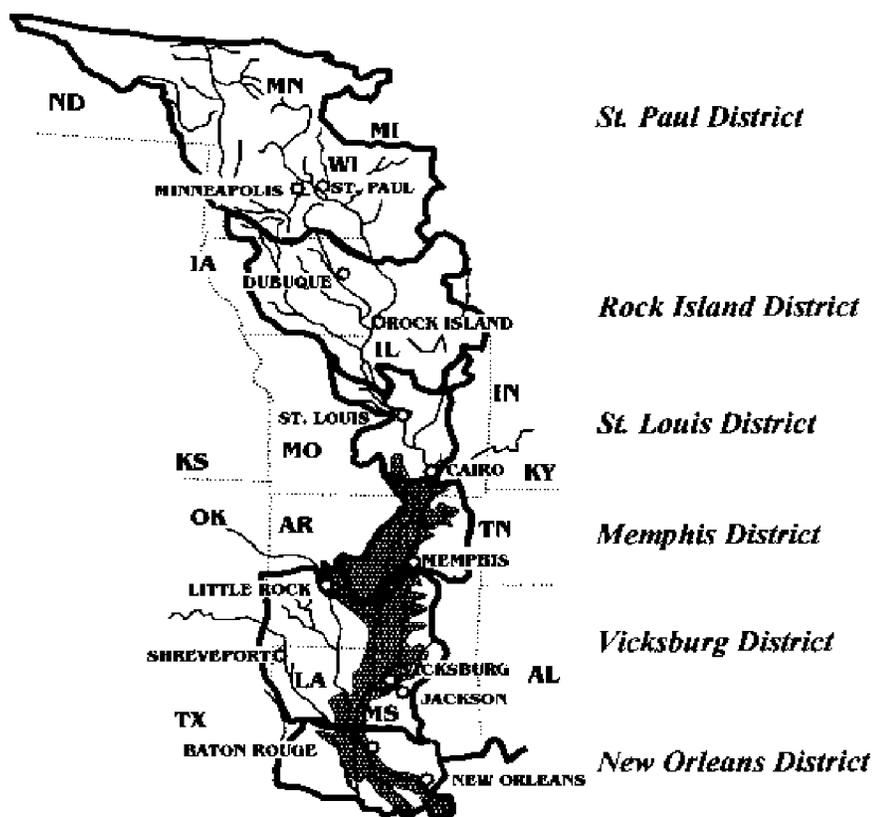


Mississippi Valley Division and Mississippi River Commission



Mississippi River Commission



Mississippi River Commission Building in Vicksburg, MS

The Mississippi River Commission (MRC) was created by an Act of Congress in 1879 to improve navigation and flood control on the Mississippi River. The MRC was, and is, composed of seven members who are nominated by the President of the United States and confirmed by the Senate.

Until the tremendous Flood of 1927, the MRC's main emphasis was on river improvements for navigation. After the flood, however, Congress passed the 1928 Flood Control Act committing the Federal government to a comprehensive program of flood control and authorizing the Mississippi River and Tributaries (MR&T) project. The original act has been amended several times to adapt to changing conditions and requirements.

Physical construction of the total MR&T project is about 92 percent complete and is designed to control a "project design flood" with a discharge of 3 million cubic feet per second. The hypothetical project flood is based on the maximum probable runoff from the artificial combination of the most severe rainstorms which have actually occurred at critical points of the basin.

The project is composed of four major features: levees, floodways, channel improvement, and tributary basin improvement.

Levees are the backbone of the system and cover more than 2,000 miles along the Mississippi River and principal tributaries--extending from Cape Girardeau, Missouri, to Venice, Louisiana. Their purpose is to confine floodwaters to the main channel and designated floodways.

Four floodways exist in the MR&T project to divert excess flows in critical locations. The northernmost one is Birds Point-New Madrid in Missouri, which was used once, in 1937. The other three--West Atchafalaya, Morganza, and Bonnet Carré--are in Louisiana. West Atchafalaya has never been used, and Morganza was used once, in 1973. However, Bonnet Carré, located just upstream of New Orleans, was the first floodway completed and has been opened eight times--1937, 1945, 1950, 1973, 1975, 1979, 1983, and 1997.

The main components of channel improvement and stabilization are cutoffs, revetments, dikes, and dredging. This work is designed to protect the levees, increase the flood carrying capacity, and improve navigation.

