reservoir for flood control, water Supply, low water regulation and recreation.	H. Doc. 191, 85 th Cong., 1 st Sess.
	Jul 14, 1960	To define cost-sharing arrangement for municipal and industrial water supply and water for pollution abatement purposes.	PL 86-645
20.	Jun 28, 1938	Mosquito Creek Lake, OH Construction of a dam and reservoir for flood control and low water regulation.	H. Doc. 306, 74 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
21.	Aug 28, 1937	Ohio River Basin (Pittsburgh District) Construct levees, floodwalls and drainage structures for protection of cities and towns in Ohio River Basin. Projects to be selected by Chief of Engineers with approval of Secretary of War at a cost not to exceed \$24,877,000 for construction.	Flood Control Committee, Doc. 1, 75 th Cong., 1 st Sess.
	Jun 28, 1938	Approved general comprehensive plan for flood control and other purposes in Ohio River Basin as may be advisable at discretion of Secretary of War and Chief of Engineers, and for initiation and partial accomplishment of plan, authorized \$75,000,000 for reservoirs and \$50,300,000 for local flood protection works.	Flood Control Committee, Doc. 1, 75 th Cong., 1 st Sess.

TABLE 18-B

AUTHORIZATION LEGISLATION

Section in Text	Authorizing Act Date	Project and Work Authorized	Documents
	Aug 18, 1941	Additional \$45 million for prosecution of comprehensive plan for Ohio River Basin.	H. Doc. 300, 76 th Cong., 1 st Sess.
	Dec 22, 1944	Additional \$70 million for further prosecution of comprehensive plan for Ohio River Basin, to include tributary basins.	H. Doc. 762, 77 th Cong., 2 nd Sess.
	Jul 24, 1946	Additional \$125 million for further prosecution of comprehensive plan including additional projects in tributary basins.	H. Doc. 506, 78 th Cong., 1 st Sess.
	May 17, 1950	Additional \$100 million for prosecution of comprehensive plan for Ohio River Basin	S. Doc. 20, 81 st Cong., 1 st Sess.
	Dec 30, 1963	Additional \$150 million for further prosecution of comprehensive plan for flood control and other purposes in Ohio River Basin.	PL 88-253, 88 th Cong., 1 st Sess.
	Jun 18, 1965	Additional \$89 million for further prosecution of comprehensive plan for Ohio River Basin.	H. Doc. 6755, 89 th Cong., 1 st Sess.
	May 12, 1967	Additional \$38 million for further prosecution of comprehensive plan for Ohio River Basin.	PL 90-17, 90 th Cong., 1 st Sess.
	Aug 13, 1968	Additional \$35 million for further prosecution of comprehensive plan for Ohio River Basin.	PL 90-483, 90 th Cong., 2 nd Sess.
	Jun 19, 1970	Additional \$69 million for further prosecution of comprehensive plan for Ohio River Basin.	H. Doc. 15166, 91 st Cong., 2 nd Sess.
	Mar 7, 1974	Additional \$120 million for further prosecution of comprehensive plan for Ohio River Basin.	H. Doc. 10203, 93 rd Cong. River Basin Monetary Authorization Act of 1974
	Oct 22, 1976	Authorized Phase I design memorandum stage of advanced engineering and design of the project for abatement of acid mine drainage in the Clarion River Basin, PA.	Water Resources Development Act of 1976; PL 94-587, Sec. 101 (a)
22.		Shenango River Lake, PA & OH	
	Jun 28, 1938	Construction of a dam and reservoir for flood control and low water regulation and recreation.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
23.		Stonewall Jackson Lake, WV	
	Nov 7, 1966	Construction of a dam and reservoir for flood control, water supply, water quality control, area redevelopment and recreation.	S. Doc. 109, 89 th Cong., 2 nd Sess.
24.		Tionesta Lake, PA	
	Jun 22, 1936 amended by Jun 28, 1938	Construction of a dam and reservoir for flood control and low water regulation.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
25.		Union City Dam, PA	
	Oct 23, 1962	Construction of a dam and reservoir for flood control.	S. Doc. 95, 87 th Cong., 2 nd Sess.
26.		Woodcock Creek Lake, PA	
	Oct 23, 1962	Construction of a dam and reservoir for flood control, recreation and storage for water quality control.	S. Doc. 95, 87 th Cong., 2 nd Sess.
27.		Youghiogheny River Lake, PA & MD	
	Jun 28, 1938	Construction of a dam and reservoir for flood control, low-flow Augmentation and pollution abatement purposes.	H. Doc. 306, 74 th Cong., 1 st Sess. FCC Doc. 1, 75 th Cong., 1 st Sess.
	Dec 22, 1944 as amended	Construction, operation and maintenance of recreation facilities.	Sec. 4, Flood Control Act of 1944
32.		South Central, PA Environmental Improvement Program	
	Oct 31, 1992	Construction of local flood protection projects.	Water Resources Development Act of 1992; PL 102-580, Sec 313
33.		Three Rivers Wet Weather Demonstration Project	
	Oct 31, 1992	Environmental infrastructure	Water Resources Development Act Of 1992, PL 102-850, Sec 219
34.		Formerly Used Sites Remedial Action Program (FUSRAP)	
	Jul 5, 2001	Coordination on cleanup and decommissioning of FUSRAP sites.	PL 107-117, Sec 8143

¹ Included in the Emergency Relief Program, April 8, 1935.

² Permanent Appropriations Repeal Act.

³ Public Res. 117, 71st Cong., 3rd Sess.

PITTSBURGH, PA DISTRICT

OTHER AUTHORIZED NAVIGATION PROJECTS

(See Section 6 of Text)

TABLE 18-C

Project	Status	For Last Full	Construction	Cost to
		Report See		September 30, 2009
		Annual Report		Operations and Maintenance
Allegheny River, PA Open-Channel Work	Completed	1934	197,000	133,940
Buckhannon River, WV ^{1,2}	Completed	1893	5,500	
Cheat River, WV ^{1,2}	Completed	1895	12,997	
Pittsburgh Harbor, PA	Completed	1922	110,663	81,613

¹ Abandonment recommended in H. Doc. 467, 69th Cong., 1st Sess.

² No commerce reported.

**TABLE 18-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS
(All Projects Not Specifically Identified in Text)**

Project and Status	For Last Full Report See Annual Report For	Construction (Federal Cost)	Non-Federal Cost	Cost to September 30, 2009 Operations and Maintenance
Flood Protection				
Specifically Authorized Projects Completed:				
Bradford, PA	1962	7,601,763	1,895,000	
Brookville, PA	1963	964,976	289,000	
Buckhannon, WV	1972	1,568,661	75,000	
Butler, PA	1970	1,556,181	534,000	
Dubois, PA	1979	4,464,607	910,000	
Johnsonburg, PA	1958	674,664	130,000	
Kittanning, PA, Part 1	1949	130,317	2,000	
Latrobe, PA	1951	207,659	44,400	
Latrobe, PA	1970	2,556,652	698,000	
Olean, NY	1954	3,217,531	597,000	
Portage, PA	1965	150,386	14,900	
Portville, NY	1954	2,070,484	353,000	
Reynoldsville, PA	1959	385,494	26,000	
Ridgeway, PA (Elk Creek)	1964	628,888	465,000	
Salamanca, NY	1972	2,880,535	4,180,720	
Turtle Creek, PA	1998	22,500,079	323,000	
Washington, PA	1964	789,093	113,000	
Wellsville, OR Section 1	1965	483,910		
Wellsville, OR Section 11	1956	157,633	152,200	
Youngstown, OH	1976	3,621,134		
Specifically Authorized Projects Deferred:				
Benwood, WV	1954	81,028		
Chartiers Creek, PA	1998	30,818,153 ³		
Authorized by Chief of Engineers Completed:				
Amsterdam, OH	1964	183,072	22,500	
Big Run, PA	1965	364,208	35,900	
Burgettstown, PA		83,129		
Friendsville, MD		41,529	2,200	
Girty's Run, Millvale, PA	1986	2,655,934	701,722	
Grantville, PA	--	75,908	3,000	
Leetonia, OH	--	89,299	17,200	
Oil City, PA	--	43,595		
Oil City Ice Control Structures	1987	3,927,792	25,000	
Root Creek, Bolivar, NY	1986	1,591,436		
Slovan, PA	--	57,811		
Sykesville, PA	--	184,246	9,000	
Tarentum, PA	1964	136,591	24,600	
Tenmile Creek at Marianna, PA	1981	1,554,428		
West Little Pine Creek, Etna, PA	--	2,021,852	86,200	
Wilmore, PA	--	96,853	1,300	
Authorized by Chief of Engineers Active:				
Ridgeway & Vicinity (Clarion River) ²	1979	132,464		
Authorized by Chief of Engineers Inactive:				
Black Fork at Hendricks, WV	1972	6,800		
Oakdale, PA	--	14,127		
Rouseville, PA	--	1,642		
Wallace, WV ¹	--	11,035		
Weston Mills, Olean, NY	--	50,100		
Weston Mills, Portville, NY	--	52,100		
Reservoirs				
Rowlesburg Lake, WV	1977	2,873,799		

¹ Lacks local support.

² No longer economically justified.

³ Includes \$4,225,188 (non-federal) contributed and expended to date.

PITTSBURGH, PA DISTRICT

TABLE 18-G

DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Adena, OH (Short Creek)		Aug 5, 1977	13,452	
Allegheny, NY Unit I (Allegheny River) ¹		Nov 17, 1986	4,100	
Allegheny, NY Unit II (Five Mile Creek Area) ¹	1975	Nov 17, 1986	64,851	
Bellaire, OH		May 6, 1981	76,487	
Brackenridge, Tarentum and Natrona, PA ¹		Nov 17, 1986		
Brilliant, OH		Aug 5, 1977		
Brockway, PA (Allegheny River Basin)		Aug 5, 1977	194	
Clarington, OH		Aug 5, 1977		
Coraopolis, PA		Aug 5, 1977		
Dillonvale, OH (Short Creek)		Aug 5, 1977	16,884	
Eagle Creek Reservoir, OH		Jan 1, 1990	100,000	
Empire-Stratton, OH ¹		Nov 17, 1986	33,031	
Follansbee, WV		Aug 5, 1977		
Freeport, PA (Allegheny River)		Aug 5, 1977		
Industry, PA		Aug 5, 1977		
Kittanning, PA, Part 11 (Allegheny River)		Nov 6, 1977		
Lake Chautauqua and Chadakoin River, NY ²	1965	Mar 2, 1970	190,722	
Lake Erie-OW Canal, OH and PA - 1935 Act	1972	May 6, 1981	1,342,000	
Leetsdale, PA		Nov 17, 1986		
Martins Ferry, OH ¹	1941	Nov 17, 1986	25,164	
McKees Rocks, PA		Oct 3, 1978		
Mingo Junction, QH		Aug 5, 1977		
Moundsville, WV ¹		Nov 17, 1986		
Muddy Creek Dam, PA ¹	1977	Nov 17, 1986	402,459	
Neville Island, PA ¹		Nov 17, 1986		
New Cumberland, WV		Aug 5, 1977		
New Kensington and Parnassus, PA ¹		Nov 17, 1986		
Pittsburgh, PA (Golden Triangle)		Oct 3, 1978		
Pittsburgh, PA (North Side)		Oct 3, 1978		
Pittsburgh, PA (The Strip)		Oct 3, 1978		
Powhatan Point, OH ¹		Nov 17, 1986		
Proctor, WV ¹		Nov 17, 1986		
Redbank Creek Lake, PA		Aug 5, 1977	156,377	
Rochester, PA ¹		Nov 17, 1986		
St. Marys, PA (Allegheny River Basin)		Aug 5, 1977	13,529	
Smith Ferry, PA		Aug 5, 1977		
Uniontown, PA	1956	Jan 1, 1990		
Warwood, WV ¹		Nov 17, 1986		
Wellsburg, WV		Aug 5, 1977	6,387	
West Bridgewater, PA		Aug 5, 1977		
Wheeling, WV ¹	1954	Nov 17, 1986	189,067	
Wheeling, WV (North Wheeling) ¹		Nov 17, 1986		
Wheeling, WV (Wheeling Island) ¹		Nov 17, 1986	21,700	
Wilcox, PA ³		Mar 5, 1955	16,761	
Woodlands, WV ¹		Nov 17, 1986		
Youghiogheny River, PA and MD (Canalization) ^{1, 4}	1971	Nov 17, 1986	232,863	

¹ Deauthorized under Water Resource Act of 1986 (PL 99-662).

² Local interests failed to meet requirements of cooperation, authority for project expired Mar 2, 1970.

³ Local interests failed to meet requirements of cooperation, authority for project expired Mar 5, 1955.

⁴ Includes \$47,195 construction costs expended under previous project and \$1,700 O&M costs expended under previous project.

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TABLE 18-H

ALLEGHENY RIVER, PA, LOCKS AND DAMS
(See Section 1 of Text)

No.	Miles Above Mouth	Nearest Town	Dimensions			Depth on Miter Sills at Normal Pool Level ¹		Character of Foundation		Type of Construction		Percent Complete	Year Open to Nav	Actual Cost		
			Width of Chamber (feet)	Available Length to Full Width (feet)	Upper Lift at Normal Pool Level (feet)	Normal Pool Elevation (feet, mean sea level)	Lower (feet)	Upper (feet)	Lock	Dam	Kind Of Dam				Lock	Dam
2	6.7	Aspinwall, PA	56	360	11.0	721.0	12.0	10.9	Rock	Rock	Fixed	Concrete	Concrete	100	1934 ²	1,763,485
3	14.5	Cheswick, PA	56	360	13.8	734.8	10.8	11.8	Rock	Pile-Rock	Fixed	Concrete	Concrete	100	1934 ²	1,875,665
4	24.2	Natrona, PA	56	360	10.6	745.4	10.0	8.5	Rock	Rock	Fixed	Concrete	Concrete	100	1927	1,707,690
5	30.4	Freeport, PA	56	360	11.6	757.0	10.5	10.3	Piling	Crib-Pile	Fixed	Concrete	Concrete	100	1927	1,940,537
6	36.3	Clinton, PA	56	360	12.4	769.4	10.6	10.8	Rock	Crib-Pile	Fixed	Concrete	Concrete	100	1928	1,523,959
7	45.7	Kittanning, PA	56	360	13.0	782.4	9.8	10.9	Piling	Steel Sheet Piling	Fixed	Concrete	Concrete	100	1930	1,460,008
8	52.6	Templeton, PA	56	360	17.8	800.2	10.4	13.8	Rock	Rock	Fixed	Concrete	Concrete	100	1931	2,848,920
9	62.2	Rimer, PA	56	360	22.0	822.2	10.5	11.3	Rock	Rock	Fixed	Concrete	Concrete	100	1938	2,510,373
		Abandoned lock and dam 1														591,187
		Abandoned lock and dam 2														544,929
		Abandoned lock and dam 3														310,103
		Demolishing old dam 1														26,001
		Dredging channel														1,055,003
		Total														18,157,860

¹ All depths as shown are on guard sills and are controlling depth.

² Dates shown represent replacement structures.

TABLE 18-I

MONONGAHELA RIVER, PA, LOCKS AND DAMS
(See Section 3 of Text)

No.	Miles Above Mouth	Nearest Town	Dimensions			Depth on Miter Sills at Normal Pool Level ¹		Character of Foundation		Type of Construction		Percent Complete	Year Open to Nav	Actual Cost		
			Width of Chamber (feet)	Available Length to Full Width (feet)	Upper Lift at Normal Pool Level (feet)	Normal Pool Elevation (feet, mean sea level)	Lower (feet)	Upper (feet)	Lock	Dam	Kind Of Dam				Lock	Dam
2	11.2	Braddock, PA	56	360	8.7	718.7	16.0	16.0	Rock	Crib-Pile	Fixed	Concrete	Concrete	100	1953 ²	145,057,068 ^{5,7}
3	23.8	Elizabeth, PA	56 ³	360	8.2	726.9	11.6	11.9	Rock	Crib-Pile	Fixed	Concrete	Concrete	100	1907	58,132,804 ^{5,8}
4	41.5	Charleroi, PA	56 ³	360	16.6	743.5	10.7	20.0	Piles	Piles	Gated	Concrete	Concrete	100	1932 ²	106,155,062 ^{5,6}
-	61.2	Maxwell Locks and Dam - Maxwell, PA	84 ³	720	19.5	763.0	15.0	20.5	Rock	Rock	Gated	Concrete	Concrete	100	1964 ²	30,110,889 ⁵

PITTSBURGH, PA DISTRICT

TABLE 18-I

MONONGAHELA RIVER, PA, LOCKS AND DAMS
(See Section 3 of Text)

No.	Miles Above Mouth	Nearest Town	Dimensions			Depth on Miter Sills at Normal Pool Level ¹		Character of Foundation			Type of Construction		Percent Complete	Year Open to Nav	Actual Cost	
			Width of Chamber (feet)	Available Length to Full Width (feet)	Upper Lift at Normal Pool Level (feet)	Normal Pool Elevation (feet, mean sea level)	Lower (feet)	Upper (feet)	Lock	Dam	Kind Of Dam	Lock				Dam
-	82.2	Grays Landing	84	720	15.0	778.0	18.0	26.0	Rock	Rock	Fixed	Concrete	Concrete	100	1994	173,573,586 ⁹
-	90.8	Locks and Dam, PA Point Marion	84	720	19.0	797.0	16.2	16.2	Rock	Rock	Gated	Concrete	Concrete	100	1993 ²	118,694,656 ¹⁰
-	102.0	Locks and Dam, PA Morgantown	84	600	17.0	814.0	14.5	17.8	Rock	Rock	Gated	Concrete	Concrete	100	1950	8,778,000 ⁵
-	108.0	Locks and Dam, PA Hildebrand Locks and Dam, 6 miles Morgantown, WV	84	600	21.0	835.0	15.0	14.0	Rock	Rock	Gated	Concrete	Concrete	100	1959	12,506,829 ⁵
-	115.4	Opekiska Locks And Dam, 13.4 miles Morgantown, WV	84	600	22.0	857.0	14.0	17.8	Rock	Rock	Gated	Concrete	Concrete	100	1964	25,179,622 ⁵
-		Marine Ways, etc.														250,000
-		Abandoned lock and dam 1														1,019,907 ⁵
-		Abandoned lock and dam 4														780,816 ⁵
-		Abandoned lock and dam 5														1,074,812 ⁵
-		Abandoned lock and dam 6														770,449 ⁵
-		Abandoned lock and dam 7														2,853,580 ⁵
-		Abandoned lock and dam 8														245,900 ¹⁰
-		Abandoned lock and dam 9														191,000 ⁵
-		Abandoned lock and dam 10														210,445 ⁵
-		Abandoned lock and dam 11														227,668 ⁵
-		Abandoned lock and dam 12														200,550 ⁵
-		Abandoned lock and dam 13														190,691 ⁵
-		Abandoned lock and dam 14														210,127 ⁵
-		Abandoned lock and dam 15														175,829 ⁵
-		Dredging channel														587,899 ⁵
Total															655,658,133 ⁵	

¹ All depths as shown are on guard sills and controlling depth.

² Dates shown for locks and dams number 2 to 8 inclusive represent reconstruction.

³ 2 chamber.

⁴ Includes \$3,322,057 for raising crest of dam (1958-9), \$2,086,438 for original reconstruction (1923-6), \$618,758 AE&D costs for replacement of lock, and \$112,667,403 for replacement of lock (\$56,215,160 CG funds; \$56,452,243 from Inland Waterways Trust Fund).

⁵ Actual cost may include estimated costs which have been footnoted as necessary.

⁶ Includes \$2,173,767 for original reconstruction (1931-2) and \$15,080,304 for reconstruction of dam (1963-7).

⁷ Includes \$16,967,114 for reconstruction of locks.

⁸ Includes \$15,857,000 for major rehabilitation.

⁹ Includes AE&D costs for proposed lock (\$803,000) as well as \$172,692,644 expended in CG and IWTF.

¹⁰ Includes \$213,776 original project and \$2,639,804 for reconstruction (1925).

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

TABLE 18-J

**MONONGAHELA RIVER, PA & WV
TOTAL COSTS OF EXISTING PROJECT TO END OF FISCAL YEAR
(See Section 3 of Text)**

Funds	New Work	Operations & Maintenance, General	Total
Regular	\$858,168,389 ^{1, 3}	\$469,147,560 ²	\$1,327,315,949 ^{1, 2, 3}
Maintenance and Operation			452,623
Public Works Acceleration Exec			22,549
Total	\$858,168,389^{1, 3}	\$469,147,560²	\$1,327,791,121^{1, 2, 3}

¹ Includes \$5,420,541 for new work for previous projects.

² Includes \$20,446,587 expended between July 7, 1897 and June 30, 1937 on operation and care of works of improvement under revisions of permanent appropriation for such purposes and excludes \$742 for maintenance of previous projects.

³ Includes \$15,857,000 for major rehabilitation of L/D 3.

TABLE 18-K

**OHIO RIVER BASIN (PITTSBURGH DISTRICT)
RESERVOIRS (See Section 21 of Text)**

Tributary Basin and Reservoir	Stream	Total Cost
Allegheny:		
Conemaugh River, PA	Conemaugh River	\$ 46,012,411
Crooked Creek, PA	Crooked Creek	4,482,933
East Branch, Clarion River, PA	Clarion River	9,539,586
Kinzua Dam and Allegheny Reservoir, PA and NY	Allegheny River	112,226,076 ¹
Loyalhanna, PA	Loyalhanna Creek	5,727,531
Mahoning Creek, PA	Mahoning Creek	7,144,973
Tionesta, PA	Tionesta Creek	7,792,378
Union City, PA	French Creek	14,559,800
Woodcock Creek, PA	Woodcock Creek	20,545,065
Beaver:		
Berlin, OH	Mahoning River	8,739,987
Michael J. Kirwan, OH	Mahoning River	17,376,097
Mosquito Creek, OH	Mosquito Creek	4,253,029
Shenango River, PA and OH	Shenango River	40,217,201
Monongahela:		
Stonewall Jackson Lake, WV	West Fork River	212,520,731
Youghiogheny River, PA and MD	Youghiogheny River	12,521,167

¹ Includes \$2,921,000 for dam rehabilitation.

PITTSBURGH, PA DISTRICT

TABLE 18-L

INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

(See Section 28 of Text)

Project	Waterway	County	State	Date of Inspection
Benwood	Ohio River	Marshall	WV	23-Sep-09
Big Run	Mahoning Creek	Jefferson	PA	3-Mar-09
Bolivar	Root Creek	Allegheny	NY	8-Jun-09
Boydton, Village of Elklick Twp	Casselman River & Big Piney Run	Somerset	PA	21-Aug-09
Bradford	Tunungwant Creek, Kendell Creek, Bolivar Run	McKean	PA	31-Oct-08
Brockway Borough	Toby Creek	Jefferson	PA	3-Sep-09
Brookville	Redbank, N. Fork Sandy Lick Creeks	Jefferson	PA	6-Nov-08
Burgetts Fork, Burgettstown	Burgetts Fork	Washington	PA	28-Apr-09
Burgetts Fork, Slovan	Burgetts Fork	Washington	PA	28-Apr-09
Canonsburg Borough	Chartiers Creek	Washington	PA	5-Jun-09
Canonsburg/Houston	Chartiers Creek	Washington	PA	8-Apr-09
Darlington Township	Little Beaver Creek	Beaver	PA	29-May-09
Etna	West Little Pine Creek	Allegheny	PA	31-Mar-09
Gilpin Township	Brady Run	Armstrong	PA	13-May-09
Girtys Run, Millvale	Girtys Run	Allegheny	PA	12-Mar-09
Granville	Pike Run & Gorby Run	Washington	PA	9-Dec-08
James G. Fulton	Chartiers Creek	Washington	PA	2-Oct-08
Johnstown & Loraine Borough	Sam's Run	Cambria	PA	7-Oct-08
Johnstown, Dale Boro & Stoneycreek	Solomon Run	Cambria	PA	6-Oct-08
Kittanning	Allegheny River	Armstrong	PA	6-Jan-09
Latrobe	Loyalhanna Creek	Westmoreland	PA	2-Apr-09
Latrobe Borough	Unity Run	Westmoreland	PA	10-Jul-09
Marianna	Ten Mile Creek	Washington	PA	15-Dec-08
Meadville	Mill Run	Crawford	PA	26-Aug-09
Meyersadle Borough	Flaugherty Creek	Somerset	PA	1-Sep-09
Nanty Glo Borough	South Blacklick Creek	Cambria	PA	7-Aug-09
New Freeport Twp	Pennsylvania Fork Fish Creek	Greene	PA	24-Aug-09
Olean	Allegheny River/Olean Creek	Cattaraugus	NJ	16-Jun-09
Portville	Allegheny River/Dodge Creek	Cattaraugus	NJ	9-Jun-09
Reynoldsville Borough	Soldier Fun	Jefferson	PA	9-Sep-09
Shenango Twp & W Middlesex Borough	Hogback Run	Mercer	PA	11-Sep-09
Tarentum	Bull Creek	Allegheny	PA	29-Apr-09
Turtle Creek	Turtle Creek	Allegheny	PA	23-Apr-09
Turtle Creek Borough Sawmill Run	Sawmill Run	Allegheny	PA	30-Sep-09
Vintondale Borough	South Branch of Blacklick Creek	Cambria	PA	24-Sep-09
Wilmore	Little Conemaugh River	Cambria	PA	11-Feb-09
Youngstown	Crab Creek	Mahoning	OH	13-Apr-09

TABLE 18-M

**FLOOD CONTROL WORK UNDER
SPECIAL AUTHORIZATION (See Section
30 of Text)**

Project/Study Identification	Federal Fiscal Year Costs
Emergency Bank Protection - Section 14, 1946 Flood Control Act, PL 79-526	
Coordination Account	\$ 8,017
Lick Run, South Park, PA	47,737
Dunkard Creek, Blackville, PA	7,080
Neshannock Creek, New Castle, PA	304,804
Salamanca, NY	9,460
Weston, WV	335,807
Lincoln Borough, PA	25,549
Monongahela River, West Elizabeth, PA	16,968
Total Federal Cost for Current Fiscal Year	\$736,974
Flood Control Activities - Section 205, 1948 Flood Control Act, PL 80-858, as amended	
Coordination Account	\$14,780
Total Federal Cost for Current Fiscal Year	\$14,780
Aquatic Ecosystem Restoration - Section 206, 1996 WRDA, PL 104-303, as amended	
Nine Mile Run, Allegheny County, PA	\$ 2,543
Canonsburg Lake, PA	51,885
Sheraden Park & Chartiers Creek	228,859
North Park Lake, PA	436,851
Coordination Account	14,543
Total Federal Cost for Current Fiscal Year	\$734,681
Modifications for Improvement of the Environment – Section 1135, 1986 WRDA, PL 99-662, as amended	
Tygart Lake, WV (Scab Run)	\$0
Total Federal Cost for Current Fiscal Year	\$0
Flood Control and Coastal Emergencies - PL 99, 84th Congress and antecedent legislation	
Disaster Preparedness	\$ 342,830
Emergency Operations	91,855
Rehabilitation (To Include the following)	\$1,261,064
- Burgettstown	\$4,539
- Brookville	\$52,032
- Brush Creek, City of Jeannette	\$29,622
- E&D Chartiers/Fulton FCW	\$376,405
- Meyersdale PIR	\$284,615
- Millvale	\$394,047
- Saw Mill Run	\$21,740
- Turtle Creek, Rehab	\$98,064
Total Federal Cost for Current Fiscal Year	\$1,695,749

OHIO RIVER

For actual construction of locks and dams, and operation and care of completed structures, the Ohio River is divided into three sections under immediate supervision and direction of District Engineers at Pittsburgh, Huntington, and Louisville. Pittsburgh section extends 127 miles from head of river at Pittsburgh, PA, to a point immediately upstream from New Martinsville, WV, and includes Emsworth, Dashields, Montgomery, New Cumberland, Pike Island, and Hannibal Locks and Dams. Huntington section

extends 311 miles from mile 127 to 438 immediately upstream from Foster, KY, and includes Willow Island, Belleville, Racine, Robert C. Byrd, Greenup, and Captain Anthony Meldahl Locks and Dams. Louisville section extends 543 miles from mile 438 to mouth of river, and includes Markland and McAlpine Locks and Dams (with Louisville and Portland Canal), Cannelton, Newburgh, John T. Myers, and Smithland Locks and Dams, and Locks and Dams 52 and 53.

Improvements

Navigation

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Table 19-F Not Applicable

Table 19-G Not Applicable

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Navigation

1. CONSTRUCTION OF LOCKS AND DAMS ON OHIO RIVER

Location. The Ohio River is formed by junction of Allegheny and Monongahela Rivers at Pittsburgh, PA, and flows generally southwesterly for 981 miles to join Mississippi River near Cairo, IL. For description of river see page 1227, 1932 Annual Report.

Previous Projects. For details see page 1907 of 1915 Annual Report.

