

## Structures in the Atchafalaya Basin

### Bayou Courtableau Control Structure:

completed in 1956; five reinforced concrete box culverts, each measuring 10 feet by 15 feet by 234 feet.

### Bayou Darbonne Control Structure:

completed in 1941; one reinforced concrete box culvert measuring 10 feet by 10 feet by 265 feet.

### Bayou Sorrel Lock:

completed 1952; 56 feet wide, 970 feet long, -14.75 feet mean low gulf; operated 24 hours a day; 25 million tons passed annually; 9,300 average annual lockages.

### Bayou Boeuf Lock:

completed 1954; 75 feet wide, 1,156 feet long, -13.8 feet mean low gulf; operated 24 hours a day; 25 million tons passed annually; 15,400 average annual lockages.

### Berwick Lock:

completed 1950; 45 feet wide, 294 feet long, -9.8 feet mean low gulf; operated daily 6 a.m. to 10 p.m.; 300,000 tons passed annually; 3,200 average annual lockages. (Information on marine traffic is only taken during high river stages, averaging about seven months a year.)

**East and West Calumet Floodgates:** completed 1950; 45 feet wide, -10.8 feet mean low gulf.

## New Orleans District Highlights

New Orleans District serves a 30,000 square mile area of south and coastal Louisiana.



We help make the ports of South Louisiana number one in the nation in total tonnage and number one in grain exports. We maintain 2,800 miles of navigable waterways, including 400 miles of deep-draft channels (45 feet deep from the Gulf of Mexico to Baton Rouge), and operate 12 navigation locks.

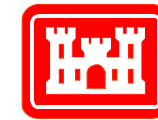
We make it possible to live and work along the lower Mississippi River. The district has built 950 miles of levees and floodwalls, and six major flood control structures to protect against river and hurricane flooding.

We keep the Mississippi River on its present course. The district's Old River Control Structure, northwest of Baton Rouge, prevents the Mississippi from changing course to the Atchafalaya River Basin.

We care for the environment by regulating dredge and fill activities in all navigable waters and wetlands. The district also manages clean up of hazardous waste sites for the Environmental Protection Agency.

We are on the frontline of efforts to reduce the rate of coastal landloss. The district has completed one Mississippi River freshwater diversion structure at Caernarvon and is constructing another at Davis Pond to reduce saltwater intrusion by delivering fresh water to marshlands. We also create new wetlands and restore barrier islands with material dredged from navigation channels.

For additional information about the Atchafalaya Basin, call (504) 862-2201, or write to: U.S. Army Corps of Engineers, New Orleans District, Public Affairs Office, P.O. Box 60267, New Orleans, LA 70160-0267, or visit our Website at:  
[www.mvn.usace.army.mil](http://www.mvn.usace.army.mil)



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

# The Atchafalaya Basin Project



Bayou Sorrel Lock



## Location and Size

Located in south-central Louisiana, the Atchafalaya River Basin extends from the confluence of the Mississippi, Red and Atchafalaya rivers, near Simmesport, to the Gulf of Mexico near Morgan City. Situated in the heart of this natural basin is the 833,000-acre Atchafalaya Basin Floodway. The floodway is about 15 miles wide and confined by the East and West Atchafalaya Basin Protection levees. The Atchafalaya Basin is one of the nation's last great river swamps. It is also a principle floodway of the Mississippi River and Tributaries Project. The New Orleans District, U.S. Army Corps of Engineers, operates four locks to keep the Atchafalaya River and basin channels open for commercial barges and small boats. There are 449 miles of federal levees, 14 pumping stations and 15 drainage structures in the basin to channel and remove flood waters.



*Pointe Coupee Pumping Station and Drainage Canal*

## Mississippi River & Tributaries Project

The Mississippi River & Tributaries Project (MR&T) was established by Congress after the disastrous 1927 flood. Congress directed the Corps of Engineers to develop and implement the MR&T project, building levees, floodways and channel and basin improvements to safely pass a major flood of up to three million cubic feet of water per second (cfs) to the Gulf of Mexico. The Atchafalaya Basin Floodway is

designed to pass one half of this major flood, or 1.5 million cfs, to the gulf. The Atchafalaya receives the Red River and a portion of the Mississippi River that is diverted through the Old River Control Structure near Simmesport. The Atchafalaya Basin system actually consists of three floodways: on the northern end are the West Atchafalaya Floodway and the Morganza Floodway. Both, along with the Atchafalaya River, would pass flood waters into the Lower Atchafalaya Basin Floodway. Farther downstream, these floodwaters would enter the Gulf of Mexico through the Atchafalaya River below Morgan City and the Wax Lake Outlet.



