

Appendix H

CULTURAL RESOURCES



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

August 8, 2007

Planning, Programs, and
Project Management Division
Environmental Planning
And Compliance Branch
Attn: CEMVN-PM-RN

Mr. Alton LeBlanc, Chairman
Chitimacha Tribe of Louisiana
P.O. Box 661
Charenton, La. 70523

Dear Chairman LeBlanc:

Enclosed for your review and comment is the report documenting the literature search and records review and research design for the Calcasieu River and Pass Dredged Material Management Plan prepared by Coastal Environments, Inc. under contract with the U.S. Army Corps of Engineers, New Orleans District. This plan provides a research design which will be applied as regular maintenance of the channel. The recommended action is to visit site 16CU14, an unevaluated prehistoric site which is located within a planned disposal unit. Site dimensions will be determined through shovel testing, an updated site form will be prepared and a preliminary determination of National Register eligibility made. This is based on conversations among the New Orleans District, Coastal Environments and the Division of Archaeology. All parties believe that updating the site form for this site is the only task necessary for this years maintenance dredging. As other parts of the ship channel are dredged, other sites may be impacted and at that time we will determine what actions, if any, need to be taken.

Thank you for your help with this project. If you have any questions, please call Gary DeMarcay at (307)862-2039.

Sincerely,

Elizabeth Wiggins
Chief, Environmental Planning
And Compliance Branch

Attachment



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

August 8, 2007

Planning, Programs, and
Project Management Division
Environmental Planning
And Compliance Branch
Attn: CEMVN-PM-RN

Ms. Pam Breaux
State Historic Preservation Officer
Office of Cultural Development
Department of Culture, Recreation and Tourism
P.O. Box 4427
Baton Rouge, Louisiana 70804

Dear Ms. Breaux:

Enclosed for your review and comment is the report documenting the literature search and records review and research design for the Calcasieu River and Pass Dredged Material Management Plan prepared by Coastal Environments, Inc. under contract with the U.S. Army Corps of Engineers, New Orleans District. This plan provides a research design which will be applied as regular maintenance of the channel. The recommended action is to visit site 16CU14, an unevaluated prehistoric site which is located within a planned disposal unit. Site dimensions will be determined through shovel testing, an updated site form will be prepared and a preliminary determination of National Register eligibility made. This is based on conversations among the New Orleans District, Coastal Environments and your office. All parties believe that updating the site form for this site is the only task necessary for this years maintenance dredging. As other parts of the ship channel are dredged, other sites may be impacted and at that time we will determine what actions, if any, need to be taken.

Thank you for your help with this project. If you have any questions, please call Gary DeMarcay at (307)862-2039.

Sincerely,

Elizabeth Wiggins
Chief, Environmental Planning
And Compliance Branch

Attachment



MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

ANGÈLE DAVIS
SECRETARY

PAM BREAU
ASSISTANT SECRETARY

October 5, 2007

Ms. Elizabeth Wiggins
Chief, Environmental Planning and Compliance Branch
Planning, Programs, and Project Management Division
New Orleans District, U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Draft Cultural Resources Review and Research Design
LA Division of Archaeology Report No. 22-2957
Calcasieu River and Pass Dredged Material Management Plan
Calcasieu and Cameron Parishes, Louisiana: Cultural Resources
Literature Search, Records Review and Research Design
Coastal Environments, Inc.

Dear Ms. Wiggins:

We acknowledge receipt of your letter dated August 8, 2007, transmitting a copy of the above-referenced report. We have completed our review and offer the following comments.

The report meets the Division of Archaeology's standards for such documents. Consequently, we have no objections to the implementation of the proposed project from a Section 106 compliance standpoint.

Technical comments, most of which are minor, are included with this letter, as are photocopied pages of the report with other comments/corrections noted. Please address these as appropriate and transmit **two** copies of the final report. Should you have any questions concerning our comments, do not hesitate to contact Dennis Jones in the Division of Archaeology at (225) 342-8170 or by email at djones@crt.state.la.us.

Ms. Elizabeth Wiggins
October 5, 2007
Page 2

Sincerely,

A handwritten signature in cursive script that reads "Pam Breaux". The letters are fluid and connected, with a prominent loop at the start of the first name.

Pam Breaux
State Historic Preservation Officer

PB:DJ:s

c: Joanne Ryan, Coastal Environments, Inc.



MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

DAWN ROMERO WATSON
SECRETARY

PAM BREAUX
ASSISTANT SECRETARY

March 6, 2008

Ms. Elizabeth Wiggins
Environmental Planning and Compliance Branch
New Orleans District, Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Draft Addendum 1 to Phase I CRM Report
LA Division of Archaeology Report No. 22-2957
Calcasieu River and Pass Dredged Material Management Plan
Calcasieu and Cameron Parishes, Louisiana
Cultural Resources Literature Search, Records Review and Research Design
Addendum 1: Expansion of the Project Area
Coastal Environments, Inc.

Dear Ms. Wiggins:

We acknowledge receipt of your letter dated February 21, 2008, transmitting two copies of the above-referenced report. We have completed our review and offer the following comments.

The report meets the Division of Archaeology's standards for such documents and we concur with the recommendations therein. Specifically, we agree that the proposed expansion of the project area will seemingly impact only one previously reported site: 16CM87. We further agree with the strategy to avoid this site and areas identified in the report as having a high probability for cultural resources within the Dredged Material Management Plan (DMMP) project area. We do, however, seek clarification in the report exactly where and how many of these areas there are.

Technical comments concerning minor items are also included with this letter, as are photocopied pages of the report with other comments/corrections noted. Should you have any questions concerning our comments, do not hesitate to contact Dennis Jones in the Division of Archaeology at (225) 342-8170 or by email at djones@crt.state.la.us.

Ms. Elizabeth Wiggins
March 6, 2008
Page 2

Finally, we look forward to receiving the final Phase I CRM report for the original Management Plan for the DMMP in Calcasieu and Cameron Parishes that has considered our comments made in our October 5, 2007 letter to your office. This final report should also address our current comments to Addendum 1 for this project.

Sincerely,

A handwritten signature in cursive script that reads "Pam Breaux". The signature is written in black ink and is positioned below the word "Sincerely,".

Pam Breaux
State Historic Preservation Officer

PB:DJ:s

C: Ms. Joann Ryan, Coastal Environments, Inc. (w/enclosures).



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

July 11, 2008

Planning, Programs, and
Project Management Division
Environmental Planning
And Compliance Branch
Attn: CEMVN-PM-RN

Ms. Pam Breaux
State Historic Preservation Officer
Office of Cultural Development
Department of Culture, Recreation and Tourism
P.O. Box 4427
Baton Rouge, Louisiana 70804

Dear Ms. Breaux:

Enclosed for your records is two copies of the final report titled: Calcasieu River and Pass Dredged material Management Plan, Calcasieu and Cameron Parishes, Louisiana: Cultural Resources Literature Search, Records Review and Research Design. This report was prepared for the New Orleans District U. S. Army Corps of Engineers by Coastal Environments, Inc.

Thank you for your help with this project. If you have any questions, please contact Gary DeMarcey at (504) 862-2039.

Sincerely,

Elizabeth Wiggins
Chief, Environmental Planning
And Compliance Branch

Attachment

REPLY TO
ATTENTION OF

W.D.
EXNICIOS
CEMVN-PM-RN

G
WIGGINS
CEMVN-PM-R



MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF ARCHAEOLOGY

PAM BREAU
SECRETARY

August 19, 2008

Ms. Elizabeth Wiggins
Environmental Planning and Compliance Branch
New Orleans District, Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267

Re: Final CRM Report
LA Division of Archaeology Report No. 22-2957
Calcasieu River and Pass
Dredged Material Management Plan
Calcasieu and Cameron Parishes, Louisiana:
Cultural Resources Literature Search,
Records Review and Research Bulletin
Coastal Environments, Inc.

Dear Ms. Wiggins:

We acknowledge the receipt of your letter dated July 11, 2008, and two final copies of the above-referenced report. The final report has been reviewed and accepted. Should you have any questions concerning this project, do not hesitate to contact Dennis Jones in the Division of Archaeology at (225) 342-8170 or by email at djone@crt.state.la.us.

Sincerely,

Robert Collins
Deputy State Historic Preservation Officer

RC:DJ:s

C: Ms. Joanne Ryan, Coastal Environments, Inc.



**U.S. Army Corps
of Engineers**

New Orleans District

**CALCASIEU RIVER AND PASS
DREDGED MATERIAL MANAGEMENT PLAN
CALCASIEU AND CAMERON PARISHES, LOUISIANA:**

**CULTURAL RESOURCES LITERATURE SEARCH, RECORDS
REVIEW AND RESEARCH DESIGN**



Final Report

June 2008

PREPARED BY:

**COASTAL ENVIRONMENTS, INC.
1260 MAIN STREET
BATON ROUGE, LOUISIANA**

**CALCASIEU RIVER AND PASS
DREDGED MATERIAL MANAGEMENT PLAN
CALCASIEU AND CAMERON PARISHES, LOUISIANA:**

**CULTURAL RESOURCES LITERATURE SEARCH,
RECORDS REVIEW AND RESEARCH DESIGN**

Final Report
LA DOA Report No. 22-2957

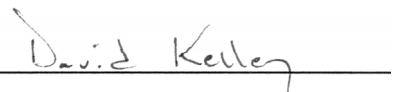
By
Joanne Ryan
and
Charles E. Pearson

Submitted to
Gulf Engineers & Consultants
Baton Rouge, Louisiana

Prepared for
U.S. Army Corps of Engineers
New Orleans District

June 2007

Coastal Environments, Inc.
1260 Main Street
Baton Rouge, Louisiana



David B. Kelley
Principal Investigator

ABSTRACT

In 2007, Coastal Environments, Inc. (CEI), conducted a cultural resources literature search and records review relative to the Calcasieu River and Pass Dredged Material Management Plan (DMMP) in preparation by the U.S. Army Corps of Engineers (COE), New Orleans District. This work was conducted for Gulf Engineers & Consultants (GEC) of Baton Rouge, Louisiana.

The Calcasieu River is a Federally maintained waterway beginning at the I-10 Bridge in Lake Charles, Louisiana and ending about 36 mi south in the Gulf of Mexico. The Calcasieu Ship Channel (CSC) was created on the river between 1922 and 1941. The study area for these investigations encompassed one mile either side of the CSC navigation channel from the I-10 Bridge to the Intracoastal Waterway. From the Intracoastal Waterway to the Gulf of Mexico, the study area generally encompassed five miles either side of the CSC navigation channel. However, between Channel Miles 9 and 22.5 the study area extended approximately 11.5 mi from the west side of the navigation channel.

The purpose of this study was to evaluate and assess the potential for cultural resources in the study area with emphasis on specific construction locations, and to prepare a research design to guide future fieldwork in project areas requiring further study. Forty-nine previously recorded archaeological sites, 235 standing structures over 50 years in age, and 40 sunk or salvaged vessels are documented within the project area. In addition, at least 18 unrecorded shipwrecks are known to have occurred within the project area. Those portions of the project area with a high probability for containing cultural resources have been defined. A research design to guide future cultural resources fieldwork in the project area is presented.

If the disposal areas proposed in September 2007 are employed for the present project, no cultural resources on or eligible for listing on the National Register of Historic Places (NRHP), or areas with a high probability for containing unrecorded cultural resources, will be affected. If, after September of 2007, the DMMP project plans are altered in any way, the impact to cultural resources will need to be reassessed accordingly.

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CHAPTER 1

INTRODUCTION

Coastal Environments, Inc. (CEI), was contracted by Gulf Engineers & Consultants (GEC) of Baton Rouge, Louisiana, in 2007 to conduct a cultural resource literature search and records review relative to the Calcasieu River and Pass Dredged Material Management Plan (DMMP) in preparation by the U.S. Army Corps of Engineers (COE), New Orleans District. The DMMP is being prepared in accordance with Engineering Regulation (ER) 1105-2-100.

The COE is obligated under the National Historic Preservation Act (NHPA) of 1966 (particularly 36 CFR 800, the regulations governing Section 106), and the National Environmental Policy Act (NEPA) to take into account the effect its undertakings have upon cultural resources within a given project area. Under these laws and regulations, the COE assumes responsibility for the identification and evaluation of all cultural resources within the project boundaries.

The Calcasieu River is a Federally maintained waterway beginning at the I-10 bridge in Lake Charles, Louisiana and ending about 36 mi south in the Gulf of Mexico (Figure 1-1). The northern portion of the river between Lake Charles and the Intracoastal Waterway was straightened and deepened in places between 1922 and 1926 to create the Calcasieu Ship Channel (CSC). Between 1938 and 1941 the ship channel was improved when deepening and straightening were conducted on the Calcasieu from the Intracoastal Waterway south to the Gulf of Mexico.

The study area for these investigations encompassed one mile either side of the CSC navigation channel from the I-10 Bridge to the Intracoastal Wa-

terway. From the Intracoastal Waterway to the Gulf of Mexico, the study area generally encompassed five miles either side of the CSC navigation channel. However, between Channel Miles 9 and 22.5 the study area extended approximately 11.5 mi west of the navigation channel.

The purpose of this study is to evaluate and assess the potential for cultural resources in the study area with emphasis on specific construction locations, and to prepare a research design to guide future fieldwork in project areas requiring further study. The study area is to encompass new and existing upland disposal areas, submerged disposal areas, earthen dike and access road locations, marsh restoration areas, and rock retention structures and foreshore protection dikes along the waterway. The areas proposed for dredge disposal as of September 2007 appear in Figure 1-2 and Plates 1-4. For construction purposes, these disposal areas are defined as either Confined Disposal Facilities (CDF) or as Beneficial Use Sites. Table 1-1 lists these proposed disposal areas and their approximate acreages.

The Calcasieu River serves as a navigation route connecting the Gulf of Mexico with the interior of southwestern Louisiana. It is primarily a natural waterway that is fed by several smaller natural waterways including Bayous Contraband, d'Indie, Guy, Choupique, Black Lake, and Long Point. The river also flows through Lakes Charles, Prien, Moss, Mud, and Calcasieu. (The Mud Lake referred to here lies at the north end of Calcasieu Lake and is not to be confused with the much larger Mud Lake located north of Holly Beach.) The East and West Fork of the Calca-

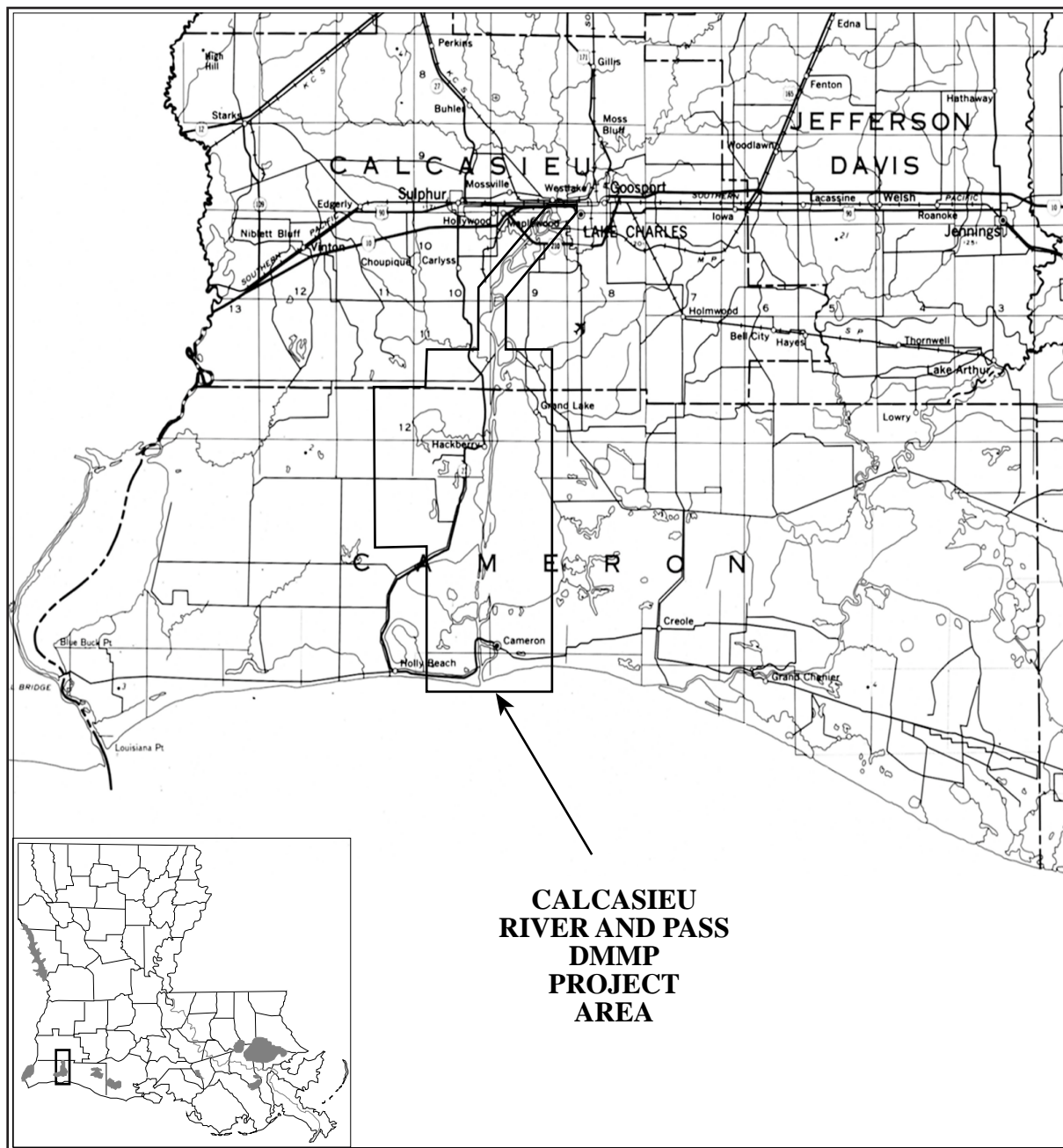


Figure 1-1. The Calcasieu River and Pass Dredged Material Management Plan (DMMP) project area in Calcasieu and Cameron parishes, Louisiana (USGS 1983, 1986).

sieu River have become secondary in importance to the artificial channel cut across St. Johns Island between 1938 and 1941. All of these waterbodies and the river channel itself were regionally important water routes leading inland from the Gulf through the prehistoric and historic periods. Thus the probability for finding archaeological sites, historic standing structures, and shipwrecks along their banks is considered high. Sev-

eral archaeological and shipwreck sites are known to exist in the project area, and unreported sites likely exist.

The data developed in this study provides the New Orleans District with knowledge of the cultural resources potential of the project area. In addition, it is hoped that the information provided here will serve as a contribution to the broader area of the District's

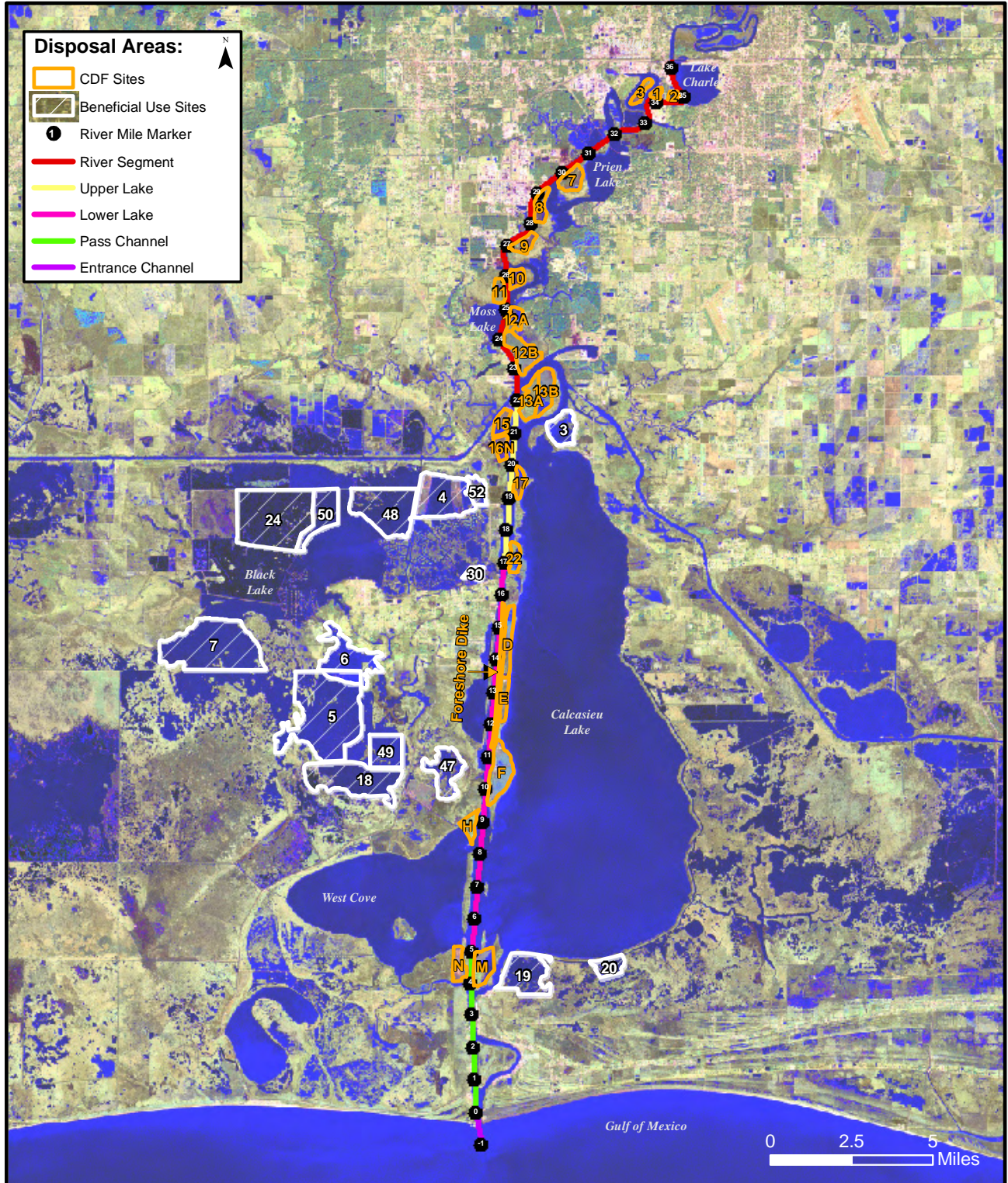


Figure 1-2. Proposed dredge disposal sites for the Calcasieu River and Pass DMMP project as of September, 2007.

GEC	
Figure: 2-11	
Date: September 2007	
Scale: 1:260,000	
Source: USGS/GEC/USACE	
Map Author: Moore 27585101-765	

Table 1-1. Disposal Areas Proposal as of September 2007 for the Calcasieu DMMP Project.

NAME	TYPE	ACRES
1	Confined Disposal Facility	53.35
2	Confined Disposal Facility	47.11
3	Confined Disposal Facility	113.27
7	Confined Disposal Facility	258.79
8	Confined Disposal Facility	200.85
9	Confined Disposal Facility	175.30
10	Confined Disposal Facility	144.04
11	Confined Disposal Facility	149.12
12A	Confined Disposal Facility	170.59
12B	Confined Disposal Facility	439.78
13A	Confined Disposal Facility	321.18
13B	Confined Disposal Facility	380.01
15	Confined Disposal Facility	184.47
16N	Confined Disposal Facility	161.25
17	Confined Disposal Facility	149.61
22	Confined Disposal Facility	157.09
D	Confined Disposal Facility	310.97
E	Confined Disposal Facility	183.08
F	Confined Disposal Facility	593.58
H	Confined Disposal Facility	168.84
N	Confined Disposal Facility	217.89
M	Confined Disposal Facility	371.42
3	Beneficial Use Site	440.07
4	Beneficial Use Site	1,279.05
5	Beneficial Use Site	3,083.29
6	Beneficial Use Site	989.86
7	Beneficial Use Site	2,498.03
18	Beneficial Use Site	1,572.29
19	Beneficial Use Site	961.69
20	Beneficial Use Site	289.64
24	Beneficial Use Site	2,517.22
47	Beneficial Use Site	724.42
48	Beneficial Use Site	1,474.80
49	Beneficial Use Site	638.51
50	Beneficial Use Site	698.00
52	Beneficial Use Site	257.87
TOTAL ACREAGE		22,376.34

overall management of cultural resources. This study also provides a contribution to the body of literature dealing with the history and prehistory of Calcasieu and Cameron parishes and the Louisiana Gulf Coast. So little comprehensive survey has been conducted in the region that all new data collected will inevitably be of great value. Unfortunately, the sites that can provide this data are disappearing at an alarming rate, given the degree of development and land loss in the region over the last 50 years.

This report is organized as follows. Chapter 2 discusses the geological setting of the project area, while Chapter 3 details the previous archaeological investigations conducted there in the nineteenth and twentieth centuries. A brief summary of aboriginal occupation along the Calcasieu is presented in Chapter 4, and subsequent historic occupation in Chapter 5. Chapter 6 presents the results of a cultural resource literature search and records review conducted of the project area. All of this data was then used to produce a research design for the proposed project area that is presented in Chapter 7.

CHAPTER 2

ENVIRONMENTAL SETTING

Geologic History

The project area consists of two major geologic units: the Marginal Plain on the coast in Cameron and southern Calcasieu parishes, and the Pleistocene Prairie Terrace in the remainder of Calcasieu Parish (Figure 2-1). The Marginal Plain (or Chenier Plain) has been formed since the end of the Pleistocene Epoch by westward transport of sediments from the Mississippi River delta. The periodic migration of the Mississippi River channel eastward resulted in cessation of deposition, recession of the coastline, and formation of the beach ridges, or “cheniers” which are a prominent feature of this region (Gagliano et al. 1975).

The Pleistocene Prairie Terrace, defined by Fisk (1944), formed as a delta of the Red River during a period of valley alluviation and river meandering (see Figure 2-1). More recent investigations now refer to this feature as the Prairie Complex (Autin et al. 1991; Saucier 1994; Saucier and Snead 1989). Saucier has dated the terrace formation to the late Sangamon interglacial period of 100,000 to 80,000 years ago (1974:16). Sea level fall due to subsequent glaciation caused the Red River and its tributaries, such as the Calcasieu River, to begin downcutting into these delta and alluvial valley deposits and become entrenched. Glacial melt and sea level rise then resulted in renewed alluvial deposition in the project area. The Prairie Terrace survives as a relict along these river valley walls and reflects the extent of river meandering during the previous interglacial period (Wiseman et al. 1979:3-8).

During Pleistocene times, the edges of the Pleistocene promontories, especially those located adjacent

to the then entrenched Calcasieu River, were covered with numerous stream beds created by waters draining off the higher Pleistocene surface and into the lower deeply entrenched streams such as the Calcasieu. The depths of these streams varied depending on many local and regional factors. These streams carried silts that were deposited over the Pleistocene terrace clays. When these stream beds were abandoned due to sea level rise, they became low swampy areas where organic deposits accumulated. These organic deposits were then susceptible to some deformation through compression by later sedimentary deposits.

Landforms in the Project Area

The major physiographic divisions in the project area today are the forested terrace uplands in northern Calcasieu Parish; the Gulf Coast Prairies in much of Calcasieu and a fraction of Cameron Parish; and the Gulf Coast Marsh in most of Cameron and southwest Calcasieu Parish. The terrace uplands consist of mainly loamy soils of low fertility that are used as woodland or cropland. Some areas are used for pasture or homes, although wetness and erosion are common hazards (Roy and Midkiff 1988).

The prairie belt of the West Gulf Coastal Plain crossed by the project area extends from the Sabine River on the west to Bayou Teche on the east. A low line of hills marks the northern and eastern boundaries of the prairie, while to the south no sharp demarcation exists between the prairie and the coastal marsh. Elevations in the northeast corner of the prairie near Opelousas may reach 21 to 24 m above mean sea level (MSL). The land surface generally slopes toward the Gulf at a rate of 0.2 m per km with eleva-

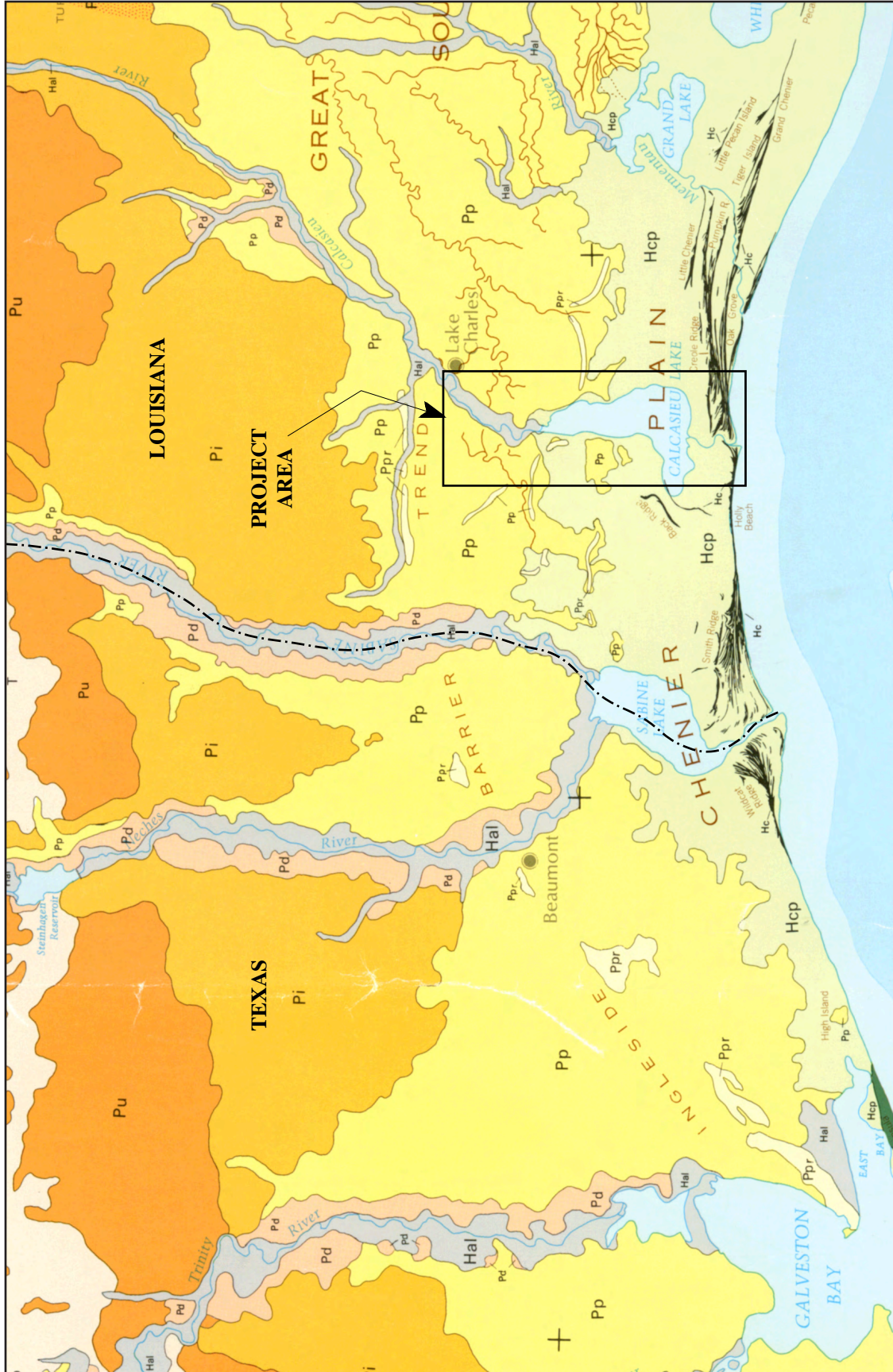


Figure 2-1. Surficial geology of the project area: PU, Pleistocene Upland Complex; Pi, Pleistocene Intermediate Complex; Pp, Pleistocene Prairie Complex; Hcp, Holocene Chénier Plain (after Saucier and Sneed 1989). This image is reproduced at a scale of 1:550,000. North is vertical.

tions near Hayes seldom exceeding 5 m above MSL. The generally flat land is occasionally interrupted by the barely perceptible rise of the ancient distributary natural levees. These relict features, consisting of better drained soils than the surrounding flats, are consequently the focus of current occupation. Although now mostly leveled for rice cultivation, low circular hillocks known as pimple mounds are another notable feature of the prairie. Similar features in other parts of the world and their association with the relict channels of the prairie suggest that these mounds are incompletely filled channel scars or scour pools (Taylor 1956:23; Wiseman et al. 1979:4-1).