Existing project. Provides for improvement of entire river by construction of locks and dams to provide channel depth of nine feet and for widening Louisville and Portland Canal at Louisville, KY. Project provides for two locks (110 feet by 600 feet and 56 feet by 360 feet) at Emsworth, Dashields and Montgomery. The dams at Emsworth and Montgomery are movable crests while at Dashields it

is a fixed crest. Below Montgomery Locks and Dam, the existing project consists of fixed dams with movable crests with two locks (110 by 1,200 feet and 110 by 600 feet) at New Cumberland, Pike Island, Hannibal, Willow Island, Belleville, Racine, Greenup, Captain Anthony Meldahl, Markland, Cannelton, Newburgh, and John T. Myers; two locks 110 by 1,200 feet at Robert C Byrd and Smithland; 110- by 1,200-foot temporary locks in addition to the existing locks at Locks and Dams 52 and 53, and reconstruction to provide a 110- by 1,200-foot lock in addition to existing locks and a fixed dam with two sections of movable crest at McAlpine Locks and Dam; widening Louisville and Portland Canal to 500 feet. Auxiliary lock 56 by 360 feet at McAlpine Locks and Dam has been inoperative since failure of downstream lock gates in December 1972. Rehabilitation of existing Locks and Dams 52 and 53 was started in September 1979 under the purview of Section 6, March 1909 Act. Mound City was also considered authorized under purview of 1909 Act, and preconstruction planning was performed in the

period 1965 to 1972. The ruling of the U.S. District Court, District of Columbia, on September 6, 1974, with reference to Lock and Dam 26, Mississippi River, would also apply to this project. Consequently, it is no longer considered authorized. Operation and care of locks and dams were included in project July 1, 1935, under provisions of Permanent Appropriations Repeal Act of June 26, 1934. Estimated Federal cost of new work is \$3,600,490,636. Foregoing estimate does not include expenditures on previous projects. Various items previously included in this project are considered inactive or unnecessary and are excluded from foregoing cost estimate. See page 693, Annual Report, 1968, for items and estimated cost. Under authority of 1910 River and Harbor Act, Louisville and Portland Canal was widened to 200 feet; Locks and Dams 40 and 42 eliminated; Locks and Dams 1 and 2 replaced by Emsworth Locks and Dam; Lock and Dam 3 replaced by Dashields Locks and Dam; and Locks and Dams 4, 5, and 6 replaced by Montgomery Locks and Dam. Locks and Dams 24, 25, and 26 were replaced by Robert C. Byrd Locks and Dam authorized by August 30, 1935, Act, and constructed under project for improving lower Kanawha River. Locks and Dams 7, 8, and 9 were replaced by New Cumberland Locks and Dam; Locks and Dams 10 and 11 were replaced by Pike Island Locks and Dam; Locks and Dams 12, 13, and 14 were replaced by Hannibal Locks and Dam; Locks and Dams 15, 16, and 17 were replaced by Willow Island Locks and Dam; Locks and Dams 18, 19, and 20 were replaced by Belleville Locks and Dam; Locks and Dams 21, 22, and 23 were replaced by Racine Locks and Dam; Locks and Dams 27, 28, 29, and 30 were replaced by Greenup Locks and Dam; Locks and Dams 31, 32, 33, and 34 were replaced by Captain Anthony Meldahl Locks and Dam; Locks and Dams 35, 36, 37, 38, and 39 were replaced by Markland Locks and Dam; the Louisville and Portland Canal at McAlpine Locks and Dam was widened to 500 feet. Locks and Dams 43, 44, and 45 were replaced by Cannelton Locks and Dam; Locks and Dams 46 and 47 were replaced by Newburgh Locks and Dam; Locks and Dams 48 and 49 were replaced by John T. Myers Locks and Dam, and Locks and Dams 50 and 51 were replaced by Smithland Locks and Dam, as modifications to existing project under purview of Section 6, March 3, 1909 Act, reducing total number of structures to 20. The Water Resources Development Act of 1974 combined the Newburgh Bank Protection Works project with the Newburgh Locks and Dam project. A December 1981 Act established the Falls of the Ohio National Wildlife Conservation Area near McAlpine Locks and Dam to protect and preserve

existing fossilized coral and a diversity of wildlife. A November 17, 1988 Act authorized a replacement structure for Locks & Dams 52 & 53 at Olmsted, IL. A November 28, 1990 Act authorized an interpretive center at the Falls of the Ohio National Wildlife Conservation Area near McAlpine Locks & Dam and a replacement of the existing 110 foot x 600 foot lock at McAlpine Locks & Dam, IN & KY. Table 19-J contains data relative to various features of locks and dams included in existing project. For list of principal towns and cities along Ohio River with their mileage below Pittsburgh, PA, see page 1060, 1962 Annual Report. See Table 19-I for licenses.

Navigation system of 20 locks and dams is in operation and 9-foot navigation throughout length of river is generally available at all times. At certain unstable bars project depth is maintained by dredging, supplemented by contraction works. (See "Open Channel Work, Ohio River.") Table 19-J shows cost and year completion of locks and dams now in operation. New Cumberland, Pike Island, Hannibal, Willow Island, Belleville, Racine, Robert C. Byrd, Greenup, Captain Anthony Meldahl, Markland, McAlpine, Cannelton, Newburgh, John T. Myers, and Smithland replacement locks and dams are in operation, replacing 39 old low-lift locks and dams. For total cost of existing project, see Table 19-H.

Terminal facilities. Modern public terminals, with warehouses, equipped with operating machinery for transferring materials, have been constructed by private interests at some of the larger cities and towns. A list of terminals on Ohio River is revised annually and can be obtained from Division Engineer, U.S. Army Engineer Division, Great Lakes & Ohio River, Cincinnati, OH.

Operations during fiscal year. New work by contract and hired labor:

Emsworth Locks and Dam: The major rehabilitation is ongoing and consists of providing two sets of emergency bulkheads, providing permanent erosion protection downstream of the dams, replacing 13 lift gates and associated electrical and mechanical systems, and rehabilitation of the two service bridges. A total of \$43,000,000 was appropriated and \$9,400,000 was expensed in FY 2008. A \$18.9M contract to replace the Back Channel Dam Gates was complete in FY 08; new emergency bulkhead hoists were installed and complete in FY 2008; a contract to replace seven of eight of the Main Channel Dam lift gates, associated operation machinery and erosion protection was awarded in FY 2008 and is ongoing; contracts for the back channel dam right abutment and service bridge

OHIO RIVER

were awarded in FY 09; and plans and specification will be completed and construction contract awarded in FY 2010 for the back channel dam left abutment and erosion protection.

Greenup Locks and Dam: WRDA 2000 authorized improvements to Greenup L&D, KY and OH. Preconstruction Engineering and Design is underway consisting of geotechnical investigations, design report for the lock extension, mitigation model studies, and archaeological, historical, cultural, and biological work. FY 2009 PED activities consisted of continuation of detailed design for the lock extension miter gate bay. Rehabilitation of the dam bulkhead crane was completed in FY 2009. Additional maintenance was also completed at Greenup, including dewatering the main chamber for inspection and repairs, repairing the floating mooring bits, rehabilitating the hydraulic cylinders for miter gates and culvert valves, and rehabilitating the culvert valve and auxiliary emergency gate. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include initiating the development of a Historic Properties Management Plan, replacing emergency gate trash screens, and hiring temporary maintenance staff. A contract was awarded in September 2009 to fabricate the first of two sets of replacement miter gates at an estimated cost of \$7,027,000. Fabrication should be completed in FY 2011, pending availability of funds.

In FY 2004 security measures were completed under contract for \$2,668,000. For details, see the Annual Report for FY 2008.

Robert C. Byrd Locks and Dam: The existing project, constructed under project for improving lower Kanawha River, was placed in operation in August 1937. The dimensions of the original lock chambers and poor approach conditions, particularly to downstream traffic, had created a higher than normal accident rate to the structure with corresponding hazards and delays to traffic. The Water Resources Development Act of 1976 authorized Phase I studies for 1,200-foot locks in a bypass canal. These studies are complete.

Initial Construction. General funds for the continuation of engineering activities were received in September 1985. Real estate acquisition is complete. The contract for the Locks was awarded in October 1987 and the new locks were put into operation in 1993. The contract for the Dam Rehabilitation was awarded in June 1993 and is complete. In addition to completion of the dam rehabilitation contract, funds in 2009 were used to continue mitigation actions via preservation of the Jenkins House. This mitigation work is scheduled for

completion in FY 2010. The total estimated cost of the project is \$383,500,000, which is 50 percent federal cost and 50 percent Inland Waterways Trust Fund cost.

Maintenance activities completed in FY 2009 included dewatering the main chamber for inspection and repairs and rehabilitating the hydraulic cylinders for miter gates and culvert valves. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include initiating the development of plans and specifications for the miter gate storage pier, initiating the development of a Historic Properties Management Plan, replacing the grating on the miter gates, and hiring temporary maintenance staff. In FY 2005 security measures were completed under contract for \$2,822,000. For details, see the Annual Report for FY 2008.

Falls of the Ohio National Wildlife Conservation Area Was authorized by 97-137 on December 29, 1981 and modified by Public Law 101-640 on November 28, 1990 to design and construct an interpretive center. The Conservation Area protects 1,000 acres, which consists of birdlife and other wildlife. Planning consisted of efforts to define facilities to be cost shared with local interests. All Real Estate tracts have been acquired and one tract remains in a condemnation trial. A construction contract to construct the cost-shared recreation facilities was awarded on 30 September 1993, and completed in February 1995. The Indiana Department of Natural Resources manages the area under a Public Park and Recreation Lease granted on 1 January 1992. A portion of the Ohio River Shoreline within the Conservation Area abutting the location of Emery Crossing Road in the vicinity of the historic town of Clarksville, Indiana, collapsed into the river in the spring of 2004, exposing remnants of a prehistoric village and one human burial site. Consequently, an extensive investigation and limited recovery preceded bank stabilization construction, which was closely coordinated with the Indiana State Historic Preservation Office. Construction to restore the bank and provide a base for Town of Clarksville to rebuild the road was completed in July 2005, including a modification to increase toe protection by placing rock berm between road collapse repair and Mill Creek Bridge.

John T. Myers Locks and Dam: Construction was initiated in June 1965. All work is complete. An extension of the existing 600-foot x 110-foot auxiliary lock chamber to a 1,200-foot x 110-foot chamber was authorized by the WRDA of 2000 in Public Law 106-541 on 11 December 2000. This effort will give the

J.T. Myers project twin 1,200-foot locks for inland navigation tow traffic. In FY 2009, the Louisville District performed limited Preconstruction and Design activities for the lock extension with carry out funds from FY 2008. A construction contract for the first site preparation was awarded in September 2004 for \$392,000. With funds provided by the American Recovery and Reinvestment Act (ARRA) of 2009, the Louisville District will award two site preparation contracts in FY 2010 – Upper Approach Widening at approximately \$5.4 million and construction of a Resident Engineer’s Building and Visitor Overlook at approximately \$1.8 million. The District will also award a small ARRA-funded task order for wetland restoration associated with the Upper Approach Widening.

In addition to the lock extension project, the Louisville District completed a draft report in 2007 for major rehabilitation of the J.T. Myers’ navigation dam. In FY 2009, the District circulated an Environmental Assessment (EA) for Agency and public review. There were no substantive comments on the text of the document. As a result the Deputy District Commander signed a Finding of No significant Impact (FONSI) on April 6, 2009. The Louisville District will submit the final major rehabilitation evaluation report and EA for LRD-RIT review in early FY 2010.

Markland Lock Major Rehab McAlpine Locks and Dam: The major rehab of the 110 foot x 1,200 foot main chamber lock at Markland continued in FY09. The project consists of fabrication and installation of miter gates and culvert valves and construction of a miter gate assembly pier. The contractor continued to fabricate the two new miter gates that were awarded 23 Sept 2008. The contract for the Culvert Valves was awarded 28 September 2008 for \$3,592,080.00 and the contract for miter gate assembly pier was awarded in July 2009 for \$1,768,000. \$10,144,000 was appropriated for this project in FY09, \$9,261,495 was obligated and \$7,735,708 was expended.

McAlpine Locks and Dam: A replacement of the existing 110 foot x 600 foot lock with a new 100 foot x 1,200 foot lock was authorized by WRDA of 1990 in Public Law 101-640. Construction has been initiated. A contract to construct a cofferdam and demolish the 360 foot and 600 foot locks was awarded in May 2000 and was completed March 2003. A contract to construct a boat mooring facility was awarded 4 April 2002 for \$2,680,000 and was completed in April 2004. A contract to construct the new 1,200 foot lock and an access bridge to

Shipping port Island was awarded on 24 September 2002 for \$221,441,468. The lock contract is approximately 65% complete at the end of FY 06. \$308,730,000 has been allocated for the lock replacement and ancillary efforts.

Olmsted Locks & Dam: A replacement structure for Locks and Dams 52 & 53 was authorized by the WRDA of 1988 in Public Law 100-676 on 17 November 1988. Engineering during construction continued to support the dam construction contract. The annual environmental monitoring was performed. The Dam construction contract was awarded on 28 January 2004. Notice to proceed was issued on 18 February 2004, mobilization efforts continued including the erection of the Catamaran barge and lower marine skid way. Progress on the dam construction reached approximately 40%. The construction of the Storage Building was completed in the FY. Operations continued to maintain the completed lock structure. In FY 09, \$103,730,591 was expended on the Olmsted project and \$100,313,515 was obligated. .

Emsworth Locks and Dam: In FY 2006, emergency bulkheads were purchased for \$797,000, completed security improvements for \$56,000, repaired dam gate trucks for \$101,000, and repaired miter gates for \$373,000. Total maintenance cost for FY06 was \$1,389,000

Dashiels Locks and Dam: In FY 2006: completed repairs to the access road for \$254,000, completed security improvements at \$254,000, and repaired miter gates for \$488,000. Total maintenance cost for FY06 was \$997,000.

Montgomery Locks and Dam: FY 2006: security improvements for \$1,044,000, repaired the land wall filling valve & operating machinery for \$427,000, and completed a structural assessment of the dam gates for \$171,000. Total maintenance cost for FY06 was \$1,688,000.

New Cumberland Locks and Dam: In FY 2006: security improvements were completed for \$595,000. Total maintenance cost for FY06 was \$711,000.

Pike Island Locks and Dam: In FY 2006, security improvements were completed for \$178,000, renovation of the land wall filling valve for \$932,000, and initiated design of new miter gates for \$208,000. Total maintenance cost for FY06 was \$1,354,000.

Hannibal Locks and Dam: In FY 2006: dredging was completed for \$338,000, security improvements for \$161,000, renovation of the land wall emptying valve for \$842,000, and emergency repairs to miter gate quoin seals for \$412,000. Total maintenance cost for FY06 was \$1,805,000.

Captain Meldahl Locks and Dam: A contract was awarded in September 2005 to fabricate the first of two sets of replacement miter gates at an estimated cost of \$6,138,000. Fabrication should be completed in FY 2010. A contract was awarded in September 2008 to fabricate the second of two sets of replacement miter gates at an estimated cost of \$6,447,000. Fabrication should be completed in FY 2010 pending availability of funds. Maintenance activities completed in FY 2009 included replacing the emergency gate trash screens at the project, rehabilitating the hydraulic cylinders for miter gates and culvert valves, and fabricating a miter gate storage rack and preparing the miter gate anchorage for the installation of the replacement miter gates in FY 2010. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include replacing the emergency gate trash screens and hiring temporary maintenance staff. In FY 2006 security measures were completed under contract for \$1,819,000. For details, see the Annual Report for FY 2008.

Racine Locks and Dam: Maintenance activities completed in FY 2009 included repairing the bulkhead crane and dam line shafts, initiating repair to the auxiliary chamber emergency gate sheave anchorage, rehabilitating the hydraulic cylinders for miter gates and culvert valves, and initiating repair/replacement of the miter gate strut arms. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include initiating the development of a Historic Properties Management Plan, fabricating culvert intake screens, and hiring temporary maintenance staff. In FY 2006 security measures were completed under contract for \$2,034,000. For details, see the Annual Report for FY 2008.

Belleville Locks and Dam: Maintenance activities completed in FY 2009 included replacing the bulkhead seals and main lock lower miter gate machinery and rehabilitating the hydraulic cylinders for miter gates and culvert valves. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include initiating the development of a Historic Properties Management Plan, fabricating culvert intake screens, and hiring temporary maintenance staff. In FY 2006 security measures were completed under contract for

\$907,000. For details, see the Annual Report for FY 2008.

Willow Island Locks and Dam: Maintenance activities completed in FY 2009 included rehabilitating the hydraulic cylinders for miter gates and culvert valves. Activities accomplished with American Recovery and Reinvestment Act (ARRA) funds include fabricating culvert intake screens and hiring temporary maintenance staff. In FY 2006 security measures were completed under contract for \$2,335,000. For details, see the Annual Report for FY 2008.

Inland Waterway Navigational Charts: In FY 2009 ARRA funds were provided to continue work on the development of Inland Electronic Navigational Charts (IENCs) for the Mississippi River and its tributaries. The majority of the funds provided (\$1.710M) were used for new chart development on waterways other than the Ohio River, however, \$187,791 was used to perform hydrographic surveys for the Smithland, John T. Myers and Newburgh Pools on the Ohio River (approximately 195 miles).

Parkersburg Riverfront Park, WV: The project was authorized for construction by the Water Resources Development Act (WRDA) of 1999, Section 557(1), Public Law 106-53, as amended by the WRDA 2007, Section 3172, Public Law 110-114 at a total cost of \$12,000,000, with an estimated Federal cost of \$6,000,000 and an estimated non-Federal cost of \$6,000,000. The project is an expansion and upgrade of an existing recreation facility cost-shared between the Corps and the City of Parkersburg, WV in the early 1980's. The current recreation facility is the primary river terminal for regular ferry service between West Virginia and the Blennerhassett Island Historic WV State Park. Visitor usage of the Parkersburg Riverfront Park for recreation at the site and access to the river is very high and increases annually. Visitor use demands are exceeding the planned uses of the site in the 1980's. The Project Partnership Agreement (PPA) for construction was executed in September 2008 between the Corps and the City of Parkersburg. A contract to purchase steel for the project was awarded in September 2008. Phase I construction was awarded June 2009 for \$2.8M. Phase II of construction is scheduled to be awarded in June 2010.

Operation and maintenance, general. Locks and dams operated as required and necessary repairs and improvements made thereto and to operator's quarters, grounds and esplanades. Costs were \$25,317,615 for Huntington District,

\$37,775,223 for Louisville District and \$17,885,603 for Pittsburgh District.

2. OPEN CHANNEL WORK, OHIO RIVER

Location. Under jurisdiction of District Engineer in whose district work is located. Portion of river included in project extends 981.0 miles from head of river at Pittsburgh, PA, to mouth of Cache River (Mound City, IL). Open channel improvement from mouth of Cache River to mouth of Ohio River is under jurisdiction of Mississippi River Commission.

Existing Projects. Before completion of canalization project, no project depth had been fixed by Congress under project for open channel work; but, in order to properly aid packet and barge navigation, it was necessary to secure a low-water channel with a minimum depth of 4 to 6 feet, and a width, depending upon difficulty of running channel, of 400-600 feet; also, to permit movement of large coal tows, which movement occurred at stages of water exceeding 10 feet, it was necessary to remove points of projecting bars which formed at various locations along river. Accomplishment of this purpose involved concentration of current by closing back channels at islands with low dams, contraction and straightening wide open channels by low dikes, dredging bars and shoals, and removal of snags and wrecks. Incidental to direct improvement of Ohio River is construction and maintenance of ice piers as required for protection of river craft. Stage of extreme high water on Ohio River varies from 46 feet at Pittsburgh, PA, to 80 feet at Cincinnati, OH, with 57.2 feet at Louisville, KY (head of falls, 53.8 feet at Evansville, IN, and 59.5 feet at Cairo, IL (mouth of river). Estimated cost of new work is \$16.16 million, exclusive of following items which are considered inactive: Ice piers authorized by 1927 River and Harbor Act; reforestation of sloughs of Kentucky Peninsula near Evansville, IN, authorized by 1930 River and Harbor Act; dredging to widen channel at certain points; and placing revetment at various points. Estimated cost of these items is \$6,565,000. Operation of snag boats on Ohio River below Pennsylvania State line was included in project July 1, 1935, under provisions of Permanent Appropriations Repeal Act of June 26, 1934. See Table 19-B for authorizing legislation.

New work under this project is substantially complete, since it is not anticipated that work on inactive portion of project will be accomplished. In addition to dredging, local stabilization of channel has been effected at various points by construction of

dikes and revetment. Work, which remains, consists of dredging to widen channels at certain points to project depth.

Local cooperation. River and Harbor Act of January 21, 1927, authorizing construction of ice piers for general open channel work, imposes condition that before work is begun on any pier, local interests convey to the United States free of cost such riparian rights as may be deemed necessary in connection with the improvements at locality (H. Doc. 187, 67th Congr., 2nd Sess.). Existing ice piers are adequate for present purposes and local cooperation is not needed since no additional construction is under consideration. River and Harbor Act of July 3, 1930, provides for reforestation of sloughs of Kentucky Peninsula and bank protection and that no expense shall be incurred by the United States for acquiring lands required for purpose of this improvement (H. Doc. 409, 69th Congr., 1st Sess.). Erosion occurs on a periodic basis depending on winter high water conditions. As erosion occurs, local cooperation may be required.

Operations during fiscal year. Operation and maintenance, general: Dredging was done where required to provide an adequate and dependable channel of project depth at minimum pool conditions. Dikes and revetments were maintained and routine work of maintaining navigation aids, removing snags, making channel studies, hydrographic surveys and mapping was performed as required. Channel soundings, hydrographic surveys, stream gauging operations, channel inspections and aids to navigation, and miscellaneous inspections and reports cost \$1,268,628. In FY 2009 dredging by contract in the Huntington District were 281,000 cubic yards at \$1,637,000 Louisville District \$4,320,372, cubic yards at \$2,398,611, and Pittsburgh District 3,000 cubic yards at \$381,000.

General Investigations:

1. UPPER OHIO NAVIGATIONAL STUDY

Emsworth, Dashields and Montgomery (EDM) are the uppermost Lock and Dam structures on the Ohio River and are located at river miles 6.2, 13.3 and 33.7 respectively, below the "Point" in Pittsburgh, Pennsylvania. All three have dual lock chambers, 110' x 600' (main) and 56' x 360' (auxiliary). These lock chambers are smaller than the typical 110' x 1200' Ohio River locks and are considered undersized compared to the other downstream Ohio River navigation facilities, are 60 to 70 years old, have already been rehabilitated to extend their useful lives and have a critical need for structural reconstruction

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or additional rehabilitation. Study of EDM will include investigation lock navigation modernization strategies.

The site-specific EDM feasibility report was Congressionally added in the FY 2003 Omnibus Act. The District has prepared a Project Management Plan (PMP) for the feasibility study. The PMP was approved by the Great Lakes and Ohio River Division Office in Cincinnati, Ohio, on August 17, 2004 and revised in July 2006. The Study is proceeding with activities associated with the “without project condition” and “with project” definition and alternative analysis, National Ecosystem Restoration planning, Environmental Impact Statement development, finalizing Alternative Formulation Briefing (AFB) documentation, performing Agency Technical Review, conducting AFB and preparing draft Feasibility Report. In FY 2009, baseline reliability analysis was completed, without project condition definition and analysis, economic data collection and modeling, economic model modifications, baseline environmental data acquisition, NEPA compliance documentation, National Ecosystem Restoration planning and “with project” alternative development and analysis continued or was initiated for a cost of \$4,015,000. ARRA funds in the amount of \$514,338 were received and utilized for contracts to gather environment data and perform environmental investigations on specific sites identified in the study to be needed for construction of the recommended plan for the study. This effort is required as part of the study and NEPA compliance requirements.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

TABLE 19-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 06	FY 07	FY 08	FY09	Total Cost to Sep 30, 2009	(footnotes)
1.	Construction of Locks & Dams on OH River	New Work						
		Approp.	\$187,142,000	198,789,000	197,537,000	194,984,299	3,461,436,359	1 3 5 10 17 21
		Cost	183,948,033	170,808,334	155,523,698	159,660,222	3,358,061,546	1 3 6 11 12 15 16 1 22 23
		Maint.						
		Approp.	75,822,000	73,897,245	90,424,256	89,560,008	1,943,505,919	2 4 19
		Cost	71,754,957	72,043,821	82,738,789	86,457,030	1,929,230,185	2 13 14 19 20
		Rehab.						
		Approp.	0	0	0	0	0	
		Cost	0	0	0	0	0	
		Rehab.(O&M)						
		Approp.	0	0	0	52,185,253	104,370,506	
		Cost	211,868	1,699	0	38,432,932	72,562,450	
2.	Open Channel Work, Ohio River	New Work						
		Approp.	-	-	-	2,931,295	36,845,547	
		Cost	-	-	-	1,857,323	35,983,443	
		Maint.						
		Approp.	5,631,000	5,077,559	2,579,000	8,552,985	233,568,068	7 9
		Cost	5,076,387	6,312,422	708,912	7,793,754	232,393,086	7 9
		Rehab.						
		Approp.	-	-	-			
		Cost						

1 Includes \$17,003,761 for previous 6-foot canalization project.
 2 Includes \$36,943,217 expended from 1885 to 1937 on operation and care of work of improvement under provisions of permanent indefinite appropriations for such purposes.
 3 Includes \$215,812 public works acceleration, executive 1963.
 4 Includes \$38,766 public works acceleration, executive 1963.
 5 Excludes \$251,769 contributed funds for new work.
 6 Excludes \$250,102 contributed funds for new work.
 7 Excludes \$1,621,349 expended in operation of snag boats under provisions of permanent indefinite appropriation for such purposes, and \$267 transferred to project without reimbursement.
 8 Includes \$1,040,236 Public Works funds.
 9 Includes \$1,000 for removal of obstructions in Licking River under authority of Section 3, R&H Act of 1930.
 10 Includes \$100,000 placed in FY 1971 Budget Reserve.
 11 Excludes \$3,899 transferred from project without reimbursement.
 12 Surplus property valued at \$3,553 transferred to project without reimbursement.

13 Excludes \$2,140 transferred to project without reimbursement.
 14 Excludes surplus property valued at \$73,832 transferred to Project without reimbursement.
 15 Includes \$87,724,158 prior construction cost.
 16 Excludes surplus property valued at \$297,385 transferred to Project without reimbursement.
 17 Includes \$549,392 Code 710 Funds, \$572,162 Code 711 Funds, \$532,677 Code 712 Funds and \$1,759,812 Code 713 Funds.
 18 Includes \$549,392 Code 710 Funds, \$342,162 Code 711 Funds, \$532,677 Code 712 Funds and \$1,989,812 Code 713 Funds.
 19 Includes \$2,158,073 Funds provided from The Productive Employment Appropriations Act of 1983 (PL 98-8).
 20 Includes \$920,945 cost for operations & care of previous projects.
 21 Includes \$1,212,651,110 Inland Waterways Trust Funds.
 22 Includes \$1,195,174,233 Inland Waterways Trust Funds.
 23 Excludes \$9,525,437 settlement from the U S Treasury Dept. Judgment Fund.

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Table 19-B **Authorizing Legislation**

See Section in Text	Date of Authorizing Act	Project and Work Authorized	Documents
2.		Open Channel Work, Ohio River	
	March 3, 1827	Project adopted by this act originally covered entire length of Ohio River from its mouth near Cairo to Pittsburgh, a distance of 981 miles. It provided for removal of all obstructions, which tend to endanger steamboat navigation.	
	January 21, 1927	Construct ice piers as a part of allotted from appropriations for general open channel work.	H. Doc. 187, 67th Cong., 2 nd Sess.
	July 3, 1930	Reforestation of sloughs on Kentucky Peninsula near Evansville, IN, and a 200-foot strip along bank and for bank protection at an estimated cost of \$200,000.	H. Doc. 409, 69th Cong., 1 st Sess.
	July 3, 1958	Act of March 3, 1827, modified to include maintenance of existing Licking River Channel within lower 3-mile limit of river slack water, at an estimated increase of \$1,000 in cost of average annual maintenance.	H. Doc. 434, 84th Cong., 2 nd Sess.
		Locks and Dams, Ohio River	
	December 29, 1981	Act of December 29, 1981, established the 1,000-acre Falls of the Ohio National Wildlife Conservation Area, at a cost not to exceed \$300,000.	H.R. 2241, PL97-137, Title II, 95 Stat. 1710
	October 17, 1986	Act of October 17, 1986 authorized lock replacement, improvement, and rehabilitation at Gallipolis Lock and Dam, Ohio River, Ohio and West Virginia for 1200 –foot locks to provide a uniform lockage system thought the central reach of the Ohio River at a total cost of \$285,000,000.	PL 99-622, 99 th Cong
	November 17, 1988	Act of November 17, 1988 authorized a replacement structure for Locks and Dams 52 and 53 at Olmsted, Illinois.	PL 100-676, 100th Cong., 2nd Sess.
	November 17 1988	Act of November 17, 1988 prohibited conveyance to the state of West Virginia the land known as Lesage/Greenbottom Swamp that was acquired by he United States for mitigation purposes in connection with the Gallipolis Locks and Dam replacement project.	PL 100-676, 100 th Cong..
	November 28, 1990	Act of November 28, 1990, modified PL 97-137 by authorizing an interpretive center at Falls of the Ohio National Wildlife Conservation Area, at an estimated total cost of \$3,200,000.	PL 101-640, 101st Cong., 2nd Sess.
	November 28, 1990	Act of November 28, 1990 authorized a modernization of the existing 110 foot x 600 foot lock at McAlpine Locks and Dam, Indiana and Kentucky at a total cost of \$219,600,000 with one-half appropriated from the Treasury and one-half from the Inland Waterways Trust Fund.	PL 101-640, 101st Cong., 2nd Sess.
	October 31, 1992	Act of October 31, 1992 renamed the Gallipolis Locks and Dam to the Robert C. Byrd Locks and Dam.	PL 102-580, 102nd Cong., 2nd Sess.
	October 1, 1996	Act of October 1, 1996 renamed the Uniontown Locks and Dam to the John T. Myers Locks and Dam.	PL 104-303, 104 th Cong.
	August 17, 1999	Act of August 17, 1999 authorized the Parkersburg Riverfront Park to be constructed at a total cost of \$8,400,000, with an estimated Federal cost of \$4,800,000 and an estimate non-Federal cost of \$4,800,000, in	P.L. 106-53, 106 th Cong.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

accordance with a favorable report of the Chief of Engineers.