Tributary basin improvement work includes flood control dams, channel improvements, and interior drainage. The four major basins are the St. Francis, Yazoo, Tensas, and Atchafalaya.

The Mississippi River and tributaries drain an area of 1.25 million square miles, involving 31 states and two Canadian provinces. This involves about 41 percent of the total U.S. land area, excluding Alaska and Hawaii. As water collects from this vast drainage basin--the fourth largest in the world--it has only one way to go. That is through the lower Mississippi River starting at its juncture with the Ohio River at Cairo, Illinois.

The total authorized cost of the MR&T Project including all modifications is \$11.8 billion. Expenditures to date amount to \$9.6 billion, with annual maintenance averaging \$133 million over the last five years. Damages prevented and benefits accrued to the project since it began amount to \$351.2 billion at 1997 price levels. A good part of the benefits have been in preventing damages from flood losses.



Algiers Lock on the Gulf Intracoastal Waterway at the Mississippi River

Civil Functions of the Corps of Engineers

Through its Civil Works Program, the Corps carries out a comprehensive nationwide program of water resources planning, design, construction, and operations.

Federal water resource development projects are initiated by local interests, authorized by Congress, and constructed by the Corps under the Civil Works Program. In the program, the Corps is the engineer consultant to Congress.

Corps civil works water resources projects are authorized by a process that always involves the public. When the people and governing authorities in a community feel there is need for improved navigation, flood protection, or other resources development, they petition their congressional representative. The senator or representative then requests the appropriate Congressional Committee on Public Works to direct the Corps of Engineers to make a survey and furnish recommendations. Authority for a feasibility study is either a resolution adopted by the

Senate or House Committee on Public Works or an item in a Congressional Act.

The Corps uses a two-phase study process. The first, or reconnaissance phase, is performed at Federal expense. The second, or feasibility phase, is performed in partnership with local interests who cost share in this phase on a 50 percent Federal and 50 percent non-Federal basis.

During a study, the Corps holds public meetings and workshops. Opinions of local people are fundamental to any Corps study for two reasons. First, the effects of the proposed solutions on the area must be acceptable to the people of the area. Second, in any potential project local participation is required. Other Federal and state agencies concerned with resource planning and development are contacted during the study. The Corps coordinates its programs with these agencies to resolve possible conflicts and to ensure compatibility of their programs with the Corps' projects.



Creole Queen on the Mississippi River at New Orleans

After the best alternative is determined, the Corps submits a feasibility report and environmental impact statement to Congress. When approved, the recommended project is authorized by Congress. However, the project still requires congressional appropriation to transform it into a reality.

To initiate an authorized project, the Corps asks Congress for preconstruction engineering and design funds. When the funds are available, the Corps accomplishes the preconstruction engineering and design. Construction is initiated by the Corps when preconstruction engineering and design are completed and a local cooperation agreement is signed between the government and the local sponsor. Congress and the local sponsor provide funds for project construction.

Completed projects may be operated and maintained by the Corps, or they may be transferred to another agency or to a local government for operation and maintenance. The Civil Works Program is directed toward water resources development that satisfies both immediate and long-range water requirements. These requirements include navigation, flood control, drainage, water supply for irrigation and municipal-industrial uses, hurricane flood protection, water quality control, hydroelectric power, shore and beach protection, water-oriented recreation, enhancement of fish and wildlife resources, and the study of urban area problems, including wastewater management. Environmental preservation is a major consideration in all Corps efforts.

The Small Water Resource Development Project (Section 201, Flood Control Act of 1965) expedites the authorization of small projects by allowing them to be acted on by a resolution of the Committees on Public Works of the Senate and House of Representatives rather than the Congress as a whole. For such projects, the Corps is authorized to construct, operate and maintain both single and multipurpose projects involving, but not limited to navigation, flood control, and shore protection. The estimated Federal first cost of these projects must be less than \$15million.

Project Purposes

Navigation

Beginning with the act approved in May 1824, Congress authorized investigations and improvements for navigation and related purposes with a series of Rivers and Harbors acts and Water Resources Development acts. Basic policies and procedures were established by these laws. The Water Resources Development Act of 1986 clarifies and expands the Federal policy on navigation improvements and establishes general requirements for local cooperation.

The Corps compiles annual statistics on commercial cargoes. This information is used in determining the need and justification for improvements and the maintenance of rivers and harbors for navigation.