The primary soil types of the coastal prairies are the Crowley soil, found on broad, level to undulating plains, and the Midland soil found in shallow depressions and on flats. Crowley soil has a grayish-brown or gray silty loam surface that is about 40.6 cm (16 in) thick, overlying a gray silty clay subsoil mottled with red and brown. Midland soil has a dark gray silty clay subsoil (Lytle 1968:15). William Darby's initial impression of the prairie soils in 1815 was of their poor drainage and general unsuitability for agriculture. Of the Calcasieu Prairie between Bayou Lacassine and Calcasieu Lake, he wrote that "at any considerable distance from the woods, the land is sterile, and even near or in the forest, is of very unpromising texture" (Darby 1816:92). A combination of poor drainage and low moisture supplying capacity made the expanses of inter-stream prairie soils unattractive for agriculture well into the 1800s. Rather, the better-drained natural levees of the prairie streams were chosen for planting in both the prehistoric and historic periods. Artificial drainage and irrigation became economically feasible by the middle 1880s when the first canal for rice irrigation was constructed in the area (Taylor 1956:157). The prairie is now capable of producing rice, sweet potatoes, cotton and corn (Clark et al. 1962).

The Gulf Coast marshes are at sea level, and include soft or very fluid, organic, and mineral soils and slightly fluid or firm mineral soils. They are ponded most of the time and frequently flooded. Soils on the cheniers are sandy or loamy and are subject to flooding by tidal surges during tropical storms. Most of the marsh acreage is used for wildlife habitat and recreation, and a small portion as rangeland for cattle (Midkiff and Roy 1995).

Much of coastal Louisiana, both marsh and prairie, is underlain by a massive salt deposit—the Louann salt—laid down during Jurassic times. This salt bed is thousands of feet thick and is buried by as much as 8 miles (13 km) of more recent deposits. Salt, be-

ing fluid in nature and less dense than the overlying sediments, has been forced upward in large plugs called salt domes. Scores of these have been identified throughout coastal Louisiana and southeastern Texas with a few having reached the surface (Spearing 1995). Some of the larger and better-known salt domes in the vicinity of the project area include Starks, Edgerly, Sulphur, Vinton, East Hackberry, Hackberry, Calcasieu Lake, Black Bayou, and Cameron Meadows (Taylor 1938). In addition to being mined for salt or brine, these geologic features also trap oil and natural gas in surrounding deposits. Some, such as the old Brimstone mine, near Sulphur, Louisiana, have also produced tons of native sulphur from the cap rock (Haynes 1942; Spearing 1995; Taylor 1938).

Cutoffs on the Calcasieu

From Lake Charles to the Gulf, six islands have been created by river cutoffs. Clooney Island was artificially cut off between circa 1864 and 1883, most probably to facilitate river commerce for the Clooney shipyard that owned the property at that time (CSA ca. 1864; Lewis 1883; Shutts 1895). Coon Island was created by a natural cutoff by the 1860s (CSA ca. 1864). Two unnamed marsh islands were created by the construction of the first Calcasieu Ship Channel between 1922 and 1926. One is located immediately west of Prien Lake and the other immediately northeast of Moss Lake. Prien Lake was called Little Lake in the 1860s (CSA ca. 1864). Choupique and Monkey Islands were both created by the extension of the Calcasieu Ship Channel between 1938 and 1941.

Flora and Fauna

Vegetation within the marsh zones of the project area consists of cattail (*Typha latifolia*), southern bulrush (*Scirpus californicus*), maidencane (*Panicum hemitomon*), spikerush (*Eleocharis spp.*), pickerelweed (*Pontederia cordata*) and sawgrass (*Cladium jamaicense*). Delta duck potato (*Sagittaria latifolia*) and water lily (*Castalia odorata*) are also important (Penfound and Hathaway 1938:15). Since 1957, much sawgrass has been replaced by bull-tongue (*Sagittaria lancifolia*) (Fish and Wildlife Service n.d.).

Common mammals of the marsh environment are muskrats (*Onadatra zibethicus*) and otters (*Lutra canadensis*). Alligators (*Alligator mississippiensis*) and several species of fish are present and probably were important as an aboriginal food resource. The brackish water clam (*Rangia cuneata*) has a wide salinity tolerance and was probably also an important food source. Few of the marsh plants are significant

as foods. The root of the delta potato or bull-tongue (*Sagittaria sp.*) and the seeds of water lilies were eaten by the Chitimacha Indians to the east of the study area (Swanton 1911).

Natural and artificial levees support shrubby vegetation including button bush (*Cephalanthus occidentalis*), willow (*Salix nigra*), hackberry (*Celtis laevigata*), the introduced Chinese tallow (*Sapium sebiferum*), and roseau (*Phragmites communis*). Deer (*Odocoileus virginianus*) and rabbits (*Sylvilagus spp.*) are important food species of these elevated areas. Forty-five species of birds nest on the Lacassine National Wildlife Refuge to the southwest of the project area, and waterfowl were probably important in the aboriginal diet (Burden et al 1978).

The Prairie Terrace derives its name from the natural grassland that once covered the area. During the last century most of the original prairie was plowed under. A few patches of virgin prairie are reported to occur along the railroad between Lafayette and Lake Charles and between Opelousas and Kinder (Brown 1972:XXXV). The prairie was described by travelers in the 1700s (St. Amant 1959:30-31) and mapped by Darby in 1816. Very little is known about the floral composition of the prairies. Watergrass (*Paspalum sp.*), switchgrass (*Panicum virgatum*), broom sedges and bluestem grass (*Andropogon glomeratus*, *A. saccharoides* and *A. furcates*) were reportedly present (Taylor 1956:28), along with true sedges, rushes, and a variety of herbs (Brown 1972:XXXV). The trees of the wooded areas located along streams and bayous are better documented. Darby (1816:83) listed sweetgum (*Liquidambar styraciflua*), black oaks (*Quercus marilandica*), white oaks (*Q. alba*), an occasional cypress (*Taxodium distichum*), sycamore (*Platanus occidentalis*), walnut (*Juglans nigra*), ash (*Fraxinus sp.*), cottonwood (*Populus deltoides*), elm (*Ulmus americana*), maple (*Acer sp.*), honey locust, (*Gleditsia sp.*) and holly (*Ilex opaca*) (Wiseman et al. 1979:4-5). The

hardwoods could provide prehistoric peoples with nutritious nuts and seeds such as acorns, walnuts and hickory nuts in the fall and early winter.

The prairie today is not considered good habitat for game animals (St. Amant 1959:95). The eastern cottontail (*Sylvilagus floridanus*), found in grassy meadows (Lowery 1974:159; St. Amant 1959:262), was probably hunted by the prehistoric and later occupants of the study area. Other small mammals of the prairie may have included the cotton rat (*Sigmodon hispidus*) and the prairie vole (*Microtus ochrogaster*), now extinct in the state. Bison (*Bison bison*), reported in Louisiana in the eighteenth century, were probably hunted in the southwestern prairies, although no bison remains have yet been found there. Waterfowl, the greatest resource of the southwestern prairies, was present in abundance in the fall and early winter. Ducks and geese must have attracted prehistoric hunters to the grasslands during these seasons (Wiseman et al. 1979:4-6).

Fauna which utilized the interface between the forest and the prairie include deer (*Odocoileus virginianus*), swamp rabbit (*Sylvilagus aquaticus*), squirrels, (*Sciurus spp.*) raccoons (*Procyon lotor*), beaver (*Castor canadensis*), wild turkey (*Meleagris galopavo*), ducks and quail (*Colinus virginianus*) (Gibson 1978:90). The cypress swamp and riverine zones offered several species of potential economic significance, including the river otter (*Lutra canadensis*), beaver (*Castor canadensis*), and mink (*Mustela vison*). Important reptiles were the alligator (*Alligator mississippiensis*), common snapping turtle (*Chelydia serpentina*), and other turtles and snakes. Fish species recorded in the local watersheds include white crappie (*Pomoxis annularis*), black crappie (*P. nigromaculatus*), gar (*Lepisosteus spp.*), channel and blue catfish (*Ictalurus spp.*), smallmouth buffalo (*Ictiobus bulbalus*) and bowfin (*Amia calva*) (USDA 1974).

CHAPTER 3

PREVIOUS INVESTIGATIONS

According to Robert Neuman (1977:6), the earliest account of Indian sites in southwestern Louisiana is the *Map of the State of Louisiana* published by William Darby in 1816. This map depicts “Shellbanks” on Calcasieu Lake and on the Sabine River as it enters Sabine Lake. The first written account of sites in the area is Featherman’s (1871:15) discussion of shell middens on Lake Charles. Five years later, Ripley (1876) described shell middens in southwestern Louisiana, particularly those located around Calcasieu Lake and at the northern end of Sabine Lake. He also mentioned a site at the mouth of Bayou Lacassine, possibly Lacassine Point (16CM15). In the late nineteenth century, George Beyer (1899) conducted the first serious excavations at sites in the region, reporting results from sites on Prien Lake, near Lake Charles.

After the turn of the century, interest in the region waned. The only regional report produced during the first half of the twentieth century dealt with 13 archaeological sites in the vicinity of Grand Lake (Howe, Russell, and McGuirt 1935). Additional work on southwestern sites was not published until 1958 (McIntire 1958). In this highly important study, William McIntire attempted to relate southwestern sites to the Lower Mississippi Valley by using common ceramic terminology derived from the valley. Although this classification system is now deemed inadequate, McIntire’s study remains a valuable source on the archaeology of the area. Although very little archaeological data was published during this era, sites continued to be identified in the parish. In 1940, Doran recorded primarily shell midden sites on Prien, Mud, Moss, and Calcasieu lakes, including site 16CU13 in the present study area (State of Louisiana Division of Archaeology [DOA] site form).

In the last 35 years, the region has been the focus of a series of archaeological reports and surveys. Aten and Bollich’s (1969) report on ceramic chronology for the Sabine Lake area is significant, as it was the first to seriously address the comparatively nondescript ceramics of the region. Jack Bonnin (1972) described excavations into pimple mounds around Welsh, Louisiana, and identified those mounds along the banks of streams and bayous as high probability areas for finding archaeological sites. James Springer’s (1973) work at the Pierre Clement site (16CM47) on the Lower Mermentau River is highly significant as a rare example of excavation at a southwestern Louisiana site.

During the early 1970s, contract archaeology resulted in a sharp increase in the number of reports and surveys dealing with southwestern Louisiana. Robert Neuman of Louisiana State University conducted one of the earliest of these studies for the National Park Service in 1973. He produced an extensive list of all known sites then in the Louisiana State University site files (Neuman 1973, 1977). Although lacking in detail and at times incomplete, the study does present an excellent summary of previous research on the prehistory of coastal Louisiana. Neuman followed this study with a survey of the Bayou Plaquemine Brule and Lacassine watersheds, conducted for the Soil Conservation Service (Neuman 1974a, 1974b). Although several sites were located, no concise study was produced from this data. In a 1976 survey, Jon Gibson (1976a) documented 43 sites along the banks of the upper Mermentau River. Several of these sites had been previously identified by a Gulf South Research Institute survey and testing program (Saltus 1974; Heartfield 1974). These Mermentau studies were not

limited to simple site locational and descriptive data. Rather they provided usable information on artifacts, faunal remains, and site function. Gibson's study is especially important as it defined several new forms of prehistoric plainwares for the region.

Limited surveys in the project vicinity include a number conducted by Coastal Environments, Inc. (CEI). Among these are a survey of the Louisiana portion of the Gulf Intracoastal Waterway (Gagliano et al. 1975), a pipeline route in Calcasieu and Cameron parishes (Gagliano et al. 1976a), and a pipeline through nearby Sulphur, Louisiana (Gagliano et al. 1976b). None of the sites recorded during these surveys fall within the present project area. Philip Rivet (1976a, 1976b) carried out two similar surveys for highway bridges over the Mermentau River and Bayou Queue de Tortue, while Robert Neitzel (1976) surveyed proposed waterlines in St. Landry Parish. These three surveys failed to locate cultural remains. Yet prehistoric shell midden sites were recorded in and adjacent to the current project area by Servello and Morgan (1975) during this era, including those near Coon Island (16CU120-124) and surrounding Lake Charles (16CU127-129, 147 and 153) (DOA site forms).

Surveys conducted by Gibson (1979, 1976b), McIntire (1978), Neuman (1979a, 1979b), Rivet (1979), and CEI (Burden et al. 1978) were among the last to be conducted in the area during the 1970s. Gibson's two studies concerned small sewerage line surveys in the towns of Morse and Estherwood where the only cultural resources located were historic homes and cemeteries. McIntire investigated a pipeline right-of-way running from Texas to southeastern Louisiana. Neuman surveyed the right-of-way of a proposed Hackberry to Nederland 42-in crude oil pipeline in Cameron Parish and a proposed 16-in crude oil and brine pipeline at Sulphur Mines. Rivet's study, related to the I-210 and I-10 interchanges at Lake Charles, located no sites. CEI's survey covered certain areas slated for improvement within the Lacassine National Wildlife Refuge. Several sites and spot finds situated within the marsh or on the marsh-Prairie Terrace interface were noted.

Regional excavations conducted in the 1970s include the work of Robert Neuman, Joseph Frank, and Harry Stopp. In 1975 Robert Neuman recorded 26 prehistoric sites along the Calcasieu River in Calcasieu Parish, including the Bel site, discussed below (Neuman 1976). Three of the 26 sites were earth middens and the remainder shell deposits. Salvage excavations were recommended for all sites to be impacted by construction along the river, although the NRHP eligibility of these sites was not determined.

During the 1970s and 1980s members of the Southwest Louisiana Archaeological Society and others recorded several sites along the Houston River. Most were small and produced a scattering of sand- or grog-tempered ceramics and lithic debitage. One, Nelson Station (16CU21), was located near the confluence of the Houston and Calcasieu rivers. It was relatively large and described as a "major village" dating to the Baytown and Coles Creek periods. Surface collections produced some ceramics identified as Goose Creek Plain, San Jacinto Plain, and Baytown Plain, as well as Friley arrow points (DOA site form).

In 1976 Frank produced a report on the Bel site (16CU127) in Lake Charles. Bel is one of the few sites that have been excavated in southwestern Louisiana, and supported both prehistoric and early American occupations. The historic component at the site is associated with a small U.S. military installation occupied from 1829 to 1832. The fort building remained in use as the Bilbo family home until circa 1900 when it was demolished to make way for the J.L. Bel Lumber Company sawmill complex (Frank 1976a; Wentz 1958).

Another site on the Calcasieu, but north of Lake Charles, was the scene of test excavations conducted by the Southwest Louisiana Archaeological Society (Frank 1976). The Hayes site (16CU145) was examined via hand-excavated units and surface collections and produced ceramics classified as Goose Creek Plain and San Jacinto Plain. The lithic assemblage included Perdiz, Bassett, Scallorn, Gary, and Clifton points, plus perforators, scrapers, and drills. Frank (1976) interpreted the site as a small, temporary camping station.

Also in 1976, Stopp of McNeese State University in Lake Charles conducted excavations at the Jeff Simmons site (16CM84) (Stopp 1976). This site is located on a chenier beach ridge just south of Hamilton Lake in Cameron Parish, about 14 km west of the town of Holly Beach. The excavators noted an almost purely late Coles Creek period component at Jeff Simmons. Stopp was the first to document and excavate a site of this period in southwestern Louisiana.

A number of cultural resources management studies were conducted in Calcasieu and Cameron parishes during the 1980s and early 1990s. CEI's 1980 survey of a proposed brine disposal pipeline in Cameron Parish resulted in the discovery of two new sites, one historic (16CM110), and one prehistoric (16CM111). Neither of these was considered eligible for the NRHP. Three previously recorded sites were also revisited; historic

house sites 16CM90 and 16CM91, and prehistoric site 16CM17. The later had been buried by dredge material and could not be reexamined (Weinstein and McClosky 1980). Tribble and Garrison of Texas A&M University surveyed parts of the Calcasieu and Mermentau rivers in 1982. Fourteen known sites were revisited and four new ones located (16CU05, 16CU08, 16CU15, 16CU118-125, 16CU178-180, 16CM34, 16CM47, 16CM61, and 16CM115.). Only prehistoric sites 16CU119, 16CM47, and 16CM61 were recommended as eligible for the NRHP (Tribble and Garrison 1982:121).

Further north, Deshotels (1981) surveyed the northern section of the Sulphur to DeQuincy route of LA 27 and found no new sites. Frank (1982) located two prehistoric shell midden sites (16CU181 and 16CU182) during his survey for the Bayou Choupique channel modification project. Swanson's (1982) survey of the EMANCO pipeline in Calcasieu and Beauregard parishes found seven sites (16BE47 and 16SL68 to 16SL72) and three abandoned railroad beds, none of which were considered significant enough to test. In 1984, Shuman's survey of a proposed airport site near Sulphur produced no intact archaeological remains.

Frank (1986) located four new prehistoric sites (16CU198-201) and reexamined two known ones (16CU170 and 16CU195) during a survey prior to the dredging and maintenance of Bayou D'Indie. The known sites were disturbed and thus not eligible for the NRHP. While the eligibility of the new sites was not determined, avoidance was recommended. Shuman (1990) conducted further work at 16CU201 in 1990 prior to the construction of a chlorine pipeline by Pittsburgh Plate Glass, Inc., of Westlake. He dated this shell midden site to circa A.D. 1000 and recommended it be tested if impacted. Directional drilling was employed to avoid the site. Frank also recorded 16CU203 on the Calcasieu at Westlake in 1987 (DOA site forms). A projectile point, four sherds of Goose Creek Plain, plus edged and hand-painted pearlware were recovered from this site before it was destroyed by construction. In 1995 Frank reported that shell midden site 16CU13, recorded by Doran in 1940, had also been destroyed (DOA site form).

Goodwin and Associates (1986) tested 16CM61, a Coles-Creek-Period shell midden site on the Mermentau River in 1986 and recommended it as eligible for the NRHP. LeeDecker and Holland (1987) surveyed a Texoma pipeline in Cameron and Calcasieu parishes. The one historic site found (16CU205) was tested and determined ineligible for the National Register of Historic Places (NRHP). Heartfield, Price, and

Greene, Inc. (1990), subsequently conducted a survey near Indian Marias for the proposed ENRON Products Pipeline, Inc.'s, Cypress Pipeline project during which no cultural resources were located. In late 1994 Espey, Huston & Associates, Inc., surveyed the Centana Louisiana pipeline and storage yard near DeQuincy and recommended one site for testing (Espey, Huston & Associates, Inc. 1995a, 1995b). 16CU171, containing an aboriginal and historic component, is located well outside the current project area near the Sabine River in the northwest corner of Calcasieu Parish.

AR Consultants' 1995 survey of the Concha Chemical pipeline ranged from Sorrento, Louisiana to Mount Belvieu, Texas (Skinner et al. 1995). Their right-of-way (ROW) crossed Calcasieu Parish south of Lake Charles, and no archaeological sites were encountered. CEI encountered one multi-component site during Phase I investigations of a portion of the Isle of Capri Casino construction site in Westlake in 1995 (Ryan et al. 1996). The Smith Family Cemetery site (16CU7) consisted of a small, late-nineteenth-century cemetery and a possibly Late Archaic lithic scatter. Neither component was determined eligible for the NRHP, and the seven burials encountered were relocated in accordance with the Louisiana Unmarked Human Burial Sites Preservation Act (Act 704, House Bill No. 1446). Another site, located on Hickory Branch, is 16BE90. R. Christopher Goodwin and Associates, Inc., found this aboriginal site in 1997 and dated it to ca. A.D. 950 to 1800 (DOA site form).

In Cameron Parish, Espey, Houston, and Associates found prehistoric site 16CM177 on Sweet Lake while surveying the route of a proposed Centana pipeline (Skokan and Nash 1995). This site was recommended for testing. A 2001 Sabine Propylene pipeline survey crossed Cameron and Calcasieu parishes, but no new sites were discovered (Miller 2001). A well pad survey across Pines Ridge Island in Cameron Parish (Cramer 2002) also produced no findings. Two new sites were found on the west bank of the Calcasieu River during a survey for CITGO Petroleum in 2000-2001 (Smith et al. 2001). 16CU29 was a prehistoric shell midden deemed ineligible for the NRHP, while historic homestead site 16CU30 was recommended as potentially eligible.

In the early 1990s, CEI made the first of many visits to the Sulphur Mines site (16CU28) in Calcasieu Parish. In 1993 CEI investigated the proposed Sulphur Mines salt dome underground natural gas storage area, and its associated pipelines and compressor facilities (Hahn and Weinstein 1994). The two archaeological sites found consist of disturbed aboriginal site 16CU27

and Sulphur Mines (16CU28). The latter encompasses the 1.5-by-1.5-mi area known as Brimstone, and primarily represents the twentieth century activities of the Union Sulphur Company. Sulphur Mines also exhibits a small prehistoric component dating anywhere from the Marksville to the Historic Contact period. Although historic remains at 16CU28 are extensive, that portion of the site within the 1993 proposed pipeline ROW was deemed to be ineligible for inclusion in the National Register of Historic Places.

CEI revisited Sulphur Mines (16CU28) in 2002 during the Phase I survey of the proposed Hackberry LNG (Liquefied Natural Gas) pipeline and terminal slated for construction in portions of Beauregard, Calcasieu, and Cameron parishes (Ryan et al. 2003). Again, only a very small part of the Sulphur Mines site fell within the project area. While it was not possible to accurately assess the entire site's eligibility for the National Register of Historic Places, those portions of the site within the project ROW were not determined eligible for inclusion in the NRHP. An historic house site (16CU31) and two standing structures constructed prior to 1952 were also recorded during this survey. While the house site (16CU31) was not deemed eligible for the NRHP, both structures (10-205 and 10-206) were. Structure 10-205 is a western Acadian style cottage and Structure 10-206 a well head associated with the Union Sulphur Company at Sulphur Mines (16CU28). In 2005 the Division of Historic Preservation reversed its determination for Structure 10-206, and deemed it ineligible for the NRHP. CEI examined additional areas near Sulphur Mines in 2003 (Cramer 2003) and Hackberry (Wells 2005) in 2005 as part of the Hackberry LNG project (subsequently renamed the Cameron LNG LLC project).

The Port Arthur LNG Pipeline project brought CEI back to Sulphur Mines (16CU28) in 2004 (Hunter and Pearson 2005). Two localities at that site (Localities J and K) were recommended for testing to determine their National Register eligibility. Outside of Sulphur Mines, four previously-recorded shell midden sites (16CM23, 16CM59, 16OR57, and 16OR58) around Sabine Lake were also revisited. The two in Cameron Parish were badly disturbed and so determined ineligible for the NRHP while the eligibility of the two sites in Orange County, Texas remains undetermined.

The Sulphur Mines site was finally surveyed in its entirety in 2004/2005 as part of the Liberty Gas Storage Project in Beauregard and Calcasieu parishes, also conducted by CEI (Hunter and Ryan 2005). Features 1 through 3 at Locality D and Locality T were recommended for testing to determine their National Regis-

ter eligibility. Feature 1 is a well head similar to that identified at the site in 2002 and recorded as Standing Structure 10-206 (Ryan et al. 2003). Locality T includes the foundations for a steam-powered pump or air compressor.

CEI conducted two cultural resources surveys in 2004 related to the proposed replacement of the I-10 bridge linking Lake Charles with Westlake and spanning the Calcasieu River (Ryan et al. 2005; Hahn et al. in press). Shell midden site 16CU128, first recorded by Servello and Morgan in 1975 as part of Robert Neuman's (1976) Calcasieu River Survey, was revisited. Pedestrian survey, shovel testing and probing revealed that the site remained intact and was larger than initially indicated. The ceramics recovered included Baytown Plain, Goose Creek Plain, and San Jacinto Plain. An historic component was also identified at the site and is associated with a late-nineteenth-century sawmill. Phase II testing for NRHP eligibility was recommended for 16CU128. Four standing structures—the Calcasieu River Bridge, the Southern Pacific Railroad Bridge, Goldband Records, and the old Lake Charles Health Unit—were also recommended as eligible for inclusion on the NRHP (Hahn et al. in press).

In conjunction with the current study, CEI revisited the Moss Lake site (16CU14) in 2007 to determine this site's eligibility for the National Register of Historic Places (Ryan 2007). The site could not be relocated. Field observations and map overlays indicated that 16CU14 was lost to bankline erosion between 1955 and 1998.

Although not directly related to cultural resources, several Pleistocene vertebrates have been found in southwestern Louisiana. These finds are particularly important because they suggest an association between early man, extinct animal species, and certain relict features on the Prairie Terrace, particularly the Lafayette Meander belt of the Prairie-Mississippi. Gibson (1970) and Gibson and Miller (1973) reported on the significant find at the B.F. Trappey Canning Company in Lafayette, Louisiana. Below approximately seven meters of silty deposits, workmen uncovered the remains of an American mastodon (*Mammuth americanum*). According to the investigators, the mastodon lay atop a soil horizon attributed to the upper level of the Prairie Terrace, but below a silt mantle, which they identified as loess. Two radiocarbon dates of $11,960 \pm 450$ BP and $6,280 \pm 180$ BP were obtained, but only the earlier was considered reliable (Gibson and Miller 1973:6). Based on this date, the authors postulated a long hiatus between the formation of the Prairie Terrace and the deposition of the silt mantle. However,

others have argued that the silty deposits are actually levee material associated with the Lafayette Meander belt (Coastal Environments, Inc. 1977:322). A second mastodon was identified in backswamp deposits from Bayou Mallet north of Lawtell (Coastal Environ-

ments, Inc. 1977:322). Mammoth remains have been documented within point bar deposits of the Lafayette Meander belt on Bayou Callahan south of Opelousas (Gibson and Miller 1973:13; Coastal Environments, Inc. 1977:322).

CHAPTER 4

ABORIGINAL BACKGROUND

The following discussion is offered to familiarize the reader with the general sequence of aboriginal history within the study area. Figure 4-1 provides an outline of our current understanding of the sequence of cultural development in southern Louisiana. The overall sequence reflects an increase in cultural complexity, as early bands of indigenous, migratory hunters and gatherers gave way to settled agricultural chiefdoms, which were eventually displaced by Euro-American settlement.

Prehistory

For all periods after the advent of ceramics in this area, archaeologists have dated archaeological remains primarily through the decoration applied to pottery vessels. Styles of ceramic decoration changed in a patterned manner through the prehistoric period. Ceramic-based dating is also practical, as sherds are extremely durable and survive well as a part of the archaeological record.

Other artifact traits are dictated not by style, but by function, and vary in response to technological change. Such traits are less useful as chronological markers, but can provide some chronological information with which to date archaeological remains. For example, the change from large projectile points associated with spears and atlatl darts to small points used with the bow and arrow is known to have occurred around A.D. 300 in the Lower Mississippi Valley (Brain 1976:59).

Archaeologists have then divided the cultural chronology they formulated primarily through artifact typologies into discrete units (see Figure 4-1). "Stages"

represent modes of cultural adaptation or lifeways with certain characteristics. One such characteristic is an increase in organizational complexity from earlier to later stages. "Periods" are named blocks of time, which obviate the necessity of using actual dates when the latter are insufficiently well known. "Cultures" illustrate more specific patterns of cultural behavior reflected in styles and types of artifacts with broad areal distributions. For instance, the building of conical burial mounds and the preference for ornately incised pottery is characteristic of the Marksville culture. In theory, periods and cultures are distinct; in practice, they often coincide. "Phases" are defined by sets of artifact traits with a limited and defined distribution in space and time. Phases, then, are unique to a specific region at a specific time in the past.

Early Paleo-Indian Period, 10,000-8,000 B.C.

The earliest evidence of man's activity in the project region comes from a thick sequence of deposits filling an ancient solution pond on the surface of the salt dome of Avery Island in south central Louisiana. Avery Island is one of five salt-dome islands lying within the coastal marshes of south Louisiana. Salt deposits, once exposed on the surface of these domes, attracted a large number of animals. Eleven extinct forms of Pleistocene vertebrates have been identified at the Avery Island site. Stone tools, crudely fashioned through bipolar chipping of chert stream pebbles, were found in association with these fossils. Radiocarbon dates indicate that the artifacts are a minimum of 11,500 years old. A bone projectile point, wooden artifacts, cordage and basketry fragments have also been found in the brine-saturated deposits at the site.

STAGE	PERIOD	CULTURE	TIME INTERVAL	PHASES			
				EASTERN AREA	CENTRAL AREA	WESTERN AREA	
FORMATIVE	HISTORIC	VARIOUS CULTURES	A.D. 1800	←----- VARIOUS TRIBES -----→			
	MISSISSIPPI	MISSISSIPPIAN PLAQUEMINE	A.D. 1700	----- LITTLE PECAN -----			
			A.D. 1600	DELTA NATCHEZAN	PETITE ANSE	BAYOU CHENE	
			A.D. 1500	MEDORA	BURK HILL		
			A.D. 1200	BARATARIA	THREE BAYOU		HOLLY BEACH
			A.D. 1000	BAYOU RAMOS	MORGAN		JEFF DAVIS
	A.D. 900 A.D. 850	BAYOU CUTLER	WHITE LAKE	WELSH			
	BAYTOWN	TROYVILLE-LIKE	A.D. 700	WHITEHALL	?	ROANOKE	
	MARKSVILLE	MARKSVILLE	A.D. 400	GUNBOAT LANDING	VEAZEY	LAKE ARTHUR	
			A.D. 200	MAGNOLIA & MANDALAY	JEFFERSON ISLAND	LACASSINE	
			A.D. 1	SMITHFIELD			
	TCHULA	TCHEFUNCTE	250 B.C.	LABRANCHE	LAFAYETTE	GRAND LAKE	
			500 B.C.	BEAU MIRE		SABINE LAKE	
			1000 B.C.	PONTCHARTRAIN			
			1500 B.C.	GARCIA	BEAU RIVAGE	?	
ARCHAIC	POVERTY POINT	POVERTY POINT	1000 B.C.	BAYOU JASMINE	RABBIT ISLAND		
	LATE ARCHAIC	ARCHAIC	3000 B.C.	PEARL RIVER	COPELL	BAYOU BLUE	
	MIDDLE ARCHAIC		5000 B.C.	MONTE SANO	BANANA BAYOU	?	
	EARLY ARCHAIC		6000 B.C.	AMITE RIVER			
	8000 B.C.		ST. HELENA	?	?		
LITHIC	LATE PALEO	PALEO-INDIAN	10,000 B.C.	JONES CREEK	VATICAN	STROHE	
	EARLY PALEO			?	AVERY ISLAND	?	
	PRE-PROJECTILE POINT			?	?	?	

Figure 4-1. Aboriginal culture sequence in southern Louisiana.

The nature of the stone technology and its apparent association with large, extinct animals suggest that it was produced by small bands of wandering hunters (Gagliano 1967, 1970).

No Early Paleo-Indian phases have been defined for southwest Louisiana to date. Sites of this period would presumably exhibit artifact assemblages similar to those recognized at other Early Paleo-Indian sites in Louisiana and Texas. Particularly diagnostic are the various fluted points of the period, such as the Clovis and Folsom points.

Late Paleo-Indian Period, 8,000-6,000 B.C.

During the interval between about 8,000 to 6,000 B.C., specialized big game hunting became widespread in the New World. The spread of this Late Paleo-Indian culture can be traced by means of very distinctive projectile point forms (Clovis, Folsom, Quad, Dalton, Plainview, Scottsbluff, etc.). These easily identifiable points are widely distributed throughout North America. In southwest Louisiana these points have been found in association with relict point bars, natural levees, crevasse channels and other features related to Pleistocene-age channels of the Red River. Paleo-Indian-type fluted points have also been found on the higher and older terrace lands, particularly along streams in places where stream gravel is abundant. Bones of large, extinct Pleistocene vertebrates (mastodon, mammoth, etc.), believed to have been contemporaries of the Paleo-Indians, have been found in Pleistocene-age backswamp deposits in the project region.