October 31, 2000	Act of October 31, 2000 authorized a modernization of the existing 110' x 600' lock at John T. Myers Locks and Dam, Indiana and Kentucky at a total cost of \$181,700,000 with one-half appropriated from the Treasury and one-half from the Inland Waterways Trust Fund.	PL 106-541, 106 th Cong.
October 31, 2000	Act of October 31, 2000 authorized a modernization of the existing 110' x 600' lock at Greenup Locks and Dam, Kentucky and Ohio, at a total cost of \$175,500,000 with one-half appropriated from the Treasury and one-half from the Inland Waterway Trust Fund.	PL 106-541, 106 th Cong.
October 31, 2000	Act of October 31, 2000 authorized projects for ecosystem restoration on Ohio River Mainstem, Kentucky, Illinois, Indiana, Ohio, West Virginia and Pennsylvania at a total cost of \$307,700,000 with an estimated Federal cost of \$200,000,000 and an estimated non-Federal cost of \$107,700,000.	PL 106-541, 106 th Cong.
November 8, 2007	Act of November 8, 2007 amended P.L. 100-676 to ensure the preservation and restoration of the structure known as the 'Jenkins House and the reconstruction of associated buildings and landscape features located within the Lesage/Greenbottom Swamp. Amounts made available for expenditure for the project authorized by section 301(a) of the Water Resources Development Act of 1986 shall be available for the purpose of this subsection.	P.L. 110-114, 110 th Cong. 1 st . Sess
November 8, 2007	Act of November 8, 2007 amended P.L. 106-53 to increase authorized project cost to \$12,000,000, with an estimated Federal cost of \$6,000,000 and an estimated non-Federal cost of \$6,000,000. Also directed Corps to limit its work on recreation features to only those elements that relate to the traditional Corps mission areas that are being built as an element of the larger waterfront and riverfront.	P.L. 110-114, 110 th Cong. 1 st Sess.

**Table 19-H Construction of Locks and Dams on Ohio River
Total Cost of Existing Project to September 30, 2009
(See Section 1 of Text)**

Funds	Operations and Maintenance			Total
	New Work	General	Rehabilitation	
Regular	9,071,935,002	1,542,528,186	1,540,707,299	12,155,170,487
Public Works	3,258,368	0	0	3,258,368
Emergency Relief	1,236,837	19,000	0	1,236,837
Maintenance & Operation	14,572,267	16,821,352	0	31,393,619
Public Works Acceleration	254,578	38,766	0	293,344
Executive 1963	0	0	0	0
Total	9,091,257,052	1,559,407,304	1,540,707,299	12,191,371,655

¹Excludes \$36,943,217 expended from 1885 to 1937 under permanent indefinite appropriation.

²Excludes \$920,945 cost for operation and care of previous projects.

³Excludes \$87,724,158 prior construction cost.

⁴Includes \$33,914,252 cost for O & M Rehabilitation.

Note: All other cost variations are listed in the Footnotes of Table 19-A.

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**Table 19-I Federal Energy Regulatory Commission Licenses
At Locks and Dams, Ohio River**

	Markland Dam	McAlpine Dam	Racine Dam	Greenup Dam	Hannibal Dam
F.E.R.C. License	2,211	289,100	P-2570	P-2614	3,206
License	Public Service Co of Indiana	Louisville Gas and Electric Co.	AEP Co	Hamilton, OH	City of New Martinsville, WV
Annual Charge	\$ 45,000	\$ 95,000	\$ 0	\$ 0	0
Collections to end of Fiscal Year 2009	\$1,744,166.62	\$9,765,353.94	\$0	\$391,475.91	\$197,589.03

**Table 19-J Ohio River Locks and Dams
(See Section 1 of Text)**

Lock And Dam	Miles Below Pittsburgh	Distance from Nearest Town	Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)	Upper Normal Pool Elevation (feet, mean sea level)	Depth on Miter Sills		Character of Foundation		Percent Complete	Year Opened to Navigation	Actual Cost to Date of Each Lock and Dam
							Upper (feet)	Lower (feet)	Lock	Dam			
1	-	Replaced	-	-	-	-	-	-	-	-	-	-	\$ 870,034
	6.2	Emsworth Locks Emsworth, PA	110 56	600 360	18.0	710.0	17.0 ^{1, 4} 15.5 ^{1, 5}	12.9 ³ 12.9 ³	Rock Piles	Rock	100	1921	76,879,343 ^{2, 13}
2	-	Replaced	-	-	-	-	-	-	-	-	-	-	976,767
3	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,144,588
	13.3	Dashields Locks and Dam 1.6 miles below Sewickley, PA	110 56	600 360	10.0	692.0	13.4 ¹	17.5 ³	Rock	Rock	100	1929	37,447,328 ¹⁴
4	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,071,472
5	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,080,132
6	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,123,442
	31.7	Montgomery Locks and Dam, 1.4 miles above Industry, PA	110 56	600 360	17.5	682.0	16.0 ¹	14.6 ³	Rock and Piles	Rock and Piles	100	1936	37,754,307 ¹⁵
7	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,075,000
8	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,167,456
	54.4	New Cumberland Locks and Dam, Stratton, OH	110 110	1,200 600	20.5	664.5	7.0 ¹	14.8 ³	Rock	Rock	100	1959	39,099,688
9	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,177,100
10	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,138,000
11	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,162,165
	84.3	Pike Island Locks and Dam, 2 miles upstream from Warwood, WV	110 110	1,200 600	21.0	644.0	17.0 ¹	18.0 ¹	Rock	Rock	100	1968	56,623,946
12	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,166,104
13	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,222,389
14	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,133,371
	126.4	Hannibal Locks and Dam, 1.6 miles upstream from New Martinsville, WV	110 110	1,200 600	21.0	623.0	38.0	17.0	Rock	Rock	99	1972	87,902,000
15	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,180,478

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Table 19-J
(continued)

Ohio River Locks and Dams
(See Section 1 of Text)

Lock And Dam	Miles Below Pittsburgh	Distance from Nearest Town	Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)	Upper Normal Pool Elevation (feet, mean sea level)	Depth on Miter Sills		Character of Foundation		Percent Complete	Year Opened to Navigation	Actual Cost to Date of Each Lock and Dam
							Upper (feet)	Lower (feet)	Lock	Dam			
16	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,275,532
	161.7	Willow Island Locks and Dam, 2.7 miles above Waverly, WV	110	1,200									
			110	600	20.0	602.0	35.0	15.0	Rock and Piles	Rock	100	1972	78,173,881
17	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,362,591
18	-	Replaced	-	-	-	-	-	-	-	-	-	-	927,091
19	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,213,848
20	-	Replaced	-	-	-	-	-	-	-	-	-	-	936,696
	103.9	Belleville Locks and Dam, 0.3 mile below Reedsville, OH	110	1,200									
			110	600	22.0	582.0	37.0	15.0 ³	Rock and Piles	Rock	100	1968	62,591,255
21	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,484,562
22	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,218,798
23	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,851,488
	237.5	Racine Locks and Dam, 1.5 miles below Letart Falls, OH	110	1,200									
			110	600	22.0	560.0	18.0	15.0	Rock and Piles	Rock	100	1971	64,922,680
24	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,187,542
25	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,925,205
26	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,307,241
	279.2	Robert C. Byrd Locks and Dam, 0.7 mile below 6 Hogsett, WV											
		Robert C. Byrd Modernization	110	1,200	-	-	-	-	-	-	-	-	3,452,066
27	Rehab	Dam and New Locks	110	1,200	23.0	538.0	18.0	15.0	Rock	Rock	100	1992	368,605,876 ¹⁶
27	-	Replaced	-	-	-	-	-	-	-	-	-	-	
28	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,063,133
29	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,088,802
30	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,579,618
	341.0	Greenup Locks and Dam, 4.9 miles below Greenup, KY	110	1,200									
			110	600	30.0	515.0	18.0 ¹	13.0	Rock	Rock	100	1959	57,464,191
31	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,359,231
32	-	Replaced	-	-	-	-	-	-	-	-	-	-	2,951,216
33	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,937,166

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OHIO RIVER

Table 19-J Ohio River Locks and Dams
(continued) (See Section 1 of Text)

Lock And Dam	Miles Below Pittsburgh	Distance from Nearest Town	Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)	Upper Normal Pool Elevation (feet, mean sea level)	Depth on Miter Sills		Character of Foundation		Percent Complete	Year Opened to Navigation	Actual Cost to Date of Each Lock and Dam
							Upper (feet)	Lower (feet)	Lock	Dam			
34	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,437,057
	436.2	Captain Anthony Meldahl Locks and Dam, 2.2 miles above Foster, KY	110	1,200									
			110	600	30.0	485.0	18.0 ¹	15.0	Rock	Rock	100	1962	74,188,216
35	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,894,942
36	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,704,535
37	-	Replaced	-	-	-	-	-	-	-	-	-	-	1,297,924
38	-	Replaced	-	-	-	-	-	-	-	-	-	-	2,857,040
	531.5	Markland Locks and Dam, 1 mile above Markland, IN	110	1,200									
			110	600	35.0	455.0	50.0	15.0	Rock	Piles	100	1963	63,019,403
39	-	Replaced	-	-	-	-	-	-	-	-	-	-	2,222,448
40	-	Eliminated	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-	-	7,658,134 ⁶
		Falls of the Ohio, 1 mile above McAlpine	N/A	N/A					N/A	N/A	0	N/A	2,367,918
	604.0	McAlpine Locks and Dam	110	1,200		49.0	12.0						
					37.0	420.0		11.0	Rock	Rock	100	1961	470,717,433 ^{10.17}
42	-	Eliminated	-	-	-	-	-	-	-	-	-	-	-
43	-	Replaced	-	-	-	-	-	-	-	-	-	-	2,592,242
44	-	Replaced	-	-	-	-	-	-	-	-	-	-	2,819,930
45	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,202,890
	720.7	Cannelton Locks and Dam, 3 miles above Cannelton, IN	110	1,200	25.0	383.0	38.0	13.0	Rock	Rock	100	1972	99,032,866 ⁹
			110	600									
46	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,129,028
	776.1	Newburgh Locks and Dam, 16 miles above Evansville, IN	110	1,200									
			110	600	16.0	358.0	32.0	16.0	Rock	Pile	99	1975	104,496,840
47	-	Replaced	-	-	-	-	-	-	-	-	-	-	4,415,526
48	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,062,710

19-14

Table 19-J
(continued)

Ohio River Locks and Dams
(See Section 1 of Text)

Lock And Dam	Miles Below Pittsburgh	Distance from Nearest Town	Width of Chamber (feet)	Greatest Length Available for Full Width (feet)	Lift (feet)	Upper Normal Pool Elevation (feet, mean sea level)	Depth on Miter Sills		Character of Foundation		Percent Complete	Year Opened to Navigation	Actual Cost to Date of Each Lock and Dam
							Upper (feet)	Lower (feet)	Lock	Dam			
49	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,325,964
	846.0	John T. Myers Locks and Dam,	110	1,200									
		3.5 miles below Uniontown, KY	110	600	22.0	342.0	34.0	12.0	Rock	Rock	99	1975	110,202,769 ¹⁹
50	-	Replaced	-	-	-	-	-	-	-	-	-	-	3,571,762
51	-	Replaced	-	-	-	-	-	-	-	-	-	-	4,370,566
	918.5	Smithland Locks and Dam, 2 miles above Smithland, KY	110	1,200	22.0	324.0	34.0	12.0	Rock	Rock	99	1980	273,725,470
52	938.9	1.4 miles below Brookport, IL	110	600	12.0	302.0	15.4	11.0	Pile	Pile	100	1928	13,337,747 ¹⁰
	938.9	1.4 miles below Brookport, IL (New lock)	110	1,200	12.0	302.0	15.4	11.0	Pile	Pile	100	1969	10,197,516
53	962.6	10.8 miles above Mound City, IL	110	600	13.4	290.0	15.4	9.6 ⁸	Pile	Pile	100	1929	10,004,240 ¹¹
	962.6	10.8 miles above Mound City, IL (New lock)	110	1,200	13.4	290.0	15.4	9.6	Pile	-	100	1982	38,570,920
	964.4	Olmsted Locks & Dam at Olmsted, IL	110	1,200	21.0	300.0	18.0	18.0	Pile	Pile	52	2013	1,079,506,748 ¹⁷
	974.2	Mound City Lock and Dam, 1 mile below Mound City, IL	-	-	-	-	-	-	-	-	-	-	1,539,470 ¹²
TOTAL												\$2,577,615,892 ¹⁹	

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OHIO RIVER

**Table 19-J Ohio River Locks and Dams
(Continued)**

Footnotes

- ¹ Depths are on emergency dam foundation and re-controlling depths.
- ² Change from fixed dam to lift-gate dam completed in 1938.
- ³ Depths are on poiree dam foundation and are controlling depths.
- ⁴ Land chamber.
- ⁵ River chamber.
- ⁶ Lock and Dam 41 completed with 110- by 600-foot lock in 1921. Completed with new dam and raised canal and lock wall in 1928. Auxiliary 56- by 360-foot lock constructed in 1929-30. Reconstruction and modernization began 1956, renamed McAlpine Locks and Dam in 1960. Operation of auxiliary lock suspended in 1971.
- ⁷ Existing structures are complete except for deferred alteration of railroad bridge. Construction of the new 110 foot x 1,200 foot lock began in September 2002.
- ⁸ Dam below not yet constructed. Depth on lower miter sill at lower water.
- ⁹ Excludes \$2,219,975 payment for settlement of damage to dam caused by barge accident in April 1978.
- ¹⁰ Major rehabilitation (\$8,876,000) initiated in FY 79 is complete.
- ¹¹ Major rehabilitation (\$4,593,572) initiated in FY 79 is complete.

- ¹² For preconstruction planning 1965 to 1972. No longer considered authorized. (See Section 1 of Text.)
- ¹³ Includes \$37,485,870 for major rehabilitation completed in FY 84
- ¹⁴ Includes \$33,914,252 for major rehabilitation completed in FY 90 (O&M funds).
- ¹⁵ Includes \$33,016,696 for major rehabilitation completed in FY 89.
- ¹⁶ Includes \$207,026,141 Inland Waterways Trust Funds.
- ¹⁷ I Includes \$521,890,065 Inland Waterways Trust Funds. Received \$4,906,000 ARRA Funds
- ¹⁸ Includes \$245,326,106 Inland Waterways Trust Funds.
- ¹⁸ Includes \$221,779,486 Inland Waterways Trust Funds.
- ¹⁹ Exclusive of \$7,013,405 details below.
- ²⁰ Includes \$102,190,120 original construction cost, \$5,205,058 PED costs and \$1,730,619 Inland Waterways Trust Funds for Lock Improvement. Received \$7,854,430 ARRA Funds FY 09

Additional Features Entering into Cost of Project	
Louisville and Portland Canal and Indiana chute (under previous project).	\$5,359,203
Examinations, survey contingencies, plants, and miscellaneous	966,232
Waterfront Development at Huntington, WV (Greenup Pool)	19,170
Recreation facilities, pool area, Gallipolis Locks and Dam.	668,800
Total	7,013,405
Grand Total	\$2,584,629,297

BUFFALO, NY DISTRICT

The District comprises northern OH, northwestern PA and western and northern NY, embracing U.S. waters of Lake Erie exclusive of a small portion of the western end, Lake Ontario, and St. Lawrence River, with their tributary drainage basins from boundaries between the states of OH and MI to international boundary line east of Frontier, NY.

IMPROVEMENTS

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NAVIGATION

1. ASHTABULA HARBOR, OH

Location. On the south shore of Lake Erie, at mouth of Ashtabula River, 59 miles easterly from Cleveland, OH. (See NOAA Nautical Chart 14836.)

Previous projects. For details see pg. 1963 of Annual Report for 1915, and pg. 1593 of Annual Report for 1938.

Existing project. For description see pgs. 1297-1299 of the 1966 Annual Report. Federal cost of completed project is \$12,240,147. Non-Federal costs of \$5,743,000, including contribution of \$47,000, were for construction of access roads, docks, storage and handling facilities and dockside dredging. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with. Local interests contributed \$47,000 for work authorized by 1936 and 1970 Acts.

Terminal facilities. There are sixteen piers and wharves. Coast Guard owns one facility. Ten facilities are along banks of Ashtabula River and six are on south side of outer harbor. Eleven terminals have railroad connections and six have mechanical handling facilities. Facilities are considered adequate for existing commerce. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year. Operations: Expended \$40,000 to perform Project Condition Surveys initiated Ashtabula Dredged Material Management Plan (DMMP) and completed 75% draft Preliminary Assessment at a cost of \$49,596. Maintenance: A total of \$445,904 was expended by the government floating plant to rebuild approximately 88 linear feet along the harbor side of the East Breakwater utilizing government plant and hired labor. This work included approximately 506 tons of concrete armor block and 360 tons of core stone used in the breakwall construction. Maintenance Dredging cost \$765,174 (contract cost \$565,000) to remove 70,000 cubic yards of shoaled material from the Federal channel. All dredging performed in the eastern portion of the Outer Harbor and completed to authorized depth. Expended \$257,499 for Engineering and Design of the Outer Harbor to complete 35% Design Documentation Report and plans and specifications for dredging and disposal of remaining sediments not suitable for open lake placement. Evaluated alternative sediment volume estimation methods and conducted sediment sampling to perform a Tier 3 bioaccumulation study for sediments not suitable for open lake placement.

2. BLACK ROCK CHANNEL AND TONAWANDA HARBOR, NY

Location. Improvement is essentially that of upper 13.5 miles of Niagara River from its head at Lake Erie, Buffalo, NY, to and including Tonawanda Harbor, NY. It comprises improvements formerly designated by three titles; Lake Erie entrance to Black Rock Harbor and Erie Basin, NY, Black Rock Harbor and Channel, NY and Tonawanda Harbor and Niagara River, NY. (See NOAA Nautical Chart 14832.)

Previous projects. For details, see items 5 and 7, pg. 1970 of Annual Report for 1915, and pg. 1612 of Annual Report for 1938.

Existing project. For description of existing project and Federally owned Black Rock ship lock, see pg. 1548 of Annual Report for 1962. Improvement of guide pier at Black Rock Lock, as authorized by 1935 Act was de-authorized by Congress in Aug 1977. Cost for completed portion of new work is \$10,457,093. Enlarging of existing 21-foot turning basin and deepening lower 1,500 feet of Tonawanda Inner Harbor from 16 to 21 feet, authorized by the 1954 Act, was de-authorized by Congress in May 1981, and is excluded from foregoing cost. Non-Federal costs are estimated at \$1,540,000 for costs incurred by NY State for construction of Erie Basin and protecting breakwater, and construction and extension of Bird Island Pier, and by other local interest for relocation of utilities. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with for existing project. Contract for cost-shared recreation development at completed projects (Code 713 program) was executed by the NY State Department of Environmental Conservation, Albany, NY on Apr 16, 1985, and was approved by the Assistant Secretary of the Army and Chief of Engineers on May 3, 1985.

Terminal facilities. Two facilities are along the upstream end of the channel. Below Black Rock Lock and at Tonawanda Harbor there are 13 privately owned terminals. There are two state-owned barge canal terminals at Tonawanda, NY, and several marine service and supply docks for recreational and other small craft. The Corps owns a wharf adjacent to Black Rock Lock that is private. Ten terminals have railroad connections and six mechanical-handling facilities. Facilities considered adequate for existing commerce. (Port Series No. 41, revised 1971, Corps of Engineers.)

Operations and results during fiscal year. Operations: Public Visitation Tracking at Bird Island Pier cost \$6,158 in order to research and develop a plan of survey and purchase equipment to track

BUFFALO, NY, DISTRICT

public visitation. Operation and care of the lock cost \$705,517. Maintenance: A total of \$123,000 was expended by contract to install new sill timbers. This work was required to allow the safe and efficient passage of commercial and recreational harbor traffic, and to prevent a safety hazard to divers when dewatering the lock for other maintenance. At a cost of \$112,741, additional maintenance activities at the lock were accomplished, with minimal impact on commercial and recreational navigation interests. In addition, contract award for replacement of the water and sewer service lines for the lock was accomplished with construction scheduled for the first quarter of FY10. Compliance with National Historic Preservation Act coordination and reporting requirements cost \$498. Expended \$130,003 in Stimulus Funds (ARRA) to repair the Lower Gate Guard Sill. The timbers for the lower sill were replaced. The guard gates are used for periodic dewaterings of the lock in order to facilitate maintenance of the lock. Damage to the timbers caused large levels of leakage that posed a safety hazard to divers working to seal the gates. Replacement of the timbers has greatly reduced this hazard and will also increase the efficiency of lock dewatering operations. Expended \$122,622 in Stimulus Funds (ARRA) to repair the Lower Operating Gate Sill. The timbers for the lower operating sill were replaced. Damage to the old timbers had caused to leakage below the bottom of the gates both impacting efficiency of operations and creating erosive flows in the area of lock gate valves and bearings. Expended \$388,187 in Stimulus Funds (ARRA) for Structure Repair of the Bird Island Pier to rebuild 192 linear feet of the lake side of the Pier utilizing government plant and hired labor. This work included using 406 tons of concrete armor block, 400 tons of core stone, and 30 cubic yards of reinforced cast-in-place concrete used during construction. Maintenance Dredging cost \$83,930 in Stimulus Funds (ARRA) funds (contract cost \$1,173,750) to begin removal of approximately 115,000 cubic yards of shoaled material from the Federal channel [Between Station 1+00 and 135+00]. Dredging to be completed in July, FY10.

3. BUFFALO HARBOR, NY

Location. At eastern end of Lake Erie, at head of Niagara River, 176 miles easterly from Cleveland, OH. (See NOAA Nautical Charts 14820 and 14833.)

Previous projects. For details see pg. 1967 of Annual Report for 1915 and pg. 1606 of Annual Report for 1938.

Existing project. For description see pg. 1368 of Annual Report for 1963. In addition, on Dec 15,

1980, OCE authorized the removal of bridge abutments of South Michigan Avenue Bridge. New work for completed project cost \$18,837,601. Estimated non-Federal costs were \$9,188,000 for deepening, widening, and improving Buffalo River and ship canal, constructing piers, retaining walls, and dikes and performing dockside dredging. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. There are 27 piers, wharves, and docks of which five are on the outer harbor, nine are on the Lackawanna, Union, and Buffalo Ship Canals, and thirteen are located along the deep-draft section of the Buffalo River. Gateway Metroport, Division of Gateway Trade Center, Inc., owns and operates, for the former Bethlehem Steel Corp., wharves at Lackawanna for the receipt and shipment of general cargo and bulk commodities. Buildings of the former steel plant are utilized for transit and long-term storage of cargo as required. The Niagara Frontier Transportation Authority owns Terminals A and B in the outer harbor used for handling general cargo. Twenty terminals have railroad connections. The city of Buffalo owns a slip on the right bank of Buffalo River just north of Michigan Avenue Bridge for mooring the city fireboat. Coast Guard facilities are at the mouth of Buffalo River along the left bank. (See Port Series No. 41, revised 1991, U.S. Army Corps of Engineers.)

Operations and results during fiscal year.

Operations: A credit of -\$3,960 was received from the FY08 Sediment Sampling, Analysis and Evaluation contract that performed physical, chemical and biological analyses on sediments collected. Initiated Buffalo Dredged Material Management Plan (DMMP) and completed 75% draft Preliminary Assessment at a cost of \$48,924. Maintenance: Continuation of a FY08 Maintenance Dredging cost \$738,056 (contract cost \$770,695) to remove 78,460 cubic yards of shoaled material from the Federal channel [river channel 583+00 – 600+00, 457+00 – 508+50, and the mouth of the ship canal 800+00 – 805+50]. All dredging was completed to the authorized depth. A total of \$703,143 (\$256,779 Omnibus and \$446,364 Stimulus (ARRA)) funds were expended by government floating plant to rebuild 32 linear feet of the lake side of the South Breakwater utilizing government plant and hired labor. This work included 385 tons of concrete armor block and 400 tons of core stone used in the breakwall construction. Expended \$99,955 in Stimulus Funds (ARRA) on the Confined Disposal Facility (CDF) #4 to make repairs to approximately 72 linear feet of the Containment Dike utilizing government plant and hired labor. This work included 450 tons of stone used in the dike repairs.

In addition to the stone repair, work performed included cutting off the top of steel sheet piling that has jacked up significantly higher than the structure crest to prevent structure damage from the prying effect of wave and ice forces on the elevated piles, and welding the seams of the sheeting in these areas to prevent further jacking.

4. CLEVELAND HARBOR, OH

Location. On south shore of Lake Erie, at mouth of Cuyahoga River, 176 miles westerly from Buffalo, NY. (See NOAA Nautical Chart 14839.)

Previous projects. For details see pg. 1962, Annual Report for 1915, and pg. 1585, Annual Report for 1938.

Existing project. For description of existing project, as authorized through the 1966 modification, see pg. 1269 of Annual Report for 1967. Further improvements in the interest of commercial navigation and recreational navigation were authorized in the 1985 Supplemental Appropriations Act (PL 99-88). For details of the commercial navigation portion of the project, see pg. 20-4 of the Annual Report for 1995. For details of the recreational navigation portion of the project, see pg. 20-3 of Annual Report for 1994. The Water Resources Development Act of 1986 (PL 99-662) and the FY 88 Energy and Water Appropriations Act (PL 100-202) authorized the recreational navigation project. These acts authorized additional undefined improvements to Cleveland Harbor. A portion of the project was de-authorized by the Inter-modal Surface Transportation Efficiency Act of 1991. Estimated total Federal cost of the existing project is \$33,852,100 (Oct 1991) exclusive of undefined, inactive and deferred portions of the project. The amount of \$29,315,100 is for completed work and the balance of \$4,537,000 is for new work. Estimated non-Federal cost is \$13,740,000 (Oct 1991) of which \$9,203,000 is actual cost for completed work and the balance of \$4,537,000 is required for work authorized by PL 99-88, PL 99-662, and PL 100-202. Remaining work authorized by 1946 River and Harbor Act, consisting of widening and deepening the right bank of Cuyahoga River at the downstream end of Cut 4, is considered inactive and excluded from foregoing cost estimate. Estimated Federal cost (1966) of this portion is \$85,600 and non-Federal cost (1966) \$5,000,000. Remaining work authorized by 1958 R&H Act, consisting of planning and replacement of bridges number 19 (E.L.R.R.) and 32 (B. & O.R.R.) and widening Cuyahoga and Old River channels, and remaining work authorized by the 1960 R&H Act, consisting of deepening the remainder of the Cuyahoga River from bridge number 1 to and

including the Old River to a depth of 27 feet, has been classified as deferred and is also excluded from foregoing estimate. Estimated Federal cost (Oct 1976) of this portion is \$18,033,300 and estimated non-Federal cost (Oct 1976) is \$21,251,000. The 1989 Energy and Water Development Appropriations Act (PL 101-101) authorized the Corps to begin a Reconnaissance study of the Cuyahoga River, to address the concerns of boat traffic congestion and related risks, accidents and safety of the public. Preliminary plans were studied to alleviate the commercial navigation problem and inadequate width and depth, in the Old and Cuyahoga Rivers. The cost of this Reconnaissance study was \$250,000. The Reconnaissance Report recommended a feasibility study for one plan, which has three structural features, and the potential for yielding commercial (priority) outputs. The non-Federal sponsor did not commit to provide its total share of the cost of the feasibility phase of the study. Therefore, the study was reclassified as "inactive". (See Table 32-B for authorizing legislation.) A confined disposal facility (CDF) (Dike 10B) was constructed adjacent to the Burke Lakefront Airport for containment of dredged material from Cleveland Harbor. The rubble mound structure was designed to hold material unsuitable for open-lake disposal. The sixty-eight (68) acre site provided sufficient CDF capacity for approximately eleven years. The project was constructed with Federal O&M funds at a cost of \$17,500,000 and was completed in 1998.

Terminal facilities. Fifty-one piers, wharves, and docks are situated in the Port of Cleveland. Eleven are located in the east and west basins of the outer harbor; 7 along the banks of the Old River and 17 and 16 along the right and left banks of the Cuyahoga River, respectively. Twenty-two terminals have both railroad connections and mechanical-handling facilities. The Corps owns a wharf at the foot of East 9th Street. The city of Cleveland owns and operates a wharf for mooring the city fireboat. U.S. Coast Guard vessels are moored east of the foot of 9th Street in the east basin. (See Port Series No. 43, revised 1989, U.S. Army Corps of Engineers.)

Operations and results during fiscal year.

