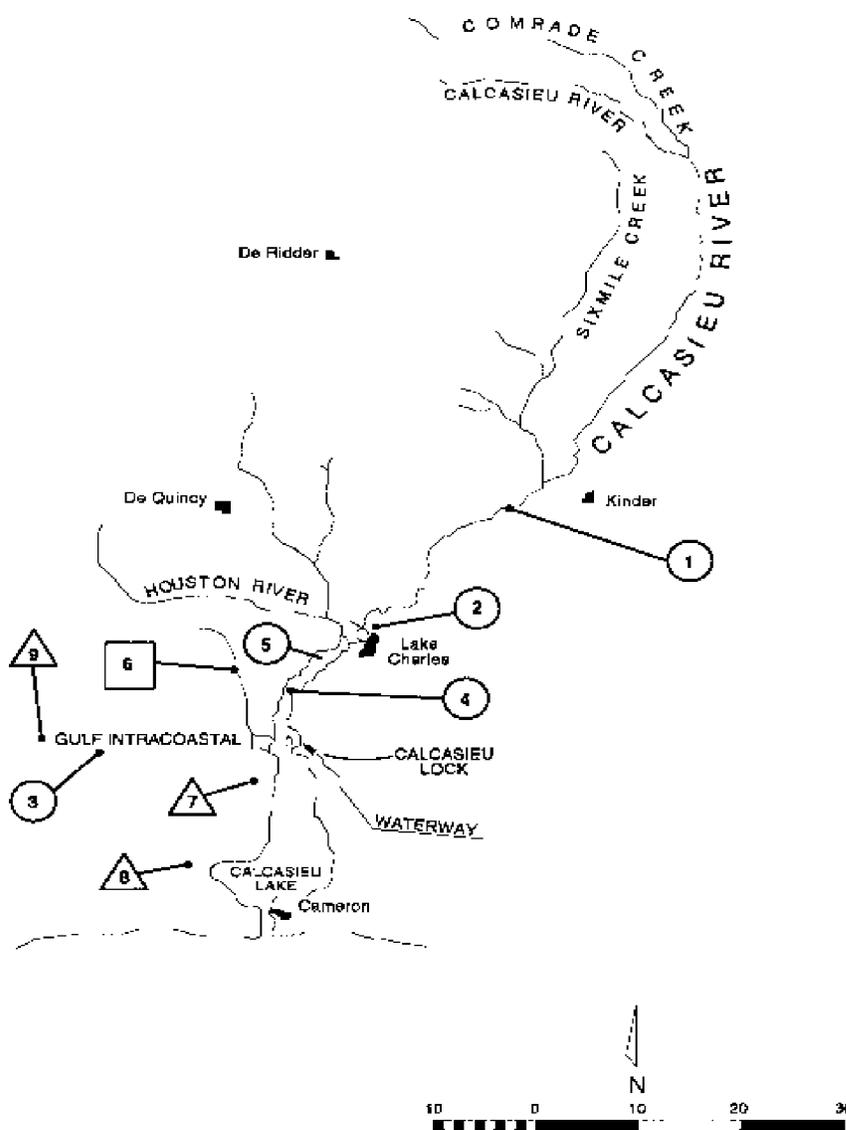
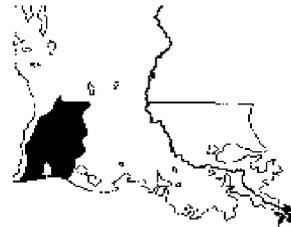


# Calcasieu River Basin



# Projects

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# Calcasieu River Basin

## Introduction

The Calcasieu is a small river in southwestern Louisiana that runs southwesterly into Calcasieu Lake. The river's 3,500-square-mile basin is composed of hills and prairies in the upper portion and coastal wetlands along the lower portion. Rich oil and gas fields lie

within the 100-mile curve of the upper river. Ricelands surround the city of Lake Charles, which is 34 miles from the Gulf, just south of the point where the West Fork enters the mainstream of the Calcasieu. Navigation and port facilities in/around Lake Charles are also a highlight.



Town of Cameron at the mouth of the Calcasieu River

## Projects

### Bayou Choupique

Improvements consist of 2.7 miles of channel enlargement, 2.5 miles of diversion channel between the Gulf Intracoastal Waterway and mile 7.5, and the construction of an automatic drainage gate in the diversion channel near its mouth to prevent saltwater intrusion into the bayou through the diversion channel.

This work was completed in 1954 at a cost of \$129,930. Cumulative benefits from flood damage prevented through 1983 are estimated at \$576,000.