The Strohe phase is a tentatively proposed Late Paleo-Indian phase for southwestern Louisiana. The phase definition is based on a few sites possibly associated with the Pleistocene-age Red River and its distributaries. The Strohe site (16JD10) in Jefferson Davis Parish has yielded stratigraphic evidence of Dalton-like points underlying an Archaic occupation (Bonnin and Weinstein 1975; 1978). The Bayou Blue (16AL1) site in Allen Parish, is also a strong candidate for inclusion in this phase (Coastal Environments, Inc. 1977:322).

Early Archaic Period, 6,000-5,000 B.C.

In much of eastern North America, the Early Archaic period represents a time of adaptation to the changing environments associated with early post-glacial climatic regimes. The available palynological evidence indicates that the present region lies beyond

the southern boundary of boreal forest expansion, suggesting that the transition to Holocene climatic conditions may have been much less marked here than further north. Archaic stage sites were utilized by hunting and gathering peoples who did not make pottery vessels. They hunted with darts, sometimes tipped with large stone points and propelled by a thin stick known as a spear thrower, or "atlatl." Other tools were made of chipped stone, producing a sharp point or edge for puncturing or scraping; or stone shaped by pecking and grinding, used as hammers, weights, hones, mortars, pestles and other types of grinding stones. Archaic peoples probably moved seasonally, occupying each site during the season when the local environments offered the greatest food yields.

While there is a distinct technological break with the earlier fluted-point tradition during the Archaic, there are obvious continuities with transitional complexes such as San Patrice. For instance, the San Patrice-inspired, side-notched point style becomes characteristic of the Early Archaic. These projectile points are referred to by a number of names throughout eastern North America, including Big Sandy, Cache River and Geneill. Corner-notched types such as Palmer and Jude developed during this period, as did stemmed types such as Kirk.

Middle Archaic Period, 5,000-3,000 B.C.

The Middle Archaic period is characterized by widespread regional differentiation of cultures, and a number of developments in ground-stone technology. Ground atlatl weights, pendants, and grooved axes were the result of this technological change. Although they first appeared in the Early Archaic, grinding stones were more common in the Middle Archaic period. This period also roughly corresponds with the Hypsithermal Interval, which brought increased warmth and aridity to areas bordering the Great Plains (Wood and McMillan 1976). The impact of this climatic shift on other portions of the Southeast is not well known at present. The intensive shellfish collection evidenced at some riverine sites of this period may represent a response to this climatic change (Lewis and Lewis 1961:20). In addition, Stoltman (1978:714-715) has suggested that plant collecting increased in importance during this time.

There are no established phases of the Early and Middle Archaic periods applicable to the region presently under consideration. Yet sites in the area undoubtedly contain components of the two periods which will be recognized in future research.

Late Archaic Period, 3,000-1,500 B.C.

Research elsewhere in eastern North America suggests that the Late Archaic period was a time of marked population increases and the beginning of extensive trade networks. The evidence for the former is seen in the appearance of large habitation sites such as Indian Knoll, Kentucky (Webb 1946), while the latter is reflected in the exotic raw materials that occur at some sites. Plant cultivation involving squash, and several native North American species including sumpweed, chenopod and sunflower, also began during this period (Smith 1989).

An additional attribute of the Middle and Late Archaic periods in the southeast is the earliest documented evidence of mound building in the region. Recent excavations and a reevaluation of past investigations now suggest that the building of conical mounds was an inherent part of Archaic period culture in the southeastern U.S. (Piatek 1994; Saunders 1994; Saunders, et al. 1994). At least 11 mound sites in Louisiana and Florida have been securely radiocarbon dated to the Archaic period (Russo 1994:Table 1). Mound building, in association with population increase, extensive trade, and initial plant cultivation, appears to reflect an increase in social and cultural complexity through the Late Archaic period.

The tentatively proposed Bayou Blue phase is named after the Bayou Blue site (16AL1) in Allen Parish which appears to have components dating from the Late Paleo-Indian to various later ceramic periods (Coastal Environments, Inc. 1977:322; Wallace Stroud, personal communication 1976). Two *Rangia* midden sites just east of the Sabine River, Burton Shell Slip (16CM85) and the Gill Smith site (16CM86), may also date to the Late Archaic period (Gagliano et al. 1976b). The Bayou Blue phase is typically represented by an assemblage consisting of Williams, Motley, Marcos, Palmillas, Carrollton, Ellis, Langtry, Gary and Kent projectile points.

Poverty Point Period, 1,500-500 B.C.

In much of eastern North America this time interval witnessed a transition from Archaic hunting and gathering cultures to Woodland cultures characterized by food production and pottery manufacture (Stoltman 1978:715-717). Current interpretations suggest that these two features have different and possibly unrelated origins. As noted above, tropical domesticates had reached the East prior to 2000 B.C., and there is evidence of native seed-plant cultivation in the Kentucky and Ohio area by 1000 B.C. (Struever

and Vickery 1973). Ceramics probably appeared somewhat earlier than this in the third millennium B.C. along the Atlantic Coast (Stoltman 1978:715).

In the Lower Mississippi Valley this transition is marked by the development of the distinctive Poverty Point culture. Among the material characteristics of this culture are baked clay balls or Poverty Point objects, microlith and lapidary industries, and earthworks (Webb 1982). Pottery is not abundant, but fiber-tempered and sand-tempered wares have been found at several sites. Evidence of subsistence is rare, but suggests a continuation of an Archaic pattern of intensive utilization of wild plants and animals. However, there is mounting evidence for the cultivation of squash at Poverty Point period sites (Ford 1974; Jackson 1986; Shea 1978).

Although Poverty Point period occupation has not been recognized in the study area, sites of the culture exist in south central Louisiana, particularly on the coast and along the terrace margin near Lafayette. It may be that Indians in the study area continued to follow a Late Archaic lifestyle while those to the east and south developed Poverty Point culture traits.

Tchula Period, 500 B.C.-A.D. 1

The Tchula period in the Lower Mississippi Valley is characterized by the full-scale integration of food production, pottery manufacture, and mound building into a single cultural system. In the southern portion of the valley these developments occur in an archaeological culture called Tchefuncte. Originally defined in southern Louisiana (Ford and Quimby 1945), Tchefuncte culture is now recognized to have extended as far north as the vicinity of Clarksdale, Mississippi, and as far west as northeast Texas. Diagnostic artifacts for this culture, and most of the succeeding prehistoric cultures of the Lower Mississippi Valley, are distinctive ceramics. Tchefuncte pottery is characterized by a laminated paste that appears to lack tempering. Replication studies suggest that the laminated texture is simply the result of minimal preparation of the raw material (Gertjejansen 1982; Gertjejansen and Shenkel 1983), an expected feature of an incipient ceramic technology. Other diagnostic attributes of Tchefuncte ceramics include the use of podal supports and decorative techniques such as rocker-stamping, finger-nail punctating, and jab-and-drag incising.

Evidence for food production in Tchefuncte culture presently comes from only one site, Morton Shell Mound (16IB3), where remains of two tropical cultigens, squash and bottle gourd, and one possible

native cultigen, *Polygonum*, were recovered (Byrd 1994; Byrd and Neuman 1978:11-13). Fritz and Kidder (1993:6-7) have reviewed the data from this site and suggested that none of these remains can be accepted as definite evidence of cultivation. The squash seeds from the site are small, within the size range of wild gourds, and the *Polygonum* seeds are not those of the domesticated species, *P. erectum*. The status of the bottle gourd is uncertain, but it could have been collected from specimens washed up on the coast.

Mound construction, well documented for the preceding Late Archaic and Poverty Point periods, is surprisingly not clearly associated with Tchefuncte culture. Alan Toth (1988:27-28) has reviewed the evidence for Tchefuncte burial mounds and suggests that they are the result of diffusion of certain aspects of Marksville burial practices among a few late Tchefuncte groups. Further research is required to verify this hypothesis.

In southwest Louisiana, Tchefuncte shell midden sites are located in two general areas, adjacent to Sabine Lake (Weinstein 1986) and around Grand Lake (McIntire 1958). Habitation of shell middens and a distinctive assemblage of chipped stone, shell, ground stone, bone artifacts and a few other traits differentiate the coastal sites from Tchefuncte sites to the north (Ford and Quimby 1945; Gibson 1968). On the coast, burials in the midden became the common way of disposing of the dead.

Numerous sites around Grand Lake and the Mermentau River have inspired the definition of the Grand Lake phase in southwest Louisiana. Unfortunately, studies conducted in the area have been superficial, and doubt remains as to whether these sites should be considered Tchefuncte culture sites or even sites of the Tchula period. Only some of the easternmost components, such as the Morton Shell Mound (16IB3) in Iberia Parish, offer good similarities to Pontchartrain and Lafayette phase ceramics (Gagliano 1967:13; Phillips 1970:884-885; Weinstein 1986). Possibly some of these eastern Grand Lake sites actually belong in the Lafayette phase. Nevertheless, evidence from the Strohe site (16JD10) (Bonnin and Weinstein 1975, 1978) indicates that a viable amount of Tchefuncte material does exist in southwestern Louisiana, and that it may be considered part of the Grand Lake phase. Principal ceramic markers for the phase are Tchefuncte Plain and Tchefuncte Stamped, mainly occurring on a sandy paste similar to the *Mandeville* variety of Tchefuncte Plain.

Other Grand Lake ceramics appear to be similar to, but sandier than, those of the more eastern phases.

Brown et al. (1979) report the types Tchefuncte Plain, Tchefuncte Incised, and Jaketown Simple Stamped from the Veazy site (16VM7 and 16VM8) on Pecan Island. Although not formally analyzed, Byrd (1974:29) notes that the Grand Lake levels at the Morton Shell Mound (16IB3) in Iberia Parish yielded Tchefuncte Plain, Tchefuncte Stamped, Tchefuncte Incised, and Orleans Punctated. The absence of Tammany Punctated from all three excavated Grand Lake components is notable.

Sites from the Sabine Lake area containing Tchefuncte ceramics were first noted by McIntire (1958), and Aten and Bollich (1969). The latter authors identified four sites, based on pottery seriation, which were considered to have Tchefuncte components. Aten (1983) notes several excellent Sabine Lake components, particularly the Conway D (16CU108) and Pipkin Ranch B (41JF31) sites. The former is a shell midden in the marsh of Calcasieu Parish. Profile clearing at this site yielded Tchefuncte ceramics in association with a radiocarbon sample dated at 2020 ± 110 : 70 B.C. (Aten 1983). The latter site is an earth midden atop a pimple mound at the edge of the marsh in Jefferson County.

Based on the data obtained from these Sabine Lake sites, the Sabine Lake phase was established by Weinstein (1986:118-119). Prior to the identification of this phase, Tchefuncte sherds found around Sabine Lake in extreme southwest Louisiana and southeast Texas were placed in the Grand Lake phase (Weinstein et al. 1977b) or left in a nebulous state (Aten 1983). Several unique ceramic traits warrant the establishment of the phase. The most distinguishing ceramic is a variety of O'Neal Plain, complete with rim bosses, known as *var. Conway* (Aten 1983). This variety is presently lacking in the Grand Lake phase Tchefuncte ceramic assemblage. Accompanying *var. Conway* in the Sabine Lake assemblage are sherds of Tchefuncte Plain, Goose Creek Plain, and what Aten (1983) labels Mandeville Plain, but which probably would be equivalent to Tchefuncte Plain, *var. Mandeville* (Rivet 1973; Weinstein and Rivet 1978). Other artifacts include dart points, sandstone abraders, and microflints similar to Jaketown Perforators.

Marksville Period, A.D. 1-400

In many parts of eastern North America, the first centuries A.D. are marked by evidence of extensive interregional contact through a phenomenon labeled the Hopewell Interaction Sphere (Caldwell and Hall 1964). The focal points of this interaction sphere were societies in the Ohio and Illinois River

valleys which acquired large quantities of exotic raw materials, including obsidian, copper, mica, shark's teeth, and marine shells, in exchange for specialized finished goods such as copper panpipes and ear spools (Stoltman 1978:721). Various theories have been offered to explain the nature of this interaction, some emphasizing socioreligious systems and others pointing to economic networks, but the problem remains unresolved.

Within the Lower Mississippi Valley, the culture that participated in this interaction sphere is termed Marksville. Toth (1988:211-212) has argued that Marksville culture developed out of Tchefuncte as a result of intermittent contacts with cultures in the Illinois River valley area, but he only speculates on the nature of these contacts. He emphasizes that the evidence for Hopewellian interaction is largely limited to the Marksville mortuary system and aspects of ceramic decoration. Distinctive design motifs such as the use of wide incised lines, zoned rocker stamping and bird motifs are characteristic of the ceramics of the time. Burials continued to be made in domed or conical mounds, the dead being placed in a flexed position on wooden platforms or in log tombs on top of low earthen platforms, accompanied by pottery vessels and other grave goods and then covered with two layers of earth (Toth 1974).

Other cultural subsystems, such as subsistence and settlement pattern, may have changed very little from previous periods. Economic data from Marksville sites are extremely limited, but information from contemporary occupations in the Midwest suggests a pattern of intensive collecting of wild plant foods and high-density faunal resources, such as fish, supplemented by cultivation of native North American seed plants and a few tropical cultigens (Asch et al. 1979). Present evidence indicates that maize was either not present at this time or was of only minor importance.

Originally proposed by Bonnin and Weinstein (1978), the Lacassine phase is an excellent southwestern Louisiana counterpart to early Marksville manifestations farther east. A relationship to Marksville components along the middle Sabine River (Jensen 1968) is also likely. So far the Lacassine phase is based almost entirely upon a large collection from the Strohe site (16JD10). Nevertheless, smaller components have been noted in various surveys along the coast and up the Mermentau River (e.g., Saltus 1974; Heartfield 1974; Gibson 1976a; Gagliano et al 1976a). Aten and Bollich (1969) similarly note Marksville ceramics from Sabine Lake environs, but

whether all or a portion of these are early Marksville is still to be determined.

The ceramics from this phase are represented by sherds equivalent in decoration to the following early Marksville types and varieties: Baytown Plain, *var. Marksville*, crosshatched, slanted-line and vertical-line rims; Mabin Stamped, *var. Crooks*; Indian Bay Stamped, *vars. Spencer Bayou and Shaw*; Marksville Incised, *vars. Marksville and Sunflower*; Marksville Stamped, *vars. Marksville and Old River*, particularly the latter; and Churupa Punctated, *var. Hill Bayou*. What may have been a Marksville period conical earth mound at the Strohe site (16JD10) has been reported by local informants. Land leveling has since removed the feature.

Lake Arthur is another phase proposed by Bonnin and Weinstein (1978) and consists of the late Marksville period's southwestern Louisiana equivalent to the earlier Lacassine phase. Again, the type collection is from the Strohe site (16JD10). Sherds similar to Marksville Stamped, *vars. Manny and Troyville (Bayou Rouge?)*; Marksville Incised, *vars. Yokena and possibly Leist*; Churupa Punctated, *var. Thornton*; Evansville Punctated, *var. Braxton* and Indian Bay Stamped, *var. Gammon*, have been identified in the collection.

Baytown Period, A.D. 400-700

The period following the Hopewellian florescence was once characterized as a time of cultural decline throughout much of eastern North America (Griffin 1967:187). This is certainly implied in Phillips' (1970:901) statement that ceramic decoration was "at a remarkably low ebb" during this period in the Lower Mississippi Valley. However, a number of researchers have since suggested that the apparent decline may not have been as pervasive as previously believed. In the Midwest, Braun (1977) and Styles (1981) have argued that this period, in contrast to earlier interpretations, was a time of population growth and increased regional social integration. Along the Florida Gulf coast an elaborate culture called Weeden Island developed during this time (Milanich and Fairbanks 1980:89-143). Even in the Lower Mississippi Valley, new data indicate that the Baytown period was marked by the appearance of two painted pottery complexes (Belmont and Williams 1981). The earlier complex, termed the Quafalorma horizon, developed during the Troyville subperiod and exhibited striking similarities to early Weeden Island ceramics. The later complex, called the Woodville horizon, characterized the Deasonville subperiod and was less elaborate. The

remainder of the ceramic assemblage of the Baytown period consisted of a large quantity of Baytown Plain and smaller amounts of decorated types such as Mulberry Creek Cord Marked, Salomon Brushed, and Alligator Incised.

Changes were also occurring in the stone tool tradition during this period. Small arrow points began to replace dart points, reflecting a transition from the atlatl to the bow and arrow. The limited subsistence data from the Lower Mississippi Valley for this period (Weinstein et al. 1995) suggests a subsistence base very similar to that identified by Styles (1981) in the Midwest. There, a pattern of intensive, localized collecting of wild plant and animal resources supplemented by increased cultivation of both North American and tropical cultigens has been identified. Mound building continued in the Baytown period, and there are indications that a shift from a mortuary function to a building substructure had clearly occurred by the end of this time (Rolingson 1982). Numerous shell middens, often rich in animal bones and waterfowl remains, are known from this period as well.

The Roanoke phase of the Baytown Period is another tentative phase originally proposed by Bonnin and Weinstein (1978), based on the Strohe site (16JD10) material. No attempt has yet been made to temporally subdivide this phase, simply because adequate data are lacking. Currently it remains the southwestern Louisiana correlate to the more eastern Whitehall phase (Phillips 1970:911-912; Weinstein et al. 1977a:22). The Roanoke phase has been identified by ceramics equivalent in decoration and vessel form to the following varieties: Baytown Plain, *var. Troyville* (large, thickened rims on vessels and "Six Mile" treatment below rim); Coles Creek Incised, *vars. Hunt* and *Stoner*, the latter sometimes embellished by punctations above the incision; Larto Red, *var. Larto*; and a very crude form of Alligator Incised, *var. Oxbow*.

Coles Creek Period, A.D. 700-1200

Elsewhere in eastern North America this time interval corresponds to the latter portion of the Late Woodland period and the beginning of the Mississippi period. Within the Lower Mississippi Valley, a cultural florescence that shows a marked resemblance to Weeden Island culture of northwest Florida occurs during this period. The precise nature of the relationship of Coles Creek culture to Weeden Island is uncertain, but the similarities in ceramic decoration and community pattern are unmistakable. Ceramics

from both cultures are characterized by incised, stamped, and punctated pottery types in which the decorative zone is largely restricted to a band around the rim of the vessel. Major settlements in both areas contain small platform mounds centered around open plazas. This kind of monumental construction is generally interpreted as a physical indication of a stratified social system.

These societies were once thought to have been based on economies that included the cultivation of maize. However, recent ethnobotanical data suggest that neither maize nor the native North American seed crops were of paramount dietary importance at this time (Fritz and Kidder 1993:8-9; Kidder and Fritz 1993:291-294). Intensive hunting and gathering supplemented by cultivation of a few plants, such as squash and gourds, are currently believed to have provided the subsistence base.

The Welsh phase is the southwestern Louisiana representative of the early Coles Creek period. The type collection again comes from the Strohe site (16JD10) (Bonnin and Weinstein 1978) and includes sherds equivalent to Pontchartrain Check Stamped, *var. Pontchartrain*; Baytown Plain, *var. Percy Creek*; French Fork Incised, *vars. Brashear* and *Lafayette*; Coles Creek Incised, *var. Coles Creek*; and unclassified complicated stamped. Additional information on this phase will certainly emerge once more work in the area is carried out.

The tentatively proposed Jeff Davis phase of the middle Coles Creek period is the southwestern Louisiana parallel to the eastern Bayou Ramos phase (Weinstein et al. 1977a:23). Based on a small ceramic sample from the Strohe site (16JD10) (Bonnin and Weinstein 1978), the phase contains sherds equal to Coles Creek Incised, *var. Mott*; Evansville Punctated, *var. Rhinehart* (with *Mott*-like rims); Ponchartrain Check Stamped, *var. Tiger Island*; and large quantities of Baytown Plain, *var. Little River*, with tapered rims and fire-clouded surfaces.

Based on excavations at the Jeff Simmons site (16CM84) near Hamilton Lake by Harry Stopp (1976), the Holly Beach phase represents the late Coles Creek period in southwestern Louisiana. A radiocarbon date of A.D. 1120 ± 65 years, along with pottery of Coles Creek Incised, *var. Hardy*; Mazique Incised, *var. Manchac*; Evansville Punctated, *var. Wilkinson*; significant amounts of Harrison Bayou Incised, *var. Harrison Bayou*; and Ponchartrain Check Stamped, offer good evidence that this is a transitional Coles Creek component. Similar ceramics have been located

along the Louisiana coast eastward to the Three Bayou phase area (McIntire 1958), westward into Texas (Aten and Bollich 1969:Fig. 3; Aten 1983), and northward to near the Latitude of the Strohe site (16JD10) in Jefferson Davis Parish (Bonnin and Weinstein 1978).

Mississippi Period, A.D. 1200-1700

The last prehistoric period in eastern North America witnessed the development of chiefdom-level societies based on intensive cultivation of maize, beans and squash. Perhaps the most dynamic of these societies appeared in the Middle Mississippi Valley between A.D. 900 and A.D. 1050. Referred to as Mississippian culture, it was characterized by a shell-tempered ceramic industry and a settlement pattern of large, often fortified, mound centers and nucleated habitation sites (Stoltman 1978:725). During the first centuries of the second millennium A.D., this culture spread rapidly along the major river valleys of eastern North America. The nature of this expansion, either through movement of people or diffusion of ideas, is still debated. However, by A.D. 1200 Mississippian culture was found as far south as northern Mississippi and as far east as Georgia.

In the Lower Mississippi Valley, Mississippian culture encountered an indigenous non-Mississippian culture, and a hybridization of the two occurred. Phillips (1970) considered the resident culture to have been Plaquemine, an outgrowth of Coles Creek culture, which began about A.D. 1000. He claimed that the interaction between Mississippian and Plaquemine culture resulted in gradual changes in the Plaquemine ceramic tradition and pattern of settlement. Later in the period, after A.D. 1400, an actual intrusion of Mississippian groups displaced the resident Plaquemine groups. Brain (1978) has offered a somewhat different interpretation of this sequence of events. The Lower Mississippi Valley culture that experienced the initial Mississippian contact about A.D. 1200, according to Brain, was Coles Creek, and the resulting hybridization produced Plaquemine culture.

The remainder of the period saw a gradual increase in Mississippian influence, at least in the Yazoo Basin, until about A.D. 1400 when a full Mississippian cultural pattern was achieved in the Lake George phase (Brain 1978:362). Brain's reinterpretation of the cultural sequence has resulted in a shift in the established chronologies. Phases such as Crippen Point and Preston, which were formerly considered Plaquemine culture manifestations of the early Mississippi period, are now placed late in

the Coles Creek culture. The Coles Creek period is now thought to persist until A.D. 1200, and includes a number of changes in ceramic technology that had previously been considered indicators of Plaquemine culture. If Brain is correct, then Plaquemine culture throughout the Lower Mississippi Valley should postdate A.D. 1200, and should appear progressively later, as distance from the Yazoo Basin increases. A thorough reassessment of Plaquemine culture, similar to that undertaken by Hally (1972), seems in order.

While unable to agree on the origin of Plaquemine culture, all authorities concur that it exhibits numerous continuities with the preceding Coles Creek culture. Several of the Plaquemine ceramic types appear to be direct outgrowths of Coles Creek types. Major ceramic changes, however, include the addition of small amounts of finely ground shell and other organic matter to the clay, and the extension of the decorative field to include the body of the vessel. Mound construction continued on an even greater scale than in previous periods, resulting in larger mounds, larger mound complexes, and a larger number of mound sites. Intensive agriculture is presumed to have been the economic base on which this florescence rested, but there is little direct evidence to support this theory in the Lower Mississippi Valley.

Components of the Mississippi period, Bayou Chene phase almost certainly represent late, prehistoric and protohistoric Attakapa sites. Artifacts from Bayou Chene phase sites reflect a somewhat nebulous blend of Plaquemine and localized traditions (Weinstein et al. 1977b; Bonnin and Weinstein 1978). Ceramic assemblages include increased sandy-paste and sand-tempered types and varieties, reminiscent of east Texas wares, such as Goose Creek Plain and Incised, along with typical Plaquemine and Caddoan sherds. It appears that the protohistoric Attakapa were obtaining their fine, decorated vessels from both the eastern Delta Natchezan-phase Indians and the Caddoan groups to the north. Delta Natchezan markers, such as Fatherland Incised, *vars.* *Fatherland* and *Bayou Goula* and bone-tempered Caddoan ware are indicative of such contact. It is apparent, however, that the early Attakapa did construct much of their own plain and utilitarian vessels, as the paste of sherds from these forms are unmistakably of local origin.

The Little Pecan phase represents contact-period sites in southwestern Louisiana, and is undoubtedly equivalent to the historic Attakapa. So far, four Little Pecan phase sites have been identified: Little Pecan Island (16CM43); Little Chenier (16CM22); Bel (16CU127) and Bayou Guy (16CU169) (Frank

1976a; Joseph Frank, personal communication, 1978). These sites produced the following ceramic types: Fatherland Incised, Leland Incised, Maddox Engraved, Mississippi Plain, L'Eau Noire Incised, Avery Engraved, Grace Brushed and possibly Chicot Red (Joseph Frank, personal communication, 1978). Plain and utilitarian vessels were locally made, and are classified as Goose Creek Plain, San Jacinto Plain, Goose Creek Incised and San Jacinto Incised. Found with the aboriginal ceramics are such European trade items as glass beads and gunflints (Joseph Frank, personal communication, 1978).

Ethnohistory

Of the three purported groups of Attakapa Indians that existed in southwest Louisiana during the historic period, the easternmost group lived on the Vermilion River and around Vermilion Bay. A village occupied by this group was located above Abbeville (Vermilion Parish) until the early 1800s. A second band of Attakapa lived on the Mermentau and its branches. Their principal village, "Isle de Lacassine," was abandoned in 1779 and moved farther upriver. "Isle de Lacassine" has been identified as Little Pecan Island (16CM43), therefore, the historic component at this site may be Attakapan (Swanton 1911:360-361). Lacassine, Nementou, Calcasieu and La Tortue are the names of Attakapan chiefs now used to denote rivers and bayous in southwest Louisiana (Post 1962a:229). Chief La Tortue is known to have established a village on the prairie of Nezpique (possibly Darby's prairie Mamou) after 1799. An 1820 map by Tanner notes "Indians" near the confluence of the Nezpique, des Cannes and Plaquemine Brule bayous (Tanner 1825). The notation probably represents another Attakapan village located on the present site of the town of Mermentau.

The third Attakapan group lived along the Calcasieu River. One of their villages was located on Prien Lake near the present city of Lakes Charles. J.O. Dyer interviewed members of the Calcasieu band between 1817 and 1819 and provided what little is known about the culture of these Indians (Gibson 1976a:13). From 1907 to 1908, Swanton found nine individuals descended from this group who still remembered something of the language, but half of these had moved to Texas, Kansas and Oklahoma.

The Attakapa were related linguistically to the Opelousa Indians to the east (Post 1962a:224) and probably also to some of the Texas coast bands and inhabitants of the Sabine, Neches and lower Trinity valleys (Swanton 1911:362). Attakapa in Choctaw means "man-eater," a name that reflects this tribe's

poor reputation among their Indian neighbors and early European settlers. That the Attakapa were cannibals seems to be the main item of information recorded about the tribe. Le Maire noted the trait on one of the earliest maps of the coast made in 1716, and the information was subsequently repeated on later maps until the end of the century. Yet no actual evidence of Attakapa cannibalism has so far been documented. Probably the ferocity and nomadic lifestyle of the Attakapa seemed so barbaric to settled agriculturalists in the Lower Mississippi Valley that all sorts of stories were propagated about the tribe. Post (1962a:225) speculates that the rumor of cannibalism gained credibility through Simars de Belle-Isle who was abandoned among the Attakapa between 1719 and 1721. Another unfavorable impression is documented on George Gauld's 1778 map entitled: *A Plan of the coast of part of west Florida & Louisiana: including the River Yazous*. It reads: "There are several Indian Villages along the banks of this River [the Calcasieu]. These Savages plunder and steal whatever they can from such as have the misfortune to be cast away on this inhospitable coast."

Attakapa settlement was oriented toward the valleys of the prairie's major rivers and bayous. According to Dyer, the western Attakapa were hunters, fishermen and gatherers who lived in small groups and frequently moved from one camp to another. In historic times they became traders in horses, tallow and furs. Dyer reports that pottery was not made locally but rather obtained by trade (possibly this refers to non-utilitarian wares, for locally made utilitarian wares certainly appear in the prehistoric record). The bow and arrow, antler-tipped spears, fish darts and harpoons were used in hunting and fishing. In addition to pottery, storage vessels included wooden bowls and skin containers. Conical huts of bent poles and vines served as housing. Portable deerskin tents used by related non-sedentary groups in the winter months may also have been used by the Attakapa (Gibson 1976a:13).

The western Attakapa referred to the eastern Attakapa as the Hiyékiti. The distinction between the eastern and western groups may be reflected in the notations on a 1775 map: "Nation des Grandes (Greater) et Petites (Lesser) Atacapas" (Cartographic Information Center, Louisiana State University). A letter written by Duralde in 1802 suggests that the eastern Attakapa were more sedentary than the western group:

The women alone are charged with the labors of the field and the household. The mounds according to them were intended

to elevate and distinguish the dwelling of the chiefs, and were thrown up under their supervision by the women [Swanton 1911:363].

Contact period archaeological sites like Little Pecan Island (16CM43), the Bel site (16CU127), Little Chenier (16CM22) and Bayou Guy (16CU169) have historic Indian components, according to Joseph Frank (personal communication, 1978). The artifact assemblages from these sites include European trade goods, Texas coast plain and incised ceramic wares, and late Mississippi period shell-tempered and decorated wares. The plain and incised types are made on the

sandy paste typical of the western coast, whereas the decorated types exhibit a fine paste like that of the Lower Mississippi Valley (Bonnin and Weinstein 1978; Wauchope 1947:187). These ceramics suggest importation of northern and eastern decorated pottery (as indicated in the historical literature), and reflect Attakapa involvement in a valley-wide trade network perhaps related to the ideographic developments of the Mississippi period. In return for these imported ceramics, coastal groups may have traded salted fish and cane baskets (Gibson 1976a:18), bear skins, deer hides, bison hides, and slaves captured from other groups.

CHAPTER 5

HISTORIC BACKGROUND

Colonial Period

France first claimed the Louisiana Territory in 1682, during an exploratory expedition led by Robert Cavalier Sieur de la Salle. During this first French regime, which lasted until 1763, the vast area of Louisiana was divided into nine districts, each one being administrated in civil and military concerns by a commandant and a judge. Posts established within these districts were usually named after a local Indian nation or tribe. Two trading posts were established in the southwestern portion of the Orleans district: *Poste des Opelousas*, at the present town of Opelousas, and *Poste des Attakapas*, near St. Martinville (Fontenot and Freeland 1976:19).

The first European settlement in the Attakapa country was around the Opelousas and Attakapa trading posts. French and Canadian traders visited the posts to trade furs, tallow, bear grease and other items. Small settlements consisting mainly of trappers and Indians began to grow up around these posts. Colonization in the southwestern Louisiana prairies was not promoted or encouraged until after 1763, when Louisiana was ceded to Spain (Chambers 1925:269-271; Fontenot and Freeland 1976:19).

Under Spanish rule, Acadians expelled from Nova Scotia emigrated to Louisiana, and land was parceled for settlement. The Acadian migration into Louisiana began in 1765 with the arrival of over 200 refugees in New Orleans. A contract was drawn up between a Captain Dauterive of New Orleans and nine patriarchal heads of Acadian families, by which terms Dauterive obligated himself to furnish the families

with one bull and five cows with calves for six years in succession. After this time, he was to receive back the same number of cattle, being the same kind and age as those originally granted. All risk of loss was to be his for the first year. All increase and profits were to be divided equally between himself and the Acadians. Subsequent to this contract, the Acadians took themselves and their cattle to the area of the *Poste des Opelousas* and *Poste des Attakapas* (Chambers 1925:269-271). From these regions the Acadians spread into the eastern parts of the prairies and the immediate west. In time, they repaid their debt to Dauterive, and some became prominent landholders and cattle barons. Acadian migration to this region occurred primarily during a twenty year interval, from 1765 to 1785 (Post 1962b:32). The Acadians developed a homogeneous and cohesive culture that subsequently spread throughout southwestern Louisiana.