Operations: Expended \$65,000 to perform Project Condition Surveys and there was a credit of \$108 to the FY08 Economic Data Collection cost. FY09 efforts related to the Dredged Material Management plan cost \$249,349. Prepared the draft DMMP/EIS, including conducting Agency Technical Review, Cost Risk Analysis review and Consolidated Policy Guidance Memo. Submitted Policy Waiver Request to ASA(CW) and received approval to designate Plan 4A as the Locally Preferred Plan. Issued over 150 hard copies of the draft DMMP/EIS for public and

BUFFALO, NY, DISTRICT

agency review, held the Public Information Meeting in Cleveland and coordinated comments and RFIs during the review period. Held numerous meetings with the local sponsor concerning financial self-certification and impacts of delays in CDF construction. Contracted for and started the Independent External Peer Review (IEPR) which was to be conducted by Battelle in parallel with the public/agency review period, but had to stop work when it became evident that the Port couldn't sign the self-certification. Maintenance: A total of \$448,510 was expended to rebuild 40 linear feet (two sides) of the East Arrowhead Breakwater utilizing government plant and hired labor. This work included 288 tons of concrete armor block and 320 tons of core stone used in the breakwall construction. There were two credits to FY08 costs, \$1,318 on the finger pier repair and \$155 on the East Breakwater (Sta 84-94) projects. Activities related to the new CDF cost \$269,154. Preliminary CDF designs were completed for use in the DMMP. ERDC completed extensive water quality modeling of the potential impacts of a CDF at the E. 55th St. site; the preliminary geotechnical investigation (six borings) and laboratory analyses for the E. 55th St. site were completed, and; the scope for wave modeling was evaluated by a combination of ERDC and in-house staff. Expended \$1,454,055 for repair of the West Pierhead. Construction provides an interim repair of the structure by installing 130 linear feet of sheet steel piling along the most exposed and deteriorated lake-ward face of the pierhead, replacing the affected concrete cap, and stabilizing the supported historic lighthouse through subsurface grouting. Coordination with SHPO continued to mitigate adverse effects on to the fog signal building, the other historic structure on the pierhead. A total of \$44,962 was expended to remove debris that has accumulated in the Cleveland Harbor and Cuyahoga River utilizing government plant and hired labor. The work is required to allow the safe passage of commercial and recreational harbor traffic. Maintenance Dredging cost \$2,475,446 (contract cost \$1,428,739) to remove 129,074 cubic yards of shoaled material from the Cuyahoga River [Dredged 96,927 CY from the Upper River Channel – Station 799+92 to 749+00. Dredged 32,147 CY from Lower River Channel – Station 749+00 to 499+34]. Expended \$6,492 to close out FY08 Dike 10B project. Expended \$264,967 for work on the CDF 9 Fill Management Plan. All activities were performed in preparation for the planned berm raising activities at the site. Tasks included geotechnical investigation, and testing program, surveys, and other pre-design efforts including coordination and participation in FAA studies necessitated by the adjacent airport.

Expended \$76,959 for work on the CDF 12 Fill Management Plan. All activities were performed to prepare the site for planned excavation activities. Tasks included the development of bid documents, contract award and dewatering activities. Additional work to be performed in following FY(s). Expended \$154,058 in Stimulus Funds (ARRA) on the Disposal of Dredged Material Operation (DMMO) project. Held sources sought meeting onsite. Evaluated qualifications of prospective service disabled veteran owned small businesses and decided on a set aside for same. Prepared plans and specifications for excavating up to 400,000 CY of dredged sediment from CDF 10B. Conducted all necessary reviews and prepared the independent government estimate. This first of its kind contract in Cleveland calls for the contractor to obtain all necessary permits and approvals for the site receiving the sediment for disposal or re-use. Supplied information and answers to questions raised during the bid phase. Awarded the contract to the lowest bidder on 18 Sep 09 and coordinated the government response to subsequent protests of the winning bidder's eligibility. Expended \$19,813 in Stimulus Funds (ARRA) for interim CDF measures to allow for placement of dredged material unsuitable for open lake disposal.

5. CONNEAUT HARBOR, OH

Location. On the south shore of Lake Erie, at mouth of Conneaut River, 73 miles easterly from Cleveland, OH. (See NOAA Nautical Chart 14824.)

Previous projects. For details see pg. 1964, Annual Report for 1915.

Existing project. For description see pg. 1274 of Annual Report for 1967. Actual costs for new work for completed portion of the project were \$7,541,369. For completed work, non-Federal costs were \$200,000 for dockside dredging and removal of existing dolphins. The most southerly 300 feet of the 1,670-foot long shore arm, authorized by the R&H Act of 1910, was de-authorized Oct. 96. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with for completed portion of project.

Terminal facilities. There are seven piers and wharves. Six are privately owned and operated and located in inner harbor. Remaining facility is city owned on the south side of outer harbor. Six terminals have railroad connections and four mechanical-handling facilities. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year. Maintenance: A credit of -\$16,076 was received from the FY08 Dredging contract. A total of \$335,004

was expended by government floating plant to rebuild 40 linear feet (two sides) of the East Breakwater utilizing government plant and hired labor. This work included 420 tons of concrete armor block and 135 tons of core stone used in the breakwall construction.

6. DUNKIRK HARBOR, NY

Location. On south shore of Lake Erie, 37 miles southwesterly from Buffalo, NY. (See NOAA Nautical Chart 14823.)

Previous projects. For details see pg. 1966 of Annual Report for 1915, and pg. 1604 of Annual Report for 1938.

Existing project. For description of completed portion of existing project see pg. 32-8 of Annual Report for 1976. For description of small boat harbor project as authorized under Section 201 of Flood Control Act of 1965, see pg. 32-8 of Annual Report for 1978. Actual costs for completed work are \$3,010,024. Actual non-Federal costs are \$1,961,000. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year.

Maintenance: Dredging cost \$280,050 [Omnibus \$242,349/Stimulus (ARRA) \$37,701], including contract cost of \$979,397, to remove approximately 105,367 cubic yards of shoaled material from the Federal channel [Dredging 14,525 CY from the recreation channels, 22,182 CY from the Lake Approach Channel and 68,660 from the Outer Harbor]. Dredging to be completed in FY10.

7. ERIE HARBOR, PA

Location. On southerly side of bay formed by Presque Isle Peninsula, on south shore of Lake Erie, 78 miles westerly from Buffalo, NY. (See NOAA Nautical Chart 14835.)

Previous projects. For details see pg. 1965 of Annual Report for 1915 and pg. 1600 of Annual Report for 1938.

Existing projects. For description see pgs. 1363-64 of the Annual Report for 1963. The FY 93 Appropriations Act (PL102-377) authorized the planning, design and dredging of an access channel and berthing area. Entire project modification authorized by 1945 River and Harbor Act, providing for deepening channel and basin, both 23 feet deep, to Penn Central Company coal docks at westerly end of harbor, was de-authorized by Congress in Aug

1977. Actual costs for new work for completed portion of project were \$2,860,906. Extension of north pier portion, authorized by 1899 Act was de-authorized in Nov 1981. A portion of work authorized by 1960 Act, deepening strips adjacent to north and south piers, was de-authorized in Aug 1982. Non-Federal costs for completed work were \$51,000 for providing ore dock and dredging slip adjacent thereto. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Sixteen piers and wharves, of which twelve are privately owned and operated. Erie International Marine Terminal No. 1 owned by Port Commission, city of Erie, is along main waterfront on south side of Presque Isle Bay and Coast Guard facilities are on north side. Two offshore oil docks are on Lake Erie. Eight terminals have railroad connections and six mechanical-handling facilities. Facilities are considered adequate for existing commerce. (See port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

8. FAIRPORT HARBOR, OH

Location. On south shore of Lake Erie at mouth of Grand River, 33 miles easterly from Cleveland, OH. (See NOAA Nautical Chart 14837.)

Previous projects. For details see pg. 1963 of Annual Report for 1915, and pg. 1590 of Annual Report for 1938.

Existing project. For description of existing project, see pg. 1526 of Annual Report for 1962. Total Federal cost of \$2,591,000 is actual cost for completed portion of project. Total non-Federal cost is \$101,000 for bulkheads and dockside dredging for completed portion of project. (See Table 20-B for authorizing legislation.)

Local cooperation. See pg. 32-11 of 1976 Annual Report regarding assurances of local cooperation for work authorized by R&H Act of 1927.

Terminal facilities. Sixteen piers and wharves, all along banks of Grand River. Coast Guard owns one facility. Nine terminals have railroad connections and ten mechanical-handling facilities. Facilities considered adequate for existing commerce. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year.

Operations: Expended \$26,000 to perform Project Condition Surveys. Maintenance: Dredging cost \$2,246,936 [Omnibus \$1,869,610/Stimulus (ARRA) \$377,326], of which the contract cost was

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\$1,672,304, to remove 188,166 cubic yards of shoaled material from the Federal channel [Dredged 101,079 CY from the Outer Harbor and River Channel. Dredged 87,087 CY from the Lake Approach Channel]. All dredging was completed to the authorized depth. Expended \$567,249 in Stimulus Funds (ARRA) on the East Breakwater to rebuild 64 linear feet (two sides) of the East Breakwater utilizing government plant and hired labor. This work included 821 tons of concrete armor block and 250 tons of core stone used in the breakwall construction.

9. GREAT SODUS BAY HARBOR, NY

Location. On Sodus Bay, which is a nearly land-locked indentation on south shore of Lake Ontario, 29 miles westerly from Oswego, NY. (See NOAA Nautical Chart 14814.)

Previous project. For details, see pg. 1972 of Annual Report for 1915, and pg. 1526 of Annual Report for 1938.

Existing project. For description, see pg. 1380 of Annual Report for 1963. Improvements authorized by 1962 Act, consisting of deepening lake approach channel, entrance channel and inner approach channel were deauthorized by Congress in Aug 1977. Actual costs of new work for completed portion of project were \$249,187. Costs incurred by local interests are not available. (See Table 20-B for authorization legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year. There were no Operations or Maintenance activities conducted in the harbor this FY.

10. HURON HARBOR, OH

Location. On south shore of Lake Erie at mouth of Huron River, 47 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14843.)

Previous project. For details, see pg. 1961 of Annual Report for 1915, and pg. 1576 of Annual Report for 1938.

Existing project. For description, see pg. 1347 of Annual Report for 1963 and pg. 32-12 of Annual Report for 1978. Cost of completed portion of existing project was \$4,834,006. Construction of detached breakwater as authorized by 1962 R&H Act was de-authorized Jan 1, 1990. Non-Federal costs of \$163,000 were incurred by local interests in 1963 for dockside dredging of areas between Federal

improvement and terminal facilities. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Six privately owned wharves and docks, one along left bank of Huron River and remainder along right bank. Four terminals have railroad connections and four mechanical-handling facilities. Facilities are regarded as adequate for existing commerce. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year.

Operations: Expended \$30,000 to perform Project Condition Surveys. Maintenance: Dredging cost \$648,199 [Omnibus \$591,755/Stimulus Funds (ARRA) \$56,444], of which the contract cost was \$1,923,820, to remove 303,000 cubic yards of shoaled material from the Federal channel [Total quantities and contract amount are preliminary due to ongoing closeout negotiations. All dredging performed between stations 72+00 and 110+00]. A total of \$225,942 [Omnibus \$75,968/Stimulus Funds (ARRA) \$149,974] was expended on the Confined Disposal Facility (CDF) Exterior Repair by the government floating plant to make repairs to approximately 24 linear feet utilizing government plant and hired labor. This work included approximately 50 tons of concrete block used in the repairs. Additionally, the wooden stop logs of the CDF weir were replaced and welding repairs were made to the structural steel frame of the weir.

11. IRONDEQUOIT BAY, NY

Location. On south shore of Lake Ontario, 4 miles east of Rochester, NY at mouth of Irondequoit Creek, Monroe County, NY. (See NOAA Nautical Charts 14804 and 14815).

Existing project. For details of existing project, see pg. 32-7 of Annual Report for FY 87. Total estimated project cost is \$15,363,000 (Oct 1994) including \$3,582,000 Federal (which includes the COE \$3,536,000 and the USCG \$46,000) and \$11,781,000 non-Federal, including a cash contribution of \$2,661,000, lands and damages \$290,000 and the cost of a movable highway bridge \$8,830,000. Existing project was authorized by 1958 River and Harbor Act (H. Doc. 332, 84th Cong., 2nd sess.).

Local cooperation. The Buffalo District has a Local Cooperation Agreement with New York State, executed April 20, 1983.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year.

Maintenance: Finalization of the FY08 Maintenance Dredging contract cost \$49,196. All dredging was completed to the authorized depth

12. LITTLE SODUS BAY HARBOR, NY

Location. Little Sodus Bay, on south shore of Lake Ontario, 15 miles west of Oswego, NY. (See NOAA Nautical Chart 14803.)

Previous projects. For details see page 1973 of Annual Report for 1915, and page 1628 of Annual Report for 1938.

Existing project. For description see page 1378 of Annual Report for 1958. New work for completed project cost \$69,066. Non-Federal costs of \$6,000 were incurred for channel dredging. (See Table 20-B for authorizing legislation.)

Local cooperation. Not required.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year.

Operations: Public Visitation Tracking cost \$11,987 to research and develop a plan to survey and purchase equipment to track public visitation. Maintenance: \$6,086 was expended to initiate a congressional add for Maintenance Dredging, however the funding available was deemed inadequate to perform required work. Instead, a project for structure repair was initiated at a cost of \$30,754. An assessment of East and West pier structural problems was conducted, with the East Pier given highest priority. A Scope of Work with detailed design was developed for concrete cap repairs to the end portion of the East Pier. A contract in the amount of \$227,551 was awarded in FY09, with construction to commence in the Spring of FY10.

13. LORAIN HARBOR, OH

Location. On south shore of Lake Erie at mouth of Black River, 25 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14841.)

Previous projects. For details, see pg. 1961 of Annual Report for 1915, and pg. 1580 of Annual Report for 1938.

Existing project. For description see pgs. 1319-22 of the Annual Report for 1966. Federal cost of new work is \$20,475,000. Deepening and widening remainder of Black River Channel at Cut 1 and construction of bank stabilization, authorized by 1960 Act and modified by 1965 Act was de-authorized Jan 1, 1990. A portion of work authorized by 1960 Act, dredging of 15-to-25 foot wide strips adjacent to the

U.S. East and West Piers were also de-authorized Jan 1, 1990. Total non-Federal cost is \$3,000 contributed by local interests towards construction of west shore arm. (See Table 20-B for authorizing legislation.) The Water Resources Development Act (WRDA) of 1986 (PL 99-662) authorized construction of commercial navigation improvements consisting of two bend cuts on the Black River to widen and straighten the channel between the Norfolk and Western Railroad Bridge and the 21st Street Bridge. These cuts are to be excavated to the existing channel depth of 27 feet. The authorized plan also includes widening the Upper Turning Basin at the existing depth of 21 feet. Estimated costs for this work are \$2,290,000 Federal and \$1,510,000 non-Federal (Oct 1989). This portion of the project has been classified deferred. On Mar 12, 1986, the Chief of Engineers under authority of Section 107 of the 1960 River and Harbors Act, as amended, authorized construction of a small boat harbor that was completed in Jul 1987. The project consists of a 225-foot detached rubble mound breakwater and an 800-foot long rubble mound breakwater attached to the east breakwater shorearm in the east basin of the outer harbor. Construction costs for this project, including supervision and administration, were \$775,025 Federal and \$775,025 non-Federal.

Local cooperation. For completed work, local interests contributed \$3,000. Work authorized by 1960 Act (and modified by 1965 Act) is de-authorized. All other conditions fully complied with. On Mar 25, 1986, the city of Lorain, OH signed the Local Cooperation Agreement (LCA), for the Section 107 project. For details see pg. 32-7 of Annual Report for 1986. For details of LCA for deferred project authorized by the 1986 WRDA, see pgs. 32-9 of the Annual Report for FY 87.

Terminal facilities. There are 23 piers and wharves, of which three are on the outer harbor and the remainder is along banks of Black River. Two are owned by the city. Eight terminals have railroad connections and 15 mechanical-handling facilities. Facilities are considered adequate for existing commerce. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year.

Operations: Costs for continuing the Dredged Material Management Plan (DMMP) were \$127,275. The comments on the draft were incorporated in the final DMMP/EIS and issued for a 30-day public comment period. The document was finalized and the District Commander's transmittal to MG Peabody was prepared and included the draft ROD, study issue checklist, Planning Chief's and Counsel's certification, PGM compliance memo, ITR comments and certification and the sponsor's letter of support

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for the plan. The ROD was signed by MG Peabody and distributed to stakeholders. Expended \$52,502 to perform Project Condition Surveys. Maintenance: Confined Disposal Facility (CDF) Maintenance cost \$125,887 to prepare plans and specifications to raise the entire containment berm to a +12 LWD elevation, providing approximately 180,000 CY of additional airspace. Conducted ATR and prepared independent government estimate. Solicited bids and awarded contract under MATOC. Conducted a pre-bid meeting onsite and coordinated pre-construction submittals. Amended the contract to include additional filling of a low area outside the containment berm using approximately 7,500 CY taken from within the CDF. A total of \$602,441 was expended to rebuild 54 linear feet (two sides) of the East Breakwater utilizing government plant and hired labor. This work included 720 tons of concrete armor block and 370 tons of core stone used in the breakwall construction. A total of \$44,457 was expended to remove debris that has accumulated in the harbor utilizing government plant and hired labor. The work is required to allow the safe passage of commercial and recreational harbor traffic. Dredging cost \$689,005 [Omnibus \$667,997/Stimulus Funds (ARRA) \$21,008], of which the contract cost was \$1,083,900, to remove 156,000 cubic yards of shoaled material from the Federal channel [All dredging completed in the River Channel between Station 143+47 and 40+00]. All dredging was completed to the authorized depth.

14. OAK ORCHARD, NY

Location. On south shore of Lake Ontario, at mouth of Oak Orchard Creek, 33 miles westerly of Rochester, NY. (See NOAA Nautical Chart 14805.)

Previous project. For details see pg. 628 of Annual Report for 1905.

Existing project. For description of completed existing project see pg. 32-14 of 1975 Annual Report. Actual Federal cost for completed project was \$1,613,500. Estimated non-Federal cost is \$270,000 (Jul 1971) including cash contribution of \$170,700 and \$54,002 for recreational facilities and remainder for lands and construction of wharf. Existing project was authorized by the 1945 River and Harbor Act (H. Doc. 446, 78th Cong., 2nd sess.).

Local cooperation. Fully complied with. Local interests contributed \$224,702.

Terminal facilities. There is no commercial navigation at Oak Orchard Harbor. Terminal facilities consist of private docks for recreational craft.

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

15. OLCOTT HARBOR, NY

Location. On south shore of Lake Ontario at mouth of Eighteen Mile Creek about 18 miles east of mouth of Niagara River and 63 miles by water west of Rochester, N.Y. (See NOAA Nautical Chart 14806.)

Previous project. For details see page 1971 of Annual Report for 1915 and page 1621 of Annual Report for 1938.

Existing project. For description see page 1555 of Annual Report for 1962. Cost of new work for completed project was \$1,500 exclusive of amount expended on previous projects, all of which was contributed by local interests. (See Table 20-B for authorizing legislation.) The authorized modification to the existing project consists of breakwaters to provide optimum harbor protection a stone jetty and recreational fishing facilities including a footbridge, walkways and guardrails, access facilities, sanitary facilities and parking areas. The estimated cost of the authorized modification is \$17,000,000 (Oct. 1990) of which \$8,500,000 is Federal and \$8,500,000 is non-Federal. Modification of the existing project was authorized by the 1986 Water Resources Development Act (WRDA) (PL 99-662).

Local cooperation. Fully complied with for completed project. Local interests contributed \$1,500. Modifications authorized by the 1986 WRDA will require local interests to pay 50% of project cost including lands easements, right-of-way and dredge disposal areas. They are also responsible for construction of necessary docks and berthing spaces, construction of launching ramp, parking areas, sanitary facilities, and necessary access roads. After construction, non-Federal responsibilities would include fishing facility maintenance, except for the aids to navigation.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

16. OSWEGO HARBOR, NY

Locations. On South shore of Lake Ontario, at mouth of Oswego River, 59 miles easterly from Rochester, NY. (See NOAA Nautical Chart 14813.)

Previous projects. For details see pg. 1973 of Annual Report for 1915, and pg. 1630 of Annual Report for 1938.

Existing project. For description see pgs. 1383-84 of the Annual Report for 1963. Completed portion of project cost \$7,242,039 and non-Federal costs for completed work were \$4,440,000 for lands, dockside dredging, construction of terminal wharves, and cargo handling facilities. Deepening a 200-foot wide strip along harbor line east of mouth of Oswego River, remaining feature of work authorized by the 1930 Act, was de-authorized Jan 1, 1990. Deepening to 22 feet a 150-foot wide strip along harbor line in west outer harbor, remaining feature of work authorized by 1940 Act, was de-authorized in May 1981. The portion of the Federal Channel from the southernmost alignment of the Route 68 Bridge upstream to the northernmost alignment of Lake Street Bridge authorized by the 1910 R&H Act as amended by the 1935 R&H Act was de-authorized Oct 96. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. There are seven piers and wharves in the harbor and along the river channel. The Port of Oswego owns and operates a general cargo terminal at the mouth of the Oswego River. The Port Authority also operates a grain elevator west of the mouth of the river. The U.S. Coast Guard moors patrol and environmental research vessels west of the mouth of the river.

Operations and results during fiscal year.

Maintenance: Finalization of the FY08 Maintenance Dredging contract cost \$12,626. All dredging was completed to the authorized depth

17. OTTAWA RIVER, MI & OH

Location. At westerly end of Lake Erie, at Toledo, OH 99 miles westerly from Cleveland, OH (See NOAA Nautical Chart 14847).

Existing project. The project was found to have benefits which are 100% recreational in nature. Therefore, it has a low national priority for budgetary purposes and was not funded in FY06. A public hearing was held on 12 April 2005 by Ohio Environmental Protection Agency on the Corps' application for a Section 401 Water Quality Certification and there was tremendous local support. Since more than one year elapsed without a response from the State of Ohio, the Corps considered the request for certification to be waived. The Michigan Department of Environmental Quality expressed their opposition to the project for environmental reasons. Ongoing work included coordination with the Ottawa River Remediation Team and interested members of Congress. The project, originally authorized under

provisions of Section 201 of the Rivers & Harbors Act, (PL 89-298) by the House and Senate Committees on Public Works Resolutions, dated December 15 and 17, 1970, respectively, was continued by the 1990 Water Resources Development Act (PL 101-640).

Local cooperation. The potential local sponsor is the city of Toledo, OH. The local sponsor must provide 50% of the total project cost that includes lands, easements, rights-of-way, and relocations.

Operations and results during fiscal year. No funds were appropriated or spent during FY09.

18. PORT CLINTON HARBOR, OH

Location. Comprises lower half-mile of Portage River. River empties into Lake Erie 72 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14820.)

Existing project. Provides for parallel jetties at river mouth and a channel in Lake Erie and Portage River with a project depth of 10 feet. For additional details, see pg. 1899 of Annual Report for 1951. (See Table 20-B for authorizing legislation.)

Terminal facilities. A total of 11 docks exist; one public fish dock, one private sand dock, one private fuel dock, one lumber dock, one coal dock and five private docks. The village of Port Clinton owns a dock at the foot of Madison Avenue that is open to the public. A shipyard builds small boats. Terminal facilities are adequate for existing commerce.

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

19. ROCHESTER HARBOR, NY

Location. On south shore of Lake Ontario, at mouth of Genesee River, 59 miles westerly from Oswego, NY. (See NOAA Nautical Chart 14815.)

Previous project. For details see pg. 1471 of Annual Report for 1915, and pg. 1623 of Annual Report for 1938.

Existing project. For description see pg. 1556 of Annual Report for 1962. Actual cost for new work for completed project is \$2,191,514. Non-Federal costs are estimated at \$2,260,000, all for 1960 Act, for lands, relocation of submarine cable crossing, relocations of small docks and boathouses, dockside dredging, structure modifications, and replacement of Baltimore & OH coal loader. (See Table 20-B for authorizing legislation.)

Local cooperation. Complied with except provision for replacement of coal loading facility as required by River and Harbor Act of Jul 14, 1960.

Terminal facilities. There are 3 docks at Rochester Harbor. The city of Rochester owns an 830-foot long wharf at the entrance to the Genesee River. Three storage buildings at the terminal, formerly used as transit sheds, have approximately 100,000 square feet of storage space. Approximately 3 acres of open storage area is located at the upper end of the facility. The facility has not been used for handling cargo for over 10 years. The U.S. Coast Guard moors search and rescue vessels at the mouth of the Genesee River. Another private facility is located 1.6 miles above the Stutson Street Bridge.

Operations and results during fiscal year.
Operations: Public Visitation Tracking cost \$12,298 to research and develop a plan to survey and purchase equipment to track public visitation, and expended \$35,000 to perform Project Condition Surveys.
Maintenance: Maintenance Dredging cost \$1,288,106 (contract cost \$949,463 to remove 153,325 cubic yards of shoaled material from the Federal channel [Dredging completed throughout the Federal Channel (Station 201+00) to the lake]. Completed repairs to the West Pier at a cost of \$131,689. Work performed consisted of a variety of structural and public safety improvements, including installation of 11,248 feet of new cable handrail and straightening of 6 metal posts, replacing damaged grab bars at 21 egress ladders with new low-profile bars, filling concrete voids at outer edges of the pier, repairing 800 square feet of deck concrete patch under warranty from 2008 and installing 500 square feet of new patch to provide a smoother walking surface, painting all West (and East) Pier egress ladders, removing tripping hazards throughout the pier, cleaning and sealing concrete joints, and installing permanent project ID signs at the entrance to the pier.

20. ROCKY RIVER, OH

Location. At mouth the of the Rocky River which empties into Lake Erie seven miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14826.)

Existing project. For description see pg. 1329 of Annual Report for 1966. Federal cost for completed project was \$343,494 and non-Federal cost was a cash contribution of \$249,346. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with. Local interests contributed \$249,346 for new work.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft.

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

21. SANDUSKY HARBOR, OH

Location. On south shore of Lake Erie, in southeastern portion of Sandusky Bay, 50 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14845.)

Previous project. For description see pgs. 1511-12 of Annual Report for 1962. Actual costs for new work for completed project were \$6,250,121, excluding \$325,000 contributed by local interests. Non-Federal costs for completed project are estimated at \$675,000, including \$325,000 cash contribution and the remaining \$350,000 is for dockside dredging adjacent to deepening channels authorized by 1960 Act. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with. Local interests contributed \$325,000 for new work.

Terminal facilities. Fourteen piers and wharves, three at west end of harbor and remainder along dock channel. One is a base for state-owned fish research and patrol boats. One publicly owned and six privately owned used for mooring fishing boats and recreational craft and for ferry service. Five terminals have railroad connections and five mechanical-handling facilities. Facilities are considered adequate for existing commerce. (See Port Series No. 42, revised 1972, Corps of Engineers.)

Operations and results during fiscal year.

Maintenance: Dredging cost \$2,044,344 [Omnibus \$960,574/Stimulus Funds (ARRA) \$1,083,770], of which the contract cost was \$999,998 to remove 119,617 cubic yards of shoaled material from the Federal channel [All dredging performed in the Upper Bay Channel]. All dredging was completed to the authorized depth.

22. STURGEON POINT, NY

Location. On south shore of Lake Erie, 17 miles southwest of Buffalo, NY and 22 miles northeast of Dunkirk, NY. (See Geological Survey map of Angola, NY.)

Existing project. For description of existing project, see pg. 20-11 of Annual Report for 1991. Federal project cost is \$ 1,460,000. Non-Federal project cost is \$1,475,000. In addition, the local sponsor provided associated costs for upland development of \$1,000,000.

Local cooperation. The Buffalo District has a properly executed Local Cooperation Agreement with the Town of Evans, NY, signed Oct 26, 1987.

Operations and results during fiscal year.

There were no Operations or Maintenance activities conducted in the harbor this FY.

23. TOLEDO HARBOR, OH

Location. Comprises lower seven miles of Maumee River and channel through Maumee Bay to Lake Erie. Maumee River has its source in northern Indiana and empties into Lake Erie. Harbor is at the westerly end of Lake Erie, 99 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14847.)

Previous projects. For details see pg. 1959 of Annual Report for 1915, and pg. 1565 of Annual Report for 1938.

Existing project. For description of existing project see pgs. 32-18 and 32-19 of the Annual Report for 1978. Cost of completed existing project was \$15,567,147. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Thirty-five piers, wharves and docks are located in the Port of Toledo. Seven are located on Maumee River; and 28 are equally divided along the right and left banks of the lower seven miles of the Maumee River. The Toledo-Lucas County Port Authority Facility No. 1 Wharf handles conventional and containerized general cargo as well as an increasing amount of miscellaneous bulk materials. Fifteen of the terminals have railroad connections and mechanical handling facilities. (See Port Series No. 44, revised 1989, U.S. Army Corps of Engineers.)

Operations and results during fiscal year.

Operations: Expended \$125,000 to perform Project Condition Surveys. Maintenance: Dredging cost \$2,232,236 to remove 539,000 cubic yards of shoaled material from the Maumee Bay [All dredging performed in the Lake Approach Channel between Station 400+00 and 664+00]. Dredging of the Maumee River cost \$1,727,682 [Omnibus \$1,078,079/Stimulus Funds (ARRA) \$649,603], of which the contract cost was \$1,479,600 to remove 181,000 cubic yards of shoaled material from the Federal channel [All dredging performed in the Lake Approach Channel between Station 600+00 and 810+00]. All dredging was completed to the authorized depth. Expended \$109,513 in Stimulus Funds (ARRA) on Fill Management Activities. Efforts included preparing a scope of work and awarding a contract for trenching to dry out Confined Disposal Facility #3 to increase capacity for dredged material, repair of gravel roads, clearing of vegetation

and a survey to determine remaining capacity of the confined disposal facility. Contractor mobilized to the site, and contract work is scheduled for completion by 30 November 2009.

24. TOUSSAINT RIVER, OH

Location. At westerly end of Lake Erie, 8 miles west of Port Clinton and 22 miles east of Toledo, Ohio. (See NOAA Nautical Chart 14847.)