### Calcasieu River and Pass

This improvement consists of:

- ▶ Enlargement of the previous 35-foot-deep ship channel to provide an approach channel 42 feet deep and 800 feet wide in the Gulf of Mexico,
- ▶ Construction of a channel 40 feet deep and 400 feet wide extending from the jetties at the mouth of the river to Lake Charles (mile 34.3),
- ▶ Enlargement of the existing turning basin at mile 29.6 to a depth of 40 feet,
- ▶ Construction of a mooring basin at mile 3,
- ▶ Extension of the existing ship channel (35 feet deep by 250 feet wide) upstream to U.S. Highway 90 (mile 36.0), with a turning basin at the upper end, and
- ▶ Maintenance of the existing 12-foot-deep by 200-foot-wide channel in the old bends of Calcasieu River in Cameron.



Oil rig towed out to the Gulf of Mexico through the Calcasieu jetties

The 35-foot-deep project was completed in 1953 at a total cost of about \$7.8 million. The 40-foot-deep modification was completed in 1968 at a cost of about \$19.6 million, exclusive of \$427,000 to the U.S. Coast Guard for navigation aids.

In 1996, dredged material was placed on the Sabine National Wildlife Refuge for wetlands development. Wetlands are created along the waterway with maintenance material from this project.

Average annual traffic over the waterway from 1986-1995 was 40,728,000 tons, with crude petroleum, petroleum products, and chemicals accounting for the major portion of cargo. Below Lake Charles, the river serves primarily as access to fishing and hunting areas in adjacent lakes, bayous, wetlands, and the Gulf of Mexico.

Above Lake Charles, the Calcasieu River provides excellent fishing and hunting. Private camps, picnic areas, and commercial recreational facilities are available from Philips Bluff to Lake Charles.

***Calcasieu River and Pass Saltwater Barrier.*** A modification of the above project called for construction of a barrier to prevent saltwater intrusion in the river above Lake Charles.

The project consists of a tainter gate structure in a new channel, an earth dam and bank revetment. A navigation channel with a gated structure 56 feet wide and sills 13 feet below mean low Gulf level is located north of the new barrier channel.

Construction of the barrier was initiated in 1965 and completed in 1968 at a cost of \$4,197,262.



Saltwater Barrier on the Calcasieu River above Lake Charles

***Calcasieu River at Devil's Elbow.*** Authorized in 1970 under the provisions of Section 201 of the Flood control Act of 1965, this project consists of enlargement and extension of an existing ship channel into an industrial park being developed by the Lake Charles Harbor and Terminal District. Over \$5 million has been spent by the Harbor and Terminal District for acquisition of 800 acres of land, a railroad spur, and for construction of a 35-foot-deep spur channel connecting with the Calcasieu River ship channel.

The enlarged channel matches the Calcasieu River ship channel dimensions of 40 feet deep by 400 feet wide. A 1,200 by 1,400-foot

turning basin was built at the landward end of the channel.

Federal cost of the project was \$5,668,000, including \$68,000 for the navigation aids. Non-Federal costs were \$798,000. Detailed planning was initiated in 1972 and construction was begun in 1976. The project was completed in 1978.

***Calcasieu River at Coon Island.*** Authorized by Section 107 of the Rivers and Harbors Act of 1960, as amended, the project provides for construction of a 40-foot-deep by 200-foot-wide ship channel and a 40-foot-wide by 750-foot-wide by 100-foot-long turning basin in Coon Island Channel. Construction was initiated in 1973 and completed in 1974 at a Federal cost of \$975,000, including \$25,000 for navigation aids; non-Federal costs were \$613,000.

### **Lake Charles Deepwater Channel**

This project originally provided for Federal maintenance of the 30-foot-deep by 125-foot-wide channel constructed by local interests between the Calcasieu and Sabine rivers, a distance of approximately 24.9 miles. However, the project is now inactive, because direct access from Lake Charles to the Gulf was provided by the "Calcasieu River and Pass Project," described previously.

This project coincides for its entire length with the Gulf Intracoastal Waterway, which is maintained to a 12-foot depth.

### **Clear Marais Shore Protection**

The project was authorized by the Coastal Wetlands Planning, Protection, and Restoration Act (Public Law 101-646, Title III) on the 2nd Priority Project List. The project is located along the north bank of the Gulf Intracoastal Waterway (GIWW) approximately 5 miles west of Highway 27. Agricultural lands form the north boundary, and canals make up the eastern and western boundaries. The north bank of the GIWW is failing in this area, threatening encroachment on one of the few remaining tracts of freshwater wetlands within the Calcasieu/Sabine Basin. The project will

protect about 4,637 acres of freshwater marsh and provide important wintering habitat for waterfowl, as well as provide year-round habitat for alligators, furbearers, and numerous avian and fish species. The project involved constructing six miles of a rock armored breakwater to maintain the integrity of the existing bank. Vegetative plantings may be used to enhance the bank protection and promote sediment trapping. Construction of the breakwater was completed on March 3, 1997.