Early original land titles in Louisiana were obtained by purchase from the Indians, occupation and settlement, or grant from the Spanish government. Under Don Manuel Gayoso de Lemos, governor of Louisiana in 1798, a series of rules were drawn up pertaining to land grants. Unmarried immigrants were not granted lands until the land had been cultivated for four years. Married immigrants of proven acceptability received 100 arpents of river frontage (arpent=58.52 m) with an additional 50 arpents for each child. If the petitioner owned slaves, he would be provided with an additional 20 arpents per slave. Lands were to be forfeited if not settled within one year or if one tenth of the acreage was not cultivated. Land grants were to be contiguous to existing occupied grants in order to provide better protection and defense in the event of

Indian raids (Chambers 1925:387-388; Fontenot and Freeland 1976:19).

In addition to the river front system for granting lands, league-square grants (260 ha) were permitted. However, these were granted only to those persons owning one hundred or more head of cattle, some horses and sheep and at least two slaves. These grants required that, within three years of possession, levees be built to hold back overflows, ditches be dug for drainage, and roads, forty feet wide running atop the levees, be kept in good repair. Also, the land had to be cleared of timber to a minimum depth of three arpents from the front lines (Chambers 1925:387, 388; Fontenot and Freeland 1976:19).

The first permanent settler in the Lake Charles area was Barthelemy Blaise LeBleu who claimed 609 ac, extending from the lake to south of Contraband Bayou, in about 1777 (Figure 5-1). His son Arsene was purportedly one of Jean Laffite's captains until establishing his home in 1781 near English Bayou, in the Chloe area (Figure 5-2) (Ross and Mangun 1997:9). LeBleu became a rancher and cattle buyer and his home evolved into a way station on an east-west trending trail, extant in this area by at least 1839 (Burr 1998 [1839]). This trail, sometimes called the Old Spanish or Opelousas Trail, was used to move herds of cattle from Texas to market in New Orleans. Charles Sallier arrived from New Orleans in 1783 and initially settled near the mouth of the Calcasieu River. He married Barthelemy LeBleu's daughter Catherine in 1802 and relocated to the eastern shore of Lake Charles (Cagie 1967a:1; Whittler 1987:44). Both the body of water and the city of Lake Charles (originally Charleston) were named after Sallier who built his home on the lakefront in about 1802.

Although Louisiana was transferred from Spain to France by the Treaty of San Ildephonso on 1 October 1800, the French did not take formal possession of the Louisiana Territory until 30 November 1803. France, however, had already signed a treaty of cession transferring the colony of Louisiana to the United States on 30 April 1803. As it took several months for the United States Congress to approve the Louisiana Purchase, the American government did not take formal possession of the colony until 20 December 1803 (Hahn and Weinstein 1994:20; Wall 1984:65-68).

American Period

A dispute arose immediately between Spain and the United States over the western boundary of

the Louisiana Territory. Spain considered the Rio Hondo, now known as the Calcasieu River, to be the territory's western boundary. The United States meanwhile maintained that the Sabine River served as the territorial boundary. To head off a military clash, the U.S. and Spain signed an agreement declaring the disputed territory a neutral ground in 1806. The boundaries of the neutral ground were only vaguely defined as the Sabine on the west and the Arroyo Hondo, a tributary of the Red River, on the east (Texas State Historical Association 2005). This international border remained in dispute until 1819 when the Sabine River was finally decided to be the western boundary of Louisiana. The Adams-Onis Treaty confirming this boundary, however, was not ratified until 1821.

In the intervening years the neutral ground was essentially lawless and favored by outlaws and cattle rustlers. The Calcasieu River and the chain of lakes it flows through also provided harbor to trespassers and pirates, including Jean Laffite, a purported friend of the LeBleus and Salliers (Wentz 1958:3). Laffite reportedly transported slaves to Contraband Bayou at Lake Charles to be sold to sugar planters. The pirate ship *Hotspur* is known to have sailed up the Mermentau River in November of 1820 to obtain fresh water. At that time, Jean Baptiste Callistre and Charles Cronea both jumped ship. Cabin boy Cronea lived with the Attakapas Indians at Grand Chenier for two years and married an Attakapan woman. The *Hotspur* then wrecked on a mudflat at the mouth of the Mermentau and later washed out to sea (Block 2005).

The United States nevertheless encouraged settlement in the Rio Hondo area between 1803 and 1819 in an effort to substantiate their claims to the land and to hold Spanish occupation at bay. The promise of liberal land grants lured in settlers from the Atlantic seaboard. Among these was Jacob Ryan, Sr., of Georgia who settled on the west side of Calcasieu Lake in 1815 near Bayou Choupique (Cagie 1967a:1; Whittler 1987:3,15). He purportedly established the first sawmill in the parish in this area (Maude Reid Scrapbook 3:70, McNeese State University Library, Lake Charles, Louisiana). Other early residents of this area were Henry Moss, Louis Reon, Thomas Rigmalden, and Pierre Vincent. Burrell Franks settled farther south in Hackberry and Rees Perkins in the Westlake area (Whittler 1987:1, 6, 10, 34, 52).

To bring some stability to the region, the U.S War Department established Fort Jesup near Natchitoches in 1822 and Cantonment Atkinson in Lake Charles in 1829 (see Figure 5-1). The Treasury Department actually petitioned for the latter post in order to

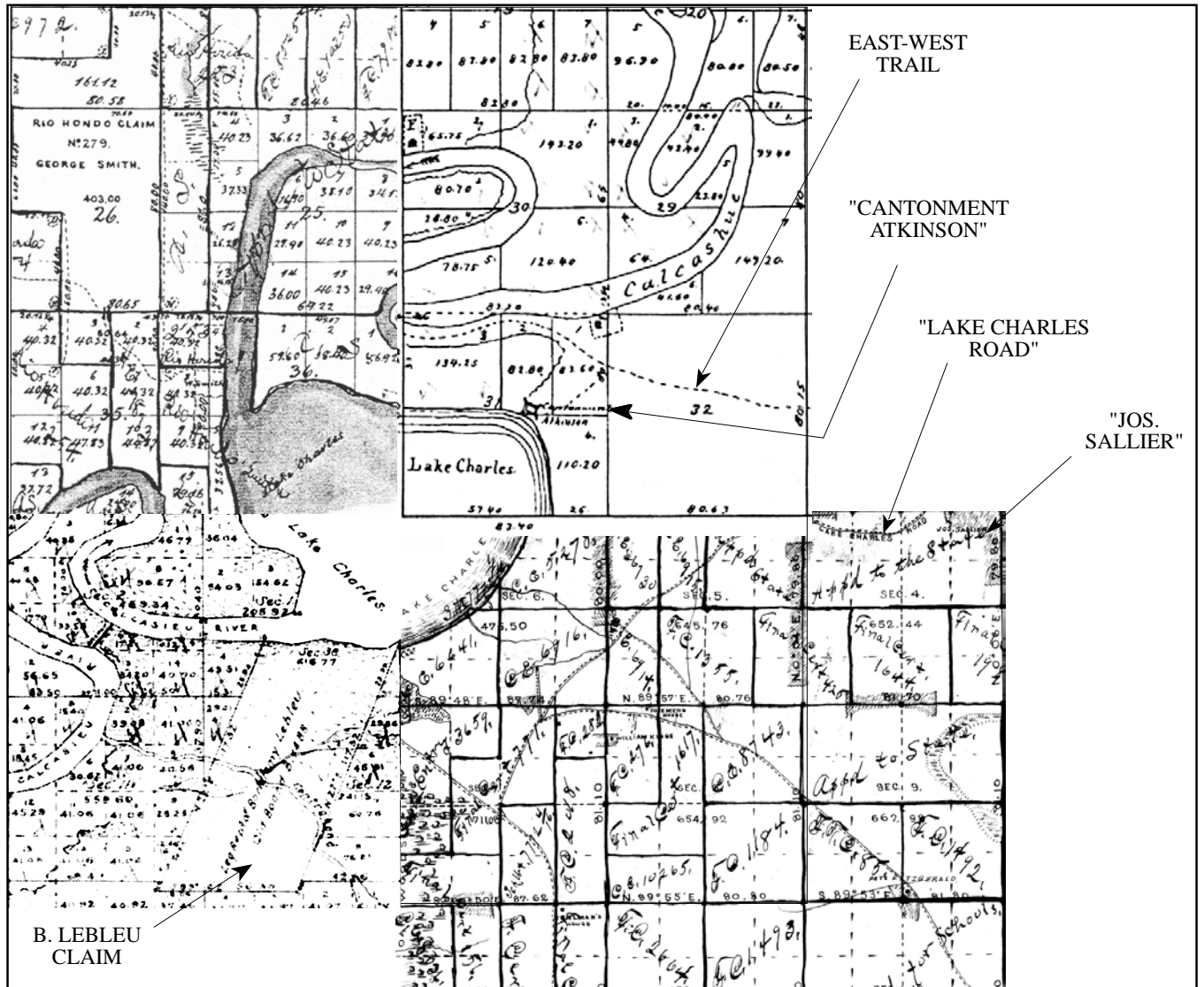


Figure 5-1. Portions of the official plat maps for the Calcasieu River region (Downing 1830; Flickers 1889; Lewis 1883; Williams 1836).

suppress illicit trade from Mexico on the Calcasieu (Wentz 1958:3). Cantonment Atkinson, named after Brigadier General Henry Atkinson, commander of the western division of the U.S. Army, was located on the circa-1839 trail that passed LeBleu’s home, and was manned only until 1832 (Whittler 1987:45).

Four months after the Louisiana Purchase, the Territory of Orleans, consisting of the entire colony of Louisiana below 33 degrees latitude, was created. In 1805 the Territory of Orleans was subdivided into twelve counties, including the districts of Opelousas and Attakapas. Parts of both of these districts were combined in 1807 to form St. Landry Parish. St.

Landry Parish of 1807 included present-day Acadia, Allen, Beauregard, Calcasieu, Cameron, Evangeline, Jefferson Davis, and St. Landry parishes (Fortier 1909:415-517).

Antebellum Period

Calcasieu Parish was carved out of St. Landry Parish on 24 March 1840, and purportedly named after the Attakapa Indian chief Crying Eagle. “Crying Eagle” in the Attakapa language was “Katkosh Yok,” formed from Katkosh (Eagle) and yok (to cry) (Calcasieu Parish Planning Board [CPPB] 1945:10). Another belief is that Calcasieu translates as “crooked river” or “deep water” (Westlake Historical Commission

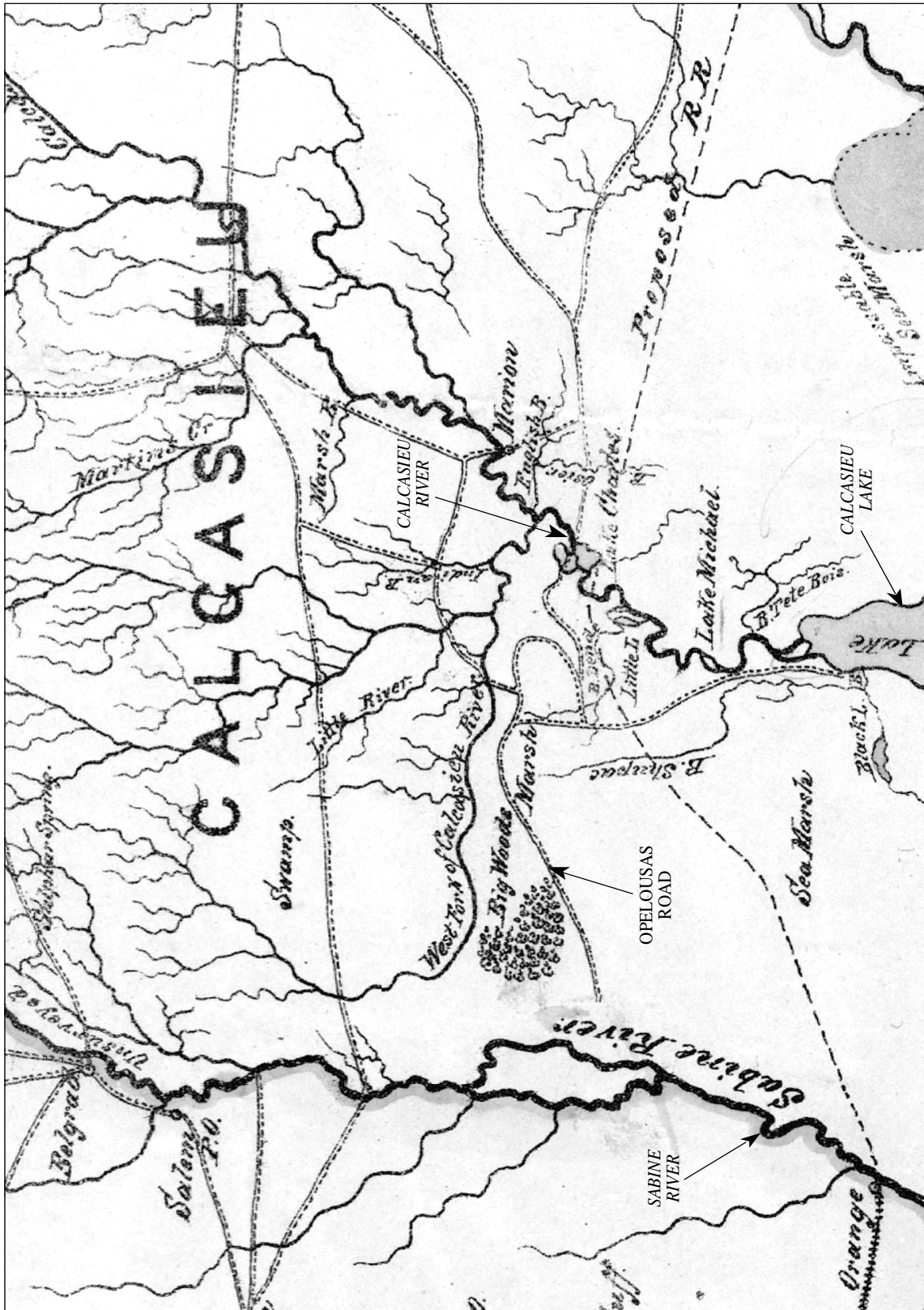


Figure 5-2. Helmuth Holtz' (2005) 1864 Map of Louisiana & Arkansas showing Marion and English Bayou. Note segments of the Opelousas trail running through both Marion and Lake Charles. Also note the route of a proposed railroad from the Sabine River and through Lake Charles.

1995:29; Maude Reid Scrapbook 1:273, McNeese State University Library, Lake Charles, Louisiana). The Spanish name for the river, Rio Hondo, means “deep river.” Commonly known as Imperial Calcasieu, the parish consisted of the present-day parishes of Allen, Beauregard, Calcasieu, Cameron, and Jefferson Davis. Cameron Parish would be separated in 1870 and Allen, Beauregard, and Jefferson Davis parishes in 1912 (CPPB 1945:17; City of Lake Charles 2002).

Cameron Parish was purportedly named for either Robert Alexander Cameron, a Union officer from New York and commander of the military district of Lafourche by the close of the Civil War (Thomas et al. 1978:3), or Simon Cameron, a Pennsylvanian who was President Abraham Lincoln’s first secretary of war (Wikipedia 2007). Leesburg (now called Cameron) was founded in 1860 at Calcasieu Pass and would become the Cameron Parish seat. While the founder of Leesburg is unknown, the town site included a 10-ac tract granted to William McCormick in 1860 by President Buchanan for services rendered during the War of 1812 (Tribble and Garrison 1882:14).

As some three-quarters of the Cameron Parish area is sea marsh, it was never heavily populated. Settlement was restricted to the little high ground available, mainly the coastal cheniers and the Hackberry and Grand Lake ridges adjacent to Calcasieu Lake. Fields belonging to the Hampshire and Trahan families are shown at Hackberry by 1834 (Figure 5-3) (Williams 1834a, 1834b), while “Todd’s Field” lay on the east bank of Calcasieu Pass by at least 1847, but probably by the mid 1830s (Figure 5-4) (Landry 1847). Other early settlers in the Cameron area include Dan Johnson, a smuggler on Johnson’s Bayou by the 1790s. Later the Barrows, Henry Orr, and Henry Griffith, all cattlemen, also settled on Johnson’s Bayou (Block 2005).

The Phillips family lived at the western end of Grand Chenier until the hurricane of 1824. Significant settlement on the cheniers was delayed until the 1830s as the timber found there had been reserved by the U.S. Congress as naval stores. Once available, some of this land was given to military veterans who sold it to speculators. In the 1830s and 1840s, migrants from the southeastern states, some of whom had settled first in Texas, swept into the cheniers, (Welcome to Cameron Parish [WCP] 2007). John M. Smith and Millege McCall were early settlers on Grand Chenier (Perrin 1891:169-179). Placide Labove settled there in 1836, while Frederick Schmidt moved to Smith Ridge in 1839, where he grew cotton and installed a cotton gin. John Smith, John Armstrong, John Sweeney, and James Welse had all arrived on Grand Chenier by 1850

(Louisiana Department of Health and Human Services 2007). Three probable residences and their associated fields existed on the west bank of Calcasieu Pass at the river’s mouth by 1855 (Figure 5-5) (Bache 1855).

George W. Wakefield of Ohio settled about a mile from Leesville in 1840, while William M. Doxey brought slaves with him from North Carolina and started a sugar plantation in the area. James Hall and James Root were early settlers in the western part of Cameron Parish, and were joined by the Griffith family in about 1850. John M. Miller first settled in the extreme eastern part of the parish in 1847 (Perrin 1891:169-179). The family names of other early settlers in the Cameron area include Elender, Deuhon, Faulk, Hebert, Smith, and Domingo (Louisiana Department of Health and Human Services 2007). Census records for Leesburg indicate that many of this town’s early residents came from Europe and New England (Tribble et al. 1982).

Settler John Sweeney came to Grand Chenier on the schooner *Jubilee* from New Orleans. The *Jubilee*’s Captain Paul Jones of Massachusetts made round trips, bringing dry goods, foodstuff and hardware from New Orleans in exchange for deer skins, peltries, and sometimes cotton. Other early schooners that plied the Calcasieu included the *Chafana*, captained by Eugene Laurents; the *Flower France*, manned by Louis Zampini; the *Mary Lee*; the *Catherine Minerva*, built by E. A. Perkins and captained by Joe Wainwright; and the *John Albert* under Captain William Vincent. Lastie Vincent is known to have bought the schooner *Ramsey* from Captain John Miller of Grand Chenier. The first steamboat on the Mermentau was the *Cricket*, under Captain Joe Boudreaux. The *Cricket* carried mail and supplies to Grand Chenier and returned to Lake Arthur with cotton, cattle, hides, and produce (Block 2005).

The first Imperial Calcasieu Parish assembly was held in Arsene LeBleu’s home on English Bayou in 1840 (see Figure 5-2). Proposed parish seats were Lisbon (west of the Calcasieu in north Westlake, later known as Bagdad) (Figure 5-6), Comasaque/Marsh Bayou Bluff (about six miles upriver from Lake Charles and north of English Bayou), Centre (in the center of the parish) and Faulk’s Bluff (Wikipedia 2005). Comasaque Bluff won out and was renamed Marion (see Figure 5-2). Later known as Old Town, this settlement was located near the intersection of old U.S. 171 and LA 3059. Marion, consisting of a log courthouse, jail, and a few cabins, also served as a way station on the circa-1839 LeBleu trail (Maude Reid Scrapbook 2:136, McNeese State University Library, Lake Charles, Louisiana).

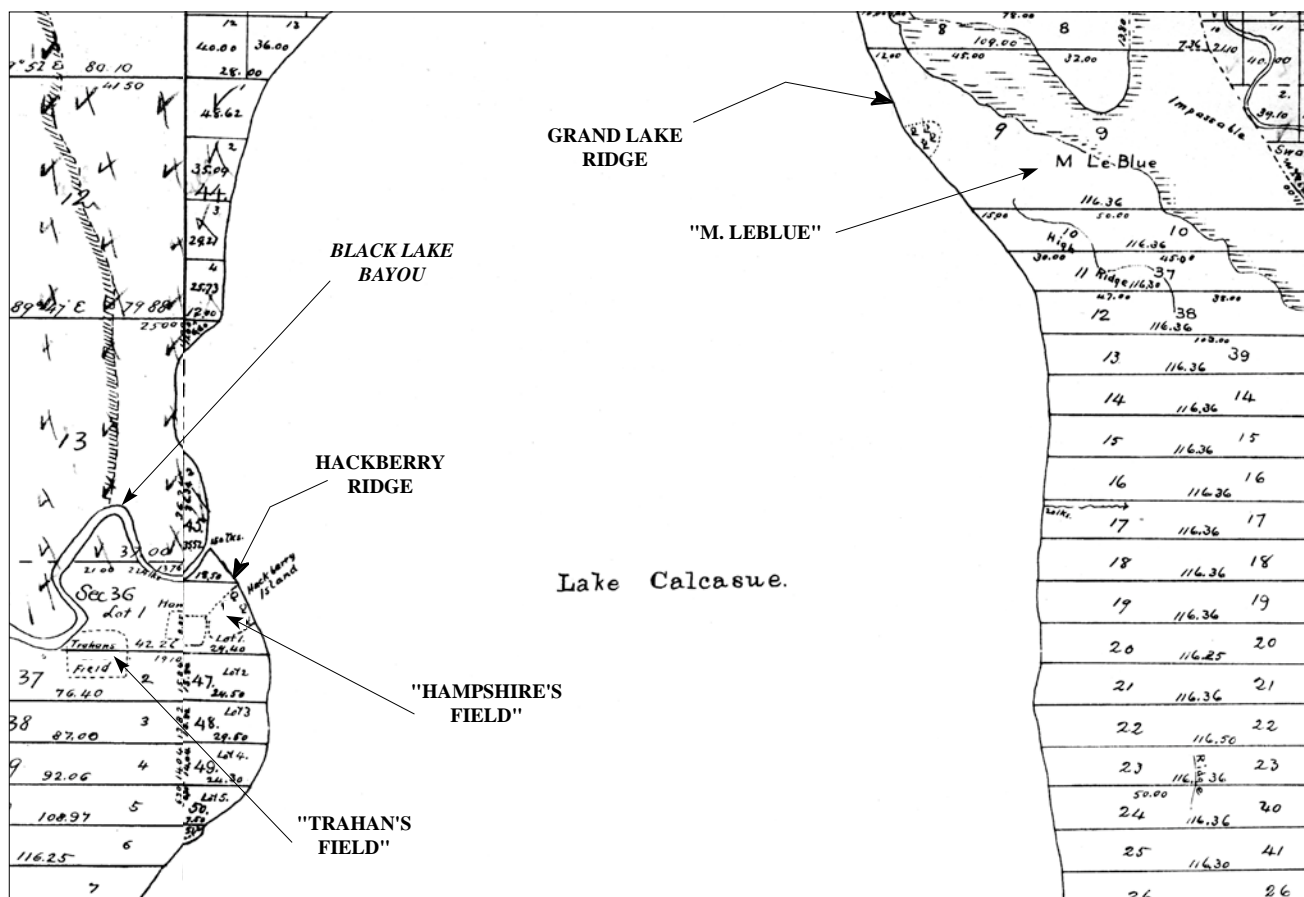


Figure 5-3. A portion of the 1834 plat maps for Township 12 South, Range 9 West, and Township 12 South, Range 10 West, Southwestern District (Williams 1834a. 1834b). Note the Trahan and Hampshire fields on Hackberry Ridge, and the tract of M. LeBlue across Calcasieu Lake on Grand Lake Ridge.

A second wave of settlers arrived in the Lake Charles area from the 1830s through the 1850s. Thomas Bilbo and James Barnett came in 1837. Other newcomers included Samuel Adams Kirby, a Vermont lawyer, and schooner Captain Daniel Goos (Cagie 1967a:1; Perrin 1891). Goos brought his sawmill equipment from Pearl River and set it up on the east bank of the Calcasieu (now Goosport) in 1853. He also founded a shipyard to build schooners (Block 2005:2). Some of his early ships included the *Lehmann*, *Lake Charles*, *Winnebago*, *Cassie*, and *Emma Thornton* (Block 2005).

James Hodges, a merchant, and William Hutchinson arrived in Lake Charles in 1857 (Cagie 1967a:1; Perrin 1891). Paul Pujou originally settled in Rose Bluff in the 1840s but later opened a store and saloon in town on the lake front (Maude Reid Scrapbook 2:137, McNeese State University Library, Lake Charles, Louisiana). A Mr. King was operating a lumber mill on the west bank of the Calcasieu in what would become Westlake by 1857 (Ross 1988:32-34; Westlake Historical Commission 1995:33).

Johnson Moss of Moss Bluff served as the first sheriff of Calcasieu Parish from 1843 to 1846. Jacob Ryan, Jr., then served from 1846 to 1850. During this time Ryan, Jr., was operating his father's sawmill on Calcasieu Lake (Cagie 1967a:1; Owens 1967:85; Maude Reid Scrapbook 2:136, McNeese State University Library, Lake Charles, Louisiana). In 1852 Jacob Ryan, Jr., petitioned to have the parish seat of justice moved from Marion to Charleston. He, Samuel Adams Kirby, and others moved the parish courthouse and jail from Marion to Lake Charles, and laid out the new town center around Ryan Street (Fortier 1909:30) (Figure 5-7). Ryan, Jr., moved his sawmill to Lake Charles in about 1855 (Maude Reid Scrapbook 3:70, McNeese State University Library, Lake Charles, Louisiana). Charleston was incorporated in 1857 and then reincorporated eleven years later as Lake Charles. By 1860 Lake Charles had become home to 430 people (Cagie 1967a:1; Owens 1967:85).

The Civil War

Throughout the Civil War, southwestern Louisiana became a haven for military deserters, draft dodgers,

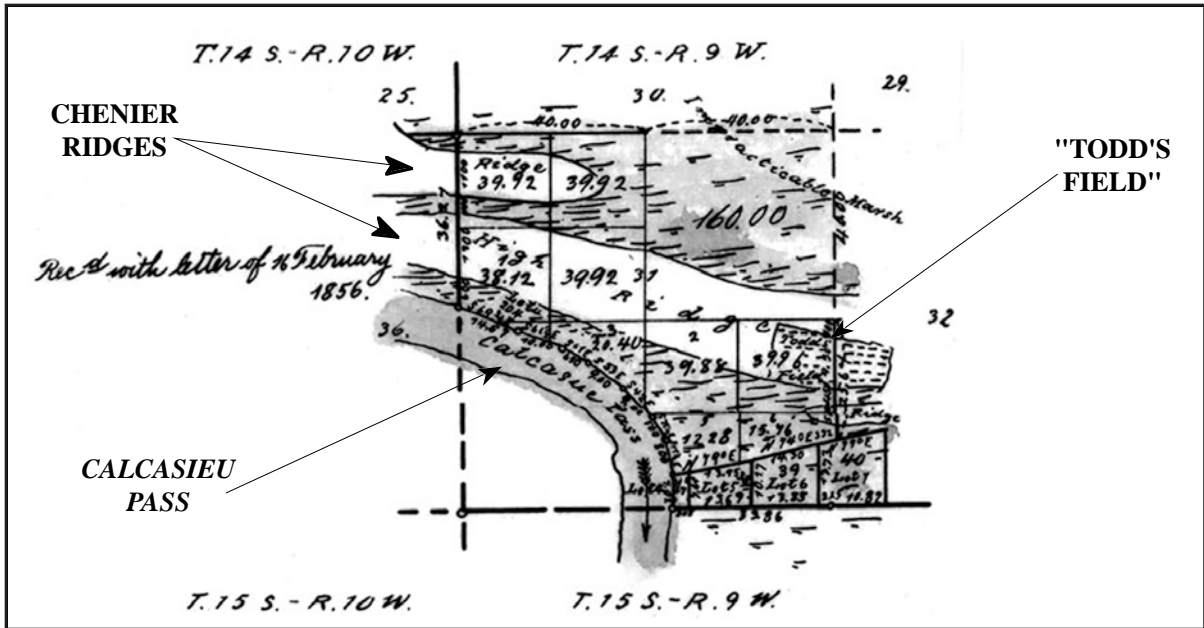


Figure 5-4. An 1856 inset on the 1847 plat map for Township 14 South, Range 9 West, Southwestern District (Landry 1847). Note "Todds Field" on one of the two chenier ridges shown.

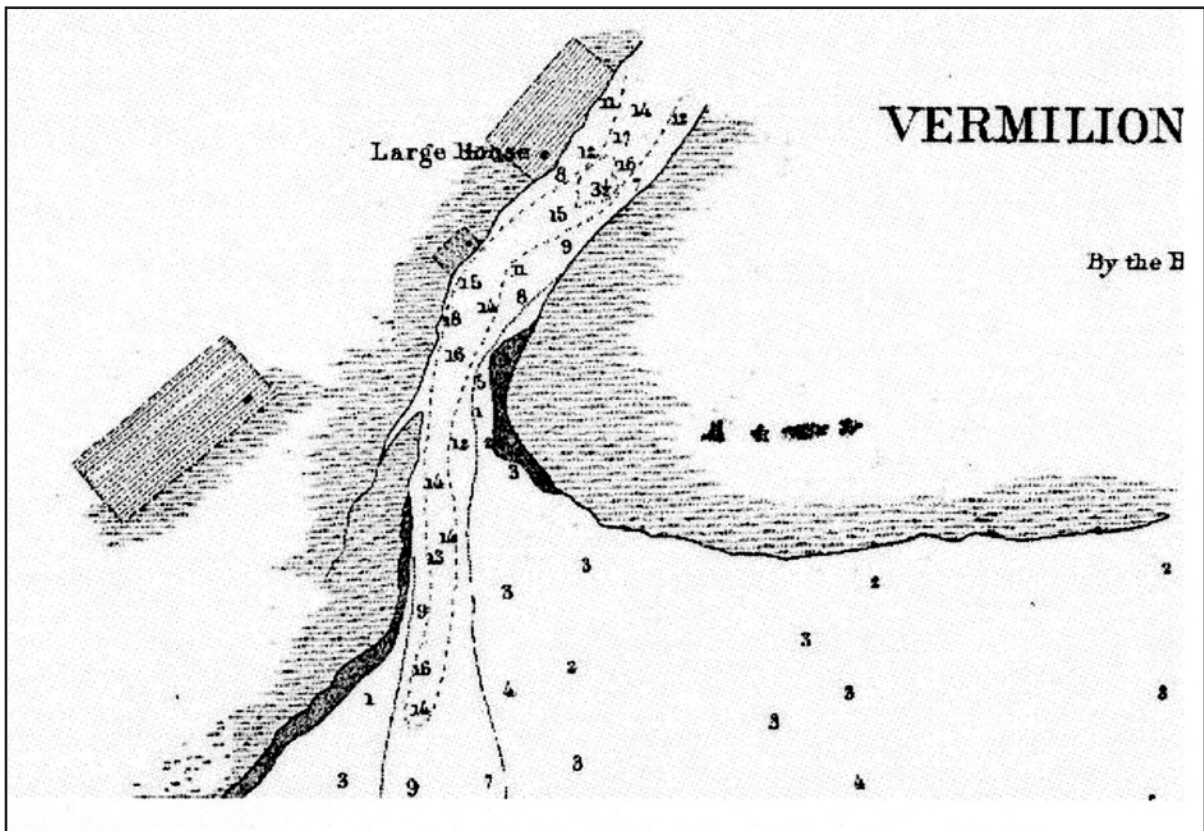


Figure 5-5. A portion of the 1855 Bache map entitled: *Reconnaissance of the Entrances to Vermilion Bay & Calcasieu River Louisiana.*



Figure 5-6. Sydney Morse and Samuel Breese’s (2005) 1845 map entitled *Louisiana* depicting the location of Lisbon. Note that the symbol for Lisbon has been placed on the wrong bank of the Calcasieu River.

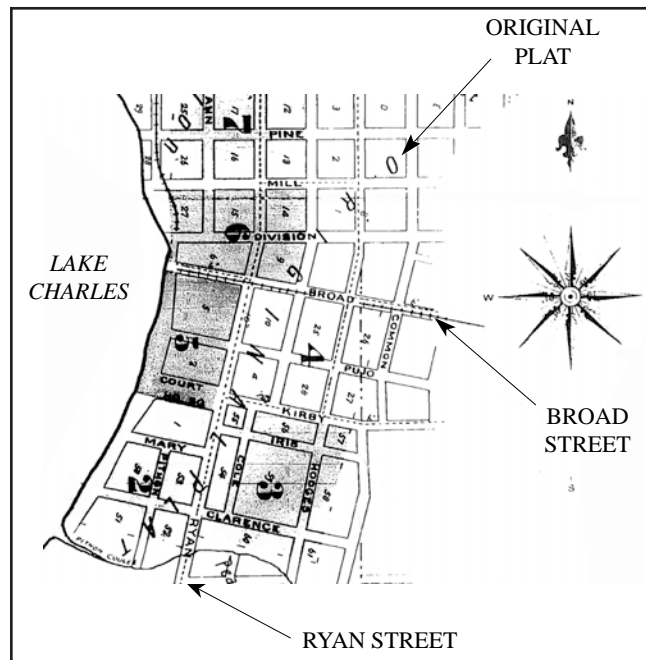


Figure 5-7. Detail from the 1894 Sanborn fire insurance map of Lake Charles showing the original town plat (Sanborn Insurance Company 1894).