Existing project. For description of existing project, pg 20-12 of Annual Report for 1991. (See Table 20-B for authorizing legislation.) Project is deferred due to discovery of unexploded ordnance in the dredging area.

Local cooperation. The Buffalo District has a properly executed Local Cooperation Agreement with Carroll Township, OH, signed Apr 3, 1991.

Operations and results during fiscal year. There were no Operations or Maintenance activities conducted in the harbor this FY.

25. VERMILION HARBOR, OH

Location. On south shore of Lake Erie at mouth of Vermilion River, 37 miles westerly from Cleveland, OH. (See NOAA Nautical Chart 14826.)

Existing project. For description of existing project see pgs. 32-17 and 32-18 of the Annual Report for 1975. Actual Federal cost for the completed existing project was \$1,156,118. Estimated non-Federal cost for new work is \$754,679 including cash contribution of \$740,679 and remainder for relocation of submarine cable and construction of public wharf. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with. Local interests contributed \$740,679.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft. A reconnaissance study to alleviate the ice-jam and free-flow flooding of the river was completed in 1986 at a cost of \$180,000. The proposed project was an ice-retention structure. The non-Federal sponsor did not commit to provide its total share of the cost of the feasibility study; the project was therefore reclassified as "inactive".

Operations and results during fiscal year.

Maintenance: A total of \$21,000 was expended for a dive inspection and survey work in preparation for structure repair activities in FY10.

26. WEST HARBOR, OH

Location. On the southwest shore of Lake Erie, 13 miles northeast of Port Clinton, OH. (See NOAA Nautical Chart 14847.)

Existing project. For description of existing project, see pg. 32-10 of Annual Report for 1983. Total Federal cost for new work was \$3,303,898. Total non-Federal cost for new work was \$3,922,000 including cash contribution of \$3,795,000. Existing project was authorized by 1965 River and Harbor Act (H. Doc. 245, 88th Cong., 2nd sess.).

Local cooperation. See pg. 32-20 of 1978 Annual Report for requirements of local cooperation. By letter dated Jan 31, 1978, state of OH stated its intent to furnish assurances of local cooperation, and executed LCA was received on Mar 9, 1981.

Terminal facilities. Commerce at the harbor presently consists of recreational boating and affiliated activities.

Operations and results during fiscal year. There were no Operations or Maintenance activities conducted in the harbor this FY.

27. WILSON HARBOR, NY

Location. At mouth of east branch of Twelve-Mile Creek, which enters Lake Ontario 12 miles easterly of mouth of Niagara River, and 67 miles westerly of Rochester Harbor, NY. (See NOAA Nautical Chart 14806.)

Previous projects. For details see pg. 2395 of Annual Report for 1889, and pg. 628 of Annual Report for 1905.

Existing project. For description of existing project see pg. 32-18 of Annual Report for 1975. Actual Federal cost for completed existing project was \$477,904. Estimated non-Federal costs are \$774,000 that includes cost of \$16,000 for previously completed work. Remainder of non-Federal costs is for work required for 1968 R&H Act including cash contribution of \$166,988. (See Table 20-B for authorizing legislation.)

Local cooperation. Fully complied with.

Terminal facilities. Facilities consist of private docks for recreational craft and privately owned servicing and storage handling facilities for recreational and other small craft. Facilities are considered adequate for existing commerce.

Operations and results during fiscal year. There were no Operations or Maintenance activities conducted in the harbor this FY.

28. PROJECT CONDITION SURVEYS: NY, OH & PA

The Buffalo District crew cost \$601,585 in FY09 to perform hydrographic and topographic surveys in the following commercial and recreational harbors on Lakes Erie and Ontario in the states of New York, Ohio and Pennsylvania.

<u>Project</u>	<u>Date of Survey</u>
Barcelona	November 2008
Black Rock	May and Sept 2009
Buffalo Harbor	June and July 2009
Cattaraugus Creek	August 2009
Dunkirk Harbor	April 2009
Great Sodus Bay	Dec 2008
Little Sodus Bay	April and May 2009
Oak Orchard Harbor	Nov 2008
Ogdensburg Harbor	Nov 2008
Olcott Harbor	Nov 2008
Oswego Harbor	April 2009
Wilson Harbor	Nov 2008
Conneaut	December 2008
Cooley Canal	October 2008
Cuyahoga River	March and May 2009
Lorain Harbor	March 2009
Port Clinton	Oct 2008
Put-in-Bay	August 2009
Port Ontario	May 2009
Rocky River	Oct and Dec 2008
Sandusky Harbor	June and July 2009
Toussaint River	Oct 2008
Vermilion Harbor	March and July 2009
West Harbor	Oct 2008
Erie Harbor	August 2009
Ogdensburg	November 2008

Surveys provide data that is used to compare authorized depth of Federal navigation channels and the design of navigation infrastructure, such as locks, breakwater, piers and jetties, to actual current conditions. In addition they are also used to communicate the condition of Federal channels to navigation interests and determine maintenance requirements.

29. GREAT LAKES SEDIMENT TRANSPORT MODEL PROGRAM

The ultimate goal of the Great Lakes Tributary Modeling Program is to support state and local measures that will reduce the loading of sediments and pollutants to navigation channels and Area of Concerns, and thereby reduce costs for navigation maintenance and promote the restoration of

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beneficial uses. FY09 activities are broken out as follows:

Blanchard River.....	138,772
Coordination Account.....	84,467
Genesee River.....	49,961
NOAA Lake Erie Partnership.....	59,915
Oak Orchard.....	56,545
Swan Creek.....	-1,899
Total GLSTMP.....	\$387,761

NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

30. NEW YORK STATE CANAL SYSTEM

Location. The New York State Canal System runs primarily east-west through New York State. It consists of four components: Erie Canal, Oswego Canal, Cayuga/Seneca Canal, and Champlain Canal.

Existing Project. Reimburse the state of New York 50% of non-Federal operation, maintenance and rehabilitation costs as well as make capital improvements. Sec. 1105, WRDA 1986 and Sec. 553, WRDA 1996 and Sec 341, WRDA 1999 authorized the existing project.

Local Cooperation. Fully complied with.

Terminal Facilities. Numerous piers, wharves and locks used for recreational craft.

Operations and Results during fiscal year. No funds were appropriated or spent during FY09.

SHORE PROTECTION

31. PRESQUE ISLE PENINSULA, ERIE, PA

Location. At Erie, PA, on south shore of Lake Erie, 78 miles southwest of Buffalo, NY and 102 miles east-northeast of Cleveland, OH. (See NOAA Nautical Charts 14824 and 14835.)

Existing Project. For description of completed portion of existing project see pg. 1393 of Annual Report for 1963. For details of project authorized by the 1974 Water Resources Development Act (WRDA), 1976 WRDA and 1986 WRDA, see pg. 32-14 of Annual Report for FY 87. Actual Federal cost for the authorized beach nourishment project modifications through FY 92 is \$16,879,000 which includes \$5,646,000 for completed work authorized by the 1954 and 1960 R&H Acts and 1974 WRDA Act and \$11,233,000 for completed work authorized by the 1976 WRDA Act. Actual non-Federal cost for the authorized project and modifications through FY 92 is \$8,798,000 which includes \$3,983,000 for completed work authorized by 1954 and 1960 R&H

Acts and 1974 WRDA Act and \$4,815,000 for completed work authorized by the 1976 WRDA Act. Beach nourishment as authorized by the 1976 WRDA was completed in FY 91. The estimated Federal cost (June 2003) for the 55 breakwaters project is \$56,310,000. This estimate includes \$13,435,000 for the initial construction and \$42,875,000 for 50 years of post-construction beach nourishment. The estimated non-Federal cost for the breakwater project is also \$56,310,000. (See Table 20-B for authorizing legislation.)

Local Cooperation. Fully complied with for completed project as authorized by 1954 and 1960 R&H Acts and 1974 WRDA Act. An agreement between the United States of America and the Commonwealth of Pennsylvania, acting through the Department of Environmental Resources was entered into on Feb 21, 1979 for the annual nourishment which was extended by the 1976 WRDA Act.

Operations and Results during fiscal year.

New Work: Work performed in FY09 included activities necessary to meet project goals of controlling coastal erosion throughout the Presque Isle Peninsula, and promoting the continued growth of a critical habitat for endangered species. Specifically, work in FY09 included general engineering support, site inspections, coordination of site activities with regulatory agencies (US Fish and Wildlife Service), and the design, bidding, administration and oversight of a sand placement contract designed to nourish eroded beaches/shoreline. The sand placement contract included the placement of 3,830 cubic yards of stockpiled sand, the purchase and placement of 3,462 cubic yards of sand, the relocation (excavation and placement) of 18,315 cubic yards of sand from areas within the peninsula, and stockpiling of an additional 9,932 tons of sand for future nourishment. Project costs are shared 50/50 with a local cost share sponsor. The Federal costs or FY09 were \$951,346. The non-Federal costs or FY09 were \$903,907.

FLOOD CONTROL

32. MT. MORRIS LAKE, GENESEE RIVER, NY

Location. Dam is on Genesee River 66.9 miles above river mouth and about 32 miles southwesterly of Rochester, NY. Reservoir is in Livingston and Wyoming Counties, NY. (See Ecological Survey maps of Nunda and Portage, NY).

Existing Project. For description of existing project, as authorized by 1944 Flood Control Act, see pg. 1575 of Annual Report for 1962. New work for

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completed project cost \$23,365,559. In addition, \$5,000 contributed funds were expended for new work.

Local Cooperation. None required. Local interests contributed \$5,000 for new work.

Operations and results during fiscal year.

Operations: Federal funds for the Operation of the Dam, Reservoir and Service facilities were expended by hired labor resulting in a cost of \$670,287 with an additional \$7,271 for facility security operations. Cost for Environmental Management System Maintenance and Improvement was \$14,331. Cost for Cooperative Stream Gauging Program was \$179,117 with an additional cost of \$223,421 for Water Control Management and \$6,358 for watershed calibration. Seismic Instrumentation Support cost \$12,997. Cost to review and maintain the Flood Emergency Action Plan totaled \$39,581. An environmental compliance site assessment was performed at a cost of \$96,042. Cost for Operation of the Visitor Center and Recreation Facilities totaled \$184,087. Upgrades to the Interpretive Exhibits were made at a cost \$42,384. Compliance with National Historic Preservation Act requirements cost \$32,407. Data Collection Platforms cost \$37,320. The Dam Safety Program cost \$75,006. Maintenance: Cost for Debris Removal at the face of the Dam to insure that debris would not block the culverts in the dam and/or prevent culvert gate closing to continue to provide flood damage reduction totaled \$272,107. Construction of the South Training Wall revetment was performed at a cost of \$442,884. The construction included the removal of debris, trees, and brush from the south training wall. Maintenance and Repair of the Dam, Recreation Features and Facility Security Maintenance cost \$608,153. Boundary monumentation was placed at a cost of \$12,123. A Hydraulic Replacement Study, started in FY06, awarded construction of Phase II work in order to provide remote operation of the slide gates. Engineering & Design plus project management costs were \$54,948. Construction is scheduled for FY10. Instrumentation to improve the collection of data regarding the stability of the dam and also automate the data collection and make it available electronically was performed at a cost of \$96,466. The portion of the debris retention boom upstream of the on the south slope was replaced at a cost of \$35,956 with replacement of the northern portion scheduled for FY10. The main operating cylinders for the slide gates were inspected and repairs made at a cost of \$55,287. Engineering studies were performed to analyze the Slope Stability of the Service Road for the dam at a cost of \$21,148 and to study Sediment Transport and develop an updated Capacity Curve for the impoundment area of the dam

at a cost of \$100,838. The Operations & Maintenance manual was updated to include new features at a cost of \$18,402.

Expended \$215,769 in Stimulus Funds (ARRA) for Debris Removal. This allowed for the clearing of an ongoing maintenance backlog need for removing floating debris and the buildup of silt from the front of the dam to design conditions. This work is done in order to prevent the blockage of the culverts that allow water to pass through the dam. Expended \$27,255 in Stimulus Funds (ARRA) for surveying, planning and design for the Partner Road portion of the overall access road improvements at Mt. Morris Dam, with construction to take place in Spring/Summer 2010.

33. SURVEILLANCE OF NORTHERN BOUNDARY WATERS: NY, OH & PA

Cost for providing consulting engineering services to the following International Joint Commission Boards and Committees: International St. Lawrence River Board of Control, it's Working Committee and its Operations Advisory Group; International St. Lawrence River Committee on River Gauging; International Niagara River Board of Control and its Working Committee; and International Niagara Committee totaled \$740,711 for FY09. Buffalo District also supports the Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data, and the International Lake Ontario-St. Lawrence Study.

ENVIRONMENTAL RESTORATION

34. OHIO AND NORTH DAKOTA ENVIRONMENTAL INFRASTRUCTURE

Location. The program is applicable to the entire state of Ohio and falls within the Buffalo District boundary and includes at present, a total of 22 project sites. These sites are Concord (05), Jenera (05), Benton Ridge (06), Cuyahoga River-Green Bulkheads Design (06), Cuyahoga River – Green Bulkheads – Construction (06), Elyria (06), Lake County (06), Summit County (06), Defiance County (08), Euclid Creek (08), Painesville (08), Put-in-Bay (08), Stow (08), Fremont (09), Toledo (09), East Banks (09), Austinburg (09), Thompson (09), Streetsboro (09), Madison-Lake County (09), Brunswick (09), and Cuyahoga 2 (09). During 2009, five projects were completed (Benton Ridge, Jenera, Cuyahoga-Design, Elyria, and Fulton County).

Existing Project. The Ohio Environmental Infrastructure Program was authorized under Section 594 of Water Resources Development Act of 1999

(PL 106-53) for the purpose of providing Federal assistance for design and/or construction of water related environmental infrastructure, resource protection and development projects. Projects implemented as parts of this program typically address combined sewer overflows, sewer treatment plants and sewer line extensions. In FY09, the Federal cost was approximately \$2,892,111(75%) and the non-Federal share was approximately \$723,028(25%).

Local Cooperation. The projects are cost-shared 75% Federal and 25% non-Federal. The current authorized Federal appropriation limit is \$240 million.

Operations and results during fiscal year. Ongoing: Project management for five design (Cuyahoga River-Green Bulkheads, Elyria, Fremont, Toledo and East Banks), two construction projects (Cuyahoga River-Green Bulkheads and Defiance County), and 15 design/construction projects (Benton Ridge, Concord Township, Euclid Creek, Jenera, Lake County, Painesville, Put-in-Bay, Stow, Summit County, Austinburg, Thompson, Streetsboro, Cuyahoga 2, Madison-Lake County, and Brunswick). The total expenditures in FY09 were \$1,636,085.

35. ONONDAGA LAKE, NY

Location. The project area is located in the Onondaga Lake watershed in Onondaga County, NY and includes the city of Syracuse. Onondaga Lake is part of the Oswego River basin, which is tributary to Lake Ontario. It is also part of the New York State Canal System.

Existing Project. The Onondaga Lake Partnership project (OLP) involves two major efforts: a) USACE leadership of the OLP and watershed-scale planning through General Investigation (GI) appropriations and b) USACE implementation of cost-shared planning, design and construction projects and grants in the Onondaga Lake watershed through Construction General (CG) appropriations. Projects implemented as part of this program typically address combined sewer overflows (CSOs), hydrogeology, habitat restoration, non-point source pollution, and related water resource impairments. The total project cost for USACE leadership of the OLP and completion of a comprehensive watershed study through General Investigation appropriations is estimated to be \$7.6 million, which is 100 percent Federal expense. The total project cost for planning, design and construction of cost-shared OLP projects and grants through Construction General appropriations is estimated to be \$32.0 million, with the Federal costs anticipated to be \$22.4 million

(70%) and the non-Federal share of \$9.6 million (30%).

Local Cooperation. The Construction General projects are cost-shared 70% Federal and 30% non-Federal. The current authorized Federal appropriation limit is \$30 million.

Operations and results during fiscal year. Ongoing: USACE leadership and program management of the Onondaga Lake Partnership and Onondaga Lake watershed study cost \$414,112 (Federal), including \$2,183 in ARRA funds for development of a 2009 State of Onondaga Lake report and the Onondaga Lake Watershed Progress Assessment and Action Strategies Supplement. Project Management and grant reimbursements for five cost share projects cost a total of \$3,216,375. Total Federal expenditures were \$411,929 (GI), \$2,183 (GI ARRA), and \$3,216,375 (CG).

36. GREAT LAKES FISHERY & ECOSYSTEM RESTORATION

Location. The program is applicable to the Great Lakes basin; specifically Lake Superior, Lake Michigan, Lake Huron (including Lake St. Clair), Lake Erie, Lake Ontario (including the St. Lawrence River to the 45th parallel of latitude), connecting channels, and historically connected tributaries. Lakes Erie, Ontario and the Niagara and St. Lawrence rivers are generally within the Buffalo District boundary. Projects within the Buffalo District include Cattaraugus Creek, NY; Chautauqua Creek, NY; Ballville Dam, OH; Irondequoit Creek, NY; Harpersfield Dam, Grand River, OH; and Conneaut Creek, PA.

Existing Project. The Great Lakes Fisheries and Ecosystem Restoration program is authorized under Section 506 of Water Resources Development Act of 2000 (PL 106-541, 114 STAT. 2645) for the purpose of a variety of ecosystem restoration projects including riparian habitat and wetland restoration, dam removal to reestablish free flowing tributaries, construction of fish passage over existing structures, improving spawning and nursery habitat, erosion and sedimentation control, and construction of facilities to preserve historic fish stocks.

Local Cooperation. The projects are cost-shared 65% Federal and 35% non-Federal. The current authorized Federal appropriation limit is \$100 million.

Operations and results during fiscal year. Continued feasibility studies at Cattaraugus Creek, NY and Ballville Dam, OH; initiated new projects at Conneaut Creek, PA, Irondequoit Creek, NY, and Grand River, OH; completed planning and design activities for Chautauqua Creek, NY; total FY09

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Expenditures \$177,462. Estimate construction of Chautauqua Creek project in FY10.

Operations and results during fiscal year. Completion of Preliminary Restoration Plans and initiated feasibility studies for Cattaraugus Creek, NY, Chautauqua Creek, NY, and Ballville Dam, OH, at a cost of \$162,805.

MISCELLANEOUS

37. NATIONAL EMERGENCY PREPAREDNESS PROGRAM (NEPP)

Local Preparedness.....	\$ 21,284
National Emergency Facilities.....	\$281
Total NEPP.....	\$21,565

38. REGULATORY FUNCTIONS PROGRAM

Permit Evaluation.....	\$3,538,774
Enforcement.....	446,064
Administrative Appeals.....	2,282
Compliance.....	490,186
Total Regulatory.....	\$4,477,306

39. FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

Buffalo District began work in FUSRAP in October 1997 when Congress transferred this Program from the Department of Energy (DOE) to the Corps. Total Omnibus FUSRAP expenditures for FY09 were \$28,217,543. Total ARRA expenditures for FY09 were \$131,459. The accomplishments for these sites are briefly stated in the following paragraphs.

Niagara Falls Storage Site, Lewiston, NY – FY09 Omnibus funds were used to continue the Remedial Investigation (RI) Addendum and Feasibility Study (FS), continue the site maintenance, monitoring, and security program, and continue environmental outreach and public participation activities with local stakeholders. In addition, these funds were used to prepare scopes of work and independent government estimates for Records Management, Demolition of Building 401, and Security upgrade contracts. Total FY09 expenditures were \$2,885,174.

Rattlesnake Creek (Ashland 1), Tonawanda, NY Responsibility for the Ashland sites was assumed by the US Department of Energy in 2008. Total FY09 expenditures were \$4,739.

Linde Site, Tonawanda, NY – FY09 Omnibus funds were used to continue the Soils Operable Unit

Remedial Action (RA), prepare a Scope of Work (SOW), Government Estimate, and award a delivery order to a Buffalo District Multiple Awards Remedial Action Contractor (MARC) for remediation of the balance of contaminated materials at the site. Total FY09 expenditures were \$19,212,483.

Seaway Industrial Park, Tonawanda, NY – FY09 funds were used to complete a statistical analysis of potential cost and schedule risks and impacts to the site cleanup, and complete the Record of Decision (ROD), which documented the final Selected Remedy for the site. Total FY09 expenditures were \$270,935

Tonawanda Landfill, Tonawanda, NY – FY09 funds were used to complete the scope of work and award the contract for additional sampling in the Tonawanda Landfill Operable Unit (OU). Funds for the additional sampling were provided by the American Recovery and Reinvestment Act of 2009 (ARRA). Total Omnibus FY09 expenditures were \$385,472. Total FY09 ARRA expenditures were \$38,657.

Luckey Site, Luckey, OH – FY 2009 funds were used to initiate the remedial design, conduct annual groundwater sampling and reporting, and prepare work plans to investigate remediation soil volumes. Funds for field investigations were provided by the American Recovery and Reinvestment Act of 2009. Total Omnibus FY09 expenditures were \$501,956. Total FY09 ARRA expenditures were \$92,802.

Painesville Site, Painesville, OH – FY09 funds were used to transport and dispose of stockpiled contaminated soil from the site, conduct volume uncertainty sampling, update the contaminated soil volume estimate, complete a statistical analysis of potential cost and schedule risks and impacts to the site cleanup, and prepare the scope of work and award the contract for remaining site remediation. Funds for the site remediation were provided by the American Recovery and Reinvestment Act of 2009 (ARRA). Total Omnibus FY09 expenditures were \$2,864,946. Total FY09 ARRA expenditures were \$0.

Former Harshaw Chemical Co., Cleveland, OH – FY09 funds were used to complete the revised Remedial Investigation Report, draft a Proposed Plan for Investigation Area 06 (IA-06), scope and award an A/E contract for Feasibility Study services, and conduct annual groundwater sampling and testing. Total FY09 expenditures were \$1,300,548.

Scioto Laboratory Complex, Marion, OH – Funds were used to respond to Headquarters comments on the Preliminary Assessment. Total FY09 expenditures were \$1,974.

Guterl Specialty Steel Corp., Lockport, NY – Funds were used to develop the draft Remedial Investigation Report and perform annual groundwater monitoring. A scope of work for groundwater modeling and the Feasibility Study were drafted. Total FY09 expenditures were \$788,642.

Joslyn Manufacturing and Supply Site, Fort Wayne, IN – Joslyn Manufacturing and Supply Site, Fort Wayne, IN – FY09 funds were used by the Office of Counsel at the USACE Environment and Munitions Center of Expertise (EM CX) to coordinate with USACE HQ regarding the site's inclusion into FUSRAP, which occurred on July 22, 2009. Total FY09 expenditures were \$672.

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TABLE 20-A COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
NAVIGATION							
1. Ashtabula Harbor, OH	New Work Approp.						12,805,339 ¹
	New Work Cost						12,805,339 ¹
	Maint. Approp.	1,020,600	13,321,000	3,771,000	1,682,660		46,217,616
	Maint. Cost	1,004,870	2,845,719	14,246,400	1,558,173		46,075,921
	Rehab. Approp.						6,077,000
	Rehab. Cost						6,077,000
	(Contributed Funds)	New Work Contrib.					
	New Work Cost						128,349
2. Black Rock Channel Tonawanda Harbor, NY	New Work Approp.						11,135,120 ²
	New Work Cost						11,135,120 ²
	Maint. Approp.	1,252,000	972,545	1,265,000	3,613,080		83,895,810 ³
	Maint. Cost	1,242,898	979,430	1,117,409	1,672,656		81,812,360 ³
	(Contributed Funds)	New Work Contrib.					
	New Work Cost						620,000
3. Buffalo Harbor, NY	New Work Approp.						23,115,187 ⁴
	New Work Cost						23,115,187 ⁴
	Maint. Approp.	825,000	307,740	1,986,000	646,360		73,594,220 ⁵
	Maint. Cost	818,092	168,684	1,132,283	1,586,118		72,485,806 ⁵
	Rehab. Approp.						295,457
	Rehab. Cost.						295,457

¹ Includes \$565 for previous projects. Excludes \$47,000 contributed funds.

² Includes \$58,027 for previous projects.

³ Includes \$4,922 emergency relief authority administrative costs transferred for new work to maintenance upon conversion to programming & budgeting system Jul 1, 1953 by direction of Office, Chief of Engineers. Also includes appropriations & cost under appropriation titles 96X3123 Operations and Maintenance & 96X5125 Maintenance and Operation of Dams and Other Improvements of Navigable Waters.

⁴ Includes \$4,277,586 for previous projects. Excludes expenditures of \$239,305 for work authorized by Sec. 107.

⁵ Includes \$1,883,647 for previous projects. Excludes \$446,805 contributed funds.

TABLE 20-A(continued) COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
4. Cleveland Harbor, OH	New Work Approp.						36,550,299 ¹
	New Work Cost						36,550,299 ⁶
	Maint. Approp.	3,846,000	5,036,354	8,247,532	13,504,420		269,340,010 ²
	Maint. Cost	3,823,190	5,048,172	6,533,267	5,527,185		259,637,196 ⁷
	Rehab. Approp.						16,404,903
	Rehab. Cost						16,404,903
	(Contributed Funds)	New Work Contrib.					1,083,178
		New Work Cost					1,083,178
		Maint. Contrib.					7,750,725
		Maint. Cost					7,660,723
5. Conneaut Harbor, OH	New Work Approp.						8,346,641 ³
	New Work Cost						8,346,641 ¹
	Maint. Approp.	1,463,000	720,492	777,000	303,500		20,643,658 ⁴
	Maint. Cost	1,462,432	675,483	806,175	318,927		20,642,685 ²
	Rehab. Approp.						651,850
	Rehab. Cost						651,850
6. Dunkirk Harbor, NY	New Work Approp.						3,010,024 ⁵
	New Work Cost						3,010,024 ³
	Maint. Approp.			3,000		1,188,480	7,877,520
	Maint. Cost			3,000		280,050	6,969,089
	Rehab. Approp.						1,950,000 ⁶
	Rehab. Cost						1,950,000 ⁴
7. Erie Harbor, PA	New Work Approp.						3,597,873 ⁷
	New Work Cost						3,597,873 ⁵
	Maint. Approp.			3,000			24,259,466 ⁸
	Maint. Cost			3,112			24,259,577 ⁶
	Rehab. Approp.						1,154
	Rehab. Cost						1,154

¹ Includes \$1,564,154 for previous projects. & appropriation & cost of \$16,596 for modification authorized for construction under authority of Sec. 107, 1960 R&H Act.

² Includes appropriations & cost under appropriation titles 96X3123 Operations and Maintenance & 96X5125 Maintenance and Operations of Dams and Other Improvements of Navigable Waters. Excludes \$201,960 contributed funds.

³ Includes \$805,272 for previous projects.

⁴ Includes \$39,784 for previous projects.

⁵ Includes \$811,250 for previous projects. Excludes \$11,000 contributed funds.

⁶ Includes \$176,520 for previous projects.

⁷ Includes \$736,967 for previous projects.

⁸ Includes \$104,900 for previous projects. Excludes \$154,500 contributed funds.

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TABLE 20-A(continued) COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
8. Fairport Harbor, NY	New Work Approp.						2,959,611 ¹
	New Work Cost						2,959,611 ⁷
	Maint. Approp.			65,612	952,000	2,833,380	33,793,956
	Maint. Cost		501	66,094	808,721	2,840,186	33,557,483
29. Great Lakes Sediment Transport Model	New Work Approp.						
	New Work Cost						
	Maint. Approp.						
	Maint. Cost		283,000	350,000	370,000	323,400	1,646,400
	Rehab. Approp.		278,959	331,440	342,526	387,762	1,630,865
	Rehab. Cost						
	New Work Approp.						
9. Great Sodus Bay Harbor, NY	New Work Cost						
	Maint. Approp.						3,773,288
	Maint. Cost						3,773,288
	Rehab. Approp.						
	Rehab. Cost						
10. Huron Harbor, OH	New Work Approp.						5,103,795 ²
	New Work Cost						5,103,795 ¹
	Maint. Approp.		94,000	105,846	1,388,000	2,637,900	30,516,137
	Maint. Cost		93,270	106,657	1,060,977	904,141	27,394,377
	Rehab. Approp.						247,030
	Rehab. Cost						247,030
(Contributed Funds)	New Work Approp.						63,079
	New Work Cost						63,079
11. Irondequoit Bay, NY	New Work Approp.						3,535,651
	New Work Cost						3,535,651
	Maint. Approp.				394,000		1,440,495
	Maint. Cost				344,804	49,196	1,440,459
	Rehab. Approp.						
	Rehab. Cost						
12. Little Sodus Bay Harbor, NY	New Work Approp.						301,394
	New Work Cost						301,394 ²
	Maint. Approp.				9,000	301,840	6,386,432
	Maint. Cost				6,857	48,826	6,131,274

¹ Includes \$368,940 for previous projects.

² Includes \$269,789 for previous projects.