Flood Control

The purpose of flood control projects is to regulate flood flows to prevent damages. This is accomplished with flood control storage, in which floodwaters are stored and later released at nondamaging rates, or levee and channel improvements.

The Corps of Engineers' involvement in flood control projects began in 1882, when Congress, for the first time, authorized the Mississippi River Commission to build levees. The floods of 1912 and 1913 drew national attention to the need for protection. This prompted the Federal government to establish a higher priority for flood control projects. Under legislation known as the First Flood Control Act of 1917, levee construction began to reflect a national commitment to prevent floods on the Mississippi River and the Sacramento River in California.

The 1927 flood, a major disaster and the worst in the history of the Lower Mississippi Valley, prompted Congress to pass the Flood Control Act of 1928, long-needed legislation that committed the Federal government to a comprehensive program of flood control along the Mississippi.

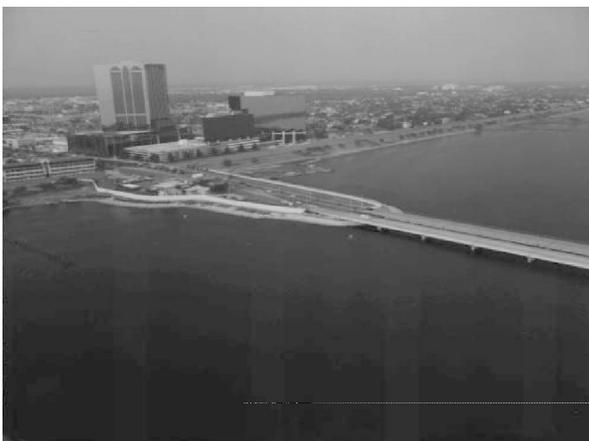


Amstar Levee along the Mississippi River at Arabi, LA

The Water Resources Development Act of 1986 is the latest act to establish general requirements for local cooperation.

Hurricane Protection

Hurricanes have caused catastrophic losses of life and property along the Atlantic and Gulf coasts. In some instances, tidal flooding can be prevented or reduced by protective structures, such as dams and barriers. Other protection measures include raising dunes and constructing dikes, walls, and breakwaters. Increasing the height of natural beaches can also provide protection.



Lake Pontchartrain Hurricane Protection Levee and bike path at Causeway toll booth

Specific hurricane protection studies must be authorized by a resolution of the House or Senate Public Works Committee. Hurricane protection works that are justified are recommended to Congress for authorization and subsequent construction.

Environmental Restoration

Congress, in the Fish and Wildlife Coordination Act of 1958, as amended, and the Federal Water Project Recreation Act of 1965, as amended, declare it national policy that in investigating and planning any Federal navigation, flood control, or multipurpose water resource project, full consideration shall be given to the opportunities, if any, which the project affords for fish and wildlife conservation and improvement. The Corps may recommend fish and/or wildlife conservation and improvement as a project purpose in reports to Congress when certain conditions concerning resource significance, constraints on allocated costs, and requirements for non-Federal participation are met. The Corps may also consider ecosystem restoration projects as single purpose projects, in both specifically authorized studies which contain an environmental project purpose and in continuing authorities projects.



American coots at Bayou LaBranche Wetlands Creation project

The types of actions that fall within the intent of fish and wildlife conservation and improvement are those structural and nonstructural measures that contribute to increasing the quantity of identified species and/or improving the quality of their habitat. Examples are protective fencing, land cover manipulation, water diversion channels, sub-impoundment dams, selective clear cutting, planting of food and cover vegetation, species relocation, wetland restoration and creation, low flow augmentation, lands acquisition, and the enforcement of protective regulations.

Hydroelectric Power

By a series of laws dating back to the Rivers and Harbors Act of 1909, power development may be included by the Chief of Engineers in multiple-purpose projects when it is collateral with the objectives of flood control and navigation.

Water Supply

Under the Flood Control Act of 1944, the Secretary of the Army is authorized to make contracts with states, municipalities, private concerns, or individuals for domestic and industrial uses of surplus water that may be available at Corps of Engineers projects. The Water Supply Act of 1958, as amended, makes

further provisions for water supply storage in Federal navigation, flood control, irrigation, or multiple-purpose projects.