Union sympathizers and bandits. A band of about 200 thieves, known as the Jayhawkers, were especially active. Their raids across the countryside contributed heavily to the lawless atmosphere of the period (Jones 1979).

Although only 38 miles from the Texas border, the Calcasieu River received little attention from either the North or South. At the outbreak of the war, General M. Lovell of New Orleans notified the Confederate Secretary of War, Judah Benjamin, that one company with two 42-pounders had erected a “mud fort” at Calcasieu Pass to prevent Union forces from foraging for cattle along the river. Nevertheless, the fort went unmanned for most of the war.

The Union’s West Gulf Blockading Squadron concentrated their efforts on Sabine Pass, and made only sporadic visits to Calcasieu Pass. In early 1862 the *U.S.S. Santiago de Cuba* left Havana in pursuit of two steamers bound for either Galveston or the Sabine. While on patrol east of the Sabine, the ship fired on a cotton-laden steamer that was quickly set aflame and abandoned by her crew. The master of the *Santiago* noted four schooners and several river steamers plying the Sabine River, while three schooners and one river steamer were observed on the Calcasieu (ORN 1894-1922 I(17):198). In late 1862 Lieutenant Frederick Crocker, commander of the *U.S.S. Kensington* reported to his superiors:

The importance of Sabine Pass to the rebels appears to have been entirely underrated by us; the quantity of goods of all kinds and munitions of war that have been run in here has been enormous, and large quantities of cotton have been exported. There are now lying above at least eight steamers and six schooners, large quantities of cotton, and quite a force of troops...(ORN 1894-1922 I(19):226).

With so little Federal supervision, Confederate shipping on the Calcasieu thrived. In late 1863 the steamboat *T. J. Smith*, several schooners, sloops, flats, and other craft on Lake Charles were noted for possible Confederate use. The *T. J. Smith* had been confiscated from the Union sympathizer Henry Clay Smith. It was later sunk south of Cameron by a Union gunboat (Block 2005). At this time there was no ferry at the mouth of the Calcasieu. Men had to cross in canoes and horses had to swim. However, Clifton’s Ferry existed upriver, perhaps located north of Monkey Island (WOR 1880-1901 I[XXV 1/2]:337). Union sympathizers living along Calcasieu Pass allowed

Union troops to gather both cattle and information about Confederate activities (Block 1977).

On 4 July 1861 one of Jacob Ryan’s schooners, the *Ann Ryan*, was captured at Galveston by a Union blockader. Lumber, however, was not considered contraband, and the ship was permitted to dock. The *Ann Ryan* subsequently became the blockade-runner *Stingray*. The *Dan*, a steamboat built by the Goos shipyard in 1857, was originally used to tow schooners into port when the wind was low. This ship was a 112-ton side-wheeler that could carry about 500 bales of cotton. The *Dan* ran the blockade at Matamoros three times during the war until captured by Lieutenant Crocker at Goosport on 3 October 1862 (Block 1995).

On their way up the Calcasieu to capture the *Dan*, Crocker and his crew on the *U.S.S. Kensington* burned landings and ferries and spread rumors of an imminent Union invasion. Colonel Clifton, commander of the Confederate Calcasieu Regiment and home on leave, was captured at one river landing. Union sympathizers informed the Federals that the *Dan* was hidden in the west fork of the Calcasieu just beyond Clendinning’s Ferry. After capturing the ship, the *Kensington* was ordered to burn the blockade-runner *Mary Ann* at Goosport and the blockade-runner *Conchita* at Leesburg. To ward off Rebel attack on the return trip down the Calcasieu, Crocker had Colonel Clifton and other hostages tied up on deck. All the hostages except Colonel Clifton were released at Leesburg (Block 2005; ORN 1894-1922 I(20):407-408).

The *Dan*, mounted with a 20-pounder Parrott rifle and a 12-pounder boat howitzer, patrolled Sabine Pass as a Union blockader. Just a week after its capture and when still on the Calcasieu, the *Dan* apprehended the sloop *Eliza*, coming from Vermilion Bay. Fifteen hogsheads of sugar were unloaded from the *Eliza* before the sloop was destroyed (ORN 1894-1922 I(19):227). The *Dan* was sunk by the Confederates on the Mississippi River in February of 1863 (ORN 1894-1922 II(1):171).

Lieutenant-Commander John Madigan, Jr. of the *U.S.S. Owasco* reported the capture of the 20-ton schooner *Revenge* of New Orleans on or near Calcasieu Lake on 21 July 1863. Her cargo of 18 hogsheads of sugar, 200 hides, and some mineral salt, was confiscated and the vessel scuttled (ORN 1894-1922 I(20):407-408). On 7 October 1863 the *U.S.S. Cayuga* saw a schooner and sloop under sail on the Calcasieu near the lake (ORN 1894-1922 I(20):615). The schooner was fired on and run aground when trying

to enter the Mermeteau River. When hit with a shell, this ship full of gun powder exploded. The sloop *Pushmataha* from Havana carried rum, claret, and gunpowder. She was set ablaze by her crew, but the fire was doused and the cargo recovered. Two kegs of powder were then used to explode and burn the ship. W. H. Dana, Lieutenant-Commander of the *Cayuga* reported:

The English ensign was found on board the *Pushmataha*, also her papers. Her muster roll, which contained the names of 2 Englishmen, 1 Italian, and 1 Portuguese, was dated Havana, September 22, 1863, and was signed by John V. Crawford, her Britannic Majesty's acting consul-general in Cuba. The powder found on board was of French manufacture (10 kilograms to the keg). A few articles which are very necessary to the vessels of the squadron have been retained and distributed. The spirituous liquors will be sent to New Orleans (ORN 1894-1922 I(20):615).

Two Federal gunboats were stationed at the mouth of the Calcasieu by late 1863 (Naval History Division 1971:IV-57). The *U.S.S. Wave* was a tin-clad side-wheel steamer with six guns (NOR 1894-1922 II(1):238). It arrived at Calcasieu Pass on 15 April 1864 and fired on the abandoned Confederate mud fort at Calcasieu Pass. Lieutenant Benjamin Loring sent a launch ashore to burn the fort's barracks. The *Wave* then traveled two miles upstream to the home of Union sympathizer Duncan Smith. Fresh from duty at Port Hudson on the Mississippi River, the *Wave* was a high-pressure steamer with 8-inch oak walls reinforced clad in half-inch boiler plate. Her six guns consisted of a 20-pounder Parrott rifle; a 32-pounder smoothbore; and four 24-pounder Dahlgren howitzers (Block 1977).

The low-pressure side-wheel steamer *Granite City* entered Calcasieu Pass on 28 April 1864 and boasted one 20-pounder Parrott rifle; a 12-pounder rifle pivot; and six 24-pounder Dahlgren guns (howitzers). Members of the 36th Illinois Infantry disembarked and set up camp on the east side of the river (Block 1977). In addition to their patrolling duties, the *U.S.S. Granite City* and the *U.S.S. Wave* were instructed to round up contraband cattle and horses for military use (Jones 1979). The British *Concordia*, a blockade-running ship, was destroyed by her crew at Calcasieu Pass on 5 October 1863 in order to prevent the vessel being seized by the *Granite City* (Naval History Division 1971:III-144; ORN 1894-1922 II(20):613).

Lt. Loring sent one patrol west to burn the bridges over Mud and Oyster Bayous, thereby severing communications along the beach road to Texas. Guard pickets, manned by soldiers and local Unionists, were posted along the roads to the east and west, at the mouth of the river, and where the river enters Calcasieu Lake. Many residents deemed loyal to the Confederacy were arrested and imprisoned on the *Granite City* (Block 1977).

The Confederate response to the Calcasieu Pass blockaders was prompt. Colonel A.W. Spaight dispatched four companies of the 11th Texas Battalion, then on duty at Niblett's Bluff, to Sabine Pass aboard the steamboat *Sunflower*. Spaight then marched the remainder of his battalion to Lake Charles to secure the city's cotton and defend shipping. Commander of the Sabine Post, Lieutenant Colonel W. F. Griffin, sent: 58 men and sixteen horses from Captain E. Creuzbauer's battery of light artillery; twenty cavalymen from Capt. Howard's Company B of Daily's Battalion; Companies A, C, and E of the 21st Texas Battalion; plus two six-pounder and two 12-pounder guns to Calcasieu Pass.

As the Louisiana shore opposite Sabine Pass was impassable marsh, the troops took the steamboat *Dime* into Sabine Lake and then up Johnson's Bayou to the head of navigation. The following day, on 5 May 1864, the approximately 325 Confederates began the thirty-mile march along Blue Buck Ridge and the beach road to Calcasieu Pass. Building a pontoon bridge at Mud Lake to replace the one burned by the Federals delayed the Confederate arrival by two hours. On the morning of 6 May, the Confederates posted a battery of artillery and several hundred sharpshooters in dense brush about 100 yards from the *Granite City* which was anchored opposite Leesburg (ORN 1894-1922 I(21):252; Block 1995). Confederate gunfire initially targeted the more heavily armed *Granite City*. The Union gunboats were caught unawares and did not have anchors or steam up to flee. Likewise, some of the gunboats' batteries could not be adjusted enough to be effective at short range. The *Granite City* surrendered after 30 minutes of battle. Firepower was then focused on the *Wave*, which surrendered after another hour of fighting (Block 1977). The 27 Union soldiers then camped on the east side of the river surrendered without a fight.

Col. Griffin reported that the *Granite City* was badly damaged from exploding shells, with large wooden splinters and debris everywhere. One Sergeant Connor wrote in his diary that:

...the *Wave* is a perfect wreck, her cabin torn to flinders, and minie balls have riddled

her, and then the shells exploding aboard put the finishing touch to her. The deck was strewn with glass, crockery, clocks, stoves and pipes, wooden splinters, provisions, bedding... (quoted in Block 1977)

A nearby farmhouse served as a hospital for the Confederate wounded during the battle (Block 1977), while some of the wounded were ultimately taken to the home of Daniel Goos in Goosport. Some number of the roughly 25 men killed, Union and Confederate, were buried on Monkey Island (Jones 1979). In addition to the ships, Union losses included 166 prisoners, fourteen contraband or freed slaves, 14 cannons, a large quantity of provisions and arms, and 450 cows and horses (Block 1977).

Unaware that the *Granite City* was in Confederate hands, the *U.S.S. New London* was sent to deliver orders for the ship to proceed to Matagorda Bay on 9 May 1864. Rear-Admiral D.G. Farragut reported to the Secretary of the Navy as follows.

Acting Master Wells reports that he anchored outside about 5 miles from the *Granite City* at 11:30 a.m. of the morning of the 10th instant, and tried to communicate with her by signals, but the weather being misty he could not make out her answer, and sent in a boat with Captain Marchand's dispatch, under the charge of his executive officer, Acting Ensign H. Jackson, accompanied by A. T. Vanzile, coast pilot, and four men, all armed. The boat did not return, but Acting Master Wells supposed that he was detained in consequence of the increasing wind and sea, which began to break heavily upon the bar. The next morning he got underway and ran nearer in until within 3 miles of the *Granite City*, when he again made signals, but without eliciting any reply. He then sent in a second boat with a flag of truce, in charge of Acting Ensign H. Z. Howard, who soon after returned with the following report: That Acting Ensign Jackson had approached the *Granite City* until within distance of small arms. He saw the rebel flag at her peak, but supposed, as the men said, that it was flying as a joke and fired on it, when he was immediately killed by a shot from the *Granite City*. The rest of the boat's crew were taken prisoners (NOR 1894-1922 I(21):248-249).

In response to their defeat, the Union navy had four blockading gunboats on the Calcasieu bar by 13

May 1864. Meanwhile, the Confederates took the *Wave* and the *Granite City* to Lake Charles where they were converted into blockade-runners. On 20 January 1865 both ships left the Calcasieu and escaped the blockade. The *Granite City* (renamed the *Three Sisters*) reportedly had no cargo and was headed to Galveston to reload. The *Wave* carried a load of lumber destined for the Rio Grande (NOR 1894-1922 I(22):18). Two days later the three-masted schooner *Delphina* was not so fortunate. She was intercepted in the "second bend of the Calcasieu" about two mi above its mouth by the *U.S.S. Chocura* (NOR 1894-1922 I(22):20). Eighty bales of cotton had been thrown overboard by the *Delphina's* crew, but 30 of these were "fished out" by the men of the *Chocura* (NOR 1894-1922 I(22):20). The schooner and her remaining 100 bales of cotton were burned. Ultimately the *Granite City* was driven ashore at Velasco, Texas and the cotton it then carried burned. The *Wave* made it to Vera Cruz where its load of cotton and the ship itself were sold (Block 2005:3).

Postbellum Period

Calcasieu Parish was not unduly oppressed by Reconstruction, partly because it was still so sparsely populated. George H. Wells, a New York lawyer moved to Lake Charles in 1866 and noted that it had no newspaper, railroad, or telegraph, and had just one store with an inventory worth less than \$100 (Cagie 1967a:2). Also, only about 10 percent of this small population were African American. Nevertheless, in 1867 the state legislature officially designated Lake Charles a town (Watson 1998:5).

An increased demand for lumber after the war allowed local industries to thrive. The Ryan and Goos sawmills remained in production and were joined by 10 others by 1876 (Figure 5-8). Goos had a second mill at the head of Prien Lake in the 1870s that passed to his son-in-law George Lock before burning down (Maude Reid Scrapbook 3:71, McNeese State University Library, Lake Charles, Louisiana). Lock then founded the Lock-Moore and Company mill in 1879 on the west bank of the Calcasieu near the northern tip of Coon Island (Westlake Historical Commission 1995:33). Soon known as Lockport, this settlement would grow to contain the mill and its 200 employees, 50 houses, a church, school, two-story commissary, and hotel by 1900. The Clooney shipyards would move from southwest of Lake Charles (see Figure 5-8) to Lockport a few years later and employ up to 400 men (Westlake Historical Commission 1995:33). At least three sawmills were located on the west bank of the Calcasieu opposite Lake Charles, the King mill purchased by W.B. Norris in 1866, the Gill and Platz

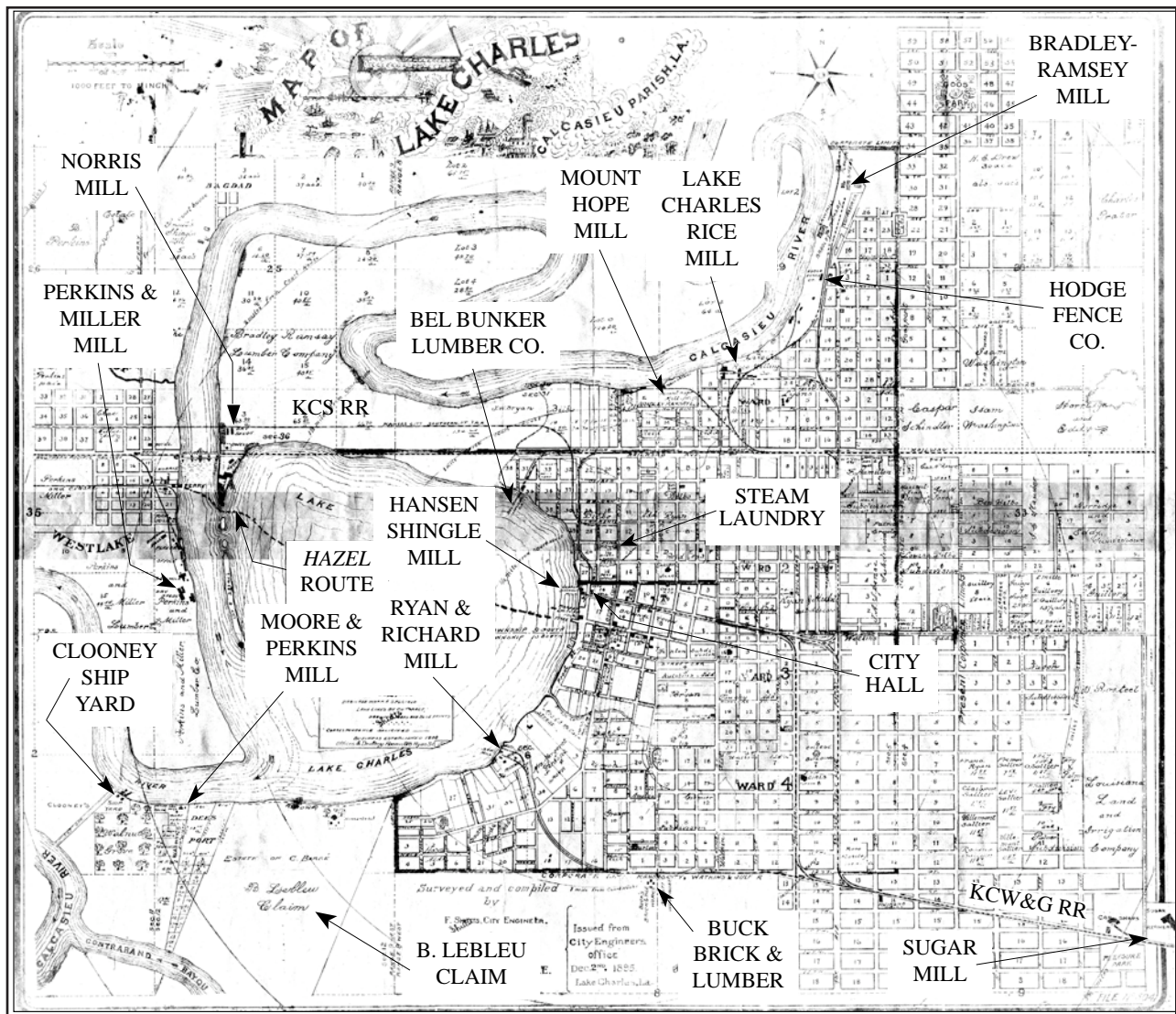


Figure 5-8. F. Shutts' 1895 Map of Lake Charles Calcasieu Parish, La.

mill founded in 1872, and the Perkins and Miller Lumber Company established in 1873 (see Figure 5-8) (Ross 1988:28). Numerous logging companies also existed to supply these dozen mills (Cagie 1967a:2). Shipbuilding and the production of naval stores also remained profitable (Owens 1967:85). Most of these early timber businesses focused on processing the abundant long leaf yellow pine native to the region, and relied on the Calcasieu River and its lakes and tributaries for transport. A few mills, however, also cut cypress, which was used primarily for shingles (Millet 1967:26).

By 1869 over a million board feet of lumber left Lake Charles per month in over 100 schooners, destined primarily for Gulf ports (Owens 1967:85). Galveston

and New Orleans served as major distribution centers (Owens 1967:85; Millet 1967:25). Through the 1870s production increased to as much as 16 million board feet a year (Millet 1967:24). Lake Charles grew along with the lumber mills and had a population of 700 by 1870 (Cagie 1967a:2).

By 1870, plans were well underway by the New Orleans, Mobile, and Chattanooga Railroad to connect New Orleans to Texas via Lake Charles (Crumb 2003). Though the line was completed between Mobile and New Orleans in October 1870, progress was very slow. Indeed, the line was not completed to Donaldsonville until 1871. By that time, the name of the New Orleans, Mobile, and Chattanooga Railroad had been changed to the New Orleans, Mobile, and

Texas Railroad (Palmieri 2003a). About the same time, the New Orleans, Mobile, and Texas Railroad purchased the Morgan's Louisiana and Texas Railroad right-of-way between Berwick and Vermilionville (Lafayette) from Charles Morgan. Like Morgan, the New Orleans, Mobile, and Texas Railroad was unable to finish that section of the route and it was abandoned. In 1878, a holding company headed by John Pierpont Morgan purchased all of the holdings of the New Orleans, Mobile, and Texas Railroad and formed the Morgan's Louisiana and Texas Railroad and Steamship Co (Bradshaw 1998). Together with the Texas and New Orleans Company and the Louisiana Western Railroad Company, Morgan's Louisiana and Texas Railroad and Steamship Company reached an agreement to complete a rail line between Houston and New Orleans. By 1880, rails had been laid through Lake Charles and on 30 August 1880 the first through scheduled train left Houston for New Orleans. To promote the railroad, land along the line was given to prospective settlers from the Midwest. Both Union and Confederate veterans were likewise given opportunities to establish homes in Cameron Parish (Thomas et al, 1978:34).

In 1881, the Texas and New Orleans and Louisiana Western railroads were bought by the Southern Pacific Railroad Company and by 1883, Lake Charles had direct rail access to San Francisco and New Orleans (Williams 2002). Work on that leg of the Kansas City, Watkins and Gulf Railway connecting Lake Charles to Alexandria began between 1887 and 1889, with the first train arriving in Lake Charles in 1892 (see Figure 5-8). This route was later purchased by Missouri Pacific (Benoit 2000:65; Cagie 1967a:5; Kaufman 1967:49; Perrin 1891:144-145). Kansas City Southern connected Lake Charles to its main line between Kansas City, Missouri and Port Arthur, Texas in 1896 (see Figure 5-8) (Kaufman 1967:49).

The completion of the railroad ignited the lumber industry along the Calcasieu, as it provided the means to cut stands removed from the water and to deliver lumber to countless inland markets. Lumbermen from Minnesota, Wisconsin and Michigan moved into the region, usually via rail, and began to buy up timberland (Fortier 1909:30). J.B. Watkins, representing the English North American Land and Timber Company, bought 960,000 acres of land in southwest Louisiana (Benoit 2000:40). He also encouraged thousands of farmers and mechanics from the Midwest to move to Calcasieu and Cameron parishes (CPPB 1945:16). As a result of Watkins' \$200,000 advertising campaign, the population of Lake Charles grew by 400 percent

during the 1880s (Art History Club 2005). Between 1880 and 1890 the Calcasieu Parish population grew by 8,000 (Tribble and Garrison 1982:17).

Concerning Calcasieu's lumber mills, William Henry Perrin wrote in 1891:

These are by far the most valuable industry about Lake Charles. Nothing is attracting more attention in the South than the famous pine lumber. Capitalists from the North, and even from England, are seeking pine lands, and in many places are endeavoring to obtain interest in the large lumber [mills] already established, or erecting new mills. No place is more favorably adapted to the lumber business than Lake Charles; no place so well adapted to the handling of logs. The streams north of the town are so well distributed through the Calcasieu pine region that it makes it an easy and cheap way to place the logs in floating water. These streams come together just north of the town, and it is this that gives it an advantage over most places in the South, as an unlimited number of cheap logs can be obtained the entire year.

A.J. Perkins, of the Perkins and Miller Lumber Company, built the region's first timber-extraction line in 1882. Known as the Calcasieu and Vernon Railway, it stretched from White Bluff on Hickory Branch, a tributary of the Calcasieu, all the way to Leesville in Vernon Parish (Millet 1967:22). This line was later sold to Kansas City Southern (Westlake Historical Commission 1995:31). Four narrow-gauge railroads were in operation by 1886 (Millet 1967:22).

In total in 1895, nine of Lake Charles' sawmills put out 140 million board feet and had 1,300 workers (Millet 1967:25). By the early 1900s, up to 21 sawmills existed around Lake Charles (Figure 5-9) (Shutts 1967:30; Owens 1967:90). Likewise the market for Calcasieu lumber had expanded well beyond the Gulf Coast and included Mexico, Europe, and South Africa (Millet 1967:26). Prior to 1890 foreign trade from Lake Charles was not economically viable. Ships from overseas had to stop first in New Orleans to pick up an experienced inter-coastal pilot and then in Morgan City to pay duties. The citizens of Lake Charles petitioned U.S. Congressman J.H. Acklen of the House Committee on Commerce to make their city an official port of entry for international merchants. However, a duty office was not established until 1890, and it was located at Calcasieu Pass instead of Lake Charles (Millet 1997:63).

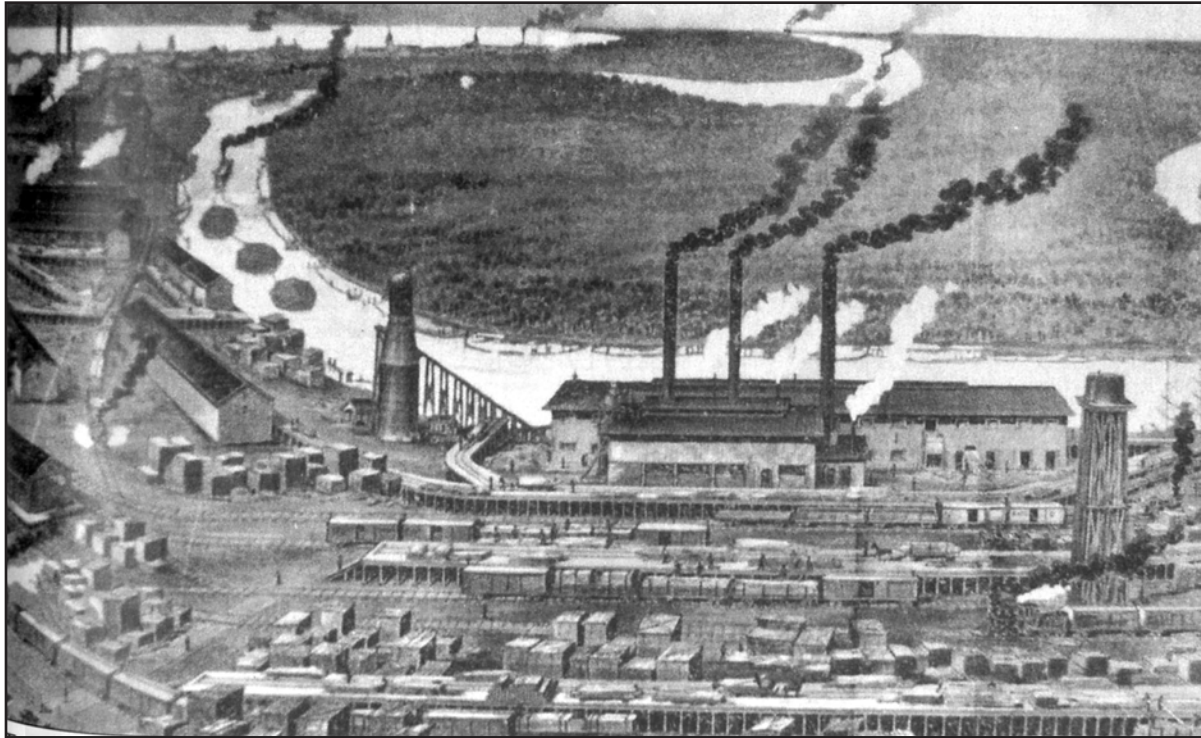


Figure 5-9. 1905 bird's-eye view of the Bradley-Ramsey lumber mill on the Calcasieu River in north Lake Charles (Benoit 2000:75). Note in the background the numerous other mills on the river and the lake.

Stock raising and rice farming also benefited from the railroads and the latter became the area's second principal industry in the late 1880s (Owens 1967:88). Rice agriculture, the dominant crop today, was brought to southwest Louisiana by German immigrants during the 1870s. To commercially grow rice in the area, it was necessary to first construct levees around the fields and then let them fill with rainwater. The prospects for rice production lured northern farmers, many from Iowa, to the Lake Charles area in the 1880s. Dr. Seaman A. Knapp of Iowa came to Calcasieu with J.B. Watkins and the North American Land and Timber Company. Known as the father of Louisiana's rice industry, Knapp was instrumental in the passage of Federal legislation establishing agricultural experiment stations, and actively promoted rice cultivation and its mechanization (Haupt 1998).

Midwestern immigrants adapted existing farm machinery to suit rice agriculture and transformed rice into a cash crop. In 1892, 500 to 600 rice harvesters were sold in Calcasieu Parish, which produced about 600,000 barrels of rice a year (Owens 1967:88; Perrin 1891:138-140). Knapp organized a group of New York investors to found the Lake Charles Rice Milling Company between 1889 and 1891 (CPPB

1945:16; Haupt 1998). He also helped found the Rice Association of America (now the American Rice Growers Association) (Haupt 1998).

Area rice farmers also formed cooperative rice mills in the 1890s. These cooperatives were largely inspired by the formation of a trust of mills in New Orleans. To increase crop yields, a number of irrigation improvements were introduced into the area during the 1890s. The first of these was the construction of a canal in the Crowley fields in 1894 (Ginn 1940:558-569). By 1891 Louisiana was producing more rice than all other states combined, excluding South Carolina, and Calcasieu was the most productive parish in the state (Perrin 1891:138-140). Midwestern farmers are also credited with improving the region's cattle industry by introducing scientific breeding (Davis 1968:91).

Shipbuilding and operation perhaps constituted the third major industry on the Calcasieu in the late nineteenth century (Figure 5-10) (Owens 1967:85). Several sawmill complexes also built ships (Benoit 2000:76). Adolph W. Wehrt, a German schooner captain and a partner in the Lock-Moore and Company sawmill, began building a cypress steamboat with O.A. Harmanison in the late 1880s. In 1888 they began a

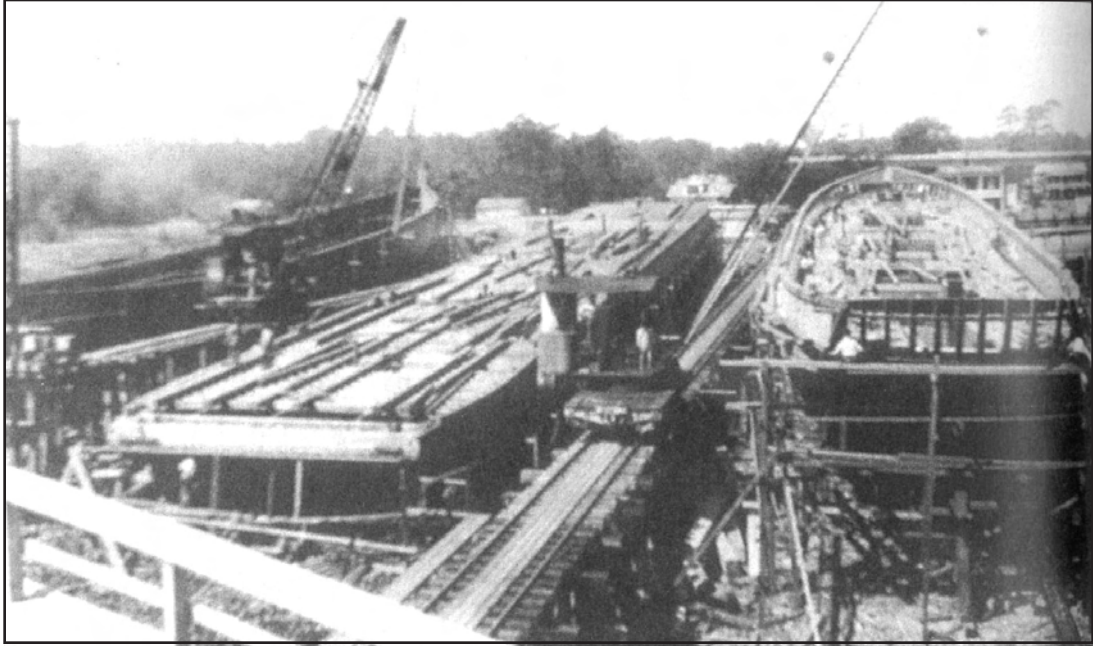


Figure 5-10. Two large wooden schooners under construction at Clooney's Construction and Towing Company shipyard in Lockport in circa 1918 (Benoit 2000:76).

ferry service between Lake Charles and Westlake (see Figure 5-8). The *Hazel* was the largest paddle-wheel ferry in southwest Louisiana, holding 300 passengers (Figure 5-11) (Ross 1988:13-14). The predecessor to the *Hazel* was Captain Green Hall's *Nettie*, which went into service in 1879 (Benoit 2000:63). The *Hazel* was retired in 1916, after the opening of the Calcasieu River bridge connecting Westlake to Lake Charles.