³ Includes \$232,328 for previous projects.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

TABLE 20-A(continued) COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
		Rehab. Approp.					742,822
		Rehab. Cost					742,822
13. Lorain Harbor, OH		New Work Approp.					22,240,670 ¹
		New Work Cost					22,240,670 ³
		Maint. Approp.	798,000	1,173,000	1,064,000	2,739,020	58,259,131
		Maint. Cost	797,681	1,162,440	1,049,527	1,641,567	57,136,230
	(Contributed Funds)	New Work Contrib.					845,551
		New Work Cost					845,551
14. Oak Orchard, NY		New Work Approp.					1,586,996 ²
		New Work Cost					1,586,996 ⁴
		Maint. Approp.					976,544
		Maint. Cost					976,545
15. Olcott Harbor, NY		New Work Approp.					2,025,210 ³
		New Work Cost					1,754,694 ¹
		Maint. Approp.					696,604 ⁴
		Maint. Cost					704,735 ²
		Rehab. Approp.					14,447 ⁵
		Rehab. Cost					14,477 ³
16. Oswego Harbor, NY		New Work Approp.					8,430,016 ⁶
		New Work Cost					8,430,016 ⁴
		Maint. Approp.		130,269	610,000		13,157,675 ⁷
		Maint. Cost	3,345	130,420	597,374	12,626	13,154,328 ⁵
		Rehab. Approp.					307,590
		Rehab. Cost					307,590
17. Ottawa River, MI & OH		New Work Approp.					670,000
		New Work Cost		18			604,715
18. Port Clinton Harbor, OH		New Work Approp.					
		New Work Cost					
		Maint. Approp.					1,391,454
		Maint. Cost		146			1,391,742

¹ Includes \$292,203 for new work for previous projects. Excludes \$3,000 contributed funds. Also excludes appropriation and cost of 29,570 under authority of Sec. 197, 1960 R&H Act.

² Excludes \$224,702 contributed funds.

³ Includes \$140,210 for previous projects. Excludes \$1,500 contributed funds.

⁴ Includes \$38,959 for previous projects. Excludes \$5,000 contributed funds.

⁵ Excludes \$186,000 Public Works Acceleration Act.

⁶ Includes \$1,187,977 for previous projects.

⁷ Includes \$945,684 for previous projects.

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TABLE 20-A(continued) COST AND FINANCIAL STATEMENT (Continued)

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
		Rehab. Approp.					
		Rehab. Cost					
Port Ontario, NY		New Work Approp.					2,369,621 ¹
		New Work Cost					2,368,989 ⁶
		Maint. Approp.					34,235
		Maint. Cost					34,235
	(Contributed Funds)	New Work Contrib.					1,361,335
		New Work Cost					1,361,335
19. Rochester Harbor, NY		New Work Approp.					2,439,308 ²
		New Work Cost					2,439,308 ⁷
		Maint. Approp.		63,685	1,486,000	1,460,200	29,219,671
		Maint. Cost		63,685	1,433,283	1,467,094	29,173,827
		Rehab. Approp.					-
		Rehab. Cost					-
20. Rocky River, OH		New Work Approp.					343,494
		New Work Cost					343,494
		Maint. Approp.					5,497,116
		Maint. Cost					5,482,237
21. Sandusky Harbor, OH		New Work Approp.					6,727,270 ³
		New Work Cost					6,727,270 ¹
		Maint. Approp.	787,000	21,977	1,121,000	1,100,000	30,076,237
		Maint. Cost	785,793	23,265	157,385	2,044,344	30,056,358
		Rehab. Approp.					675,606
		Rehab. Cost					675,606
	(Contributed Funds)	Maint. Contrib.					15,445
		Maint. Cost					15,445
22. Sturgeon Point, NY		New Work Approp.					1,718,700 ⁴
		New Work Cost					1,718,140 ²
		Maint. Approp.					180,792
		Maint. Cost	100				180,790

¹ Includes \$50,000 for previous projects.

² Includes \$247,794 for previous projects.

³ Includes \$477,149 for previous projects. Excludes \$325,000 contributed funds.

⁴ Excludes \$5,000 contributed funds.

REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2009

TABLE 20-A(continued) COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
	(Contributed Funds)	New Work Contrib.					1,299,008
		New Work Cost					1,299,008
23. Toledo Harbor, OH		New Work Approp.					17,191,842 ¹
		New Work Cost					17,191,842 ³
		Maint. Approp.	3,034,400	3,293,000	3,482,468	5,835,800	156,987,509
		Maint. Cost	2,814,216	3,065,581	3,910,609	4,194,431	152,326,643
24. Toussaint River, OH		Maint. Approp.					1,162,372
		Maint. Cost					1,189,370
	(Contributed Funds)	Maint. Contrib.					254,368
		Maint. Cost					254,367
25. Vermilion Harbor, OH		New Work Approp.					1,156,118 ²
		New Work Cost					1,156,118 ⁴
		Maint. Approp.				400,000	4,561,413
		Maint. Cost				21,000	4,182,413
		Rehab. Approp.					139,775
		Rehab. Cost					139,775
26. West Harbor, OH		New Work Approp.					3,303,898
		New Work Cost					3,303,863
		Maint. Approp.					2,358,250
		Maint. Cost					2,358,250
	(Contributed Funds)	New Work Contrib.					3,795,000
		New Work Cost					3,795,000
27. Wilson Harbor, NY		New Work Approp.					535,246 ³
		New Work Cost					535,246 ¹
		Maint. Approp.					1,370,282
		Maint. Cost					1,370,282
30. New York State Canal System, NY		New Work Approp					8,587,000
		New Work Cost	7,326				8,579,674

¹ Includes \$1,624,695 for previous projects

² Excludes \$740,679 contributed funds.

³ Includes \$57,342 for previous projects. Excludes \$166,998 contributed funds.

BUFFALO, NY, DISTRICT

TABLE 20-A(continued) COST AND FINANCIAL STATEMENT

See Sect. In Text	Project	Funding	FY 06	FY07	FY08	FY09 (Includes ARRA)	Total Cost to Sep 30, 2009
SHORE PROTECTION							
31. Presque Isle Peninsula, Erie, PA	New Work Approp.		459,000	90,000	672,000	933,000	38,952,049
	New Work Cost		456,897	91,839	656,416	951,346	38,949,899
	Maint. Approp.						4,978
	Maint. Cost						4,978
(Contributed Funds)	New Work Contrib.		620,000	90,000	672,000	933,000	30,345,369
	New Work Cost		623,231	93,378	620,124	903,907	29,549,650
FLOOD CONTROL							
32. Mount Morris Lake, Genesee River, NY	New Work Approp.						23,365,559 ¹
	New Work Cost						23,365,559 ²
	Maint. Approp.		2,923,000	2,729,481	3,686,000	6,424,060	58,249,434
	Maint. Cost		2,546,854	3,074,380	3,019,214	3,591,946	55,013,600
ENVIRONMENTAL RESTORATION							
34. Ohio Environmental Infrastructure	New Work Approp.		3,906,400	1,929,552	6,936,000	7,575,000	26,708,952
	New Work Cost		1,355,765	3,071,405	3,312,638	1,636,084	14,916,978
35. Onondaga Lake, NY	New Work Approp.		3,134,000	0	984,000	5,000,000	22,402,762
	New Work Cost		1,767,402	2,516,344	2,726,743	1,580,290	17,089,997
(Contributed Funds)	New Work Contrib.		(193)	(11,262)	57,534		4,768,814
	New Work Cost		102,450	163,038	144		4,679,831
36. Great Lakes Fishery & Ecosystem Restoration	New Work Approp.		29,000	224,000		465,000	803,000
	New Work Cost		67,130	162,805		177,462	427,092
(Contributed Funds)	New Work Contrib.						
	New Work Cost						

¹ Includes study cost of \$117,000 under authority Sec 205, 1948 Flood Control Act. Excludes \$17,493 in contributed cost.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
1		ASHTABULA HARBOR, OH	
	Jun 3, 1896	Construction of breakwater.	Annual Report, 1895, p. 2132
	Mar 3, 1905 Jun 25, 1910	Enlarge outer harbor by extending west breakwater and constructing new east breakwater pier heads on lakeward ends of breakwaters; remove part of old east breakwater.	H. Doc. 654, 61 st Cong., 2 nd sess.
	Mar 2, 1919	Extend west breakwater to shore; dredge outer harbor to a depth of 20 feet.	H. Doc. 997, 64 th Cong., 1 st sess.
	Aug 30, 1935	Remove portion of east breakwater to extend breakwaters to present dimensions and dredging restrictions in portion of west basin.	H. Doc. 43, 73 rd Cong., 1 st sess.
	Aug 26, 1937	Dredge channel through outer harbor, channel of approach to Penn Central Co. slip, channel Ashtabula River, to and in turning basin all to present project dimensions; remove portion of old east inner breakwater and Maintenance to 24-foot depth of portion of outer harbor.	Rivers and Harbors Committee Doc. 78, 74 th Cong., 2 nd sess.
	Mar 2, 1945	Extend river channel to present project limit.	H. Doc. 321, 77 th Cong., 1 st sess. R & H Act of 1945, PL 79-14
	Sep 3, 1954	Dredging approach channel and turning basin in east outer harbor to 25-foot depth.	H. Doc. 486, 83 rd Cong., 2 nd sess. R & H Act of 1954, PL 83-780
	Jul 14, 1960	A depth of 29 feet in soft and 30 feet in hard material in entrance channel to just inside outer ends of Breakwaters, thence 28 feet in soft and 29 feet in hard material in a channel to inner breakwater, thence 27 feet in soft and 28 feet in hard materials in a channel extending to Penn Central Co. slip and extending 2000 feet up Ashtabula River, 22 feet in hard material in turning area; and 28 feet in soft and 29 feet in hard material in areas adjacent to 250-foot section of inner breakwater when that section is removed as now authorized.	H. Doc. 148, 86 th Cong., 1 st sess. R & H Act of 1960, PL 86-645
	Oct 27, 1965	Dredging approach channel and turning basin in east outer harbor to 28 feet in soft material and 29 feet in hard material.	H. Doc. 269, 89 th Cong., 1 st sess. ¹ R & H Act of 1965, PL 87-874

¹ Contains latest published map.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
ASHTABULA RIVER, OH ENVIRONMENTAL DREDGING			
Nov 28, 1990 as amended, Aug 17, 1999, Dec 11, 2000		The Secretary may remove and remediate, as part of operation and maintenance of a navigation project, contaminated sediments outside the boundaries of and adjacent to the navigation channel. The Secretary may remove and remediate contaminated sediments from the waters of the United States, in general, for the purpose of environmental enhancement and water quality improvement if such removal is requested by a non-Federal sponsor and the sponsor agrees to pay 65% of the cost of the removal and remediation.	PL 101-640; PL 106-53; PL 106-541
	Oct 12, 1996	Amended PL 101-640 to include Ashtabula River, OH as priority work.	PL 104-303
2	BLACK ROCK CHANNEL AND TONAWANDA HARBOR, NY		
Aug 11, 1888 Jun 3, 1896		Dredging channel through horseshoe reef at outlet of Lake Erie and Tonawanda Inner Harbor to 16 feet.	H. Ex. Doc. 83, 50 th Cong., 1 st sess., Annual Report, 1888, p. 206 and Annual Report, 1897., pp.3116-3120
	Jun 13, 1902	Deepening Tonawanda Creek to 16 feet.	H. Doc. 143, 56 th Cong., 1 st sess. and Annual Report, 1900 p. 4152
	Jun 13, 1902 Aug 8, 1917	Dredging channel from Buffalo outer harbor to foot of Maryland St., Buffalo, to 21 feet.	H. Doc. 125, 56 th Cong., 2 nd sess., and Annual Report 1901, p. 3343
	Mar 3, 1905	Dredging channel from foot of Maryland St., Buffalo, to natural deep water pool upstream from Tonawanda Harbor to 21 feet; construction of ship lock and bridge; and repair of Bird Island pier towpath wall.	H. Doc. 428, 58 th Cong., 2 nd sess.
	Jul 27, 1916	Dredging channel along Tonawanda Island, with turning basin at its downstream end at the foot of the Island, to 21 feet.	H. Doc. 658, 63 rd Cong., 2 nd sess.
	Mar 2, 1919 Mar 2, 1945	Dredging triangular area at junction with Buffalo north Entrance channel.	H. Doc. 1004, 65 th Cong., 2 nd sess. & H. Doc. 92, 79 th Cong., 1 st sess. H. Doc. 981, 66 th Cong., 2 nd sess. R & H Act of 1945, PL 79-14
	Sep 22, 1922	Widening channel at foot of Maryland St., Buffalo.	H. Doc. 289, 68 th Cong., 1 st sess.
	Mar 3, 1925	Widening canal south of International Bridge and removal of westerly end of Rattlesnake Island shoal.	H. Doc. 981, 66 th Cong., 3d sess.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Jun 26, 1934 ¹	Operation and care of improvements provided for with funds from War Department appropriations for rivers and harbors.	H Doc. 28, 73d Cong., 1 st sess.
	Aug 30, 1935 ²	Removal of rock shoals in Lake Erie entrance to canal, and in canal south of Ferry Street Bridge, to 22 feet; enlargement of North Tonawanda turning basin; extension of Bird Island Pier; improvement of guide pier at the lock; and elimination of upper 150 feet of Tonawanda Creek channel from the project. ³	H. Doc. 28, 73 rd Cong., 1 st sess.
	Mar 2, 1945	Widening Lake Erie entrance to canal.	H. Doc. 92, 79 th Cong., 1 st sess. ⁴ R & H Act of 1945, PL 79-14
	Sep 3, 1954	Deepen lower 1,500 feet of Tonawanda inner harbor and enlarge turning basin.	H. Doc. 423, 83 rd Cong., 2 nd sess. ⁵ R & H Act of 1954, PL 83-780
3		BUFFALO HARBOR, NY	
	May 20, 1826	Construction of south pier (extended in 1868). ⁷	Annual Report, 1868, pp. 222 –232
	Jun 23, 1866	Construction of old breakwater. ³	Annual Report, 1868, pp. 232 –236
	Jun 23, 1874	Extension of old breakwater. ³	Annual Report, 1876, pt. 2, pp. 569 and 573
	Jun 3, 1896	Stony Point and south breakwater. ³	Annual Report, 1895, p. 3153. H. Doc. 72, 55 th Cong., 1 st sess., and Annual Report, 1897, p. 3245
	Mar 3, 1899 Mar 3, 1909	North breakwater. ³	
	Jun 6, 1900 Jun 18, 1902	Deepening entrance channel to inner harbor and removing rock shoal therein.	Specified in acts.
	Mar 2, 1907 ⁸	Dredging at entrance to canals at South Buffalo in outer harbor. ³	Specified in act.
	Mar 2, 1907	South entrance breakwater. ³	H. Doc. 240, 59 th Cong., 1 st sess.
	Jun 25, 1910	Extension of Federal project to Commercial St. and removal of Watson elevator site.	H. Doc. 298, Rivers and Harbors Committee Doc. 2, 61 st Cong., 2 nd sess.

¹ Permanent Appropriations Repeal Act.

² Authorized May 28, 1935 by Emergency Relief Administration Act of 1935.

³ Improvement of guide pier at Black Rock Lock was de-authorized by Congress in Aug 1977.

⁴ Contains latest published map.

⁵ Classified deferred.

⁶ Contains latest published map.

⁷ Completed under previous projects.

⁸ Also Sundry Civil Act of Mar 3, 1905.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
Jul 25, 1912		Deepening areas A, B, D, in outer harbor to 21 feet, C in North entrance to 23 feet.	H. Doc. 550, 62 nd Cong., 2 nd sess.
Mar 2, 1919		Deepening areas F and G in outer harbor to 21 feet.	H. Doc. 1139, 64 th Cong., 1 st sess.
Jan 21, 1927		Removal of shoal between entrance channel to Buffalo River and Erie Basin to 21 feet.	H.Doc. 481, 68 th Cong., 2 nd sess.
Jul 3, 1930		Deepening areas H, I, and K in outer harbor 21 feet.	Rivers and Harbors Committee Doc. 1, 71 st Cong., 1 st sess.
Aug 30, 1935 ¹		Extension of south entrance and south breakwaters, deepening outer harbor to present project dimensions, and removal of shoals on approach to south entrance.	H. Doc. 46, 73 rd Cong., 1 st sess.
Aug 30, 1935 Mar 2, 1945 ⁴¹		Maintenance of channels in Buffalo River and Buffalo Ship Canal to 21 feet in cooperation with city of Buffalo.	R & H Committee Doc. 54, 74 th Cong., 1 st sess.
Jul 14, 1960		Deepening North and Buffalo River entrance channels, and deepening and maintaining Buffalo River and Buffalo Ship Canal to present project dimensions.	H. Doc. 352, 78 th Cong., 1 st sess. R & H Act of 1960, PL 86-645
Oct 23, 1962		Deepening approach to south entrance channels, and deepen to 30 feet in outer area and 29 feet in inner area of southerly part of outer harbor.	H. Doc. 151, 86 th Cong., 1 st sess. R & H Act of 1962, PL 87-874
1962		Deepening portion of outer harbor to 27 feet over a width of 500 feet for 2,500 feet northward from 28-foot project area, widening within 1,700 feet to limits within 150 feet of breakwater axis and 75 feet from harbor line and continuing within these limits for 7,000 feet. Elimination of 25-foot wide strip between presently authorized and proposed easterly dredging limits easterly 50 foot wide undredged strip in existing 23-foot depth project area, extending northerly from 27-foot depth to Buffalo River entrance channel. Previously authorized but uncompleted portions or work authorized by 1935 Act, combined within this act as a single improvement.	H. Doc. 451, 87 th Cong., 2 nd sess.
Jul 14, 1960 as amended		Removal of abandoned abutments of South Michigan Bridge.	Sec. 107 of R & H Act of 1960, PL 86-645. Authorized Chief of Engineers Dec 15, 1980
Jan 4, 2007		Modifies navigation project authorized by Section 101 of the R & H Act of 1962 to provide measures for enhancement of public access at a maximum Federal cost of \$500k.	Section 3119 of WRDA 2007, PL 110-114 which amends Section 204 of WRDA of 1992

BUFFALO HARBOR and RIVER, NY ENVIRONMENTAL DREDGING

¹ Authorized in part by Public Works Administration, Sep 6, 1933.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Nov 28, 1990 as amended, Aug 17, 1999, Dec 11, 2000	The Secretary may remove and remediate, as part of operation and maintenance of a navigation project, contaminated sediments outside the boundaries of and adjacent to the navigation channel. The Secretary may remove and remediate contaminated sediments from the waters of the United States, in general, for the purpose of environmental enhancement and water quality improvement if such removal is requested by a non-Federal sponsor and the sponsor agrees to pay 65% of the cost of the removal and remediation.	PL 101-640; PL 106-53; PL 106-541
	Oct 12, 1996	Amended PL 101-640 to include Buffalo Harbor and River, NY as priority work.	PL 104-303
4		CLEVELAND HARBOR, OH	
	Mar 3, 1875	West breakwater.	Annual Report, 1876, p. 558
	Aug 5, 1886	Part of east breakwater. ¹	H. Ex. Doc. 116, 48 th Cong., 2 nd Sess., and Annual Report, 1886, p. 1865
	Aug 11, 1888	Extension of east breakwater.	H. Ex. Doc. 189, 50 th Cong., 2 nd sess., and Annual Report, 1888, p. 2005
	Jun 3, 1896	Reconstruction of piers. ²	H. Doc. 326, 54 th Cong., 1 st sess., and Annual Report, 1896, p. 2949
	Mar 3, 1899	Dredging channel between piers and outer harbor to depth of 19 feet; dredging to depth of 23 feet in any portion of harbor is discretion of Secretary of War.	H. Doc. 156, 55 th Cong., 2 nd sess., and Annual Report, 1899, pp. 3075 and 3078
	Jun 13, 1902	Arrowhead breakwater and extension of east breakwater.	H. Doc 118, 56 th Cong., 2 nd sess.
	Mar 2, 1907 Jun 25, 1910	Removal of deflecting arm of old east breakwater and closure of gap between old and new east breakwaters.	No printed report.
	Jul 27, 1916	Pierhead at easterly end of east breakwater.	H. Doc 891, 63 rd Cong., 2 nd sess.
	Aug 8, 1917 Aug 29, 1937	Maintenance and improvement of channels in Cuyahoga and Old Rivers to a depth of 21 feet to a point 2,000 feet upstream from Clark Ave. viaduct and 18-foot turning basin.	H. Doc. 707, 63 rd Cong., 2 nd sess., & R & H Committee Doc. 84, 74 th Cong., 2 nd sess.
	Aug 30, 1935 ³	Deepening outer harbor and channel between piers to present project dimensions, construction of 400-foot spur breakwater at gap in shore arm of west breakwater, removal of easterly 150 feet of west breakwater, elimination from project of a 298-foot southerly extension on west pier, and abandonment of inner 932 feet of shore arm of west breakwater.	H. Doc. 477, 72 nd Cong., 2 nd sess.

¹ Completed under previous projects.

² Completed under previous projects.

³ Authorized by Public Works Administration, Sep 6, 1933.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Aug 30, 1935 ¹	Maintenance dredging in Cuyahoga and Old Rivers for one year as an emergency measure.	R & H Committee Doc. 39, 74 th Cong., 1 st sess.
	Mar 2, 1945 ²	Maintenance extension of Cuyahoga River channel. Extension, maintenance, and improvement to a depth of 21 feet of Cuyahoga River channel to present project limit. ^{3 4}	Specified in act. H. Doc. 95, 79 th Cong., 1 st sess. R & H Act of 1945, PL 79-14
	Jul 24, 1946	Improvement of Cuyahoga and Old Rivers to a depth of 23 feet and replacement or pier construction of 7 railroad bridges. ⁵	H. Doc. 629, 79 th Cong., 2 nd sess. R & H Act of 1946, PL 79-525
	Jul 3, 1958	Deepening channel 25 feet through east basin of outer harbor; replacement of Erie-Lackawanna Railroad bridge over Cuyahoga River at mile 4.1 and widening of channel at that point, with elimination of reconstruction of east pier of bridge as previously authorized; and replacement of Baltimore and Ohio Railroad Bridge over Old River near its mouth and Willow Avenue Highway Bridge about 800 feet above mouth and widening channel at four locations along lower, 2,000 feet of river. ⁶	H. Doc. 107, 85 th Cong., 1 st sess. R & H Act of 1958, PL 85-500
	Jul 14, 1960	Depth of 29 feet in lake approach to main entrance; 28 feet in entrance channel to lakeward ends of piers at mouth of Cuyahoga River; 27 feet in river to a point just above its junction with Old River, and in Old River to upstream limit of present 23-foot project; 28 feet in west basin within existing project limits as modified to eliminate a triangular area at west end and to extend limits to a line parallel to and 75 feet from harbor line; and 28 feet in westerly 800 feet of east basin. ⁷	H. Doc. 152, 86 th Cong., 1 st sess. ⁸ R & H Act of 1960, PL 86-645
	Oct 23, 1962	An area in east basin 27 feet deep extending 3,800 feet easterly of 28-foot area with project limits 380 feet from east breakwater and on landward side generally by a line 75 feet lakeward of and parallel to harbor line. A dock channel to Nicholson Cleveland easterly end of east basin, from 25-foot contour to a limit Terminal Co. pier, at 75 feet north of pierhead line, 400 feet wide at shoreward end and flared toward the lake.	H. Doc. 527, 87 th Cong., 2 nd sess. R & H Act of 1962, PL 87-874
	Jul 14, 1960 as amended	Deepening upper end of Old River channel from 21 to 27 feet.	Sec. 107 of the R & H Act of 1960, PL 86-645. Authorized by Chief of Engineers Dec 6, 1966
	Oct 22, 1976	Preparation of Phase I design memorandum for improvements consisting of removal of portions of entrance breakwater; construction of breakwater; construction of breakwater extension of east entrance; deepening approach and entrance channels;	Sec. 175 of the WRDA 1976, PL 94-587

¹ Authorized in part by Public Works Administration, Sep 6, 1933.

² First Deficiency Appropriations Act approved Apr 1, 1944.

³ Deepening left half of channel extension was eliminated from project by 1962 R&H Act.

⁴ Authorized by Defense Plant Corp. May 19, 1942.

⁵ Widening Cuyahoga River downstream at end of Cut 4 classified inactive.

⁶ Replacement of bridges 19 and 32, widening Cuyahoga and Old River Channels, classified deferred.

⁷ Deepening remainder of Cuyahoga River from Bridge 1 to and including Old River, classified deferred.

⁸ Contains latest published map.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
		construction of diked disposal area; and installation of recreational fishing facilities on west breakwater.	
Aug 15, 1985		Deepening and widening east entrance and approach channels, deepening the east basin channel and disposing of dredge material in an existing disposal site, as described in the Report to the Board of Engineers for Rivers and Harbors Jan 22, 1985, including bulk heading and other necessary repairs at Pier 34 and approach channels and necessary protective structures for mooring basins for transient vessels in the area south of Pier 34 and including such modifications as may be recommended by the Chief of Engineers at a cost not to exceed \$36,000,000.	PL 99-88
Nov 17, 1986		Bulk heading and other necessary repairs at Pier 34 and approach channels and necessary protective structures for mooring basins for transient wells in the area south of Pier 34.	Section 202 of WRDA 1986, PL 99-662; and PL 100-202
Dec 21, 1987		Appropriates and directs the Secretary of the Army to use the sum of \$11,000,000 which is to remain available until expended to carry out the provisions for the harbor modifications contained in PL 99-662.	Doc. 653, 61 st Cong., 2 nd sess.
5		CONNEAUT HARBOR, OH	
Jun 25, 1910		Extension of east breakwater, construction of new west breakwater, removal of portion of old west breakwater, and dredging of outer harbor to 19 feet.	H. Doc. 653, 61 st Cong., 2d sess.
Aug 8, 1917 ¹		Realignment of west breakwater, removal of remainder of old west breakwater, and deepening outer harbor to 20 feet. Removal of Bessemer & Lake Erie R.R. Co. of inner 635 feet of west pier.	H. Doc. 983, 64 th Cong., 1 st sess.
Aug 30, 1935 ²		Removal of portion of west breakwater, extension of breakwaters to present project dimensions, construction of pierheads on outer ends of breakwaters, deepening outer harbor to present project dimensions; removal of portions of river pier, and elimination from project of a 255-foot shoreward extension of west breakwater.	H. Doc. 48, 73 rd Cong., 1 st sess.
Oct 23, 1962		Deepening easterly part of outer harbor to 28 feet in soft material and 29 feet in hard material; deepening remaining triangular area of outer harbor to 22 feet in soft material and 23 feet in hard material; deepening inner harbor for 2,450 feet upstream of outer end of west pier to 27 feet in soft material and 28 feet in hard material; removal of east pier, extension of east breakwater to shore; and an access channel 8 feet deep in outer harbor to city dock. Previously authorized, but uncompleted portion of work authorized by 1917 and 1935 Acts combined with this act for accomplishment as a single improvement.	H. Doc. 415, 87 th Cong., 2 nd sess. R & H Act of 1962, PL 87-874
Oct 12, 1996		De-authorized the most southerly 300 feet of the 1,670 foot long shore arm, authorized by the R&H Act of 1910.	WRDA, PL 104-303
6		DUNKIRK HARBOR, NY	

¹ Permit of Secretary of War, Aug 5, 1927.

² Authorized in part by Public Works Administration, Sep 6, 1933.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Mar 2, 1827	Construction of west pier. ^{1 2}	S. Ex. Doc. 42, 35 th Cong., 1 st sess. and Annual Report 1866 pt. IV, p. 155
	Mar 2, 1867	Breakwater and evacuation of entrance channel to 13 feet. ³	Annual Report, 1871, p. 214
	Jun 3, 1896	Deepening of entrance channel and harbor basin to a depth of suitable for vessels of 16-foot draft.	H. Doc. 63, 54 th Cong., 1 st sess.
	Jun 25, 1910	Removal of rock reef bordering the inner entrance channel.	H. Doc. 720, 61 st Cong., 2 nd sess.
	Jun 30, 1948	Deepening outer entrance channel to present project depths; removal of rock shoal on the west side of the entrance channel to a depth of 17 feet, and changed limits of the inner entrance channel and basin to present project dimensions.	H. Doc. 632, 80 th Cong., 2 nd sess. ³ R & H Act of 1948, PL 80-858
	Dec 15, 1970 Jun 22, 1971	Construction of small-boat harbor.	H. Doc. 91-423, 91 st Cong., 2 nd sess. (House Public Works Committee), (Senate Public Works Committee), Sec. 201 of Flood Control Act of 1965; R & H Act of 1970 PL 91-611
7		ERIE HARBOR, PA	
	May 26, 1824	Breakwaters and piers; dredging entrance channel and brushwood protection of beach of Presque Isle peninsula. ⁴	Annual Report, 1915, p. 1965
	Mar 3, 1899	Deepening channel and harbor basin 18 feet, repair and extension of piers; and plant growth and emergency protection of work on peninsula.	H.Doc.70, 55 th Cong., 1 st sess. and Annual Report, 1896, p. 3237 ⁵
	Jun 15, 1910	Deepening channel and part of harbor to 20 feet.	Rivers and Harbors Committee Doc. 26, 61 st Cong., 2 nd sess.
	Nov 28, 1920 ⁶	Re-conveyed Presque Isle peninsula to the state of Pennsylvania for park purposes.	
	Aug 30, 1935	Deepening, widening, and straightening entrance channel; dredging channel at easterly end of harbor basin, all too present project dimensions; elimination of north breakwater from project; and limitation of south breakwater to a length of 1,200 feet.	H. Doc. 52, 73 rd Cong., 1 st sess.
	Mar 2, 1945	Protection of the peninsula south of the waterworks settling basin.	R & H Act of 1945, PL 79-14

¹ Completed under previous projects.

² Modified 1828 and 1852.

³ Contains latest published map.

⁴ Completed under previous projects.

⁵ Extension of north pier portion of this modification was deauthorized Nov 1981.

