



The pump station discharge lines are poised to pump local storm water into the ponding area.



diverting flows into the Barataria Basin in the year 2001.

Senator John Breaux hailed the project as a new beginning and commended those who are committed to restoring the coast of Louisiana. "Once you lose the very essence of your state and territory, it never comes back," he said. "We're restoring to the Mississippi River its ability to flood. But we will control that flooding in a positive sense to rebuild our state."

In addition to Davis Pond, two other structures, one completed and one proposed, are important to the future of Louisiana's coast.

The Caernarvon Freshwater Diversion Structure, 15 miles below New Orleans, was completed in February 1991 at a cost of \$25.9 million. Since it began operating, new land and marsh vegetation has appeared and oyster production on public grounds has more than tripled. During the next 50 years, Caernarvon is expected to re-establish favorable salinity conditions in the area, further enhancing fish and wildlife productivity.

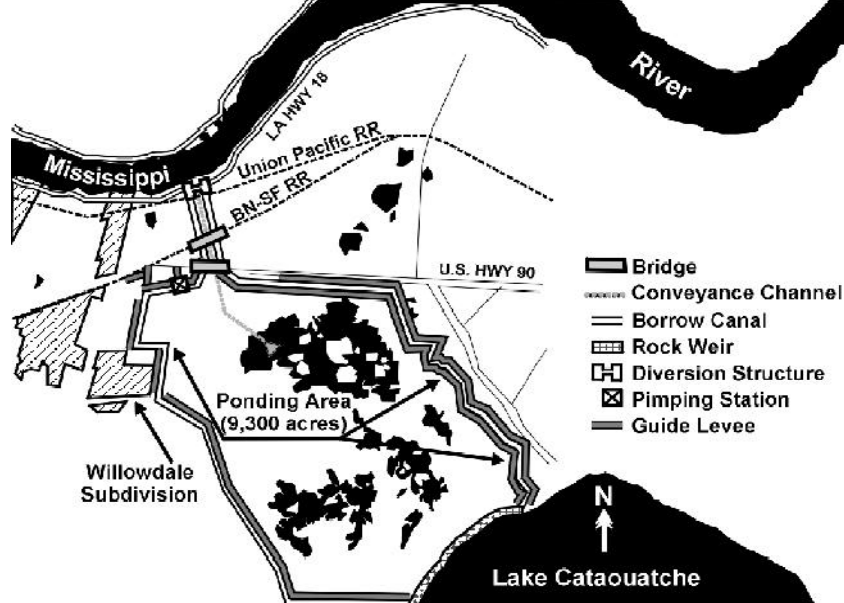
The proposed Bonnet Carré Freshwater Diversion Structure would be located on the east bank of the river, within the Bonnet Carré Spillway. It is designed to divert flows up to 25,000 cfs into the Lake Pontchartrain Basin and western Mississippi Sound. This would reduce saltwater intrusion and result in a healthier marsh and increased production of oysters, shrimp, crabs and fish. Construction of this \$87 million project has not been scheduled.

Davis Pond Freshwater Diversion Project



**US Army Corps
of Engineers**
New Orleans District

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Features of the Davis Pond project. Cover photo: Diversion structure, looking south toward the Barataria Bay estuary. Cofferdam shields the site from flooding.

Davis Pond Freshwater Diversion Structure

Wetland loss along the Louisiana coastal zone has long been recognized as one of the state's most pressing environmental problems. Of the numerous factors contributing to this loss, perhaps the leveeing of the Mississippi River for flood control has had the most far-reaching impact, blocking the river's historic spring overflows and thus impeding the rush of marsh-supporting fresh water, nutrients and sediment to the coastal zone.

The Davis Pond Freshwater Diversion Structure will imitate historic spring floods, providing a controlled flow of fresh water, sediments and nutrients from the Mississippi River to the Barataria Bay estuary. Located on the west bank of St. Charles Parish, Davis Pond is expected to restore former ecological conditions by combating land loss, enhancing vegetation and improving fish and wildlife habitat.

This will be accomplished with four iron-gated 14 foot by 14 foot box culverts built into the Mississippi River levee. An inflow channel 535 feet long by 85 feet wide will direct river water into the structure, while an outflow channel more than 11,000 feet long by 120 feet wide will connect the structure to the ponding area and ultimately divert fresh water into the

estuary. The total project area comprises 10,084 acres, including the 9,300-acre ponding area.

When completed, Davis Pond will be able to divert up to 10,650 cubic feet per second (cfs) of fresh water. Diversions through the structure will occur under regulated conditions determined by monitoring basin salinities and evaluating fish and wildlife resources.

During the next 50 years, Davis Pond will preserve about 33,000 acres of marsh and benefit 777,000 acres of marshes and bays. These shallow areas support a bountiful oyster crop each year, and also provide important nursery and habitat for crab, shrimp and fish. Similarly, the marsh provides food and nesting habitat for fur-bearing animals and migratory waterfowl. By improving existing marsh conditions, the project is expected to provide average annual benefits of \$15 million for fish and wildlife, plus \$300,000 for recreation.