In the early 1890s Lake Charles was considered "an embryo city" of over 3,000 people with seven hotels, two banks, an ice factory, two machine shops, one large opera house, 10 large sawmills, three shingle mills, and two shipyards (Cagie 1967b:76; CPPB 1945:45; Perrin 1891:150-153). Leesburg contained a courthouse, jail, and one or two stores, but no saloon or practicing lawyer (Perrin 1891:169-179). Between 1880 and 1886, the population of Johnson's Bayou increased to about 1,200 persons. This settlement by then boasted four stores, two cotton gins, grist mills, two sugar mills, and a blacksmith shop (Block 2005).

The Cameron area by the turn of the century, was known for its cattle, sheep, and satsuma orange groves, but also produced cotton, corn, peaches, grapes, vegetables and watermelons (Perrin 1891:169-179). Several residences and fields existed on both sides of Calcasieu Pass south of Cameron by 1889 (Figure 5-12). James Hill Sweeney grew about 20 bales of cotton annually at Grand Chenier between 1870 and his

death in 1891. During the growing season, schooners came from Galveston, Texas, to buy Cameron's crops. Two schooners that operated between Grand Chenier and Galveston in the 1870s were Emanuel Sturlese's *Two Brothers* and Charlie Sturlese's *Two Sisters*. Schooners on the Calcasieu at this time included the *Mary Lynch*, manned by J. B. Quinn, and the *Buck Hart*, under Milton Rogers. The steamboats *Emily P.* and *Lark* carried lumber, firewood, mail, freight, furniture, hardware, and dry goods to Johnson's Bayou, twice a week, and returned to Orange, Texas with, cattle, other livestock, cotton, hides, peltries, oranges, and other produce. The schooner *Dreadnaught* remained in the Galveston to Johnson's Bayou trade year round, making one roundtrip weekly. The first Cameron-to-Lake-Charles mail steamer, the propeller *Romeo*, made two round trips weekly from 1876 until 1905. The *Romeo* reportedly capsized and sank at Lake Charles in May of 1879, but was later re-floated. Although Captain Reynolds and his engineer swam to shore, their six passengers drowned (Block 2005).

To aid navigation, a lighthouse was built at Calcasieu Pass in 1876 (see Figure 5-12). A lighthouse had been recommended for the area in 1854 and \$6,000 appropriated, but construction never took place. Initially the lighthouse was to be built at the mouth of the Calcasieu on the east bank (Figure 5-13). The structure was prefabricated in a locomotive factory



Figure 5-11. Postcard of the Hazel at the Lake Charles ferry landing in circa 1910 (Lake Charles Through Post Cards 2005).

in Portland, Maine in 1872 and stored at the Head of Passes Depot in New Orleans while negotiations to buy the land commenced. These stalled because the landowner's asking price for the low salt marsh tract was too high. In 1875 government-owned land on the westbank of the river near C.M. Thayer's cotton gin (see Figure 5-13) was chosen with construction commencing the following year (Cipra 1976:45). A black pyramidal tower sheathed in boiler-plate, the new lighthouse rose 53 ft above the marsh (Figure 5-14). The lantern was a Fourth Order Fresnel lens fueled with kerosene and later oil (Bordelon 2000). A quarantine station existed due south of the lighthouse and also on the west bank of Calcasieu Pass from at least 1889 through 1916 (Jones 1916; Tittman 1902). It probably operated in conjunction with the duty office established on Calcasieu Pass in 1890.

A destructive hurricane hit Cameron on 22 August 1879. The lighthouse survived and provided refuge to many people (Bordelon 2000). Six schooners (the *Mary Lynch*, *Catherine Minerva*, *Eagle*, *Bee*, *Fanny*, and *Verbena*), four steamers (the *Pearl Rivers*, *Col. Hooker*, *Alamo*, and *Alert*), and three barges loaded with railroad iron were driven ashore by the huge tidal wave (Block 2005). According to the *Galveston Weekly News* of 4 September 1879:

...The new cotton gin and press house of S. P. Henry is prostrated... The houses of Capt. Tom Reynolds, Gus Williams, Joseph Cormier, and Duncan Smith are washed inland or out to sea, since they are nowhere to be found... Thousands of cattle are drowned,

and it is reported the damage is even worse at Grand Chenier and Johnson Bayou (quoted in Block 2005).

On 12 October 1886 another hurricane washed away the Calcasieu Lighthouse's outbuildings, platform and boathouse (Cipra 1976:45). This storm also destroyed Johnson's Bayou where some 110 people drowned and 1,000 refugees were taken to Beaumont and Orange, Texas. Roughly 57 families had returned to Johnson's Bayou by 1895 (Block 2005).

In 1883 W.S. Davis conducted an engineering survey along the lower Calcasieu River. He found that most of the traffic on the river was by schooner. He also provided the following information concerning commerce:

First. That the upper portion of the Calcasieu Basin lying above Lake Charles is a vast unsettled pine forest, with no commerce, and never navigated except occasionally by a tug-boat sent up to tow down their booms of pine longs, and that the upper part of the Calcasieu River is sufficiently deep and offers no obstruction to the navigation for which it is used.

Second. That the commerce of the river below Lake Charles is principally exportation by schooners of lumber sawed at Lake Charles and the importation of merchandise by same conveyance.

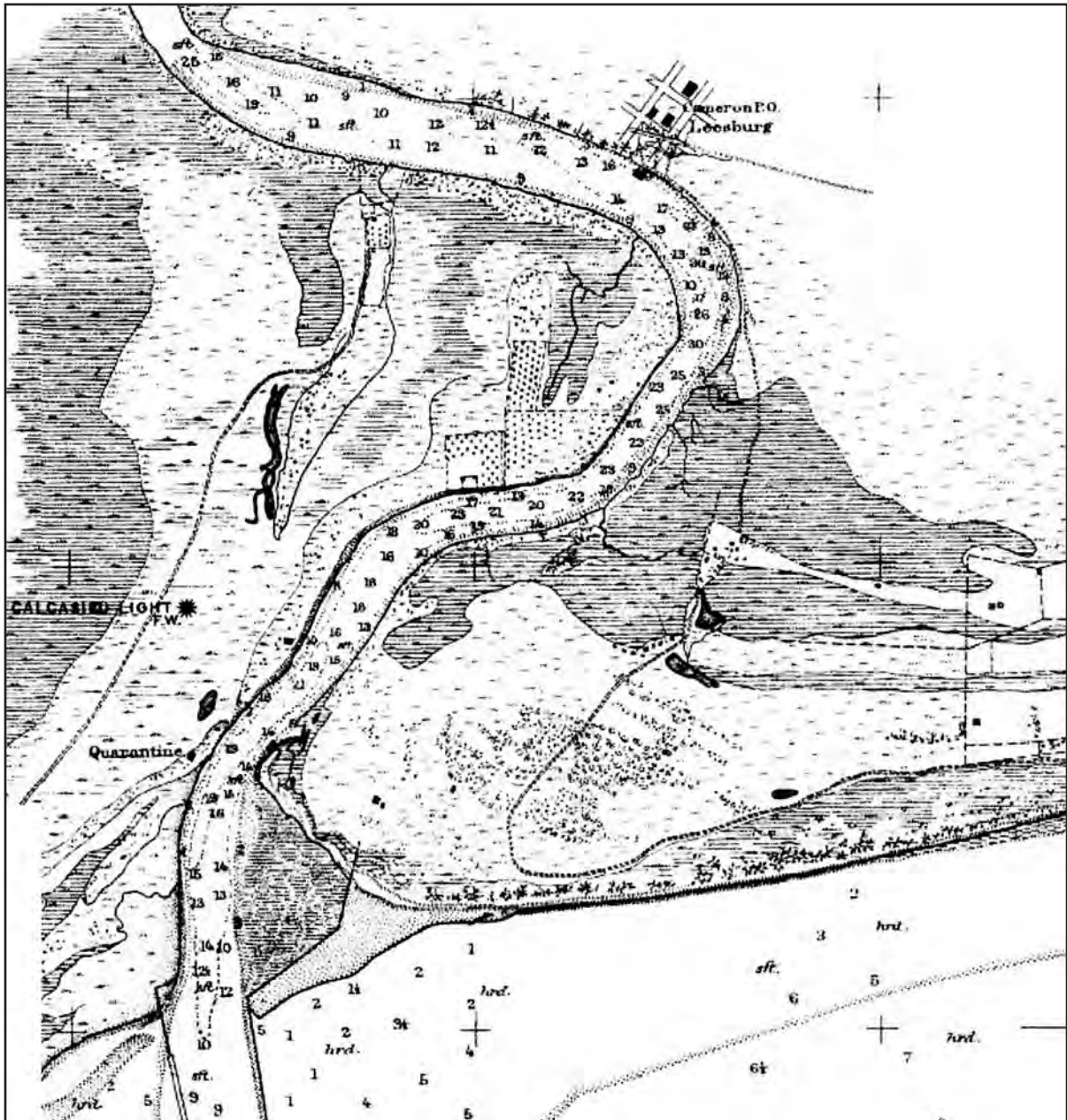


Figure 5-12. A portion of Tittmann's 1902 map *Calcasieu Pass, Louisiana*. Note Leesburg/Cameron and the settlement on both sides of the Calcasieu River in 1889 when the map was first published. Also note the Calcasieu Lighthouse and the quarantine station on Calcasieu Pass.

Third. That as freights on the railroad are high, the lumber manufacturers can be enabled to compete with other markets only by having cheap transportation, and that if the bars in the lower part of the river were improved they could obtain this cheap transportation by building larger schooners and shipping in larger quantities and to foreign market [ARCE 1883:1128].

Lumber accounted for the bulk of Lake Charles' commerce at the end of the nineteenth century (Table 5-1). Forty-two schooners (averaging 50 tons cargo) four steamboats, and one tugboat were committed to this industry in 1887. The maximum draft of these vessels was about six ft (ARCE 1887:1380). Two logging tugs were the only commercial craft to regularly travel above Lake Charles in 1884 (ARCE 1885:1412). The vast majority of the watercraft that

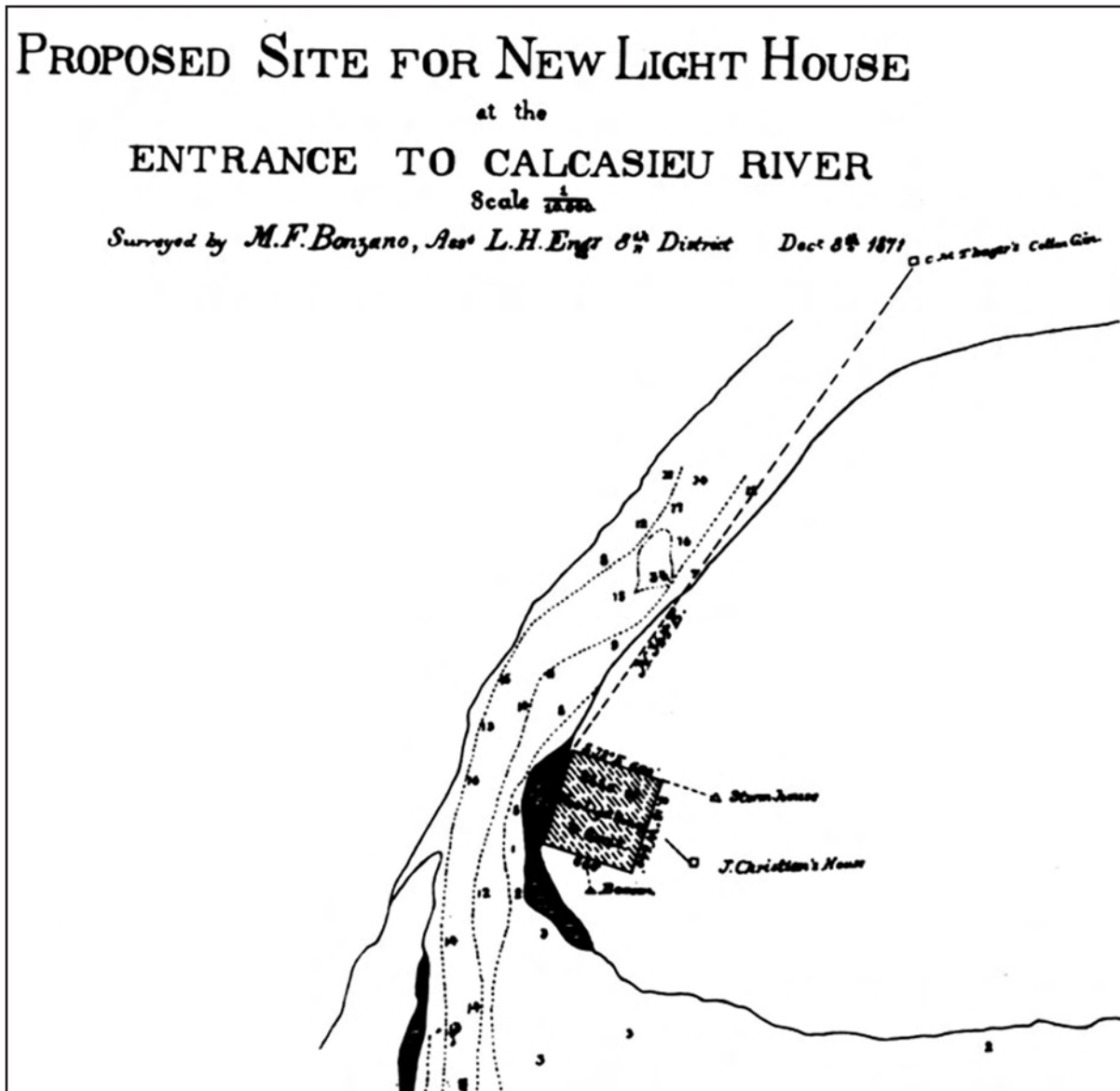


Figure 5-13. The original site proposed for the Calcasieu Lighthouse on Calcasieu Pass in 1871 (Cipra 1976:45). The first site was on the east bank near the home of J. Christian. The final site was on the west bank near C.M. Thayer's cotton gin

plied the river were of local manufacture (ARCE 1889:1528).

The two greatest navigational obstructions at this time were shoaling at the mouth of the river where it entered Calcasieu Lake (the head of Calcasieu Pass) and the bar at the entrance to the Gulf of Mexico (ARCE 1883:1127-1129). The channel at the head of Calcasieu Pass was deepened to five ft wide and eight ft deep in 1872. Continuous shoaling required additional dredging, for in 1881 this area was widened to 70 ft with an 8 ft depth. The head of the pass

was later made 100 ft wide and six ft deep and was protected by a plank revetment on both sides. A channel of similar dimensions was dredged at the head of Calcasieu Lake. Here in 1892 an 80-ft channel was dredged and jetties built (Hebert 1997:40). In 1873-74 a channel was dredged through one of two bars located at the mouth of the Calcasieu River. This dredging produced a channel 60 ft wide and 6.5 ft deep. After 1881, an eight-ft-deep channel was maintained across the bar (ARCE 1885:1411). Permanent jetties were constructed at Calcasieu Pass just before 1900 (CDM 2002; Enright et al. 2005:26; Lane 1959). The lower



Figure 5-14. The lighthouse at Calcasieu Pass in circa 1900 (Bordelon 2000).

Table 5-1. Commerce on the Calcasieu River in 1883 (ARCE 1883:1128).

ARTICLES SHIPPED	UNIT	NUMBER	VALUE
Sawed lumber	feet	38,000,000	\$760,000
Cypress shingles		6,000,000	\$24,000
Rice	barrels	2,108	\$14,390
Return freight	pkgs		\$528,000
			\$1,326,390

Calcasieu was surveyed again in 1887. The average water depth at Lake Charles was about eight ft, while the channel below Lake Charles ranged from 18 to 30 ft deep (ARCE 1883:1127-1129, 1889:1528).

The Twentieth Century

In the early twentieth century, roughly 200 people lived in Cameron (Leesburg), while several residences and fields remained extant on both sides of Calcasieu Pass south of Cameron (Figure 5-15) (Jones 1916; USDC 1928). By this time, Grand Chenier, the only other significant settlement in Cameron Parish, had become a thriving port for schooners plying the Mermentau River (Tribble and Garrison 1982:15). Lake Charles's population by 1900 had doubled to 6,680 (Cagie 1967b:81). It increased in the winter as the area became known as a health resort with a climate "beneficial to pulmonary, bronchial and rheumatic troubles" (Perrin 1891:150-153). By 1900 some 40 to 45 schooners worked the Calcasieu River (Block 2005).

A.B. McCain imported the sternwheeler *Borealis Rex*, made by E.M. Swain in Stillwater, Minnesota, to Lake Charles in 1905 (Figure 5-16). This ship made three trips a week between Lake Charles, Westlake, and Leesburg (Cameron) carrying passengers, cargo, and the U.S. mail for over 30 years (Westlake Historical Commission 1995:30). While the railroads began to usurp some of the schooner trade, shipyards signed large contracts with Mexican ship owners and employed a large workforce (Owens 1967:88). After the arrival of the railroads, schooners remained in use for transporting lumber for about 25 more years as they could be operated by as few as two sailors and had no fuel costs (Benoit 2000:60). Their use, however, did slowly dwindle and ended completely in about 1907 (Owens 1967:90).

The Southern Pacific railway bridge across the Calcasieu River at Lake Charles had to be replaced in 1903 due to increased train traffic (Palmieri 2003b). The Kansas City Southern wanted to connect with the Gulf of Mexico via Lake Charles, but the city voted against the necessary local tax initiative. Instead, Port Arthur, Texas became the line's deepwater port (Kaufman 1967:49).

Three rice mills, three banks, and eight miles of street railway operated in Lake Charles by 1907 (Figure 5-17) (Benoit 2000:41; Cagie 1967b:80). The town doubled in size again to 13,949 people by 1910 (Cagie 1967b:81). The city's 33 manufacturers were producing over \$2.5 million in goods, and wealth per

capita was almost four times the national average (Owens 1967:91). Nevertheless, the new Chamber of Commerce was concerned for the future, stating:

For some years, Lake Charles has been like a garrison consuming its own resources. Not a new industry had been obtained which would bring in new sources of wealth. The city has depended upon the rapidly diminishing lumber industry. The new needs are: improvement of Shell Beach Drive, acquirement of grounds for parks, advancement of work toward an inter-coastal canal, construction of a bridge across the Calcasieu, and the improvement of [railway] passenger station facilities [Owens 1967:90-91].

President Wilson signed the bill approving construction of the Intracoastal Waterway on 18 July 1918. Half the money needed for this project was to come from the Federal government and half from the local communities located along the route (Owens 1967:91). Construction of the Calcasieu River bridge, connecting Westlake to Lake Charles began in 1915 and was completed in 1916 (Figure 5-18) (Benoit 2000:127; Haupt 1998:17). At this same time the Old Spanish Trail highway was established that roughly followed the route of the circa-1839 LeBleu trail. Instead of crossing the river directly at Westlake, however, the highway followed Lakeshore Drive around the southern end of the lake, crossed the bridge, and followed Willow Drive past the Krause and Managan (formerly Perkins and Miller) sawmill and into Westlake. In 1926 the Old Spanish Trail highway became U.S. 90 (Figure 5-19) (Droz 2000).

Despite these advances, three disastrous events also occurred during the 1910s. On 23 April 1910 a devastating fire engulfed the downtown district of Lake Charles, doing \$750,000 worth of damage. Seven city blocks went up in flames. The city flooded in 1913. Both the Southern Pacific and Kansas City Southern tracks were washed out and many homes and sawmills flooded (Jones 1991:117-118).

The worst disaster of the three was the hurricane of 1918 that spawned a tornado, killing and injuring dozens of people in the Lake Charles area. Seven saw mills were destroyed and one million dollars worth of timber damaged (Owens 1967:91). At the Lock-Moore mill a large dry shed containing several hundred thousand feet of lumber burned and the plant's waterworks system was blown away. The tornado blew the Krause and Managan mill complex in Westlake

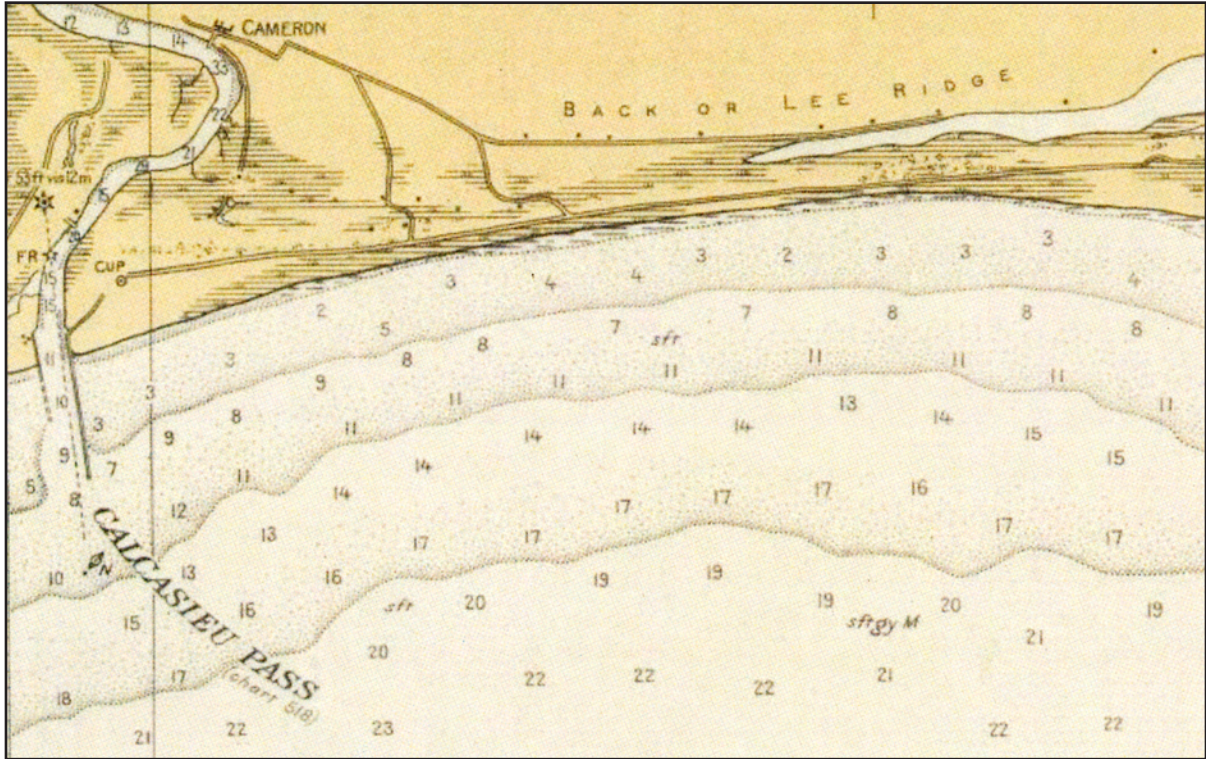


Figure 5-15. A portion of a 1928 U.S. Department of Commerce map showing buildings and roads along Calcasieu Pass. Note the star denoting the Calcasieu Lighthouse.



Figure 5-16. The stern-wheel packet Borealis Rex made three trips a week between Lake Charles, Westlake, and Leesburg (Cameron) carrying passengers, cargo, and the U.S. mail (Benoit 2000:62).



Figure 5-17. Ryan Street in 1915 with paving and an electric trolley line (Benoit 2000:51).



Figure 5-18. Construction of the first Calcasieu River bridge in circa 1915 (MSU Photograph No. 112, Frazar Memorial Library, McNeese State University, Lake Charles, Louisiana). The bascule bridge served as an integral part of the Old Spanish Trail and later as part of U.S. 90 until it was demolished in June 1953.

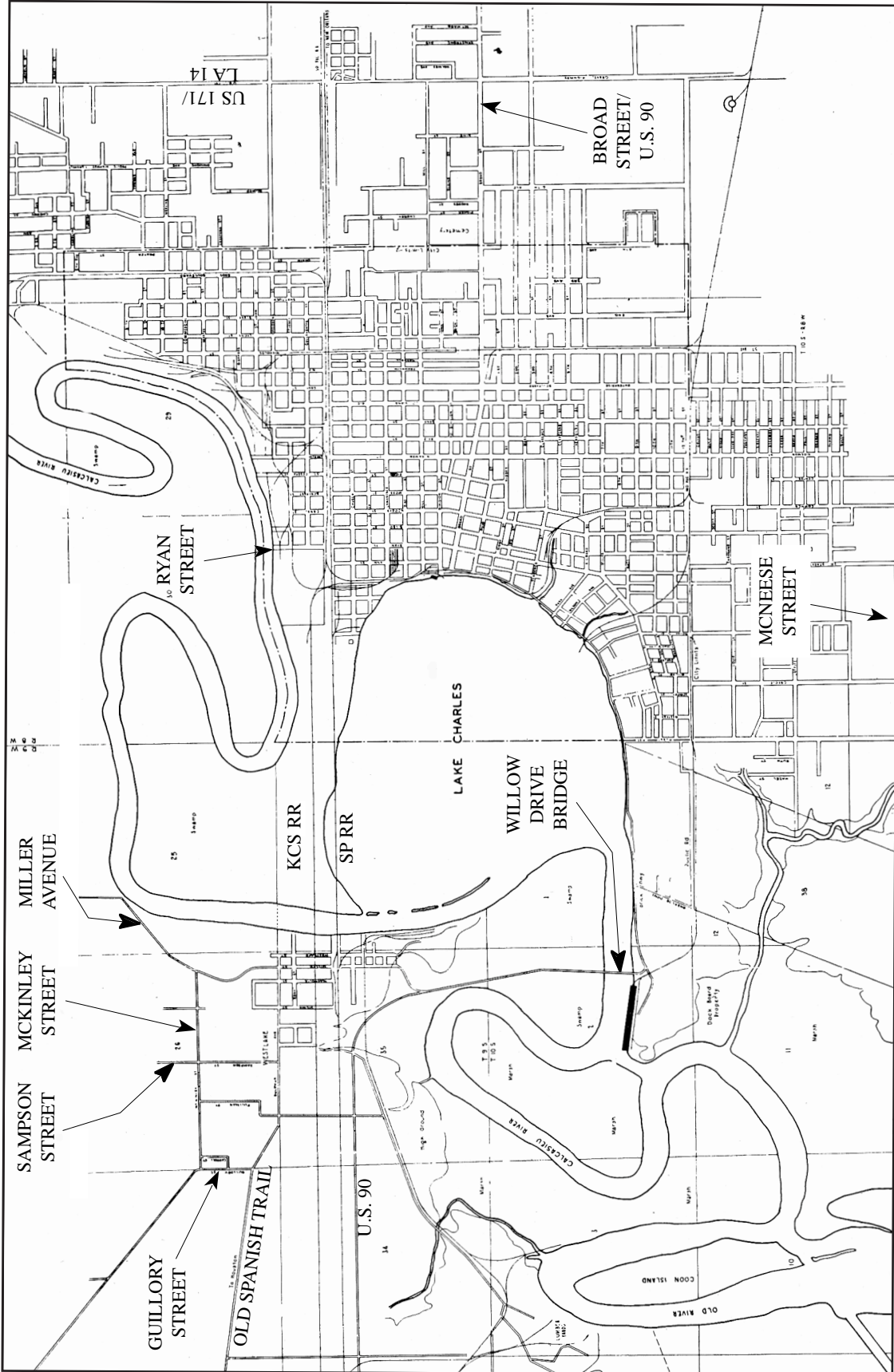


Figure 5-19. Lake Charles and Westlake in 1936 (CPPB 1945: facing 22). Note the expansion of Lake Charles to the east and south and Westlake to the west and north.

down completely (*Lake Charles American Press* 1918). The community of Lockport was practically demolished and the Clooney shipyard destroyed by a fire resulting from the storm (Westlake Historical Commission 1995:88). The *Borealis Rex* was sunk by the hurricane, but raised and put back into service before the end of the year (Block 2005:4).

The war effort helped Calcasieu and Cameron parishes rebound economically. In 1917 an army air field, Camp Gerstner opened southeast of Lake Charles at Holmwood, bringing up to 3,000 soldiers into the region and employing many civilians (Owens 1967:91). War ships similar to clippers were built in the Clooney shipyards (Ross 1988:16). More acreage was devoted to rice during the war years to meet an increasing demand. After World War I, however, rice prices dropped from \$12 a barrel in 1919 to \$1.20 a barrel in 1920, resulting in foreclosures on farmland (Owens 1967:91). Likewise local timber supplies were exhausted by 1925 (Shutts 1967:30-31). Most sawmills simply closed while others, relocated to the Pacific Northwest soon after 1925 (Shutts 1967:30; Ross 1988:16).

To offset the decline of the lumber industry and continued low rice prices, the leaders of Lake Charles focused their energies on transforming their city into a deepwater seaport. In 1922 Calcasieu Parish voters approved a three-quarters-of-a-million-dollar bond issue to create the Calcasieu Ship Channel. The plan was to deepen the river at certain spots and connect to the Intracoastal Waterway, entering the Gulf via the Sabine River. The city could not afford to maintain a much more direct route through Calcasieu Pass (Kaufman 1967:50). From Lake Charles to the Intracoastal Waterway, the channel was to be 30 ft deep and have a bottom width of 125 ft (Port of Lake Charles 2006). The project was finished at the end of 1926 and cost \$5 million (Kaufman 1967:49-50; Owens 1967:91). A large municipal dock facility was needed to handle oceangoing vessels. In 1924 the state legislature allowed the creation of the Lake Charles Harbor and Terminal District. As a result of these developments the value of shipping from Lake Charles rose from over one million dollars in 1926 when the port opened, to over 18 million in 1929 (Owens 1967:91). The War Department took over maintenance of the Calcasieu Ship Channel in 1928 (Lane 1959).

The Depression of 1929 affected Lake Charles and the surrounding region, but not as severely as other parts of the country. Banks closed, there were many foreclosures, and employment dropped

(Owens 1967:92). By late 1933 the Civilian Works Administration employed 2,273 people from the Lake Charles area at 30 cents an hour (Owens 1967:93). Constructed during this time was the first road from Sulphur to Cameron (Hwy 27) completed in 1931. The new road made the *Borealis Rex* unnecessary and she was retired that same year (Block 2005:4).

Fortunately oil was discovered in Iowa on the eastern edge of Calcasieu Parish in 1931, and the industry attracted many of the region's unemployed (Owens 1967:93). The first oil in the state had been found at Jennings in 1901, and by 1904 pipelines had been constructed between the field and the Southern Pacific Railroad to transport the oil to distant refineries. The Vinton Field, on Calcasieu's western border, was first successfully developed by John Geddings Gray in 1911 (Ulmer 1945:566). By the mid 1930s the Iowa field ranked third in production on the Texas and Louisiana coast, yielding 1,220,000 barrels in 1934. The Shell Oil Company, Magnolia Petroleum Company, Barnsdall Oil Corporation, and Cronn and Crayson Drilling Company paid out over \$44,000 in wages a month in 1934. The oil fields required that natural gas plants, gas booster stations, and pipelines be built throughout the region (Owens 1967:93).

By 1935 oil and oil-related products comprised over half of the commercial tonnage transported on the Calcasieu River. Non-petroleum products included fertilizers, logs, cotton, paper, bricks, salt, beans, peas, fruits, vegetables, potatoes, textiles, glass, iron, steel, soap, hay, rice, and poultry. Commercial cargo exceeded three million tons and was valued at \$32 million in 1935 (ARCE 1935:657-658). The oil and gas industry is also responsible for many of the roads and canals constructed in Cameron Parish during the first quarter of the twentieth century. The towns of Hackberry and Cameron both developed into industry centers, although the resident population of the parish remained quite small (McGuirt 1935:172).

As the price of rice declined from \$3.75 for one barrel in 1929 to \$1.35 for ten barrels in 1933, a new industry arrived in Lake Charles (Owens 1967:93). Attracted by the deepwater port and access to three rail lines, Mathieson Alkali decided to build the "most modern ammonia-soda plant in the world" in Westlake (Figure 5-20) (Jones 1967:39). Construction began in 1933, providing employment for 1,000 men, and finished in 1934 (CPPB 1945:20; Ross 1990:1). Preparations for World War II caused this budding petrochemical industry to mushroom. Mathieson Alkali adapted its operations for military purposes during the war (Lyondell 2005).