*Giant egret rookery*



*West Atchafalaya Basin Protection Levee looking into the Atchafalaya Basin*

## Diverse Environments

The Atchafalaya Basin is a scenic area of hardwood forests, cypress swamps, marshes and bayous. The basin contains some of the country's most productive fish and wildlife habitat. It is a paradise for hunters, fishermen, boaters, nature photographers and outdoor enthusiasts. Forty-five species of mammals inhabit the basin. The principal big game species is the white-tailed deer. Important

small game mammals include the fox squirrel, gray squirrel and swamp rabbit. Wildlife species of commercial importance include raccoon, mink and nutria.

The basin is an important wintering area for waterfowl in the Mississippi Flyway. The forested wetlands and shallow lakes provide excellent feeding and resting areas. Wading birds such as the great blue heron and great egret, and waterfowl such as the mallard and wood duck can be found in abundance. Numerous species of reptiles and amphibians are common, including the American alligator and western cottonmouth. The Louisiana black bear, a threatened wildlife species, currently inhabits the basin.



*White tailed deer*

Historically, a mild climate, abundance of natural resources and unique Spanish and French cultures have attracted economic investment to the area in spite of the risks from periodic spring floods and hurricanes. Important oil and gas fields coexist with farmlands, commercial forests, and a sizable commercial fishing and trapping industry. Sport fishing is extremely important in the basin. Sport fish include yellow, striped and largemouth bass, and white and black crappie. Recreationally and commercially harvested shellfish include red swamp and white river crawfish, river shrimp and blue crab.

## Agriculture

Much of the basin is wetland and unsuitable for agriculture, although some lands have been highly productive. The latest Census of Agriculture reports that the market value of all agricultural products sold in the area total almost \$900 million, about 45 percent of the state's total. The value of livestock and livestock products sold was about \$168 million, or about 28 percent of the state's total. Major crops include soybeans, cotton, rice and sugarcane.





*Bayou Courtableau Control Structure*

## The Structures

Bayou Courtableau Control Structure provides an outlet for flood flows into the Bayou Courtableau Basin extending up near Alexandria. There are also two concrete weirs adjacent to the structure that prevent low flow losses from Bayou Courtableau into the West Atchafalaya Basin Levee borrow pits, making low flows available for irrigation and water quality control in the Teche-Vermilion Basin.

Bayou Darbonne Control Structure at one time provided an outlet for flood flows in Bayou Courtableau, as well as for excess flows from the West Atchafalaya Basin Levee borrow pits above Highway 190. The structure now aids in passing flows that exceed the Courtableau structure's capacity.



*Bayou Darbonne Control Structure*

Bayou Sorrel Lock is located on the GIWW Alternate Route near the lower Grand River in Iberville Parish, approximately 15 miles southwest of Plaquemine. It is a part of the East Atchafalaya Basin

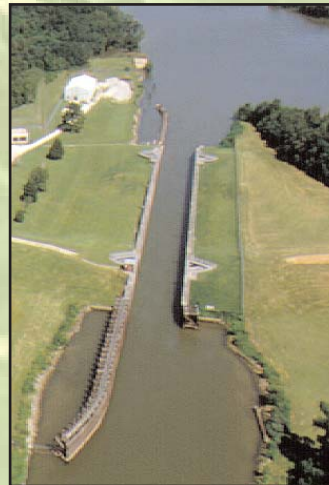
Levee. It permits uninterrupted navigation via the GIWW, Morgan City-Port Allen route, between the Mississippi River to the east and the GIWW west of the levee. The lock also prevents the floodwaters of the Atchafalaya River from flooding the area north of the structure.

Bayou Boeuf Lock is an integral part of the east levee and is part of the GIWW, permitting east-west waterborne traffic during all water stages in the basin. Bayou Boeuf Lock is located on the south bank of Bayou Boeuf about two miles east of Morgan City, St. Mary Parish.



*Bayou Boeuf Lock*

Berwick Lock is located in the levee system on the west side of Berwick Bay in St. Mary Parish, about two miles north of Berwick. The lock, in conjunction with the East Calumet Floodgate, prevents floodwaters from entering the Lower Atchafalaya River and Bayou Teche during flood stages on the Atchafalaya River. It also serves as a navigation link to Lower Bayou Teche.



*Berwick Lock*



*East and West Calumet Floodgates*

The East and West Calumet floodgates are located in the east and west Wax Lake Outlet levees at their approach to Bayou Teche, about seven miles west of Patterson, and just north of U.S. 90. These twin structures control the flow of fresh water from Wax Lake Outlet into Bayou Teche, and allow navigation through the Wax Lake Outlet guide levees. The structures are closed when the Wax Lake Outlet's elevation is at or greater than 2.7 mean low gulf.

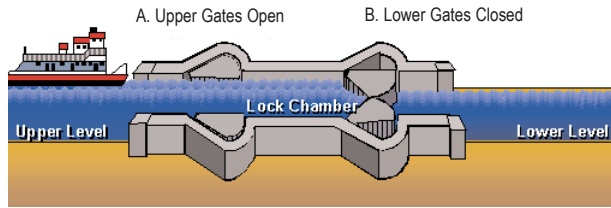
The Charenton Floodgate is located in the West Atchafalaya Basin Levee at the head of the Charenton Drainage Canal, about one mile north of Charenton. It controls the amount of fresh water from the Atchafalaya Basin into the Charenton Drainage Canal and Bayou Teche and allows for navigation through the levee.