The state highway and railroad, now detoured to the right, will pass over Davis Pond when completed.

Davis Pond is a feature of the Mississippi Delta Region Project, and was authorized by the Flood Control Act of 1965 and modified by the Water Resources Development Acts of 1974, 1986 and 1996. The total estimated cost of the Davis Pond project is \$106 million, with the federal government paying 75 percent and the state paying 25 percent. Construction began in January 1997.

Eight primary construction contracts are associated with this project. Six contracts have been awarded to date: the pumping station (C.R. Pittman Construction), the U.S. Highway 90 Bridge (River Road Construction), the diversion structure (Maharrey-Houston Construction), the east guide levee and weir (Weeks Marine Inc.), the west guide levee (J. Calderera & Company Inc.), and the Burlington Northern Railroad Bridge (Souter Construction Co.). The remaining two contracts are scheduled for award in early 2000. The project should be

Davis Pond Contract/Construction Information

Freshwater Diversion Structure

Contractor: Maharrey-Houston Construction Company Inc.
Contract amount: \$12,945,861 Award date: March 10, 1997
Project started: April 15, 1997 Estimated completion: December 2000

Description of Work: The work consists of constructing a pile-supported culvert structure passing under the mainline Mississippi River levee and constructing reinforced concrete box culverts with prefabricated cast iron sluice gates, structural steel bulkheads and hydraulic gate operators. Also included is bypass construction for a railroad and a two-lane highway; earthen cofferdams; dewatering system; excavation of an inflow and outflow channel; clearing and grubbing; driving steel sheet piles, timber piles and prestressed concrete piles; fertilizing and seeding; electrical work; constructing outflow guide levees, stone slope and channel protection; rebuilding the mainline Mississippi River levee.

U.S. Highway 90 Bridge

Contractor: River Road Construction Inc.
Contract amount: \$8,484,218 Award date: June 5, 1997
Project started: July 10, 1997 Estimated completion: May 2000

Description of Work: The work consists of excavating a 1,500-foot segment of the Davis Pond Diversion Structure Outfall Channel and constructing a simple span concrete bridge at the existing U.S. Highway 90 roadbed (354 feet long with six spans). The work includes constructing and removing a detour road and preloading a portion of the new approach ramps. The bridge construction includes testing and installing precast, prestressed, concrete piles; channel excavation and riprap placement; fabricating and installing Type III precast, prestressed concrete girders; constructing cast-in-place abutments, T-walls, bridge deck, and barrier walls. Roadwork includes placing an embankment and asphalt and concrete approach slabs; installing roadway appurtenances; and drainage work.

Burlington Northern – Santa Fe Railway Bridge

Contractor: Souter Construction Company
Contract amount: \$6,846,330 Award date: August 14, 1998
Project started: September 10, 1998 Estimated completion: Fall 2000

Description of Work: The work consists of clearing and grubbing; constructing a double track detour for the railroad; constructing storm drainage improvements; performing pile load tests and driving precast, prestressed

concrete piles; fabricating and installing precast, prestressed girders; placing reinforced concrete for bridge deck, and abutments; excavating a segment of the outflow channel and placing stone riprap under the bridge; constructing guide levees for the outflow channel; removing railroad detour when bridge is complete; and fertilizing and seeding levees and work area.

Pumping Station

Contractor: C.R. Pittman Construction Company Inc.
Contract amount: \$6,804,494 Award date: November 4, 1996
Project started: December 10, 1996 Completed: January 1999

Description of Work: The work consisted of clearing and grubbing; channel, canal, borrow pit and structural excavation; levee construction; placing structural backfill, bedding and riprap; furnishing and driving prestressed concrete piles and steel sheet piling; placing reinforced concrete; installing precast concrete bridge deck units; installing staff gages; installing a 60-foot by 30-foot pre-engineered metal building; furnishing and installing structural steel form suction intakes, trash racks and bulkheads; installing and removing a bypass road; utility installation; modifications and relocations; fertilizing and seeding; and furnishing and installing pumps, motors and appurtenant mechanical and electrical equipment.

East Guide Levee and Rock Weir

Contractor: Weeks Marine Inc.
Original contract: \$3,127,865 Award date: June 18, 1997
Revised contract: \$3,057,114 Completed: October 1998
Project started: July 25, 1997

Description of Work: The work consisted of clearing and grubbing; closing five canals, including a geotextile separator blanket and shell plug; placing uncompacted embankment; fertilizing and seeding; constructing a 9,400-foot-long rock weir by placing a gabion mattress on a geotextile blanket.

West Guide Levee

Contractor: J. Calderera and Company Inc.
Contract amount: \$2,199,720 Award date: July 2, 1997
Project started: August 9, 1997 Completed: February 1999

Description of Work: The work consisted of clearing and grubbing; closing pipelines; degrading an existing ridge; placing uncompacted levee embankment; fertilizing and seeding; constructing a ramp crossing and constructing a drainage system consisting of culverts, sluice gates and flap gates.

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