Recreation

Authority to participate in recreational developments was provided by the 1944 Flood Control Act, as amended by subsequent flood control acts and by Public Law 89-72, the Federal Water Project Recreation Act of July 1965. Under these authorities, the Corps constructs, operates and maintains public parks and recreational facilities at water resources development projects under its control.

Recreational facilities for public use are generally provided through cooperative efforts of the Corps of Engineers and a non-Federal agency. The Corps cooperates with states and local interests in developing the recreational potential of any Federal water project. Facilities provided for public use include those necessary for information and guidance, observation and sightseeing, boat launching, picnicking, swimming, fishing and camping, as well as those necessary for public safety, public health, and the preservation and protection of natural resources. Public hunting and fishing are encouraged, within limits set by state laws.

Shore Protection

Under existing shore protection laws Congress has authorized Federal participation in shore protection projects to prevent or reduce damages caused by wind and tidal generated waves and currents along the Nation's coasts and shores.

The types of improvements that fall within the intent of the shore protection legislation are generally structural measures including such features as beachfill, groins, seawalls, revetment, breakwaters and bulkheads. Nonstructural measures, within the generally accepted definition, such as property acquisition, also are appropriate shore protection measure when they prevent damage caused by storms or erosion.

Programs

Flood Plain Management Services Program

Section 206 of the 1960 Flood Control Act (PL 86-645), as amended; the National Flood Insurance Act of 1968, as amended; and Executive Order 11988, Flood Plain Management, authorize the Corps of Engineers to establish and carry out a flood plain management services program. The objective of the program is comprehensive flood damage prevention planning that encourages wise use of flood plains at all levels of government. Under the program, the Corps provides technical assistance, and

conducts research on various phases of flood plain management activities.

Flood Plain Information Reports. The Corps of Engineers once prepared flood plain reports for specific localities on request of state or local government agency after approval of the District Engineer. The Corps discontinued preparation of these reports due to the advent of the Flood Insurance Program and flood insurance studies.

Technical Services and Guidance. Technical assistance is given to state and local governments in preparation of flood plain regulations. The Corps also assists state and local governments in evaluating and using flood data to make decisions concerning flood hazards. Flood information and guidance are provided to permit wise decisions concerning locations of public buildings, subdivisions, and other land uses. Technical assistance is also given on flood proofing.

Guides, Pamphlets, and Related Research. Pamphlets and guides pertaining to flood plain regulations, flood proofing, and related actions are available to governmental agencies and citizens for planning and taking action to reduce flood damage.

Flood Damage Prevention Planning. Comprehensive flood damage prevention planning, at all appropriate government levels, is the ultimate objective of the program. This brings state and local officials into the planning action and ensures increased consideration of alternatives, both structural and nonstructural, for flood damage reduction.



Bucket dredge on Barataria Bay Waterway

Flood Insurance Studies

The Corps of Engineers carries out flood insurance studies to map eligible communities by risk zones and to determine insurance rates. The studies are made under the provisions of the National Flood Insurance Act of 1968 (PL 90-448), and the Flood Disaster Protection Act of 1973 (PL 93-234). The statutes, administered by the Federal Insurance Administration of the Federal Emergency Management Agency (FEMA), call for services of the private insurance industry and provide for Federal subsidization of flood insurance. The insurance covers damage caused by overflow of either inland or tidal waters on floodprone land, mudslides and erosion.

Permits Program

The Corps of Engineers exercises regulatory authority in navigable waters of the United States primarily under the Rivers and Harbors Act of 1899 and in other waters of the United States under Section 404(b)(1) of the Clean Water Act, 31 U.S.C. 1344. Regulatory authority is also held under additional authorities, as they are applicable, for activities involving discharges of dredged or fill material into waters of the United States. Permits issued by the Corps are required for work or structures in navigable waters of the United States, as well as for transportation of dredged material for the purpose of dumping into ocean waters. Structures such as piers, wharves and docks, and activities such as channel excavation, placement of riprap, groins, buoys, mooring devices, cables and pipes require permits.

The Corps of Engineers revised its dredge and fill regulations in July 1975 to include nontidal wetlands and a variety of navigable waters. Coastal wetlands contiguous or adjacent to coastal waters and freshwater wetlands contiguous or adjacent to primary tributaries were added to the Corps' jurisdiction in 1976. Today, any navigable water in which activity will have a significant impact upon the environment is regulated.