⁶ Public Law 366.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Sep 3, 1954	Widen 25-foot deep approach channel to ore dock.	H. Doc. 345, 83 rd Cong., 2 nd sess. R & H Act of 1954, PL 83-780
	Jul 14, 1960	Depth of 29 feet in the entrance channel to a point opposite the inner end of the north pier, thence 28 feet in soft material and 29 feet in hard material in the remainder of the entrance channel, within the general limits of the 25-foot basin and inner channel opposite the ore dock except as modified to eliminate from the project a triangular area along the easterly side; and a depth of 28 feet over 300-foot westward extension of the 25-foot basin. ¹	H. Doc. 199, 86 th Cong., 1 st sess. R & H Act of 1960, PL 86-645
	Oct 23, 1962	Depth of 27 feet in soft material and 28 feet in hard material in approach area to Duquesne Marine Terminal. Previously authorized but uncompleted portion of work authorized by 1935 Act is combined with this act as a single improvement.	H. Doc. 340, 87 th Cong., 2 nd sess. ³² R & H Act of 1962, PL 87-874
8		FAIRPORT HARBOR, OH	
	Mar 3, 1825 ²	Construction of piers.	Annual Report, 1889, pp. 2147-2153
	Jun 3, 1896 Mar 3, 1905	Breakwaters and dredging outer harbor to a depth of 18 feet.	H. Doc. 347, 54 th Cong., 1 st sess. and Annual Reports, 1896, p. 2956; 1903, p. 2084. 1905, p. 2349
	Mar 2, 1919	1,400-foot extension of east breakwater, present project dimension of east pier, and deepening to 19 feet.	H. Doc. 206, 63 rd Cong., 1 st sess.
	Jan 21, 1927 Jul 3, 1930	4,000-foot extension of east breakwater at limit of cost to the United States of \$715,000.	H. Doc. 592, 69 th Cong., 2 nd sess. R & H Committee Doc 13, 70 th Cong., 1 st sess.
	Aug 30, 1935 ³	Deepening of outer harbor and entrance channel to present dimensions; extending the west breakwater to present project dimensions with pierhead at its outer end; removal of west pier, and construction of bulkhead on west side of river channel.	H. Doc. 472, 72 nd Cong., 2 nd sess.
	Aug 26, 1937	Dredging of 21 and 24-foot river channels and turning basin in Grand River to present project dimensions.	R & H Committee Doc. 79, 74 th Cong., 2 nd sess.
	Jul 24, 1946	Dredging of 8-foot river channel.	H. Doc. 706, 79 th Cong., 2 nd sess. ³² R & H Act of 1946, PL 79-525
9		GREAT SODUS BAY HARBOR, NY	
	Mar 2, 1829	Construction of piers and breakwater.	Annual Report, 1876 pt. II p. 589

¹ Deepening strips adjacent to north and south piers was deauthorized Aug 1982.

² Modified 1830, 1881, and 1890. New work completed under previous projects.

³ Partly included in Public Works Administration Program, Nov 15, 1933.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Aug 2, 1882	Extension of piers to 15-foot contour in the lake.	Annual Report, 1881, p. 2442
	Mar 3, 1925	Deepening and widening of channel to 180 foot depth and 150 foot width.	H. Doc. 192, 68 th Cong., 1 st sess.
	Jul 3, 1930	Widening channel lakeward of piers to 250 feet.	R & H Committee Doc. 17, 70 th Cong., 1 st sess.
	Aug 30, 1935	Dredging channel to present project dimensions.	R & H Committee Doc. 23, 72 nd Cong., 1 st sess.
36		GREAT LAKES FISHERY & ECOSYSTEM RESTORATION	
	Dec 11, 2000	Provides \$100M of authority of plan, design, & construct individual projects that support the restoration of the fishery, ecosystem and beneficial uses of the GL. GLFER is an existing Federal program that is specific to the GL & can respond to the recommendations of the Strategy of the GL Regional Collaboration for wetlands & aquatic habitat protection & restoration. Projects will also support state/local efforts to implement Remedial Action Plans to restore beneficial use impairments at GL AOC.	Section 506 of WRDA, PL 106-541
	Jan 4, 2007	Directs the Secretary to conduct reconnaissance studies at 100% Federal cost.	Section 5011 of WRDA 2007, PL 110-114
10		HURON HARBOR, OH	
	Mar 2, 1905	Extension of west pier, construction of east breakwater, removal of part of old east pier; deepening of channel to 19 feet; and dredging of sheltered area.	H. Doc. 122, 58 th Cong., 2 nd sess.
	Mar 2, 1919	Widening river to 200 feet; removal of remainder of old east pier, construction of new spur pier, enlargement of sheltered area; and closure of beach at shore end of west pier.	H. Doc. 5, 63 rd Cong., 1 st sess.
	Aug 30, 1935 ¹	Extension of west pierhead at its outer end; removal of outer end of east breakwater and construction pierhead on new outer end; widening and deepening channel to present project dimensions; enlargement of turning basin at head of channel; shore protection west of west pier, and elimination from project construction of spur pier and dredging sheltered area outside channel limits.	H. Doc. 478, 72 nd Cong., 2 nd sess.
	Oct 23, 1962	Depths of 29 feet in approach channel, 28 feet in entrance channel, 27 feet in river channel, 21 feet in turning basin and abandonment of lakeward end of existing approach channel.	H. Doc. 165, 87 th Cong., 1 st sess. ³² R & H Act of 1962, PL 87-874
11		IRONDEQUOIT BAY, NY	
	Jul 3, 1958	Construction entrance channel 9 feet deep and 100 feet wide, extending from 9-foot depth in Lake Ontario to junction with inner bay channels, a distance of about 1,300 feet; inner channel, 8 feet deep and 100 feet wide, from entrance channel to deep water in bay, a distance of about 3,035 feet, access channel 8 feet deep, 100 feet	H. Doc. 332, 84 th Cong., 2 nd sess.

¹ Partly included in Public Works Administration Program, Nov 15, 1933.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
		wide and 500 feet in length from the inner bay channel to the west; two stone rubble-mound structures 1,350 feet and 750 in length at the natural entrance; and recreational facilities.	
12		LITTLE SODUS BAY HARBOR, NY	
	Aug 30, 1852	West entrance pier.	Annual Report, 1874, p. 256
	Jun 23, 1866	Extension of west pier and construction of west breakwater, and dredging channel to 12 feet deep, 400 feet wide.	Annual Report, 1874, p. 256
	Mar 3, 1871	East pier and east breakwater.	Annual Report, 1871, p. 234
	Mar 3, 1881	Extension of piers lakeward to 15.5-foot contour, and dredging channel to 15.5 feet.	Annual Report, 1881, pp. 2444 and 2446
	Jun 13, 1902	Extension of east pier 300 feet lakeward.	Annual Report, 1901, p. 3364
13		LORAIN HARBOR, OH	
	Mar 3, 1899	Breakwaters and extension of piers to present dimensions.	H. Doc. 131, 55 th Cong., 2 nd sess., and Annual Report 1898, p. 2718.
	Mar 2, 1907	Extend 18-foot channel from inner end of piers to Erie Avenue Bridge.	H. Doc. 560, 60 th Cong., 1 st sess.
	Jun 25, 1910	Extend breakwaters and dredge to depth of 19 feet in outer harbor.	H. Doc. 644, 61 st Cong., 2 nd sess.
	Aug 8, 1917	Extend breakwaters to present dimensions.	H. Doc. 980, 64 th Cong., 1 st sess.
	Aug 8, 1917	Deepen outer harbor and river channel of Erie Avenue Bridge to 20 feet.	H. Doc. 985, 64 th Cong., 1 st sess.
	Jul 3, 1930	Extend 20-foot channel to American Shipbuilding Co. Drydock.	H. Doc. 587, 69 th Cong., 2 nd sess.
	Aug 30, 1935	Widen 2 bends in river and enlarge turning basin opposite National Tube Co. dock. ¹	H. Doc. 469, 72 nd Cong., 2 nd sess.
	Aug 30, 1935	Approach channel to municipal pier.	Senate Committee print, 73 rd Cong., 2 nd sess.
	Aug 30, 1935	Deepen outer harbor and river channel to American Shipbuilding Co. Drydock 2 present project dimensions and extension of river channel to upper end of National Tube Co. dock with turning basin opposite that dock. Maintenance dredging in Black River from American Shipbuilding Co. Drydock 2. Upper end of National Tube Co. dock was authorized Apr 7, 1934, by Public Works Administration.	Doc. 51, 74 th Cong., 1 st sess. R & H Committee
	Aug 30, 1935	Enlarging turning basin opposite National Tube Co. Dock to present project dimensions.	Specified in act.

¹ Authorized by Public Works Administration, Sep 6, 1933.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Mar 2, 1945	Turning basin in bend of Black River immediately upstream from Baltimore & Ohio RR coal dock.	H. Doc. 161, 77 th Cong., 1 st sess. R & H Act of 1945, PL 79-14
	Jul 14, 1960	Replace Norfolk and Western Railway swing bridge with a vertical lift bridge; construct two detached arrowhead breakwaters lakeward of existing breakwaters; construct extension of east breakwater, to shore; remove 300 feet of lakeward end of west breakwater; remove outer 1,100 feet east pier; deepen lake approach to 29 feet, 800-foot wide outer harbor channel to 27 feet; widen river channel at bends; and construct a new turning basin 21 feet deep near upstream limit of existing project. ¹	H. Doc. 166, 86 th Cong., 1 st sess. R & H Act of 1960, PL 86-645
	Jul 14, 1960 As amended	Construction of a 225 foot detached rubble mound breakwater and an 800 foot long rubble mound breakwater attached to the east breakwater shore arm I in the east basin of the outer harbor.	R & H Act of 1960, PL 86-645. Authorized Chief of Engineers Mar 12, 1986
	Nov 17, 1986	Two bed cuts on Black River between the Norfolk and Western Railroad Bridge and 21 st Street Bridge, excavated to existing channel depth of 27 feet. Widening Upper Turning Basin at existing authorized depth of 21 feet. ²	H. Doc. 124, 99 th Cong., 1 st sess. WRDA 1986, PL 99-662
32	MT. MORRIS LAKE, GENESEE RIVER, NY		
	Dec 22, 1944	Construction of a concrete gravity dam and reservoir.	H. Doc. 615, 78 th Cong., 2 nd sess. Flood Control Act of 1944, PL 78-534
	Jan 3, 1992	Construct a visitor center at Mt. Morris Dam to be known as the "William B. Hoyt II Visitor Center."	Section 103 of WRDA 1992, PL 102-580
	Jan 4, 2007	Authorizes the Secretary to make improvements to the access road to Mt. Morris Dam as part of the O&M project.	Section 5110 of WRDA 2007, PL 110-114
30	NEW YORK STATE BARGE CANAL, NY		
	Nov 17, 1986	Authorizes the Secretary to reimburse the state of New York for 50% of the cost of operating, maintaining and rehabilitating the New York State Barge Canal. The Federal contribution shall be limited in any fiscal year to \$5,000,000, or 50% of the expenditures in that fiscal year, whichever is the lesser. ³⁷	Section 1105 of WRDA 1996, PL 99-662
	Oct 12, 1996	The Secretary may make capital improvements to the New York State Canal System for the purposes of rehabilitation, renovation, preservation, and maintenance of the New York State Canal System and its related facilities. The Federal share of the cost of capital improvements shall be 50%, up to a limit of \$8,000,000.	Section 553 of WRDA 1996, PL 104-303 as amended by Section 341 of WRDA 1996, PL 104-303
	Jan 4, 2007	Defines the NYS Canal System as the 524 miles of Erie, Cayuga-Seneca, Oswego and Champlain Canals and the historic alignments of these canals, including the cities of Albany, Rochester and Buffalo, NY.	Section 3124 of WRDA 2007, PL 110-114

¹ Deepening and widening remainder of Black River Channel at Cut 1 has been de-authorized.

² Classified deferred.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
34	Aug 17, 1999	OHIO ENVIRONMENTAL INFRASTRUCTURE, OH Multiple projects for providing Federal assistance for design and/or construction of water related environmental infrastructure, resource protection and development projects often by reimbursement to non-Federal sponsor.	Section 594 of WRDA 1999, PL 106-53
	Jan 4, 2007	Allows non-Profit entities to act as the non-Federal sponsor to Section 594 Ohio Environmental Infrastructure projects with the consent of the affected local government.	Section 3124 of WRDA 2007, PL 110-114
15	Mar 2, 1867	OLCOTT HARBOR, NY Dredging a channel 11 feet deep between parallel piers.	Annual Report, 1866, pt. III, p. 15 pt. IV, p. 158
	Mar 4, 1913	Deepening channel to 12 feet and maintenance of west pier.	H. Doc. 780, 62 nd Cong., 2d sess.
	Nov 17, 1986	Construct the project for Navigation, Report of the Chief of Engineers	Section 601 of WRDA 1986, PL 99-662
35	Nov 16, 1990	ONONDAGA LAKE, NY The Assistant Secretary of the Army for Civil Works, the administrator of the Environmental Protection Agency, and the Governor of the State of New York, acting jointly, shall convene a management conference for the restoration and management of Onondaga Lake and develop a management plan. Repealed by Section 573 of Water Resources Development Act of 1999, PL 106-53.	Title IV of the Great Lakes Critical Programs Act of 1990, PL 101-596
	Nov 28, 1990	The Assistant Secretary of the Army for Civil Works, the administrator of the Environmental Protection Agency, and the Governor of the State of New York, acting jointly, shall convene a management conference for the restoration and management of Onondaga Lake and develop a management plan. This is a Reaffirmation of PL 101-596. Repealed by Section 573 of Water Resources Development Act of 1999, PL 106-53.	Section 411 of the WRDA 1990, PL 101-640
	Oct 31, 1992	The Secretary is authorized to design and construct projects to address water quality problems associated with storm water discharges from large storm events for the watershed areas of Onondaga County and Syracuse, New York, from which waters discharge into Onondaga Lake, New York. The design of projects shall ensure the development of effective Federal and non-Federal actions, which will contribute toward compliance with the Federal Water Pollution Control Act. Total project cost shall be shared at 75% Federal and 25% non-Federal. Operation and maintenance cost shall be 100% non-Federal. Project physically complete in FY03, financially complete in FY04.	WRDA 1992, PL 102-580

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Aug 17, 1999	Secretary of the Army to lead Partnership for the development and implementation of Onondaga Lake improvement projects. Repeals Title IV of the Great Lakes Critical Programs Act of 1990 and section 411 of the Water Resources Development Act of 1990.	Section 573 of WRDA 1999, PL 106-53
16		OSWEGO HARBOR, NY	
	Jul 11, 1870	Construction of outer west breakwater. ¹	Annual Report, 1870, pp. 54, 220 and 221
	Mar 2, 1907	Repair of outer west breakwater under Plan (A). ²	H. Doc. 55, 58 th Cong., 2 nd sess.
	Jul 3, 1930	Construction of arrowhead breakwaters; deepening outer harbor between arrowhead breakwaters; west outer harbor east of Erie-Lackawanna coal dock, and Oswego River north of Seneca St., to 21 feet; and deepening west outer harbor, west of Erie-Lackawanna coal dock, to 16 feet. ³	R & H Committee Doc. 24, 71 st Cong., 2 nd sess.
	Aug 30, 1935	Widening channel to harbor line in Oswego River north of Seneca Street.	R & H Committee Doc. 7, 74 th Cong., 1 st sess.
	Oct 17, 1940	Closing gap in west breakwater; deepening west outer harbor, west of east line of Erie-Lackawanna coal dock, to project depth. ⁴	H. Doc. 96, 76 th Cong., 1 st sess.
	Jun 30, 1948	Construction of east outer breakwater; removal of the inner end of east arrowhead breakwater; and dredging channel and basin in east outer harbor. ⁵	H. Doc. 722, 80 th Cong., 2 nd sess. R & H Act of 1948, PL 80-858
	Sep 3, 1954	Construction of detached breakwater at harbor entrance and removal of shoals in approach to harbor entrance to 25 feet deep.	H. Doc. 487, 81 st Cong., 2 nd sess. R & H Act of 1948, PL 83-780
	Oct 23, 1962	Depth of 27 feet in lake approach channel; 25 feet deep in outer harbor channel 800 feet wide from entrance gap to a turning basin 25 feet deep about 750 by 1,100 feet, at mouth of Oswego River; depth of 24 feet in earth and 25 feet in hard material in river channel from turning basin to upstream end of Port of Oswego Authority's east side terminal, a distance of about 1,600 feet; relocation of Federal project limits in Oswego River upstream of 24-foot channel to Federal project limit at north line of West Seneca St., on lines parallel to 50 feet channel ward of established harbor lines; elimination of maintenance of inner west breakwater and elimination of modification authorized by River and Harbor Act of 1948.	H. Doc. 471, 87 th Cong., 2 nd sess. R & H Act of 1962, PL 87-874
	Oct 12, 1996	De-authorized the portion of the Federal Channel authorized by the R&H Act of 1910 as amended by the R&H Act of 1935, from the southernmost alignment of the Route 68 Bridge upstream to the northernmost alignment of the Lake St. Bridge.	WRDA 1996, PL 104-303
17		OTTAWA RIVER HARBOR, MI, OH	
	Dec 17, 1970	6-foot deep, 16,500 foot long channel in Ottawa River and 8-foot	H. Doc. 396, 91 st Cong., 2d

¹ Completed under previous projects.

² Replacement of bridges 19 and 32, widening Cuyahoga and Old River Channels, classified deferred.

³ Deepening a 200-foot strip along harbor line east of mouth of Oswego River is de-authorized.

⁴ Deepening to 22 feet a 150-foot wide strip in west outer harbor de-authorized in May 1981.

⁵ Modification eliminated by River and Harbor Act of Oct 26, 1962.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
		deep, 15,000-foot channel in Maumee Bay.	sess. House and Senate Committees on Public Works Resolutions
	Nov. 28, 1990	Continuation of authorization	Section 107 of WRDA 1990, 1990, PL 101-640.
18		PORT CLINTON HARBOR, OH	
	Jun 10, 1872	Parallel stone and pile jetties at mouth of river, east jetty 2,200 feet long and west jetty 1,980 feet long extending to 10-foot contour in lake channel 10 feet deep and 100 feet wide for outer 4,200 foot length and 200 feet wide for inner 800 foot length to Highway Bridge.	Annual Report, 1875, p. 295
		PORT ONTARIO, NY	
	Mar 2, 1945	Construct harbor of refuge.	H. Doc. 446, 78 th Cong., 2d sess. R & H Act of 1945, PL 79-14
	Nov 17, 1986	Maintain harbor of refuge.	Section 615 of WRDA 1986, PL 99-662
31		PRESQUE ISLE PENINSULA, ERIE, PA	
	Sep 3, 1954	Construction of groin system, seawall, bulkhead, placement of beach material at waterworks reservation and along remainder of peninsula; removal of portions of existing structures.	H. Doc. 231, 81 st Cong., 1 st sess. Flood Control Act of 1954, PL 83-780
	Jul 14, 1960	Periodic nourishment of shores for a 10-year period.	H. Doc. 397, 86 th Cong., 2 nd sess. Flood Control Act of 1960, PL 86-645
	Mar 7, 1974	Periodic nourishment of shore for a 5-year period.	H. Doc. 796, 93 rd Cong., 2 nd sess. WRDA 1974, PL 93-251
	Oct 22, 1976	Preparation of Phase I design memorandum for improvements consisting of construction of five sections of spaced offshore breakwaters and replenishment of beach area with sand fill.	Section 101 of WRDA 1976, PL 94-587
	Nov 17, 1986	Construct offshore breakwaters and restore beaches.	Section 501 of WRDA 1986, PL 99-662
19		ROCHESTER, HARBOR, NY	
	Mar 2, 1829	Construction of piers. ¹	Annual Report, 1874, p. 247
	Aug 2, 1882	Extension of piers to 15 foot contour in the lake. Concrete superstructure on piers. ¹	Annual Report, 1881, p. 2437; Annual Report, 1905, p. 2383
	Jun 25, 1910	Deepening channel to 20 feet.	H. Doc. 342, 61 st Cong., 2 nd sess.

¹ Completed under previous projects.

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Aug 30, 1935 ¹	Dredging of the entrance channel and turning basin, and the elimination of the inner ends of the east and west piers, all too present project dimensions.	H.Doc. 484, 72 nd Cong., 2 nd sess.
	Mar 2, 1945	Maintenance of existing channel upstream of the Penn Central Co. Bridge.	H. Doc. 139, 76 th Cong., 1 st sess. R & H Act of 1945, PL 79-14
	Jul 14, 1960	Depth of 24 feet in the channel from the lake to the west pier, depth of 23 feet between the piers and in the lower river to the Penn Central Co. Bridge, including the existing turning basin; depth of 21 feet from the bridge to the upstream project limit, with suitable widening at the bends; and turning basin 21 feet deep and 650 feet wide adjacent to the improved channel, with two mooring dolphins.	H. Doc. 409, 86 th Cong., 2 nd sess. ² R & H Act of 1960, PL 86-645
	Jul 14, 1960 Nov 28, 1990	A navigation project for the mouth of the Genesee River in Rochester, New York, by development and implementation of wave surge control measures.	Section 107 R & H Act of 1960, PL 86-645; WRDA 1990, PL 101-640
20		ROCKY RIVER HARBOR, OH	
	Jun 10, 1872	East pier and dredging of channel.	Annual Report 1871, p. 211
	Aug 26, 1937	Extension of east pier and deepening channel to present project dimensions.	H. Doc. 70, 75 th Cong., 1 st sess.
	Oct 27, 1965	Realign and extend channel and construct an anchorage basin.	H. Doc. 352, 88 th Cong., 2 nd sess. R & H Act of 1965, PL 89-298
		SACKETS HARBOR, NY	
	Aug 2 1882	Deepening harbor area to 12 feet.	Sen. Ex. Doc. 29, 47 th Cong., 1 st sess.
	Aug 13, 1888	Construct timber crib mooring place, and brush and stone jetty.	Annual Report, 1888 pt. III, p. 2086
		Build 2 stone groins (OCE-June 8, 1896)	Annual Report, 1896, pt. III, p. 3160
	Mar 2, 1945	Deepening to project dimensions.	H. Doc. 732, 79 th Cong., 2d sess. R & H Act of 1945, PL 79-14
21		SANDUSKY HARBOR, OH	
	Mar 3, 1899	Construction of channel protection works.	H. Doc. 362, 55 th Cong., 2 nd sess. and Annual Report 1898, p. 2708
	Jun 13, 1902	Widening of Straight and Dock channels and deepening to 19 feet.	H. Doc. 120, 56 th Cong., 2 nd sess.

¹ Authorized May 28, 1935 by Emergency Relief Administration Act of 1935.

² Contains latest published map.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Mar 2, 1919	Extension of east jetty to total length of 6,000 feet, with pierhead on outer end; deepening of the outer, straight, and easterly portion of dock channel to 20 feet.	H. Doc. 982, 64 th Cong., 1 st sess.
	Jan 21, 1927	Deepening of dock channel to 22 feet.	H. Doc. 584, 69 th Cong., 2 nd sess.
	Aug 30, 1935	Enlargement of turning basin and construction rock dike.	R & H Committee Doc. 2, 73 rd Cong., 1 st sess.
	Mar 2, 1945	Maintenance of bay channel to 22 feet; and elimination from project of portion of turning basin and rock dike.	H. Doc. 328, 76 th Cong., 1 st sess. R & H Act of 1945, PL 79-14
	Jul 14, 1960	Extending Moseley channel and deepening that channel and the outer end of Straight channel to 26 feet, from deep water in the lake to the vicinity of Cedar Point dock; widening the bend at the junction of the Moseley and Straight channels to 25 feet from the vicinity of Cedar Point dock to Junction Bay channel; deepening the Bay channel from the junction with the Straight channel to the outer end of the Pennsylvania Coal dock no. 3 to 24 feet, thence from outer end of the coal dock to the turning basin to 24 feet in removal of approximately 300 feet of the rock dike, and deepening to 24 feet in soft material and 25 feet in hard.	H. Doc. 144, 85 th Cong., 1 st Sess. R & H Act of 1960, PL 86-645
22		STURGEON POINT, NY	
	Jul 14, 1960	Rehabilitate existing breakwater, construct rubble mound, west breakwater extension, construct rubble mound east breakwater, a shore revetment and dredging.	Section 107 R & H Act of 1960, PL 86-645. Authorized by Chief of Engineers Oct 21, 1987.
23		TOLEDO HARBOR, OH	
	Mar 3, 1899	A channel 400 feet wide and 21 feet deep from 25-foot contour in Maumee Bay to Fassett Street Bridge, 200 feet wide and 19 feet deep above that point and a 500-foot turning basin at upper end. A stone re-vetted earth dike in Maumee Bay channel.	H. Doc. 198, 55 th Cong., 2 nd sess. and Annual Report 1898, p. 2693
	Jun 25, 1910	Act 1899 modified to insure a navigable channel to 21 feet from Fassett Street Bridge to lake.	H. Doc. 865, 60 th Cong., 1 st sess.
	Aug 30, 1935	Channel 25 feet deep and 500 feet wide from 25-foot contour to mouth of Maumee River (300 feet wide on each side of center dike in bay channel), thence 400 feet wide to Fassett Street Bridge, 200 feet wide above that point and a turning basin at upper end 18 feet deep.	R & H Committee Doc. 21, 72 nd Cong., 1 st sess.
	May 17, 1950	Widening at bend of mouth of River opposite Chesapeake and Ohio Railway Dock.	H. Doc. 189, 81 st Cong., 1 st sess. R & H Act of 1950, PL 81-516
	Sep 3, 1954	Removal of center dike in Maumee Bay channel.	H. Doc. 620, 81 st Cong., 2 nd sess. R & H Act of 1954, PL 83-780

BUFFALO, NY, DISTRICT

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
	Jul 3, 1958	Enlarge widening at bend opposite Chesapeake and Ohio dock and turning basin opposite American Shipbuilding Co. dock.	H. Doc. 436, 84 th Cong., 2 nd sess. R & H Act of 1958, PL 85-500
	Jul 14, 1960	Deepening Bay channel including widening to 28 feet, deepen river channels to NY Central Railroad bridge to 27 feet and construct new turning basin below Anthony Wayne Bridge.	H. Doc. 153, 86 th Cong., 1 st sess. ³² R & H Act of 1960, PL 86-645
	Jan 4, 2007	Establishes Regional Sediment Management as a priority in the Section 204 Program (CG CAP). Specifically names Toledo Harbor, OH as a priority area.	Section 2037 of WRDA 2007, PL 110-114 which amends Section 204 of WRDA of 1992
		Directs the Secretary to conduct a study of the feasibility of removing dredged materials from the CDF's at Toledo and moving the dredged material to abandoned mine sites in SE Ohio.	Section 4071 of WRDA 2007, PL 110-114
		Directs the Secretary to conduct a study of channel and turning basin realignment at Toledo Harbor.	Section 4072 of WRDA 2007, PL 110-114
24		TOUSSAINT RIVER, CARROLL TOWNSHIP, OH	
	Jul 14, 1960	Dredged channel from the mouth of the Toussaint River, 2,100 feet into Lake Erie, 4 feet below LWD, 150 feet wide in Lake Erie and tapered to 100 feet at the river mouth.	Section 107 of the R & H Act of 1960, PL 86-645. Authorized by Chief of Engineers Sep 29, 1990.
	Jan 4, 2007	Directs that the O&M costs associated with unexploded ordnance at the Toussaint River project be carried out at 100% Federal expense.	Section 5118 of WRDA 2007, PL 110-114
25		VERMILION HARBOR, OH	
	Jul 4, 1836	Parallel piers and dredging channel to 8 feet deep.	Annual Report, 1880
	Mar 3, 1875	Deepening of channel to 12 feet.	Annual Report, 1874, p. 219
	Mar 3, 1905	Reconstruction of piers.	H. Doc. 252, 58 th Cong., 2 nd sess.
	Jul 3, 1958	New entrance formed by two overlapping arrowhead breakwaters and extension of existing river channel upstream to Liberty St. Bridge.	H. Doc. 231, 85 th Cong., 1 st sess. R & H Act of 1958, PL 85-500.
26		WEST HARBOR, OH	
	Oct 27, 1965	Construction of arrowhead breakwaters, entrance channel and access channel.	H. Doc. 245, 88 th Cong., 2 nd sess. R & H Act of 1965, PL 89-298.
27		WILSON HARBOR, NY	
	Mar 2, 1945	Entrance channel 80 feet wide and 8 feet deep; and restore east and west piers.	H. Doc. 679, 76 th Cong., 2 nd sess. R & H Act of 1945, PL 79-14.
	Aug 13, 1968	Extend existing channel 300 feet; and construct new channel 3,800 feet long through Tuscarora Bay.	H. Doc. 112, 90 th Cong., 1 st sess.

Table 20-B AUTHORIZING LEGISLATION

<u>See Section</u>	<u>Acts</u>	<u>Work Authorized</u>	<u>Documents</u>
		Rehabilitate existing breakwater, construct rubble mound west breakwater extension, construct rubble mound east Breakwater, a shore revetment and dredging.	Section 107 of R & H Act of 1960, PL 86-645. Authorized by Chief of Engineers Oct 21, 1987.