Figure 5-20. Postcard postmarked 1946 of the Mathison Alkali Works, Inc., in Lake Charles (Edwards News Company ca. 1940).

In 1934 the U.S. Congress was petitioned to improve the 35-mile Calcasieu River channel from Lake Charles to Calcasieu Pass. The Rivers and Harbors Act of 1937 approved the \$96,600,000-project which began in 1938 (Enright et al. 2005:29). This improvement and straightening of the Calcasieu Ship Channel reduced the distance from Lake Charles to the Gulf by practically 50 percent (CPPB 1945:19; Kaufman 1967:50; Owens 1967:93). The new channel, completed in 1941, was 35 ft (11 m) deep and 250 ft (76 m) wide. A turning basin 500 ft (152 m) wide and 2,000 ft (610 m) long was constructed at Lake Charles (CDM 2002). The Calcasieu Pass Lighthouse was demolished in 1940 to make way for the channel cut across Monkey Island (Bordelon 2000). The ship channel was deepened and widened for most of its length in 1960 to 40 by 400 ft (12 by 122 m) (Enright et al. 2005).

The improved ship channel made the Calcasieu River even more attractive to large industries. In 1941 the Continental Oil Company built a 7,500-barrel-a-day refinery near Westlake, paving the way for other petroleum-related industries to follow (CPPB 1945:20). The immediate need for this and subsequent plants was “to keep 1,000 bombers over Germany every night” and amply supply the Pacific theater during World War II (Jones 1967:39). Continental Oil would become ConocoPhillips, the world’s largest global refiner, and the Westlake plant their largest refinery (Air Products and Chemicals, Inc. 2004; ConocoPhillips 2005).

The following year, Cities Services Oil Company (now CITGO) announced plans to build a 76-million-dollar refinery at Rose Bluff and construction began on

the Firestone Synthetic Rubber and Latex Company plant, which opened in 1943 (Jones 1967:43). The Federal Defense Plant Corporation, in cooperation with the Rubber Reserve Corporation and the Reconstruction Finance Corporation, then established: (1) a butadiene plant to be operated by Cities Services, (2) a synthetic rubber plant to supply the Firestone plant, (3) a magnesium plant to be operated by Mathieson Alkali, (4) an anhydrous ammonia plant, and (5) a nitric acid plant. The U.S. government also constructed an electric plant and railroad lines to service these five new plants (CPPB 1945:20; Jones 1967:40, 43). By 1945 the W.T. Burton Oil Company had established a refinery at Rose Bluff (CPPB 1945:103).

In total over \$200 million was invested in heavy industry between Lake Charles and Sulphur during WWII (Jones 1967:40). In addition, a five-million-dollar Army air base of 2,300 soldiers was located immediately east of Lake Charles (Owens 1967:93; CPPB 1945:21). These developments brought a huge influx of construction and plant workers into the Lake Charles area that needed somewhere to live. At the time there were less than 14,000 dwelling units in the entire parish and 3,000 of these were in need of serious repair. The Federal government set up temporary buildings and trailer camps, while Cities Service built the town of Maplewood, eight miles west of Lake Charles, for its employees (Jones 1967:40; Ross 1990:1). By the war’s end the Lake Charles area had been transformed into a major industrial manufacturing center (Owens 1967:93). Maplewood passed into private hands after the war and the Army air base was closed (Jones 1967:40; Ross 1990:1).

On the agricultural front, rice and cattle remained the most important commodities in the Calcasieu/Cameron area during the 1940s. Three-quarters of the cultivated land in Calcasieu Parish was devoted to rice, and Calcasieu remained ranked as one of the largest cattle producing parishes in the state (CPPB 1945:26-27). In 1946 construction began on the new Calcasieu River Bridge which opened in 1951 (*Lake Charles American Press* 1951:1) (Figure 5-21). With this bridge U.S. 90 was routed across the northern tip of the lake directly into Westlake. This route would become Interstate 10 in 1958 (Louisiana Department of Highways 1958).

Lake Charles became a haven for the survivors of Hurricane Audrey, which hit Cameron Parish on 27 June 1957. This category-four storm moved much quicker than predicted and trapped most parish residents before they could flee inland to Calcasieu. Over 425 people were killed and hundreds more injured. Practically every home was damaged or destroyed (Figure 5-22). The Coast Guard and private boats of all kinds, plus armed forces helicopters, carried survivors to hospitals and shelters in Lake Charles and Sulphur, and also to McNeese University (Ross and Goodson 1997:IX, 94).

Lake Charles' air base reopened in 1951 as a result of the Korean War. It was renamed Chennault after General Claire Chennault of the Flying Tigers. Up to 9,000 men were stationed at the base, which closed again in 1961 (Owens 1967:96). Lockheed Aircraft Service Company acquired the base in 1965 for aircraft maintenance, modification, and assembly (Jones 1967:45).

Local taxpayers approved a 13-million-dollar bond issue in 1961 to dredge an Industrial Canal at the junction of the Calcasieu Ship Channel and the Intracoastal Waterway in order to attract more deepwater shipping (Kaufman 1967:55). By 1967 the ship channel accommodated a million-gallon creosote storage tank, a coconut oil facility; a phosphate rock and barite grinding plant; a petroleum coke bulk handling plant, a tremendous storage area for the Volkswagen Corporation of America, and until destroyed by fire in 1964, a cotton compress. Also in operation were the Columbia Carbon Company (formerly Petroleum Chemicals, Inc., and owned by Cities Services), Calcasieu Chemicals Inc, and Pennzoil (formerly the United Gas Corporation) (Jones 1967:40). A plant for Louisiana Polymers, Inc., was under construction in 1967 (Jones 1967:44).

In 1940 farm income in Calcasieu Parish was five times that of manufacturing. By 1967 the situation

had completely reversed so that manufacturing income was five times greater than that generated by farming (Jones 1967:38). Nevertheless, rice and cattle remained important commodities. The Lake Charles area had 95 rice processing plants in 1967, 23 mills, 70 rice dryers and two parboiling plants. Excluded from this number were several private and cooperative dryers. Lake Charles had become the number one rice port in the nation by 1967 and also served as the headquarters of the American Rice Growers Association (Jones 1967:46).

Oil refining and the petrochemical industry have remained the mainstay of the southwestern Louisiana economy from the mid twentieth century to the present. Many of the chemical plants produce fertilizer, plastics, nylon-based materials, and additives for livestock feed.

Although a distant second in importance, agricultural pursuits continue to contribute to the regional economy. By the late 1980s, however, considerable prime farmland around Lake Charles and Interstate 10 had been lost to industrial and urban uses (Roy and Midkiff 1988:45). Rice acreage in Calcasieu Parish has decreased substantially in favor of soybeans which are easier to grow and less susceptible to pests. Parish wide some 37,000 acres were planted in rice and 80,000 in soybeans in 1982 (Roy and Midkiff 1988:2). National and global competition in the last ten to twenty years have completely undermined the rice industry in southwest Louisiana to the degree that most Louisiana rice is now milled out of state. Just one rice mill remains in Lake Charles.

By the late 1980s, some 78,000 acres in Calcasieu Parish were in pasture (Roy and Midkiff 1988:47). While beef cattle continue to be raised in the parish, the vast majority of the meat is no longer processed or shipped in Lake Charles. Commercial woodland, constituting 23 percent of the total parish area in 1988, steadily declined between 1964 and 1980. Most of the upland pine forests belonged to timber companies by that time (Roy and Midkiff 1988:52). While lumbering and the manufacture of wood products remain important industries in the region, sawmilling no longer occurs in Lake Charles proper. Trapping and saltwater commercial fishing, however, continue to be practiced in both Cameron and Calcasieu parishes.

Globalization, while hard on local agricultural industries, has been an enormous boon to the Port of Lake Charles. Practically all the petroleum and chemical companies operating in Lake Charles are international concerns and heavy users of the Calcasieu



Figure 5-21. Construction of the superstructure of the new Calcasieu River Bridge in circa 1951 (Carpenter 2005) as viewed from Old Westlake.



Figure 5-22. Cameron after Hurricane Audrey in 1957 (Smith Hall Collection, Box 8, Folder 5, Frazar Memorial Library, McNeese State University, Lake Charles, Louisiana).

Ship Channel. The Port of Lake Charles is one of the fastest growing ports in the United States and continues to ship liquefied natural gas, oil, chemicals, rice, grains and other products to ports around the world. In 2004, 3.7 million tons of bulk cargo passed through the port, including some 100,000 tons of commodities like peas, lentils, and rice headed for Cuba (Myers 2005). Over the next decade Lake Charles is predicted to become one of the ten busiest ports in the United States.

While Cameron is the largest parish in the state, it remains one of the least populated. Its biggest communities are Hackberry, Creole, Holly Beach and Cameron. Of the parish's 9,991 residents in 2000,

1,965 lived in Cameron and 1,699 in Hackberry (Wikipedia 2007). The town of Cameron remains primarily a service center for the large Louisiana fishing, shrimping, and offshore oil and gas industries (Block 1977). However, ranging cattle and farming is still practiced.

On 24 September 2005, Hurricane Rita caused major damage in Calcasieu Parish and all but destroyed Cameron Parish. Creole, near where the storm made landfall, suffered wide-spread destruction, while Holly Beach, a popular vacation area, was literally flattened (Figure 5-23). Recovery and rebuilding in both of these parishes remains ongoing.



Figure 5-23. Holly Beach before and after Hurricane Rita in 2005 (Hurricanecity 2007).

CHAPTER 6

KNOWN CULTURAL RESOURCES IN THE PROJECT AREA

Archaeological Sites

A review of the archaeological site files at the State of Louisiana Division of Archaeology revealed 49 known sites within the study area for the proposed project (Figure 6-1 and Plates 1-4). Seven of these sites are historic, 33 prehistoric and nine have both historic and prehistoric components (Table 6-1). The purely historic sites consist of three artifact scatters (16CM110, 16CU30, and 16CU32), two historic houses and their associated archaeological deposits (16CM90 and 16CM91), a World War II gun emplacement (16CM149), and the site of a Civil War residence and battlefield (16CM146). The historic artifact scatters are St. Johns Camp (16CM110) dating from circa 1900 to 1940, Citgo Brick Scatter (16CU30) of unknown date, and Citgo 9/27/02#1 (16CO32) dating from the late nineteenth to early twentieth century. The NRHP eligibility of 16CM110 is undetermined, 16CO30 is considered potentially eligible, and 16CU32 is ineligible. Both historic house sites, Ellender House (16CM90), and Sanner House (16CM91) are eligible for the NRHP (Weinstein and McClosky 1980), while the Calcasieu Gun Emplacement site (16CM149) is ineligible. The Battle of Calcasieu site (16CM146) on Monkey Island was recorded based primarily on historical records and has not been examined archaeologically. Therefore, the NRHP eligibility of this site remains undetermined.

Of the 33 prehistoric sites in the project area, five are artifact scatters, one fragments of an aboriginal pirogue, two are sites with earth and shell middens, and the remaining 25 are shell midden sites (see Figure 6-1 and Table 6-1). One of the artifact scatters is of unknown date while the other four span from the

Tchula to Mississippi periods (see Table 6-1). Two of these scatters (16CU5 and 16CU118) are ineligible for the NRHP and three (16CU41, 16CU111, and 16CU146) are of undetermined eligibility. Although the status of 16CU41 is recorded as undetermined, its research potential in 2005 was considered poor (DOA site form).

The pirogue fragments (16CM147), radiocarbon dated to between A.D. 1425 and 1650, are ineligible for the NRHP. Both sites with earth and shell midden deposits (16CU13 and 16CU182) are not eligible for the NRHP. Site 16CU13 on Lake Charles is of unknown date and has been destroyed. Site 16CU182 also produced Texas-type ceramics and dates to the Woodland or Mississippi periods.

Of the 25 prehistoric shell midden sites in the project area, seven date to the Coles Creek Period (16CM115, 16CU119, 16CU121 to 16CO123, 16CU129, and 16CU147), two to the Marksville and Coles Creek periods (16CU179 and 16CU180), and eight to the Woodland and/or Mississippi periods (16CU10, 16CU25, 16CU29, 16CU125, 16CU126, 16CU141, 16CU185, and 16CU197) (see Figure 6-1 and Table 6-1). The remaining eight shell midden sites date to: the Coles Creek and Historic Contact periods (16CU120); the Coles Creek and Plaquemine periods (16CU14); the Coles Creek and Mississippi periods (16CU177); the Coles Creek and Tchula periods (16CU178); the Marksville, Baytown, Coles Creek, and Plaquemine periods (16CU4 and 16CM17); and the Mississippi (16CU176), and Woodland (16CU8) periods. Eleven of these shell midden sites are not eligible for the NRHP, nine are of undetermined

eligibility, and five are considered potentially eligible (see Table 6-1). While 16CU10's eligibility is considered undetermined, this site has been destroyed and so cannot be accessed. Site 16CU29 remains undetermined because only a portion of the site has been examined and assessed. That portion, however, was determined ineligible for the NRHP (Smith et al. 2001).

The last nine sites within the project area have aboriginal and historic components. Six of these sites are prehistoric shell middens dating to the Coles Creek (16CU200) and Woodland or Mississippi (16CM87, 16CU128, 16CU175, 16CU183, and 16CU192) periods. The historic components at these six sites are either unknown (16CU175 and 16CU183) or date to the nineteenth and/or early twentieth centuries. At 16CU128, the historic occupation is known to have been a residence and sawmill in use from circa 1866 to 1903 (Hahn et al. in press). Site 16CM87 is not eligible for the NRHP, while the NRHP eligibility of the five other shell midden/historic sites is undetermined. However, 16CU183 has been destroyed and cannot be accessed.

Of the three remaining prehistoric/historic sites, two (16CU15 and 16CU203) consist of historic and prehistoric artifact scatters. The historic component at 16CU15 dates to the Civil War era, while 16CU203 was occupied historically in the early nineteenth century. The final site of the nine, the Smith Family Cemetery (16CU7), consisted of a small family cemetery with six burials and a small scatter of Late Archaic lithics. These three sites are not eligible for the NRHP. The burials at 16CU7 were exhumed and relocated before the site area was destroyed by casino construction (Ryan et al. 1996).

In summary, the 49 known archaeological sites located within the project study area consist of two sites that are eligible for the NRHP (16CM90 and 16CM91), 23 that are not eligible for the NRHP, seven that are potentially eligible, and 17 whose eligibility is undetermined (see Table 6-1). The seven potentially eligible sites were last examined in 1975 (16CU119), 1986 (16CU200), 2001 (16CU30), and 2006 (16CU120 to 16CU123). The 17 undetermined sites were last examined in 1938 (16CU8), 1940 (16CU4), 1975 (16CU129), 1977 (16CU146), 1979 (16CU110, 16CU11, and 16CU115), 1980 (16CM17), 1981 (16CU175), 1983 (16CU192), and 1985 (16CU185). As mentioned above, the Battle of Calcasieu Pass site (16CM146) has never been examined archaeologically, while 16CU41 was investigated in 2005 and deemed to have poor research potential. Also in 2005, Phase

II testing was recommended for the Norris Point site (16CU128) (Hahn et al. in press). The remaining two sites of undetermined eligibility (16CU10 and 16CU183) have been destroyed and cannot be accessed.

Standing Structures

Fourteen historic properties in Calcasieu Parish and two in Cameron Parish are listed on the National Register of Historic Places (Table 6-2). None of these 16 properties falls within in the project study area. The listed structures consist of: three churches, a theater, a bank, a lighthouse, a courthouse, a city hall, one hotel, a railroad depot, a stable, an auditorium, one historic district, and three private homes. All but the lighthouse are located in cities and towns, principally Lake Charles ($n=10$), DeQuincy ($n=3$), Vinton ($n=1$) and Lake Arthur ($n=1$). However, one historic district of local significance, the Shell Beach Drive District in Lake Charles, does fall partially within the project area (see Figure 6-1 and Plate 1).

A review of the standing structure files at the State of Louisiana Division of Historic Preservation revealed 235 recorded standing structures over 50 years in age within the study area for the proposed project (see Figure 6-1 and Plates 1-4). Of these, 114 are located in Calcasieu Parish and 121 in Cameron Parish (Table 6-3). Cameron Parish has been completely surveyed for historic standing structures, while only the urban areas of Calcasieu Parish have been surveyed to date. All but one of the structures recorded in Calcasieu Parish (10-433 to 10-544) occur in Westlake on the west bank of Lake Charles (Ryan et al. 2006). Calcasieu's last recorded structure, the Calcasieu River Bridge, links Lake Charles to Westlake. Those structures in Cameron Parish are located in Hackberry (12-1 to 12-75), Grand Lake (12-163 to 12-191), Cameron (12-134 to 12-146), and on LA Highway 27 just east of Cameron (12-132 and 12-133) (Louisiana Division of Historic Preservation [DHP] standing structure forms).

Some 93 percent of the structures recorded in the project area are private homes ($n=220$) (see Table 6-3). Most of these homes ($n=126$) have been classified as bungalows and range in date from circa 1900 to 1961. Minimal traditional homes make up the second largest category ($n=61$) and were built between circa 1900 and post-1959. Sixteen of the dwellings have a central-hall plan and range in date from circa 1880 to 1955. Five ranch and three shotgun houses also occur. The former date from about 1930 to 1945 and the latter from circa 1935 to 1959. Two post-war homes were built between 1955 and 1959. The remaining seven homes are: a

Figure 6-1. Known archaeological sites, standing structures, and shipwreck locations in the Calcasieu River and Pass Dredged Material Management Plan (DMMP) project area in Calcasieu and Cameron parishes, Louisiana (USGS 1983, 1986).

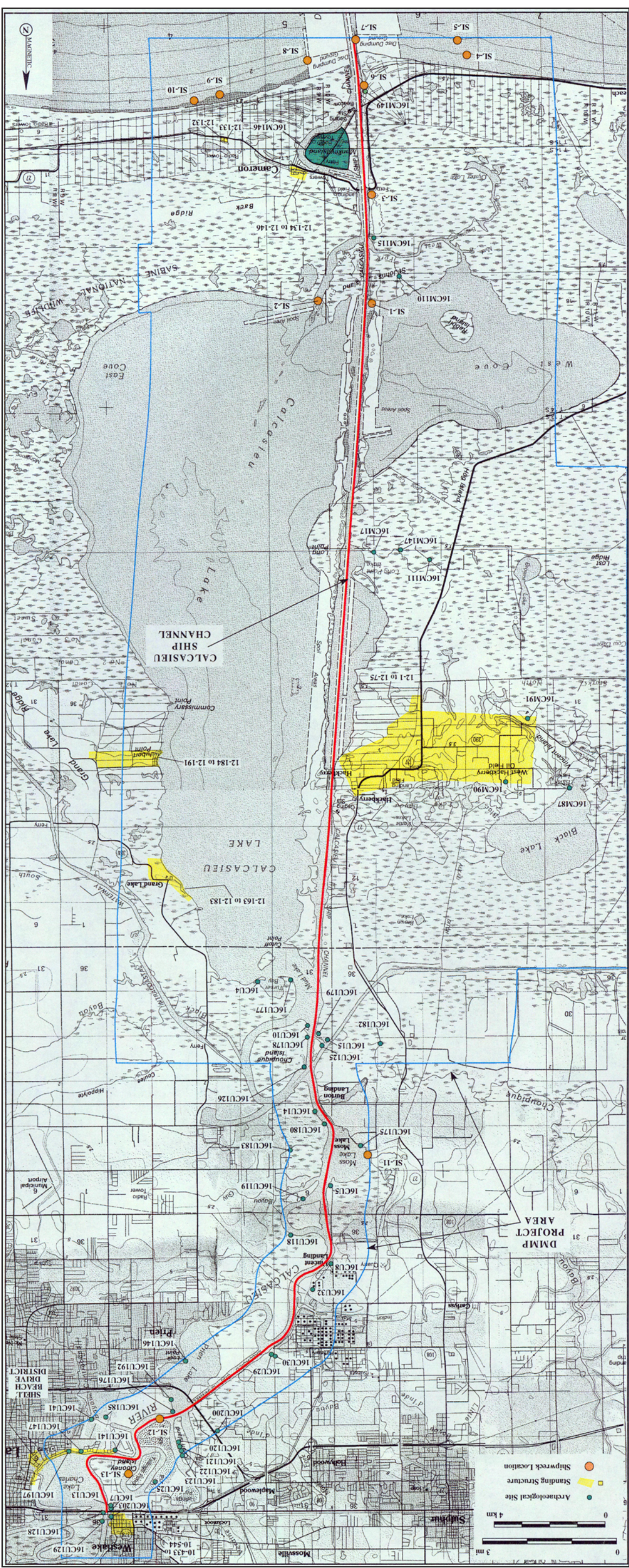


Table 6-1. Known Archaeological Sites in the Calcasieu River DMMP Project Area.

STATE SITE #	NAME	7.5 MINUTE QUADRANGLE	TYPE	PERIOD	NRHP STATUS
16CM017	Long Point Bayou	Hackberry	Prehistoric shell midden	Coles Creek, Plaquemine, possibly also Marksville, Baytown	Undetermined
16CM087	Blake Lake	Browns Lake	Prehistoric shell midden/Historic	Coles Creek to Mississippi/Middle to Late 19th ct.	No
16CM090	Ellender House	Browns Lake	Historic house & site	19th century	Eligible
16CM091	Sanner House	Browns Lake	Historic house & site	1861 and later	Eligible
16CM110	St. Johns Island Camp	Cameron	Historic	1900-1940	Undetermined
16CM111	West Long Point Bayou	Hackberry	Prehistoric	Woodland or Mississippi	Undetermined
16CM115	West Fork	Cameron	Prehistoric shell midden	Coles Creek	Undetermined
16CM146	Battle of Calcasieu Pass	Cameron	Historic residence and battlefield	1863-1864	Undetermined
16CM147	Long Point Bayou Piroque	Hackberry	Prehistoric pirogue fragments	ca. 1425-1650	No
16CM149	Calcasieu Gun Emplacement	Cameron	Historic gun emplacement	World War II	No
16CU004	Turner's Bay	Moss Lake	Prehistoric shell midden	Coles Creek, Plaquemine, possibly also Marksville, Baytown	Undetermined
16CU005	Braille's Camp	Westlake	Prehistoric	Woodland or Mississippi	No
16CU007	Smith Family Cemetery	Lake Charles	Prehistoric/Historic cemetery	Late Archaic/Late 19th ct.	No/ Destroyed
16CU008	Vincent Midden	Westlake	Prehistoric shell midden	Woodland	Undetermined
16CU010	Bayou Choupique II	Moss Lake	Prehistoric shell midden	Woodland and Mississippi	Undetermined/ Destroyed
16CU013	Westlake	Lake Charles	Prehistoric shell and earth midden	Prehistoric unknown	No/ Destroyed
16CU014	Moss Lake	Moss Lake	Prehistoric shell midden	Coles Creek, Plaquemine	No
16CU015	Bayou Choupique	Moss Lake	Prehistoric/Historic	Woodland or Mississippi/Civil War	No
16CU025	Olin	Westlake	Prehistoric shell midden	Woodland or Mississippi	No
16CU029	Citgo Shell Midden	Westlake	Prehistoric shell midden	Woodland or Mississippi	Undetermined
16CU030	Citgo Brick Scatter	Westlake	Historic	Historic unknown	Potentially
16CU032	Citgo 9/27/02#1	Westlake	Historic	Late 19th-Early 20th ct.	No
16CU041	Bayou Contraband	Lake Charles	Prehistoric	Prehistoric unknown	Undetermined
16CU118	—	Westlake	Prehistoric	Tchula, Coles Creek, possibly also Marksville	No
16CU119	—	Westlake	Prehistoric shell midden	Coles Creek	Potentially
16CU120	—	Westlake	Prehistoric shell midden	Coles Creek, Historic Contact	Potentially

Continued

Table 6-1. Concluded.

STATE SITE #	NAME	7.5 MINUTE QUADRANGLE	TYPE	PERIOD	NRHP STATUS
16CM017	Long Point Bayou	Hackberry	Prehistoric shell midden	Coles Creek, Plaquemine, possibly also Marksville, Baytown	Undetermined
16CM087	Blake Lake	Browns Lake	Prehistoric shell midden/Historic	Coles Creek to Mississippi/Middle to Late 19th ct.	No
16CM090	Ellender House	Browns Lake	Historic house & site	19th century	Eligible
16CM091	Sanner House	Browns Lake	Historic house & site	1861 and later	Eligible
16CM110	St. Johns Island Camp	Cameron	Historic	1900-1940	Undetermined
16CM111	West Long Point Bayou	Hackberry	Prehistoric	Woodland or Mississippi	Undetermined
16CM115	West Fork	Cameron	Prehistoric shell midden	Coles Creek	Undetermined
16CM146	Battle of Calcasieu Pass	Cameron	Historic residence and battlefield	1863-1864	Undetermined
16CM147	Long Point Bayou Piroque	Hackberry	Prehistoric pirogue fragments	ca. 1425-1650	No
16CM149	Calcasieu Gun Emplacement	Cameron	Historic gun emplacement	World War II	No
16CU004	Turner's Bay	Moss Lake	Prehistoric shell midden	Coles Creek, Plaquemine, possibly also Marksville, Baytown	Undetermined
16CU005	Braille's Camp	Westlake	Prehistoric	Woodland or Mississippi	No
16CU007	Smith Family Cemetery	Lake Charles	Prehistoric/Historic cemetery	Late Archaic/Late 19th ct.	No/ Destroyed
16CU008	Vincent Midden	Westlake	Prehistoric shell midden	Woodland	Undetermined
16CU010	Bayou Choupique II	Moss Lake	Prehistoric shell midden	Woodland and Mississippi	Undetermined/ Destroyed
16CU013	Westlake	Lake Charles	Prehistoric shell and earth midden	Prehistoric unknown	No/ Destroyed
16CU014	Moss Lake	Moss Lake	Prehistoric shell midden	Coles Creek, Plaquemine	No
16CU015	Bayou Choupique	Moss Lake	Prehistoric/Historic	Woodland or Mississippi/Civil War	No
16CU025	Olin	Westlake	Prehistoric shell midden	Woodland or Mississippi	No
16CU029	Citgo Shell Midden	Westlake	Prehistoric shell midden	Woodland or Mississippi	Undetermined
16CU030	Citgo Brick Scatter	Westlake	Historic	Historic unknown	Potentially
16CU032	Citgo 9/27/02#1	Westlake	Historic	Late 19th-Early 20th ct.	No
16CU041	Bayou Contraband	Lake Charles	Prehistoric	Prehistoric unknown	Undetermined
16CU118	—	Westlake	Prehistoric	Tchula, Coles Creek, possibly also Marksville	No
16CU119	—	Westlake	Prehistoric shell midden	Coles Creek	Potentially
16CU120	—	Westlake	Prehistoric shell midden	Coles Creek, Historic Contact	Potentially

Table 6-2. Standing Structures Listed on the National Register of Historic Places in Calcasieu and Cameron Parishes.

NAME	OTHER NAME	LOCATION	PERIOD OF SIGNIFICANCE	LISTED ON NRHP
All Saints Episcopal Church		DeQuincy	1875-1899	1983
Arcade Theater		Lake Charles	1900-1924	1978
Calcasieu Marine Bank		Lake Charles	1924-1949	1991
Calcasieu Parish Courthouse		Lake Charles	1900-1949	1989
Cathedral of the Immaculate Conception		Lake Charles	1900-1924	1994
Charleston Hotel		Lake Charles	1925-1949	1982
Episcopal Church of the Good Shepherd		Lake Charles	1875-1899	1983
Jackson House		DeQuincy	1900-1924	1983
Kansas City Southern Depot	DeQuincy Railroad Museum	DeQuincy	1900-1924	1983
Old Lake Charles City Hall	Lake Charles City Court	Lake Charles	1900-1949	1989
Lake Charles Historic District	Charpentier Historic District	Lake Charles	1875-1949	1990
Lyons House		Vinton	1900-1974	1982
McNeese State University Auditorium		Lake Charles	1925-1949	1989
Waters Pierce Oil Company Stable	Junior League Headquarters	Lake Charles	1900-1924	1980
Hebert House		Lake Arthur	1824-1849	1997
Sabine Pass Lighthouse		Sabine Pass	1850-1874	1981

Creole cottage (date unknown), a dog-trot (ca. 1860s), a double-pen (pre-1914), a four-square (1909-1914), a gable-ell (1914-1940), an “other” (1940-1955), and a Queen Anne (1880-1909).

The 15 non-residential buildings in the project area consist of: the Calcasieu River Bridge in Lake Charles, the Cameron Parish Courthouse, ten commercial buildings (pre-1914 to 1957), two school outhouses, and a railroad track switcher (see Table 6-3). The Calcasieu River bridge was built between 1946 and 1951, and is one of only three ornamental bridges to be erected in the state (Jones 2000; Koonce 1999). To reflect the area’s association with Jean Lafitte, the bridge railings were designed to include 5,286 pairs of crossed dueling pistols, four pairs in each span. The Cameron Parish Courthouse (12-142) is in the Art Deco style and was built in about 1935. Eight of the commercial buildings are freestanding (10-454, 10-455, 10-456, 10-459, 10-460, 10-529, 12-7, and 12-140) and include a drug store (12-7) and a movie theater (12-140). A commercial row building (12-8) and a shotgun house (12-29) make up the remainder of the commercial buildings, with the shotgun serving as a barbershop. The two outhouses (12-36 and 12-37) belong to the Hackberry School and date to about 1920. The track switcher (10-503) is in Westlake and predates 1940.

Some 86 percent ($n=203$) of the 235 structures recorded in the project area have been determined ineligible for the NRHP. The Calcasieu River Bridge has been recommended as eligible for the NRHP (Hahn et al. in press). However, this recommendation has not yet been addressed by DHP. Two structures, the Cameron Parish Courthouse (12-142) and a Colonial Revival central-hall residence (12-183) are potentially eligible for the NRHP. That the Cameron Parish Courthouse survived both hurricanes Audrey and Rita and served as a place of refuge during these storms, suggests that this building will very likely be found eligible for the NRHP. The NRHP status of the remaining 29 recorded standing structures in the project area is undetermined.