The Corps of Engineers evaluates each proposed activity for which a permit is

requested on the probable impacts, including cumulative impacts, of the proposed activity on the public interest. The decision reflects the national concern for both protection and utilization of important resources. Those benefits that are reasonably expected to accrue are balanced against reasonably foreseeable detriments. Relevant factors such as the following are all considered in evaluations: conservation, economics, esthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and cumulative effects of associated factors.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands that went into effect in March 1989 establishes jurisdictional wetlands on the basis of these criteria: vegetation, soils, and hydrology.

Effective on February 7, 1990, a Memorandum of Agreement between the Environmental Protection Agency and the Corps of Engineers provides guidelines for the determination of the type and level of mitigation for standard projects to demonstrate compliance with the Clean Water Act Section 404(b)(1) Guidelines.

A permit is issued unless the District Engineer determines that it will be contrary to the public interest.

Aquatic Plant Control

The Chief of Engineers is authorized by the Rivers and Harbors Act of 1965 to provide for control and progressive eradication of certain noxious aquatic plant growths. Local interests are required to pay 50 percent of the cost and to hold the Federal government free from claims that may arise as a result of these operations.

Coastal Zone Management Planning

Changing national priorities, which evolved

from increased state and local interest in management of the coastal zone, resulted in the Coastal Zone Management (CZM) Act of 1972. This act declared national interest in the effective management, beneficial use, protection, and development of the coastal zone. It indicated that the primary responsibility for planning and regulation of land and water uses rests with state and local governments.

Section 307c(I) of the act requires that:

"... each Federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum practicable extent, consistent with approved state management programs ...

As such, the present Corps policy is as follows:

- ▶ Civil Works activities undertaken subsequent to approval of a state's CZM plan will be consistent with that plan to the maximum extent practicable.
- ▶ Permit applications for activities regulated by Corps authorities must include a certification that the action contemplated is consistent with the approved state CZM plan.

In 1978, the Louisiana legislature passed a CZM bill covering land use in coastal parishes in Louisiana, from the Texas line to the Mississippi border and extending as far north as U.S. Highway 90. The Corps of Engineers assists in the administration of the management program. The New Orleans District prepares a Coastal Zone Consistency Determination for each civil works action and submits this document to the State of Louisiana for its concurrence.

Special Programs

In addition to major water resources development projects authorized directly by Congress, the Corps of Engineers may

accomplish small projects and emergency work. This work is performed under special programs established by Congress, with general funds appropriated annually. These small projects must involve a complete solution and not commit the United States to additional improvements.

Small Projects

Small Flood Control Projects (Section 205, Flood Control Act of 1948, as amended). Small flood control projects not specifically authorized by Congress may be constructed under authority given the Chief of Engineers. The Federal share in such projects may not exceed \$5 million.

Small Navigation Projects (Section 107, 1960 Rivers and Harbors Act, as amended). This legislation authorizes the Corps to construct small river and harbor improvement projects not specifically authorized by Congress. The Federal share in such projects may not exceed \$4 million. Such projects are also subject to the same requirements of feasibility and economic justification as the larger projects.

Small Beach Erosion Control Projects (Section 103, Rivers and Harbors Act of 1962, as amended). Small beach restoration and protection projects not specifically authorized by Congress are constructed under this authority. The Federal share of the cost must not exceed \$2 million for a single project.



Offshore breakwaters at Holly Beach for erosion protection along LA Hwy 82

Snagging and Clearing (Section 2, Flood Control Act of 1937, as amended by Section 208, 1954 Flood Control Act). The Corps is authorized under this act to spend up to \$500,000 on any tributary during one fiscal year in the interest of flood control. This work includes the removal of snags and other debris and the clearing and straightening of channels.

Mitigation of Shore Damages Attributable to Navigation Works (Section 111, River and Harbors Act of 1968, as amended). Work under this authority provides for the prevention or mitigation of erosion damages to public or privately owned shores along the coastline of the United States when these damages are a result of a Federal navigation project. This authority cannot be used for shore damages caused by river bank erosion or vessel-generated wave wash. It is not intended to restore shorelines to historic dimensions, but only to reduce erosion to the level that would have existed without the construction of a Federal navigation project. Cost-sharing may not be required for this program. If the Federal cost limitation is exceeded, specific Congressional Authorization is required.