BUFFALO, NY, DISTRICT

TABLE 20-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See annual Report For	Construction	Cost to Sep 30, 2009 Operations & Maintenance
Barcelona Harbor, NY	Active	2001	\$1,185,853	\$2,480,775
Big (Cunningham) Creek, OH	Completed	- ¹	19,763 ²	-
Black River Harbor, NY	Completed	- ¹	42,401	-
Buffalo Small Boat Harbor, NY	Completed	1994	602,016 ³	-
Cattaraugus Harbor, NY	Active	2000	4,804,060 ⁴	378,578
Cattaraugus Creek, NY	Completed	- ²	57,410	-
Cooley Canal, OH	Active	-	2,311,289	264,128
Geneva-on-the Lake, OH	Active	1990	3,145,176 ⁵	10,168
Grasse River Massena, NY	Completed	1891	9,000 ²	-
Kelleys Island, OH	Active	1974 ⁵	129,874	-
Little River at Cayuga Island, NY	Active	1969	46,804 ⁶	6,580
Morristown Harbor, NY	Active	1949	6,221	13,218
Niagara Remedial Works, NY ⁷	Completed	1966	6,069,395	510,819
Niagara River, NY ⁸	Active	1964	559,457 ⁹	311,840
Ogdensburg Harbor, NY	Active	1987	1,720,466 ¹⁰	1,436,688 ¹¹
Pultneyville Harbor, NY ¹³	Completed	1934	68,219	20,087
Rochester Harbor Wave Surge, NY	Completed	2001	1,800,769	1,713,189
Sandusky River, OH ¹⁴	Completed	1894	58,000 ²	557

¹ Only information available is in index to reports of Chief of Engineers.

² Amount includes maintenance; not separable.

³ Excludes \$593,216 contributed funds.

⁴ Excludes \$2,566,529 contributed funds.

⁵ Excludes \$3,261,375 contributed funds.

⁶ Annual Report for Detroit District.

⁷ Includes local interest's contribution of \$25,742.

⁸ Cost of operation and maintenance of this project will be settled directly by concerned power agencies. No further appropriations will be made to this project.

⁹ Construction of compensating works as authorized by 1930 R&H Act was authorized by Congress in Aug 1977.

¹⁰ Includes local interest contribution of \$27,563.

¹¹ Includes \$271,380 for previous projects. Excludes \$57,000 contributed funds.

¹² Includes \$130,512 for previous projects.

¹³ Abandonment recommended in H. Doc. 275, 64th Cong., 1st sess.

¹⁴ Abandonment recommended in Ex. Doc. 16, 35th Cong., 1st sess.

Table 20-D OTHER AUTHORIZED SHORE PROTECTION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost to Sep 30, 2009 Operations & Maintenance
Hamlin Beach State Park, NY	Completed	1976	\$1,769,600	-
Lakeview Park, Lorain, OH	Completed	1987	1,741,125 ¹	-
Maumee Bay State Park, OH	Completed	1995	2,780,975 ²	-
Selkirk Shore State Park, Lake Ontario, NY ³	Completed	1963	58,978	\$307

¹ Federal participation was limited to one-third of first cost when project was authorized by 1954 River and Harbor Act.

Federal participation was changed from one-third to 70 percent of remaining work under Public Law 87-874.

² Does not include \$739,700 contributed funds.

³ Does not include \$199,845 contributed funds.

BUFFALO, NY, DISTRICT

Table 20-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost To Sep 30, 2009 Operations & Maintenance
Auburn, NY, Owasco Outlet	Completed	1962	\$ 371,985 ¹	-
Batavia and Vicinity, Tonawanda Creek, NY	Completed	1957	335,385	-
Camp Perry, OH	Completed	1967 ²	275,000 ³	-
Cayuga Creek, Cheektowaga, NY ⁴	Completed	1984	1,404,500	-
Cuyahoga River Basin, OH	Active	1985	1,117,000	-
Dansville and Vicinity, Canaseraga Creek, NY	Active	1985	490,300	-
Fremont, OH, Sandusky River	Completed	1976	8,589,824 ⁵	-
Ithaca, Cayuga Inlet, NY	Completed	1978	3,929,300 ⁶	-
Lackawanna, NY, Smokes Creek	Completed	1971	3,542,068 ⁷	-
Lancaster, Cayuga Creek, NY	Completed	1954	79,730	-
Marsh Creek, Geneva, NY	Completed	-	226,429	-
Montour Falls, Oswego River Basin, NY	Completed	1954	1,681,785	-
Onondaga Creek, Nedrow, NY ⁴	Completed	1964	330,231	-
Ottawa, OH	Deferred	1989	374,000	-
Owasco Inlet and Outlet, Montville And Dry Creek, State Ditch and Crane Brook, NY ⁸	Deferred	1950	281,559	-
Point Place, Toledo, OH	Completed	1990	9,885,733 ⁹	-
Reno Beach-Howard Farms, OH	Completed	1997	5,483,192 ¹⁰	-
Scajaquada Creek, NY	Completed	1985	4,944,852	-
Syracuse, Oswego River Basin, NY	Completed	1954	3,349,248	-
Warsaw, NY Oatka Creek ⁴	Completed	1969	558,317 ¹¹	-
Wellsville, NY, Genesee River	Completed	1978	3,145,303 ¹²	-

¹ Excludes cost of \$188,732 under Public Law 88-99, Flood Control and Coastal Emergencies Appropriation, incurred for project rehabilitation as a result of damages due to storm Agnes, Jun 1972.

² Annual Report for Detroit District.

³ Includes local interest contribution of \$125,000.

⁴ Project authorized by Chief of Engineers.

⁵ Includes local interest contribution of \$6,944. Excludes cost of \$383,786 under Public Law 84-99. Flood Control and Coastal Emergencies Appropriation, for emergency restoration of levees damaged during 1973.

⁶ Includes local interest contribution of \$99,999. Excludes cost of \$104,005 under Public Law 84-99. Flood Control and Coastal Emergencies Appropriation, incurred for project rehabilitation as a result of damages due to storm Agnes, Jun 1972.

⁷ Includes local interest contribution of \$50,000.

⁸ In-active portion of work for State Ditch has been done by local interest and work on Crane Brooks has been deferred at the request of local interests.

⁹ Excludes \$1,871,631 in contributed funds.

¹⁰ Excludes \$475,994 in contributed funds.

¹¹ Excludes cost of \$26, 807 under Public Law 84-99, Flood Control and Coastal Emergencies Appropriation, incurred for project rehabilitation as a result of damages due to storm Agnes, Jun 1972.

¹² Includes local interest contribution of \$50,000. Excludes cost of \$374,042 under Public Law 84-99, Flood Control and Coastal Emergency Appropriation, incurred for project rehabilitation as a result of damages due to storms.

TABLE 20-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Black Rock Channel and Tonawanda Harbor, NY 1935 R&H Act ¹	1962	Aug-77	-	-
Black Rock Channel and Tonawanda Harbor, NY 1954 R&H Act	1962	May-81	-	-
Buffalo Harbor Drift Removal, NY	-	Dec-92	-	-
Buffalo Ship Canal, Buffalo, NY	-	Dec-92	-	-
Caledonia, Genesee River, NY 1950 FC Act	1950	Jan-90	-	-
Cape Vincent Harbor, NY 1945 R&H Act	1962	Nov-86	-	-
Chittenango Creek and Tributaries, NY 1944 FC Act	1948	Jan-90	12,464	-
Conneaut Harbor, OH R&H Act, 1910 (southerly 300 feet of shorearm)	1997	Oct-96	-	-
Conneaut Harbor, OH 1966 R&H Act, 1990 WRDA	1995	Nov-95	-	-
Crane Creek State Park, OH 1962 R&H Act	1968 ²	Nov-79	-	-
Cuyahoga River Basin 1970 FC Act	-	Apr-99	-	-
Dansville & Vicinity 1948 FC Act	-	Apr 98	-	-
Dunkirk Harbor, NY WRDA 1986	-	Dec-92	-	-
Eastlake, Chagrin River, OH 1965 FC Act	1976	Jan-90	506,344	-
Edgewater Park, OH 1954 R&H Act	-	Jan-90	-	-
Elk Creek Harbor, PA 1966 R&H Act	1978	Dec-92	101,500	-
Erie Harbor, PA 1899 R&H Act	1963	Nov-81	-	-
Erie Harbor, PA 1945 R&H Act	1963	Aug-77	-	-
Erie Harbor, PA 1960 R&H Act	1963	Aug-82	-	-
Fairhaven Beach State Park, NY 1958 R&H Act	-	Jan-90	-	-
Fairport Harbor, OH 1960 R&H Act	1995	Nov-95	67,000	-
Fairport Harbor, OH Sec. 201 1965 FC Act	1995	Nov-95	-	-
Fort Niagara State Park, NY Sec. 201 1965 FC Act	-	Jan-90	-	-
Grandview Bay Harbor, NY 1945 R&H Act	1948	Aug-77	1,524	-
Great Sodus Bay Harbor, NY 1941 R&H Act	1963	Aug-77	-	-
Hamlin Beach Harbor, NY 1968 R&H Act	1973	Jan-90	72,052	-
Hammondsport, Oswego River Basin, NY 1941 FC Act	1951	Nov-83	29,000	-
Huron Harbor, NY 1962 R&H Act ³	1963	Jan-90	-	-
Ithaca, NY – Cascadilla Creek 1941 FC Act	1950	Aug-77	8,159	-
Ithaca, NY – Fall Creek 1941 FC Act	1950	Aug-77	12,300	-
Lorain Harbor, OH – Sec. 107, R&H Act 1960 (Portion of small boat basin)	1998	Oct-96	-	-
Lorain Harbor, OH 1960 R&H Act, modified by 1965 R&H Act ⁴	1966	Jan-90	-	-
Maumee River, above Toledo, OH 1872 Act	1971 ¹⁰²	Nov-77	12,000	-
Ottawa River, OH (Blanchard)	-	Apr -02	-	-
Morristown Harbor, NY 1927 R&H Act (Portion north of northern boundary of Morris St. extended.	1949	Oct-96	-	-
Niagara River, Compensating Works, 1930 R&H Act	1964	Aug-77	-	-

¹ Extension of guide pier only; other improvements completed.

² Annual Report For Detroit District.

³ Breakwater.

⁴ Uncompleted portion.

BUFFALO, NY, DISTRICT

TABLE 20-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date Deauthorized	Federal Funds Expended	Contributed Funds Expended
Ogdensburg Harbor, NY 1935 R&H Act	1986	Nov-86	-	-
Ogdensburg Harbor, NY R&H Acts 1910, 1935 (Portion from southernmost alignment of Rte 68 Bridge upstream to northern alignment of Lake St. Bridge)	1987	Oct-96	-	-
Oswego Harbor, NY 1930 R&H Act	1963	Jan-90	-	-
Oswego Harbor, NY 1940 R&H Act ¹	1963	May-81	-	-
Port Bay, NY 1950 R&H Act	-	Jan-90	-	-
Red Creek, NY 1966 FC Act	1975	Nov-86	361,241	-
Sackets Harbor, NY 1945 R&H Act	1948	May-81	19,010	-
Selkirk Shores State Park, OH 1954 R&H Act ²	1963	Jan-90	-	-
Sheffield Lake Community Park, Oh 1962 R&H Act	-	Aug-77	-	-
Watkins Glenn, NY 1941 FC Act	1958	Aug-77	43,182	-
White City Park, OH 1954 R&H Act	-	Jan-90	-	-

¹ Deepening of west outer harbor, other improvements completed.

² Breakwater

TABLE 20-H FLOOD CONTROL AND COASTAL EMERGENCIES

ACTIVITY	FEDERAL COST	CONTRIBUTED COST
Disaster Preparedness	300,836	
Emergency Operations	14,533	
Total FCCE	315,369	

TABLE 20-I GENERAL INVESTIGATIONS

	<u>GENERAL INVESTIGATIONS</u>	<u>OPERATIONS & MAINTENANCE</u>	<u>NON-FEDERAL</u>
<u>SURVEYS</u>			
<u>NAVIGATION STUDIES</u>			
Cuyahoga River Bulkhead Study	237,064		
<u>SPECIAL STUDIES</u>			
Buffalo River Environmental Dredging, NY	114,046		
Buffalo River Environmental Dredging, NY ARRA	32,760		
Western Lake Erie Basin, OH	526,284		
Western Lake Erie Basin, OH ARRA	10,805		
Niagara River Watershed, NY	48,357		
John Glen Great Lakes Basin Strategic Plan ARRA	5,243		
<u>MISCELLANEOUS ACTIVITIES</u>			
Special Investigations	19,058		
Review of FERC Licenses	511		
Interagency Water Resource Development	22,341		
Great Lakes Regional Collaboration	56,475		
National Estuary Studies	2,836		
North American Waterfowl Management Plan	984		
<u>COORDINATION WITH OTHER GOVERNMENT AGENCIES AND NON-FEDERAL INTERESTS</u>			
Cooperation with Other Water Agencies	2,979		
PAS – Negotiation Funds	19,427		
PAS – Amherst Soil Study, NY	57,537		
PAS – Rochester Environmental	28,498		7,310
PAS – Harpersfield Dam	6,295		
Great Lakes Remedial Action Program (Coordination)	6,304		
Great Lakes Remedial Action (Project Specific)	245,570		
<u>COLLECTION AND STUDY OF BASIC DATA</u>			
<u>INTERNATIONAL WATER STUDIES</u>			
International Water Studies	44,834		
<u>FLOOD PLAIN MANAGEMENT SERVICES</u>			
Flood Plain Management Services	74,687		
Technical Services	24,592		
Quick Responses	4,950		

TABLE 20-J WORK UNDER SPECIAL AUTHORITIES

	<u>FEDERAL COST</u>	<u>NON-FEDERAL COST</u>
<u>NAVIGATION PROJECTS</u>		
<u>PROJECTS NOT SPEC AUTH BY CONGRESS SECTION 107</u>		
Section 107 Coordination Account	1,925	
Cooley Canal Harbor, OH	11,525	
<u>PROJECTS NOT SPEC AUTH BY CONGRESS SECTION 111</u>		
111 Vermilion, OH	12,952	
111 Fairport Harbor, OH	15,309	
Section 111 Coordination Account	10,139	
<u>BEACH EROSION CONTROL PROJECTS</u>		
<u>PROJECTS NOT SPEC AUTH BY CONGRESS SECTION 103</u>		
Lake Erie at Painesville, OH	21,418	
LaSalle Park, Buffalo NY	10,694	
<u>FLOOD CONTROL PROJECTS</u>		
<u>PROJECTS NOT SPEC AUTH BY CONGRESS SECTION 205</u>		
Section 205 Coordination Account	14,171	
Cazenovia Creek, Buffalo, NY	6,106	
Keshequa Creek, Nunda	-57	
CAP 205 Cuyahoga River, IND	32,458	
CAP 205 Cuyahoga River, Valley View	34,071	
CAP 205 Walton Hills, OH	-57	
CAP 205 Brooklyn Heights, OH	9,516	
Cuyahoga River, Brecksville, OH	2,872	
CAP 205 Chagrin River, Eastlake	21,430	
Blanchard River, Findlay, OH	437,063	6,171
Blanchard River, Ottawa, OH	397,774	204
Baldwin Creek, North Royalton, OH	4,661	
<u>EMERGENCY STREAMBANK & SHORELINE PROTECTION (SECTION 14-46 ACT MOD) (SECTION 27 – 1974 WRDA)</u>		
Section 14 Coordination Account	5,164	
Old Fort Niagara, NY	11,328	
Tonawanda Creek, RD, NY	9,972	
Tonawanda Creek, Newstead, NY	40,676	
Graycliff House, Evans, NY	29,984	
Keuka Lake, Hammondsport, NY	4,969	
East Valley Creek, Andover, NY	20,811	

TABLE 20-J WORK UNDER SPECIAL AUTHORITIES (Continued)

	<u>FEDERAL COST</u>	<u>NON-FEDERAL COST</u>
<u>EMERGENCY STREAMBANK & SHORELINE PROTECTION</u>		
<u>(SECTION 14-46 ACT MOD) (SECTION 27 – 1974 WRDA)</u>		
Swan Creek, South Toledo, OH	24,283	
Cayuga Creek, Depew, NY	15,000	
Lake Ontario, Albion Water	227,775	191,957
Spring Brook, Springville, NY	18,723	
City of Brunswick, OH	18,326	
Minnick Road, Tonawanda Creek	23,274	221,639
Sewerline, Canadaway Creek – Fredonia, NY	108,706	
Ottawa River, Shoreland Drive, Toledo, OH	72,763	-66,033
Ransom Creek, Hopkins Road, Amherst, NY		32,735
<u>MISCELLANEOUS</u>		
<u>PROJECT MODIFICATION TO IMPROVE ENVIRONMENT</u>		
<u>SECTION 1135</u>		
Section 1135 Coordination Account	14,698	
Sheldon’s Marsh Lake Erie	23,813	
Smokes Creek, Erie County, NY	36,661	
<u>AQUATIC ECOSYSTEM RESTORATION SECTION 206</u>		
Section 206 Coordination Account	13,656	
Arcola Creek, Madison, OH	13,112	
Johnson Pond, Lyndonville, NY	13,309	
Syracuse Lakefront, Onondaga Lake, NY	12,544	
Cuyahoga River Stream Project, Akron, OH	12,281	
Little Cuyahoga River, Akron, OH	12,749	
<u>ESTUARY HABITAT RESTORATION PROGRAM</u>		
Euclid Creek, OH	3,736	
<u>WETLAND/OTHER AQUATIC HABITAT RESTORATION, OH</u>		
Maumee Bay Habitat Restoration, OH	606,272	
Ottawa River, OH	48,755	
Buffalo River, NY	156,996	
Ashtabula RSM, OH	157,647	
Presque Isle, RSM, PA	189,137	
Section 204 Coordination Account	5,386	
792 Wynn Road, Oregon, OH	327,261	

TABLE 20-K INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

<u>No.</u>	<u>Project Name</u>	<u>Body of Water</u>	<u>City</u>	<u>State</u>	<u>Date Inspected</u>
NEW YORK					
1	Albion Sewage Treatment Plant	Lake Ontario	Carlton	NY	Not Inspected
2	Back River Road	Genesee River	Amity	NY	Not Inspected
3	Bird Island Pier Rehabilitation	Niagara River	Buffalo	NY	Not Inspected
4	Blasdell Creek	Blasdell Creek	Hamburg	NY	1 Oct 2009
5	Block Church Road	Tonawanda Creek	Royalton	NY	Not Inspected
6	Caneadea Sewage Treatment Plant	Genesee River	Houghton	NY	Not Inspected
7	Catherine and Shequaga Creeks	Catherine/ Shequaga Creeks	Montour Falls	NY	9 Jul 2009
8	Cattaraugus Creek	Cattaraugus Creek	Arcade	NY	Not Inspected
9	Cattaraugus Creek Harbor	Lake Erie	Irving	NY	13 Aug 2009
10	Cayuga Creek (Cheektowaga)	Cayuga Creek	Cheektowaga	NY	28 Sep 2009
11	Cayuga Creek (Lancaster)	Cayuga Creek	Lancaster	NY	1 Oct 2009
12	Cayuga Inlet	Off Cayuga Lake	Ithaca	NY	4 Aug 2009
13	Cazenovia Creek Clearing and Snagging	Cazenovia Creek	West Seneca	NY	17 Sep 2009
14	Cazenovia Creek Ice Control Structure	Cazenovia Creek	West Seneca	NY	17 Sep 2009
15	Cold Spring and Putnam Brooks	Cold Spring Brook and Putnam Brooks	Weedsport	NY	13 May 2009
16	Conesus Lake Outlet	Off Conesus Lake	Livonia	NY	17 Jun 2009
17	Dunkirk Harbor	Lake Erie	Dunkirk	NY	13 Aug 2009
18	Ellicott Creek	Ellicott Creek	Amherst/Tonawanda	NY	20 Sep 2009
19	Ellicott Creek Clearing and Snagging	Ellicott Creek	Amherst/Tonawanda	NY	20 Sep 2009
20	Fredonia Sewage Treatment Plant	Lake Erie	Dunkirk	NY	13 Aug 2009
21	Fredonia Sewage Treatment Plant Sewerline	Canadaway Creek	Dunkirk	NY	13 Aug 2009
22	Glen Brook Clearing and Snagging	Glen Brook	Hammondsport	NY	10 Jul 2009
23	Glen Brook Concrete Flume	Off Keuka Lake	Hammondsport	NY	10 Jul 2009
24	Irondequoit Bay	Irondequoit Bay/ Lake Ontario	Irondequoit	NY	Not Inspected
25	Kashong Creek	Kashong Creek	Geneva	NY	Not Inspected
26	Keshequa Creek - Emerg. Streambank Protection	Keshequa Creek	Nunda	NY	Not Inspected

BUFFALO, NY, DISTRICT

TABLE 20-K INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

No.	Project Name	Body of Water	City	State	Date Inspected
NEW YORK (continued)					
27	Keshequa Creek Clearing and Snagging	Keshequa Creek	Nunda	NY	17 Jun 2009
28	Keuka Lake Outlet Clearing and Snagging	Keuka Lake	Penn Yan	NY	10 Jul 2009
29	Keuka Lake Outlet Control Structure	Keuka Lake Outlet	Penn Yan	NY	10 Jul 2009
30	Lake Erie State Park	Lake Erie	Brocton	NY	13 Aug 2009
31	Marsh Creek	Marsh Creek	Geneva	NY	9 Jul 2009
32	Minnick Road Bank Stabilization	Tonawanda Creek	Rapids	NY	Not Inspected
33	New York State Thruway Bridge	Cattaraugus Creek	Irving	NY	13 Aug 2009
34	NFTA Small Boat Harbor	Lake Erie	Buffalo	NY	Not Inspected
35	Niagara River Retaining Wall	Niagara River	Tonawanda	NY	Not Inspected
36	Ninemile Creek (Amboy)	Ninemile Creek	Amboy	NY	12 May 2009
37	Ninemile Creek (Camillus)	Ninemile Creek	Camillus	NY	12 May 2009
38	Oak Orchard Beach Lake Ontario State Parkway	Lake Ontario	Kendall	NY	Not Inspected
39	Oatka Creek	Oatka Creek	Warsaw	NY	30 Sep 2009
40	Onondaga Creek (Nedrow)	Onondaga Creek	Nedrow	NY	6 Aug 2009
41	Onondaga Creek (Syracuse)	Onondaga Creek	Syracuse	NY	6 Aug 2009
42	Onondaga Lake Dam and Reservoir	Onondaga Creek	Syracuse	NY	Not Inspected
43	Owasco Inlet	Off Owasco Lake	Moravia	NY	5 Aug 2009
44	Owasco Outlet (Auburn)	Off Owasco Lake	Auburn	NY	5 Aug 2009
45	Owasco Outlet (Port Byron)	Owasco Outlet	Port Byron	NY	12 May 2009
46	Port Ontario Harbor	Lake Ontario	Port Ontario	NY	Not Inspected
47	Rochester Harbor Wave Surge Reduction Project	Lake Ontario	Rochester	NY	Not Inspected
48	Rogers Cemetery	Genesee River	Amity	NY	Not Inspected
49	Route 20A Bridge	Genesee River	Geneseo	NY	Not Inspected
50	Salmon River Town/Village	Salmon River	Malone	NY	Not Inspected
51	Scajaquada Creek	Scajaquada Creek	Cheektowaga	NY	28 Sep 2009
52	Seneca Falls Sewage Treatment Plant	Seneca River	Seneca Falls	NY	Not Inspected

TABLE 20-K INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

No.	Project Name	Body of Water	City	State	Date Inspected
NEW YORK (continued)					
53	Seneca Lake Wastewater Treatment Plant	Seneca Lake	Watkins Glen	NY	Not Inspected
54	Skaneateles Creek	Skaneateles Creek	Jordan	NY	13 May 2009
55	Smokes Creek	Smokes Creek	Lackawanna	NY	Not Inspected
56	Sodus Point Lighthouse	Lake Ontario	Great Sodus	NY	Not Inspected
57	St. Columbans on the Lake	Lake Erie	Silver Creek	NY	Not Inspected
58	Sturgeon Point Small Boat Harbor	Lake Erie	Evans	NY	13 Aug 2009
59	Tonawanda Creek	Tonawanda Creek	Batavia	NY	17 Jun 2009
60	Trinity Episcopal Church	Seneca River	Seneca Falls	NY	Not Inspected
61	Van Buren Point	Lake Erie	Portland	NY	13 Aug 2009
62	Van Campen Creek	Van Campen Creek	Friendship	NY	Not Inspected
63	Wellsville	Genesee River	Wellsville	NY	30 Sep 2009
64	Wendt Beach Park	Lake Erie	Evans	NY	13 Aug 2009

OHIO					
65	Akron Main Sanitary Sewer Line	Cuyahoga River	Akron	OH	Not Inspected
66	Baldwin Road	Chagrin River	Kirtland Hills	OH	Not Inspected
67	Bayview	Sandusky Bay	Bayview	OH	Not Inspected
68	Brecksville Road	Hemlock Creek	Independence	OH	Not Inspected
698	Century Park	Lake Erie	Lorain	OH	Not Inspected
70	Chillicothe Road	Chagrin River	Kirtland	OH	Not Inspected
71	Cleveland Harbor CDF #12 Stone Dike	Lake Erie	Cleveland	OH	Not Inspected
72	Cuyahoga Street	Cuyahoga River	Akron	OH	Not Inspected
73	Deist Road	Lake Erie	Middle Bass Island	OH	Not Inspected
74	Domonkas Library	Lake Erie	Sheffield Lake	OH	Not Inspected
75	Eastlake	Lake Erie	Eastlake	OH	Not Inspected
76	Euclid Creek	Euclid Creek	Cleveland	OH	Not Inspected

BUFFALO, NY, DISTRICT

TABLE 20-K INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

No.	Project Name	Body of Water	City	State	Date Inspected
OHIO (continued)					
77	Euclid Creek Emerg. Rehab	Euclid Creek	Cleveland	OH	Not Inspected
78	Euclid General Hospital	Lake Erie	Euclid	OH	Not Inspected
79	Fremont	Sandusky River	Fremont	OH	24 Sep 2009
80	Geneva-on-the-Lake Small Boat Harbor	Lake Erie	Geneva	OH	Not Inspected
81	Hospice of the Western Reserve	Lake Erie	Cleveland	OH	Not Inspected
82	Lakeshore Park	Lake Erie	Ashtabula	OH	Not Inspected
83	Lakeview Park	Lake Erie	Lorain	OH	Not Inspected
84	Linwood Park	Lake Erie	Vermilion	OH	Not Inspected
85	Lorain Small Boat Harbor	Lake Erie	Lorain	OH	Not Inspected
86	Maumee Bay State Park	Maumee Bay/ Lake Erie	Lucas County	OH	Not Inspected
87	Mayfield Road	Chagrin River	Gates Mills	OH	Not Inspected
88	Mentor Beach Park	Lake Erie	Mentor	OH	Not Inspected
89	North Portage Path	Cuyahoga River	Akron	OH	Not Inspected
90	Oak Harbor Wastewater Treatment Plant	Portage River	Oak Harbor	OH	Not Inspected
91	Oregon Municipal Water Supply	Maumee Bay/ Lake Erie	Oregon	OH	Not Inspected
92	Pier 34 North Coast Harbor	Lake Erie	Cleveland	OH	Not Inspected
93	Point Place	Maumee Bay/ Ottawa River	Toledo	OH	Not Inspected
94	Reno Beach-Howard Farms	Lake Erie	Jerusalem Township	OH	Not Inspected
95	Riverview Road	Cuyahoga River	Cuyahoga Falls	OH	Not Inspected
96	Sand Road	Lake Erie	Catawba Island	OH	Not Inspected
97	Shoreland Drive	Ottawa River	Toledo	OH	Not Inspected
98	Sims Park	Lake Erie	Euclid	OH	Not Inspected
99	Solon Road	Chagrin River	Chagrin Falls	OH	Not Inspected
100	South Perimeter Rd (Kelly's Island)	Lake Erie	Kelley's Island	OH	Not Inspected
101	Sperry Road	Chagrin River	Kirtland Hills	OH	Not Inspected
102	St. Joseph Life Center	Lake Erie	Cleveland	OH	Not Inspected
103	State Road 163	Lake Erie	Marblehead	OH	Not Inspected

TABLE 20-K INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

No.	Project Name	Body of Water	City	State	Date Inspected
OHIO (continued)					
104	State Route 15	Blanchard River	Ottawa	OH	Not Inspected
105	State Route 531	Lake Erie	Geneva	OH	Not Inspected
106	Swan Creek	Swan Creek	Toledo	OH	23 Sep 2009
107	Tobias Ditch	Maumee Bay	Oregon	OH	23 Sep 2009
108	Twilight Drive Lift Station	Lake Erie	Mentor-on-the-Lake	OH	Not Inspected
109	Whites Landing	Sandusky Bay	Erie County	OH	23 Sep 2009
110	Wightmans Grove	Sandusky River	Wightmans Grove	OH	Not Inspected

PENNSYLVANIA					
111	Brig Niagara Berthing Facility East Canal Basin	Presque Isle Bay	Erie	PA	Not Inspected
112	Little Elk Creek	Little Elk Creek	Girard	PA	Not Inspected
113	Presque Isle Peninsula	Lake Erie	Erie	PA	Not Inspected

Work performed in FY09 during the period 1 October 2008 through 30 September 2009 includes: the inspection of 44 Inspection of Completed Works (ICW) Program projects for conformance with Operations and Maintenance manuals; implementation of new guidance from HQUSACE, such as Periodic Inspections, Levee Screenings, Vertical Datum Survey, and other initiatives of the Levee Safety Program; review of project modifications; project engineering evaluations; coordination with FEMA on the status of levee ratings and certifications; and updates of the hydraulics and hydrology of various local flood control projects. The cost for the FY09 work is \$530,055. The total cumulative cost for the program through 30 September 2009 is \$6,550,516. There are currently a total of 113 projects in the Buffalo District ICW Program.