CWPPRA project - Clear Marais shoreline protection along the GIWW

### **Small Projects**

**Lake Charles Ship Channel.** This project consists of realigning the restrictive bending at mile 26.7 of the Calcasieu River. Construction funding was approved in 1988. Initiation of construction is pending the execution of a local cooperation agreement.

**Brown Lake.** This study is being conducted under the authority of Section 204 of the Water Resources Development Act of 1992. The purpose of this study is to investigate the feasibility of creating wetlands in Brown Lake using material dredged from the Calcasieu River and Pass, Louisiana project. The project would provide for the construction of about 90 acres of marsh at a cost of \$1,504,000. It is scheduled for construction in 1998.

**Sabine National Wildlife Refuge.** This project was constructed under the authority of Section 204 of the Water Resources Development Act of 1992. Material dredged from the Calcasieu River and Pass, Louisiana project during routine maintenance dredging was used to create and to restore wetlands. The selected area is located below the West Cove Canal east of the Hog Island Gully. In 1996, in cooperation with the Louisiana Department of Natural Resources and with funding and authorization under Section 204 of the Water Resources and Development Act of 1992, dredged material was beneficially placed in the Sabine National Wildlife Refuge. Maintenance material was pumped in the refuge in areas of eroded broken marsh. Approximately 390 acres of shallow open water were converted to land. The disposal elevation was controlled so the height of the dredged material upon consolidation was suitable for the development of marsh vegetation.



Paupier shrimp fleet near Cameron, LA



Blue crab taken from the Calcasieu River at the Saltwater Barrier

## Surveys

**Lake Charles Ship Channel, By-Pass and General Anchorage Area, Louisiana.** The purpose of this study was to investigate the feasibility of bypass channels and general anchorage areas along the Calcasieu Ship Channel, and the feasibility of deepening thenorthern two miles of the channel from channel mile 34 to mile 36. Three alternative plans of improvement related to bypass

channels and the channel deepening were evaluated, and one bypass plan and the channel deepening are economically feasible. The reconnaissance report and PSP were submitted to LMVD in July 1995. This study was terminated because a non-Federal sponsor willing to share in the costs of the feasibility phase studies was not identified.

## Programs

### **Marsh Creation at Sabine National Wildlife Refuge, Calcasieu and Cameron Parishes, LA.**

This project modification was constructed under the authority of Section 1135(b) of the Water Resources Development Act of 1986, as amended. The project provided for the disposal of dredged material removed for the maintenance dredging of the Calcasieu River and Pass, Louisiana, project in shallow, open water areas in the Sabine National Wildlife Refuge at a elevation conducive to marsh creation. The plan provided for the placement of 1,530,000 cubic yards of dredged material in the Sabine National Wildlife Refuge to create approximately 482 acres of marsh. The project was completed in October 1993. The total project cost was \$260,000. The Federal cost was \$195,000 and the non-Federal cost was \$65,000.



Jack-up oil rigs parked on the Calcasieu River

**Calcasieu River at Hackberry, LA.** The purpose of this study was to determine the feasibility of providing anchorage areas for deep-draft navigation along the Calcasieu River and Pass, Louisiana, ship channel. Two alternative plans were developed. The first was an anchorage near Hackberry where vessels and drilling rigs could be serviced. The second plan was a general anchorage to reduce delays to navigation by providing an area for ships to wait while ships moving in the opposite direction passed. The general anchorage was economically feasible, but the study was terminated because a non-Federal sponsor willing to share in the costs of a feasibility phase study was not identified.

### **Flood Plain Information Reports**

**Oakdale.** A flood plain information report on the Oakdale area was completed and published in 1968.

**DeQuincy.** A flood plain information report on the DeQuincy area was completed and published in 1972.

### **Flood Insurance Studies**

Insurance studies have been completed in the Calcasieu River Basin for Calcasieu Parish (unincorporated areas), Lake Charles, and DeQuincy.

**Mermentau, Vermilion and Calcasieu Rivers, and Bayou Teche.** The Lake Charles Flood Control interim study has been placed in the inactive category following submission of a negative report in 1984. The Lake Charles Ship Channel interim study was conducted under this authorization, but was recommended for construction under the Small Projects program in 1987.



Recreational fishing at the Saltwater Barrier