Emergency Work

Emergency Bank Protection (Section 14, Flood Control Act of 1946, as amended). This Small Project Act authorized the expenditure at a single locality of up to \$1,000,000 per year for repair, restoration, and modification of emergency streambank and shoreline protection to prevent damages to highways, bridge approaches and other public works.

Flood and Coastal Storm Emergencies Rescue Work (PL 99, 84th Congress). This law authorized the Corps to engage in disaster preparedness, advance measures, flood fighting and rescue work, rehabilitation of flood control works damaged or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, provision of emergency drinking water and drought assistance.

Snagging and Clearing (Section 3, Rivers and Harbors Act of 1945 and Section 208, Flood Control Act of 1954). These Small Projects acts authorized emergency work by the Corps of Engineers to clear or remove unreasonable obstructions from rivers, harbors and other waterways in the interest of navigation and flood control.

Disaster Relief and Assistance (PL 288, 93rd Congress). Such assistance includes making damage assessments, preparing damage survey reports, performing emergency work essential for the preservation and protection of life and property, repairing and removing debris, providing technical and engineering services, and providing temporary housing for disaster victims.

Other Work

Comprehensive Planning Cooperation (Section 22 of PL 23-251, Water Resources Development Act of 1974). This act authorizes the Secretary of the Army, acting through the Chief of Engineers, to cooperate with any state and Federally recognized Indian tribe in the preparation of comprehensive plans for the development, utilization, and conservation of the water and related resources of drainage basins located within the boundaries of that state. He is also authorized to submit to Congress reports and recommendations for appropriate Federal participation. The Federal share in such plans is limited to \$500,000 annually in any one state or Federally recognized Indian tribe.

Technical and Engineering Assistance (Section 55 of PL 93-251, Water Resources Development Act of 1974). This act authorizes the Corps of Engineers to provide technical and engineering assistance to non-Federal public interests in developing structural and nonstructural methods to prevent damages caused by shore and streambank erosion.

Project Deauthorization (Section 1001 of PL 99-662, the Water Resources Development Act of 1986). This section establishes a procedure for deauthorization of projects that have been authorized for at least 10 years and

have not received congressional appropriations within the last 10 years.

Any project authorized for construction by the act shall not be authorized after the last day of the 5-year period beginning on the date of enactment of the act unless during such period funds have been obligated for construction, including planning and designing of such project.

Project Modifications for Improvement of the Environment (Section 1135 of PL 99-662, the Water Resources Development Act of 1986). This section authorizes the Corps to review the operation of its existing water resources projects to determine the need for modifications in structures and operations for the purpose of improving the quality of the environment in the public interest. A maximum of \$25 million was authorized to be appropriated to carry out this section, with 25 percent of the cost of any modification to be paid by a non-Federal sponsor.

Aquatic Ecosystem Restoration (Section 206 of the Water Resources Development Act of 1996). This section authorizes the Corps of Engineers to provide for ecosystem restoration and protection. This authority is similar to Section 1135, but a Corps' project need not be a contributor to the degradation of the environment.

Beach Nourishment (Section 933 of PL 99-662, the Water Resources Development Act of 1986). Section 145 of the Water Resources Development Act of 1976 was amended to provide for 50 percent state cost sharing in beach nourishment projects.

Beneficial Uses of Dredged Material (Section 204 of PL 102-580, the Water Resources Development Act of 1992). This section authorizes projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for construction, operation or maintenance of an authorized navigation project. Projects for the protection, restoration or creation of aquatic and ecologically related habitats may be undertaken in any case where the Secretary

finds that the environmental, economic and social benefits of the project, both monetary and nonmonetary, justify the cost thereof and when the project would not result in environmental degradation. Any project undertaken pursuant to this section shall be initiated only after non-Federal interests have entered into a cooperative agreement in accordance with the requirements of Section 221 of the Flood Control Act of 1970 in which the non-Federal interests agree to provide 25 percent of the cost associated with construction of the project for the protection, restoration, and creation of aquatic and ecologically related habitats, including provision of all lands, easements, rights-of-way and necessary relocations. The non-Federal interests must also agree to pay 100 percent of the operation, maintenance, replacement, and rehabilitation costs associated with the project for the protection, restoration, and creation of aquatic and ecologically related habitats.



Dredged material from Barataria Bay Waterway bar channel was used beneficially on the eastern end of Grand Terre Island



Navigation and industry on the Mississippi River in New Orleans