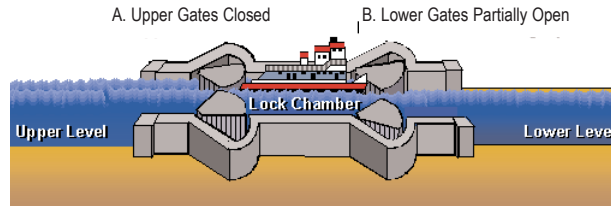
*Charenton Floodgate*



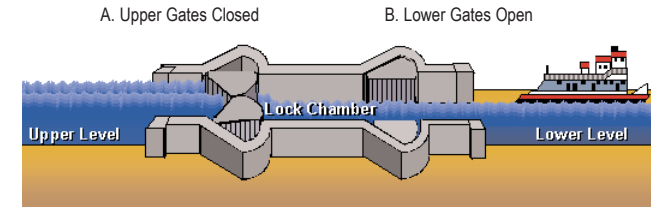
# How Navigation Locks Work



The lower gates (B) are closed; the upper gates are partially opened allowing the chamber to fill to the upper level; and then the upper gates (A) are fully opened allowing the towboat to enter the lock chamber.



Now the towboat is in the lock chamber; the upper gates (A) are closed; the lower gates (B) are partially opened allowing the water to drain out into the lower level. The towboat is lowered as the water level lowers.



When the water level reaches the lower level, the lower gates (B) are fully opened allowing the towboat to leave the lock chamber and proceed along the waterway.

## Cultural Resources

Several hundred archeological sites are recorded within the Atchafalaya Basin. Sites as early as the Archaic period (circa 8,000 to 2,500 years before the present) are known to exist. There is also a distinct clustering of prehistoric sites along Grand and Six-Mile lakes in the lower floodway. The Chitimacha Indians, who now reside in Charenton, occupied the basin during the early years of European settlement. A tribal population of 4,000 in the year 1650 has been estimated and more than 15 village names and locations could still be remembered by the turn of the 20th century.

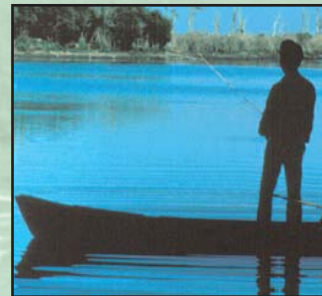
Perhaps the most important immigrants to enter the basin, if not in size, then in sustained cultural influence, were the refugees expelled from the



A typical camp in the Atchafalaya Basin

Canadian province of Acadia by the English in 1755. During the early 19th century, the Acadians, as they came to be called, settled in the swamp areas of the Atchafalaya where they developed the skills and technology necessary to survive. Simple geographic proximity and intermarriage with Hispanics, Old World and Canadian French, Anglo-Americans and Indians resulted in the rapid socialization of a people that came to be known as Cajuns. This dominant Cajun group resulted in a cohesive, social phenomena still associated with the Atchafalaya Basin.

Early narratives of the DeSoto expedition in the 16th century, and later, French and English accounts from the 17th and 18th centuries, provide numerous mentions of aboriginal boats. The boat most commonly described is the dugout canoe made from a single log. The Europeans adopted the dugout, referring to it as a pirogue or canoe. Early cargo consisted of furs; later, flour and other local produce.



Fishing from a pirogue

The Atchafalaya River and several cross-basin channels were important as transportation routes between the Teche region and the Mississippi River. The important navigation channels included Bayou Courtableau, Bayou Plaquemine and Upper

and Lower Grand River. Many small lakes and navigable channels defined the Atchafalaya along its length, and navigability was often dependent upon water stage. Based on an 1874 river commerce survey report, "The products of the Atchafalaya country are cotton, sugar, molasses, moss, lumber, staves and shingles. The cotton is all grown above the Courtableau and is sent to New Orleans by the two steamers that run to Washington, or the one that makes a 10-day trip to the Teche country."

Today, the Gulf Intracoastal Waterway (GIWW), which connects the basin's waterways to the Mississippi River's deep-draft channel, also provides a main route to the many feeder channels that lead to the Gulf of Mexico. These feeder channels serve the energy needs of the nation by allowing the shipping of crude petroleum, fuel oil, gasoline and petrochemicals from coastal Louisiana. The area is one of the nation's most important sources of salt, sand, shell and timber. The GIWW is also the lifeline for shrimping, fishing and oyster industries in the Atchafalaya, with large and small craft alike using the waterways to reach the channels to the gulf.

**Additional reading source on the Atchafalaya Basin:**  
 "Designing the Bayous, The Control of Water In the Atchafalaya Basin, 1800-1995," by Martin Reuss.  
 Office of History, U.S. Army Corps of Engineers,