Shipwrecks

Table 6-4 lists 40 shipwrecks reported in the vicinity of the project area, and is derived primarily from information presented in Pearson et al. 1989. The Official Records of the Union and Confederate Navies in the War of the Rebellion (ORN 1894-1922) were also consulted. Yet the historical record of shipwreck losses cannot be used as the only measure of the shipwreck potential of a waterway, and, in fact, it will often be a very unreliable measure of that potential. Pearson et al. (1989:277-279) have noted that the historical record

Table 6-3. Standing Structures Recorded in the Calcasieu River DMMP Project Area.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
10-433	—	Minimal Traditional	Dwelling	1940-1955	No
10-434	—	Bungalow	Dwelling	1940-1959	No
10-435	—	Bungalow	Dwelling	1940-1959	No
10-436	—	Bungalow	Dwelling	1940-1959	No
10-437	—	Bungalow	Dwelling	1908-1940	No
10-438	—	Bungalow	Dwelling	1916-1940	No
10-439	—	Shotgun	Dwelling	1940-1959	No
10-440	—	Four-square	Dwelling	1909-1914	No
10-441	—	Bungalow	Dwelling	1955-1957	No
10-442	—	Bungalow	Dwelling	1909-1914	No
10-443	—	Minimal Traditional	Dwelling	1914-1940	No
10-444	—	Bungalow	Dwelling	1914-1940	No
10-445	—	Bungalow	Dwelling	Pre-1914	No
10-446	—	Central-Hall	Dwelling	1880-1909	No
10-447	—	Bungalow	Dwelling	1900-1940	No
10-448	—	Bungalow	Dwelling	1914-1940	No
10-449	—	Bungalow	Dwelling	1914-1940	No
10-450	—	Bungalow	Dwelling	1914-1940	No
10-451	—	Bungalow	Dwelling	1914-1940	No
10-452	—	Minimal Traditional	Dwelling	1940-1955	No
10-453	—	Bungalow	Dwelling	Pre-1914	No
10-454	—	Freestanding Commercial	Business	1940-1955	No
10-455	—	Freestanding Commercial	Business	1914-1940	No
10-456	—	Freestanding Commercial	Business	1940-1957	No
10-457	—	Bungalow	Dwelling	1914-1940	No
10-458	—	Bungalow	Dwelling	1914-1940	No
10-459	—	Freestanding Commercial	Business	Pre-1914	No
10-460	—	Freestanding Commercial	Business	Post-1940	No
10-461	—	Minimal Traditional	Dwelling	1920-1935	No
10-462	—	Bungalow	Dwelling	1914-1940	No
10-463	—	Minimal Traditional	Dwelling	1914-1940	No
10-464	—	Minimal Traditional	Dwelling	1940-1957	No
10-465	—	Minimal Traditional	Dwelling	1914-1940	No
10-466	—	Double Pen	Dwelling	Pre-1914	No
10-467	—	Bungalow	Dwelling	1914-1940	No
10-468	—	Central-Hall	Dwelling	1914-1940	No
10-469	—	Gable-ell	Dwelling	1914-1940	No
10-470	—	Minimal Traditional	Dwelling	Post-1959	No
10-471	—	Bungalow	Dwelling	1914-1940	No
10-472	—	Queen-Anne	Dwelling	1880-1909	No

Continued

Table 6-3. Continued.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
10-473	—	Bungalow	Dwelling	1940-1955	No
10-474A	—	Bungalow	Dwelling	1955-1957	No
10-474B	—	Minimal Traditional	Dwelling	1955-1957	No
10-475	—	Minimal Traditional	Dwelling	1940-1955	No
10-476	—	Minimal Traditional	Dwelling	1940-1955	No
10-477	—	Bungalow	Dwelling	1940-1955	No
10-478	—	Central-Hall	Dwelling	1940-1955	No
10-479	—	Bungalow	Dwelling	1940-1955	No
10-480	—	Bungalow	Dwelling	1940-1955	No
10-481	—	Bungalow	Dwelling	1940-1955	No
10-482	—	Minimal Traditional	Dwelling	1940-1955	No
10-483	—	Minimal Traditional	Dwelling	1940-1955	No
10-484	—	Minimal Traditional	Dwelling	1940-1955	No
10-485	—	Minimal Traditional	Dwelling	1940-1955	No
10-486	—	Minimal Traditional	Dwelling	1940-1955	No
10-487	—	Bungalow	Dwelling	1940-1955	No
10-488	—	Bungalow	Dwelling	1940-1955	No
10-489	—	Minimal Traditional	Dwelling	1940-1955	No
10-490	—	Minimal Traditional	Dwelling	1940-1955	No
10-491	—	Bungalow	Dwelling	1940-1955	No
10-492	—	Minimal Traditional	Dwelling	1940-1955	No
10-493	—	Bungalow	Dwelling	1940-1959	No
10-494	—	Minimal Traditional	Dwelling	1940-1955	No
10-495	—	Bungalow	Dwelling	1940-1955	No
10-496	—	Minimal Traditional	Dwelling	1940-1955	No
10-497A	—	Bungalow	Dwelling	1940-1955	No
10-497B	—	Bungalow	Dwelling	1955-1957	No
10-498	—	Minimal Traditional	Dwelling	1940-1955	No
10-499	—	Minimal Traditional	Dwelling	1940-1955	No
10-500	—	Minimal Traditional	Dwelling	1940-1955	No
10-501	—	Minimal Traditional	Dwelling	1940-1955	No
10-502	—	shotgun	Dwelling	1940-1955	No
10-503	—	Structure	Track Switcher	pre-1940	No
10-504	—	Bungalow	Dwelling	1940-1955	No
10-505	—	Minimal Traditional	Dwelling	1940-1955	No
10-506	—	Minimal Traditional	Dwelling	1940-1955	No
10-507	—	Minimal Traditional	Dwelling	1940-1955	No
10-509	—	Bungalow	Dwelling	1916-1940	No
10-510	—	Other	Dwelling	1940-1955	No
10-511	—	Bungalow	Dwelling	1916-1940	No

Continued

Table 6-3. Continued.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
10-512	—	Minimal Traditional	Dwelling	1940-1955	No
10-513	—	Bungalow	Dwelling	1900-1940	No
10-514	—	Bungalow	Dwelling	1908-1940	No
10-515	—	Bungalow	Dwelling	1940-1955	No
10-516	—	Bungalow	Dwelling	1920-1940	No
10-517	—	Bungalow	Dwelling	1940-1955	No
10-518	—	Bungalow	Dwelling	1900-1940	No
10-519	—	Minimal Traditional	Dwelling	1920-1940	No
10-520	—	Bungalow	Dwelling	1900-1940	No
10-521	—	Bungalow	Dwelling	1916-1940	No
10-522	—	Bungalow	Dwelling	1908-1940	No
10-523	—	Bungalow	Dwelling	1900-1940	No
10-524	—	Bungalow	Dwelling	1916-1940	No
10-525	—	Minimal Traditional	Dwelling	1920-1957	No
10-526	—	Bungalow	Dwelling	1920-1959	No
10-527	—	Bungalow	Dwelling	1957-1959?	No
10-528	—	Bungalow	Dwelling	1957-1959	No
10-529	—	Freestanding Commercial	Business	Pre-1940	No
10-530	—	Bungalow	Dwelling	1920-1940	No
10-531	—	Bungalow	Dwelling	1940-1957	No
10-532	—	Bungalow	Dwelling	1957-1961	No
10-533	—	Minimal Traditional	Dwelling	1940-1955	No
10-534	—	Minimal Traditional	Dwelling	1940-1959	No
10-535	—	Minimal Traditional	Dwelling	1920-1940	No
10-536	—	Bungalow	Dwelling	1940-1955	No
10-537	—	Bungalow	Dwelling	1940-1955	No
10-538	—	Bungalow	Dwelling	1900-1940	No
10-539	—	Bungalow	Dwelling	1940-1957	No
10-540	—	Bungalow	Dwelling	1940-1955	No
10-541	—	Bungalow	Dwelling	1940-1957	No
10-542	—	Minimal Traditional	Dwelling	1940-1959	No
10-543	—	Post-War	Dwelling	1955-1959	No
10-544	—	Post-War	Dwelling	1955-1959	No
10-###	Calcasieu River Bridge	Ornamental Bridge	Bridge	1946-1951	Pending
12-1	Charlew A. Woolridge	Central-Hall	Dwelling	ca. 1931	Undetermined
12-2	—	Minimal Traditional	Dwelling	ca. 1950	No
12-3A	Tony Friar House	Bungalow	Dwelling	ca. 1940	Undetermined
12-3B	Dave Dugas House	Shotgun	Dwelling	ca. 1935	No
12-4	Robert Cohen	Bungalow	Dwelling	ca. 1940	No
12-5	—	Minimal Traditional	Dwelling	ca. 1940	No

Continued

Table 6-3. Continued.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
12-6	—	Minimal Traditional	Dwelling	ca. 1950s	No
12-7	Cooligan's Drug Store	Freestanding Commercial	Business	ca. 1940	No
12-8	—	Commercial Row Building	Business	ca. 1930	No
12-9	—	Bungalow	Dwelling	ca. 1940	No
12-10	—	Bungalow	Dwelling	ca. 1930	No
12-11	—	Bungalow	Dwelling	—	No
12-12	—	Minimal Traditional	Dwelling	ca. 1950s	Undetermined
12-13	—	Minimal Traditional	Dwelling	ca. 1940	No
12-14	—	Minimal Traditional	Dwelling	ca. 1940s	Undetermined
12-15	—	Minimal Traditional	Dwelling	ca. 1940s	No
12-16	—	Minimal Traditional	Dwelling	ca. 1940s	No
12-18	—	Minimal Traditional	Dwelling	ca. 1940s	Undetermined
12-19	—	Minimal Traditional	Dwelling	—	Undetermined
12-20	—	Minimal Traditional	Dwelling	ca. 1940	No
12-21	—	Bungalow	Dwelling	ca. 1951	No
12-22	—	Minimal Traditional	Dwelling	—	Undetermined
12-23	—	Minimal Traditional	Dwelling	ca. 1930	No
12-24	Channelview	Bungalow	Dwelling	ca. 1940s	Undetermined
12-25	—	Bungalow	Dwelling	ca. 1930s	No
12-26	—	Bungalow	Dwelling	1940s	Undetermined
12-27	—	Minimal Traditional	Dwelling	ca. 1950	No
12-28	—	Bungalow	Dwelling	ca. 1950	No
12-29	Pat's Barbershop	Shotgun	Business	ca. 1940	No
12-30	—	Bungalow	Dwelling	ca. 1940	Undetermined
12-31	—	Bungalow	Dwelling	ca. 1930	Undetermined
12-32	—	Ranch	Dwelling	—	Undetermined
12-33	William House	Bungalow	Dwelling	ca. 1940	No
12-34	—	Ranch	Dwelling	ca. 1945	Undetermined
12-35	Ralph Adams House	Ranch	Dwelling	ca. 1930	Undetermined
12-36	Hackberry School Outhouse	Minimal Traditional	Outhouse	ca. 1920s	Undetermined
12-37	Hackberry School Outhouse	Minimal Traditional	Outhouse	—	Undetermined
12-38	Opelia Little	Bungalow	Dwelling	ca. 1920	No
12-39	—	Ranch	Dwelling	—	Undetermined
12-40	—	Bungalow	Dwelling	—	Undetermined
12-41	—	Central-Hall	Dwelling	ca. 1890s-1920s	Undetermined
12-42	—	Bungalow	Dwelling	ca. 1930	No
12-43	—	Bungalow	Dwelling	—	No
12-44	Buddy Vincent	Creole Cottage	Dwelling	—	No
12-45	—	Bungalow	Dwelling	—	No
12-46	Little Residence	Bungalow	Dwelling	ca. 1950	No

Continued

Table 6-3. Continued.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
12-47	—	Bungalow	Dwelling	ca. 1930	No
12-48	—	Bungalow	Dwelling	—	Undetermined
12-49	—	Minimal Traditional	Dwelling	ca. 1940s	Undetermined
12-50	—	Bungalow	Dwelling	ca. 1930s	Undetermined
12-51	—	Minimal Traditional	Dwelling	ca. 1930	No
12-52	—	Bungalow	Dwelling	ca. 1930	Undetermined
12-53	—	Bungalow	Dwelling	ca. 1940s	Undetermined
12-54	—	Minimal Traditional	Dwelling	ca. 1930	No
12-55	—	Bungalow	Dwelling	ca. 1940	No
12-56	—	Bungalow	Dwelling	—	No
12-57	—	Bungalow	Dwelling	—	Undetermined
12-58	—	Central-Hall	Dwelling	—	No
12-59	Craig Vincent	Central-Hall	Dwelling	—	No
12-60	—	Bungalow	Dwelling	ca. 1930	No
12-61	—	Bungalow	Dwelling	ca. 1940	No
12-62	—	Bungalow	Dwelling	ca. 1940s	Undetermined
12-63	—	Bungalow	Dwelling	ca. 1920	No
12-64	—	Bungalow	Dwelling	—	Undetermined
12-65	—	Dog Trot	Dwelling	ca. 1860s	No
12-66	—	Bungalow	Dwelling	ca. 1940	No
12-67	—	Bungalow	Dwelling	—	No
12-68	—	Central-Hall	Dwelling	—	Undetermined
12-69	—	Bungalow	Dwelling	ca. 1930	No
12-70	—	Bungalow	Dwelling	ca. 1940	No
12-71	—	Bungalow	Dwelling	ca. 1940	No
12-72	—	Bungalow	Dwelling	ca. 1930	No
12-73	—	Bungalow	Dwelling	—	No
12-74	—	Bungalow	Dwelling	—	No
12-75	—	Central-Hall	Dwelling	ca. 1880	No
12-132	—	Bungalow	Dwelling	ca. 1930	No
12-133	—	Bungalow	Dwelling	ca. 1940	No
12-134	—	Bungalow	Dwelling	—	No
12-135	—	Bungalow	Dwelling	ca. 1930	No
12-136	—	Bungalow	Dwelling	ca. 1950	No
12-137	—	Bungalow	Dwelling	—	No
12-138	—	Bungalow	Dwelling	ca. 1930	No
12-139	—	Minimal Traditional	Dwelling	ca. 1950	No
12-140	Movie Theater	Freestanding Commercial	Business	ca. 1930	No
12-141	Todds House	Central-Hall	Dwelling	ca. 1840s	No
12-142	Cameron Parish Courthouse	Art Deco Courthouse	Civil	ca. 1935	Potentially

Continued

Table 6-3. Concluded.

STATE SS #	NAME	FORM	TYPE	DATE	NRHP STATUS
12-143	—	Central-Hall	Dwelling	ca. 1900	No
12-144	—	Bungalow	Dwelling	ca. 1930	No
12-145	—	Bungalow	Dwelling	ca. 1930	No
12-146	—	Minimal Traditional	Dwelling	ca. 1900	No
12-163	—	Bungalow	Dwelling	ca. 1930	No
12-164	—	Bungalow	Dwelling	ca. 1920	No
12-165	Drew Ranier	Ranch	Dwelling	ca. 1940	No
12-166	—	Bungalow	Dwelling	ca. 1930	No
12-167	Idy Lease	Bungalow	Dwelling	ca. 1930	Undetermined
12-168	—	Bungalow	Dwelling	ca. 1940	No
12-169A	—	Bungalow	Dwelling	ca. 1930	No
12-169B	—	Minimal Traditional	Dwelling	ca. 1940	No
12-170	—	Colonial Revival Central-Hall	Dwelling	ca. 1920	No
12-171	—	Minimal Traditional	Dwelling	ca. 1940	No
12-172	—	Minimal Traditional	Dwelling	ca. 1930	No
12-173	—	Bungalow	Dwelling	ca. 1920	No
12-174	—	Minimal Traditional	Dwelling	ca. 1940	No
12-175	—	Bungalow	Dwelling	ca. 1930	No
12-176A	—	Central-Hall	Dwelling	ca. 1920	No
12-176B	—	Central-Hall	Dwelling	ca. 1940	No
12-177	—	Bungalow	Dwelling	ca. 1930	No
12-178	—	Bungalow	Dwelling	ca. 1930	No
12-179	Clements Camp	Central-Hall	Dwelling	ca. 1930	No
12-180	Kaki's Kottage	Minimal Traditional	Dwelling	ca. 1940	No
12-181	—	Minimal Traditional	Dwelling	ca. 1930	No
12-182	—	Minimal Traditional	Dwelling	ca. 1930	No
12-183	—	Colonial Revival Central-Hall	Dwelling	ca. 1920	Potentially
12-184	—	Bungalow	Dwelling	ca. 1940	No
12-185	—	Bungalow	Dwelling	ca. 1940	No
12-186	—	Bungalow	Dwelling	ca. 1930	No
12-187	—	Bungalow	Dwelling	ca. 1940	No
12-188	—	Bungalow	Dwelling	ca. 1940	No
12-189	Frankie's Buck Camp	Bungalow	Dwelling	ca. 1930	No
12-190	—	Bungalow	Dwelling	ca. 1940	No
12-191	—	Bungalow	Dwelling	ca. 1940	No

tends to be very biased toward recording losses only of large or important vessels. The losses of smaller craft, or vessels that have been abandoned tend to go unrecorded in the documentary record. In some cases, such as during navigation improvements, these previously unrecorded wrecks may get incorporated into the written historical record, particularly if they

represent a navigation hazard. However, where these improvements have not been undertaken, or where they have not been documented, even these vessels will go unrecorded (Pearson and Saltus 1991:112).

Of the 40 shipwrecks listed in Table 6-4, 15 occurred in Calcasieu Parish, 24 in Cameron Parish,

Table 6-4. Recorded Shipwrecks in the Vicinity of the Calcasieu River DMMP Project Area.

BOAT NAME	DATE LOST	LOSS CAUSE	PARISH	WATERBODY	NEAREST COMMUNITY	VESSEL TYPE	PUBLISHED REFERENCE	RELIABILITY	REMARKS
SWAN	12/5/1843	STRANDED & SWAMPED	CALCASIEU	CALCASIEU RIVER	CALCASIEU	SIDE-WHEEL STEAMER	BERMAN, 1972; CEI #1266; LYTLE, 1975	03*	
MARY ANN	10/3/1862	BURNED	CALCASIEU	CALCASIEU RIVER	GOOSPORT	SCHOONER	BLOCK 2005; ORN 1894-1922 I(19):227	03	BURNED BY U.S.S. KENSINGTON
ELIZA	10/9/1862	BURNED	CALCASIEU	CALCASIEU RIVER	CAMERON (LEESBURG)	SLOOP	ORN 1894-1922 I(19):227	03	BURNED BY U.S.S. KENSINGTON
UNKNOWN	10/6/1863	EXPLOSION	CALCASIEU	CALCASIEU RIVER	UNKNOWN	SCHOONER	CEI #154; USND, 1971	03	
BEE	8/22/1879	BEACHED	CALCASIEU	CALCASIEU RIVER	UNKNOWN	UNKNOWN	WPA WRECK REPORT	03	BLOWN ASHORE BY A HURRICANE
RAMOS	3/5/1882	BURNED	CALCASIEU	LAKE CHARLES	LAKE CHARLES	UNKNOWN	WPA WRECK REPORT	03	CAUGHT FIRE TRAVERSING THE LAKE FROM WEST TO EAST
NETTIE	12/22/1884	BURNED	CALCASIEU	LAKE CHARLES	LAKE CHARLES	UNKNOWN	WPA WRECK REPORT	03	BETWEEN LAKE CHARLES & WEST LAKE CHARLES WHARF
JUNE S	0/0/1976	UNKNOWN	CALCASIEU	CALCASIEU RIVER	LAKE CHARLES	MOTOR VESSEL	USCG, 1986	01*	USCG FILE #189-76
RM100	0/0/1979	UNKNOWN	CALCASIEU	CALCASIEU RIVER	MOSS LAKE	TUG OR TOW BOAT	USCG, 1986	01	USCG FILE #106-79
UNKNOWN	0/0/1981	UNKNOWN	CALCASIEU	GULF INTERCOASTAL WATERWAY	UNKNOWN	UNKNOWN	USCG, 1986	01	NEAR CHOUIQUE CUTOFF; USCG FILE #229-81
LUCKY PENNY	0/0/1981	UNKNOWN	CALCASIEU	CALCASIEU RIVER	UNKNOWN	MOTOR VESSEL	USCG, 1986	01	NEAR COUPIQUE CUTOFF; USCG FILE #176-81
UNKNOWN	0/0/1982	UNKNOWN	CALCASIEU	GULF INTERCOASTAL WATERWAY	CALCASIEU LAKE	FISHING VESSEL	USCG, 1986	01	USCG FILE #232-81
UNKNOWN	0/0/1983	UNKNOWN	CALCASIEU	PRIEN LAKE	LAKE CHARLES	BARGE	USCG, 1986	01	USCG FILE #059-83
UNKNOWN	0/0/1985	UNKNOWN	CALCASIEU	CALCASIEU RIVER	LAKE CHARLES	PLEASURE CRAFT	USCG, 1986	01	USCG FILE #294-85
MARIE	0/0/1985	UNKNOWN	CALCASIEU	CALCASIEU RIVER	MOSS LAKE	FISHING VESSEL	USCG, 1986	01	USCG FILE #238-85

Continued

Table 6-4. Continued.

BOAT NAME	DATE LOST	LOSS CAUSE	PARISH	WATERBODY	NEAREST COMMUNITY	VESSEL TYPE	PUBLISHED REFERENCE	RELIABILITY	REMARKS
EL CORAZON DE JESUS Y SANTA BARBARA	9/6/1766	SANK IN STORM	CAMERON	GULF OF MEXICO	HOLLEY BEACH	FRIGATE	CEI #1941; PEARSON ET AL., 1981	04*	NEAREST COMMUNITY COULD POSSIBLY BE EAST TEXAS; SB IN NAME STANDS FOR SANTA BARBARA
CONCHITA	10/3/1862	BURNED	CAMERON	CALCASIEU RIVER	LAKE CHARLES	SCHOONER	ORN 1894-1922 I(19):227	03	BURNED BY U.S.S. KENSINGTON
REVENGE	7/21/1863	SCUTTLED	CAMERON	CALCASIEU RIVER	UNKNOWN	SCHOONER	ORN 1894-1922 I(20):407-408	03	20-TON; ON CALCASIEU RIVER UP OR NEAR THE LAKE
CONCORDIA	10/5/1863	BURNED	CAMERON	CALCASIEU RIVER	CALCASIEU PASS	SCHOONER	CEI #754; SHOMETTE, 1973; USND, 1971	03	BURNED TO PREVENT CAPTURE BY THE U.S.S. GRANITE CITY, A BRITISH BLOCKADE RUNNER
PUSHMATAHA	10/7/1863	EXPLOSION	CAMERON	MERMENTAU RIVER	UNKNOWN	SLOOP	CEI #1176; SHOMETTE, 1973; USND, 1971; ORN 1894-1922 I(20):615	03	CARGO OF RUM, CLARET AND GUNPOWDER SALVAGED BEFORE UNION DESTROYED SHIP
UNKNOWN	10/7/1863	EXPLOSION	CAMERON	MERMENTAU RIVER	UNKNOWN	SCHOONER	SHOMETTE, 1973; ORN 1894-1922 I(20):615	03	NEAR THE MOUTH OF THE MERMENTAU RIVER; RUN ASHORE 3/4 MILE FROM THE BEACH
T.J. SMITH	0/0/1864	SUNK	CAMERON	CALCASIEU PASS	CAMERON	STEAMER	BLOCK 1995; WOR 1880-1901 I(XXV 1/2):337	03	SUNK SOUTH OF CAMERON BY UNION GUNBOAT
DELPHINA	1/22/1865	BURNED	CAMERON	CALCASIEU RIVER	UNKNOWN	SCHOONER	NOR 1894-1922 I(22):20	03	3-MASTED, IN THE SECOND BEND OF THE CALCASIEU RIVER ABOUT 2 MILES FROM ITS MOUTH
ALICE TAYLOR	9/16/1877	UNKNOWN	CAMERON	GULF OF MEXICO	UNKNOWN	UNKNOWN	WPA WRECK REPORT	04	OFF CALCASIEU PASS; 9 KILLED
BEST FRIEND	5/12/1879	STRANDED & SWAMPED	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	CEI #687; WPA WRECK REPORT	03	WEST POINT, CALCASIEU BAR
CASCATELLO	8/22/1879	SANK IN STORM	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	WPA WRECK REPORT	03	DESTROYED IN A HURRICANE; CALCASIEU LIGHT BEARING NORTH BY WEST; 5 FATHOMS

Continued

Table 6-4. Concluded.

BOAT NAME	DATE LOST	LOSS CAUSE	PARISH	WATERBODY	NEAREST COMMUNITY	VESSEL TYPE	PUBLISHED REFERENCE	RELIABILITY	REMARKS
VERBENA	8/22/1879	BEACHED	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	WPA WRECK REPORT	03	2 MILES ABOVE THE LIGHTHOUSE; BLOWN ASHORE DURING A HURRICANE
WILLIE	9/26/1881	BURNED	CAMERON	LAKE CHARLES	LAKE CHARLES	UNKNOWN	WPA WRECK REPORT	03	4 MILES BELOW LAKE CHARLES
HERMES	11/6/1881	BEACHED	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	CEI #925; WPA WRECK REPORT	03	WENT TOO FAR EASTWARD, STRUCK THE OUTER BAR
DAY BREAK	11/4/1883	BEACHED	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	CEI #780; WPA WRECK REPORT	03	DROGGED ANCHORS, BEACHED; WEST POINT, CALCASIEU BAR
EAGLE	6/5/1888	BROKE UP	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	CEI #798; WPA WRECK REPORT	03	STRUCK THE EAST KNOLL ON CALCASIEU BAR AND BROKE UP
AGNES	12/1/1895	STRANDED & SWAMPED	CAMERON	GULF OF MEXICO	CALCASIEU PASS	UNKNOWN	CEI #631; WPA WRECK REPORT	03	BUTT OF PLANK SPRUNG, STRANDED ON BEACH; 3 MILES WEST OF THE MOUTH OF THE CALCASIEU
ORONOKO	3/27/1902	FOUNDERS	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	WPA WRECK REPORT	03	EAST CALCASIEU PASS, NEAR THE END OF THE JETTY
KRISTA NICOLE	0/0/1979	UNKNOWN	CAMERON	GULF INTERCOASTAL WATERWAY	CALCASIEU LAKE	TUG OR TOW BOAT	USCG, 1986	01	USCG FILE #113-79
MISTER T	0/0/1981	UNKNOWN	CAMERON	CALCASIEU LAKE	UNKNOWN	MOTOR VESSEL	USCG, 1986	01	USCG FILE #222-81
NEW DEAL	0/0/1982	UNKNOWN	CAMERON	CALCASIEU RIVER	CAMERON	UNKNOWN	USCG, 1986	01	USCG FILE #316-82
UNKNOWN	0/0/1982	UNKNOWN	CAMERON	CALCASIEU RIVER	CALCASIEU LAKE	PONTOON BOAT	USCG, 1986	01	USCG FILE #312-82
UNKNOWN	0/0/1982	UNKNOWN	CAMERON	CALCASIEU RIVER	CALCASIEU RIVER	BARGE	USCG, 1986	01	USCG FILE #311-82
CHAMPION	UNKNOWN	CAPSIZED	CAMERON	CALCASIEU PASS	UNKNOWN	UNKNOWN	WPA WRECK REPORT	03	OFF CALCASIEU BAR
RELIABLE #2	4/7/1882	FOUNDERS	CAMERON/CALCASIEU	CALCASIEU RIVER	CALCASIEU PASS	UNKNOWN	CEI #1187; WPA WRECK REPORT	03	FOUNDERS IN 8' OF WATER

*01 - Wreck confirmed through physical verification; location is entirely reliable.

02-Specific wreck location reported by informant, described in literature, or shown on map; good reliability.

03-General wreck location reported by informant or literature; fair to poor reliability.
04-Unreliable locational information or no locational information.

and one in either Calcasieu or Cameron Parish. All wrecks occurring in waterbodies cut by the Calcasieu Ship Channel are included in Table 6-4 as the exact locations of these wrecks cannot be pinpointed. The reliability of the locational data for these 40 shipwrecks is ranked using the criteria established in Pearson et al. 1989 (see Table 6-4). Location reliability ranges from a numerical value of 1, which reflects actual physical verification of the shipwreck, to 4, which indicates no locational information or very unreliable information. The great majority of wrecks fall into Category 3, reflecting fair to poor location reliability with the information usually derived from a statement of loss in the literature. Some wrecks included in Category 3 have slightly more precise locational information such as river mile, but even in these instances, the location reliability was considered only fair at best. Category 2 was reserved for wrecks depicted on maps and for those considered relatively easy to relocate in the field based on loss documentation.

The earliest known shipwreck in the area is that of the frigate *El Corazon de Jesus y Santa Barbara* which sank in the Gulf of Mexico during a storm on 6 September 1766. This wreck could have occurred anywhere from Holly Beach to east Texas. The next known wreck, the side-wheel steamer *Swan*, occurred 77 years later on the Calcasieu River in 1843.

Eight ships were lost on the Calcasieu River and two near the mouth of the Mermantau River during the Civil War. From October of 1862 to January of 1865 seven schooners, two sloops, and one steamer were either burned, sunk, scuttled, or exploded (see Table 6-4). During the postwar period fourteen wrecks are documented, eight on Calcasieu Pass, three on Lake Charles, two on the Calcasieu River, and one on the Gulf of Mexico (see Table 6-4). Of these vessels, three of unknown type were lost in the hurricane of 22 August 1879. Four others struck the bar in Calcasieu Pass, while the three on Lake Charles all burned.

The 14 remaining shipwrecks listed in Table 6-4 are modern and occurred between 1976 and 1985. They consist of motor vessels ($n=3$), unknown vessels ($n=3$), fishing vessels ($n=2$), tug or tow boats ($n=2$), barges ($n=2$), one pleasure craft, and a pontoon boat. Eight of these 14 wrecks occurred on the Calcasieu River, three on the Gulf Intracoastal Waterway, one on Prien Lake, one on Calcasieu Lake, and the last on Calcasieu Pass.

United States Department of Commerce maps dating from 1957 through 1998 and USGS maps from 1955 depict 13 locations where at least 18 shipwrecks

have occurred within the project area (see Figure 6-1 and Plates 1-4). Shipwreck Location (SL)-1 is immediately west of the Calcasieu Ship Channel and north of St. Johns Island in Calcasieu Lake. A wreck was present here from at least 1955 through 1967 (USDC 1957, 1967a; USGS 1955a). A second wreck was present at the junction of the East Fork of the Calcasieu River and Calcasieu Lake, SL-2, in 1967 (USDC 1967a). SL-3 is at the ferry crossing north of Monkey Island and abuts the Calcasieu Ship Channel to the west (see Figure 6-1 and Plates 1-4). This wreck also dates to 1967 (USDC 1967a), and may represent an abandoned ferryboat. SL-4 is well west of the ship channel and appears on maps from 1984 through 1991 (USDC 1984, 1991). A wreck was present at SL-5, just southeast of SL-4, from 1975 through 1996 (USDC 1975a, 1996). SL-6 is in Calcasieu Pass and abuts the ship channel to the west (see Figure 6-1 and Plates 1-4). A wreck is illustrated here from 1974 through 1998 (USDC 1974, 1998). SL-7 lies in the ship channel at the mouth of the Calcasieu River (see Figure 6-1 and Plates 1-4). A wreck is recorded in this location from 1967 through 1998 (USDC 1967b, 1967c, 1998). A single ship is illustrated through 1984 (USDC 1984), then two ships from 1986 through 1992 (USDC 1986, 1992). Four wrecks are shown here in 1996 and two wrecks again in 1998 (USDC 1996, 1998). In all probability the original wreck constituted a snag and caused the subsequent wrecks. Three additional shipwreck locations are all east of the mouth of the Calcasieu and along the coast. SL-8 shows a wreck from 1983 through 1998 (USDC 1983, 1998). A wreck is shown in SL-9 from 1975 through 1996 (USDC 1975c, 1996), and a wreck in SL-10 from 1975 through 1998 (USDC 1975b, 1998). Shipwreck Locations 11 through 13 appear only on USGS maps from 1955 (see Figure 6-1 and Plates 1-4). These show a single wreck in Moss Lake near the mouth of Choupique Bayou (SL-11), another in the Calcasieu River just east of Coon Island (SL-12) and three wrecks in the Clooney Island cutoff north of the Port of Lake Charles (SL-13) (USGS 1955b-c).

The symbols used to represent these wrecks indicate that most began as partially submerged wrecks, and then weathered over time into sunken wrecks considered dangerous to surface navigation (i.e., less than 11 fathoms over wreck). When known wrecks are no longer represented on these maps, their absence may reflect removal by dredging, especially in the Calcasieu Ship Channel itself; removal via storms or hurricanes; or simply that the wrecks no longer posed a navigation hazard. None of the at least 18 wrecks shown on the Coast Guard maps correspond to any of those listed in Table 6-4 either in date or location.

A third source of information on shipwrecks in the project area is a remote sensing survey conducted in Calcasieu Lake by PBS&J in 2005 (Enright et al. 2005). As part of a Phase I survey for the proposed Cheniere Creole Trail Pipeline Project, remote sensing was conducted in a corridor 18.1 mi long and 3,000 ft (914 m) wide (Figure 6-2). Eighty-eight magnetic anomalies

were identified, 75 in the southern portion of the corridor and 13 in the northernmost portion. All 88 anomalies were interpreted as potential historic period shipwrecks. Avoidance was recommended for all the anomalies. For anomalies that could not be avoided, a close-order magnetic survey was recommended, followed by controlled probing and diver assessment, if necessary.



Figure 6-2. Cheniere Creole Trail Pipeline Project corridor across Calcasieu Lake (Enright et al. 2005:3). Note that 88 magnetic anomalies were detected along this corridor, 75 in the southern portion and 13 in the northernmost portion. All are interpreted as potential historic shipwrecks.

CHAPTER 7

RESEARCH DESIGN

These investigations have shown that the Calcasieu River and Pass DMMP project area is rich in cultural resources. Forty-nine archaeological sites and 235 standing structures over 50 years in age have been recorded within its boundaries. The presence of unrecorded sites and structures in the project area is, therefore, considered likely. Documentary sources indicate that as many as 40 shipwrecks may have occurred within project area waterbodies, while cartographic sources illustrate at least another 18 wrecks. An unknown number of additional wrecks may be reflected by some of the 88 magnetic anomalies recorded in Calcasieu Lake in 2005 (Enright et al. 2005). The probability of unrecorded shipwrecks in the Calcasieu is considered high as the river has been utilized extensively for shipping over the last two centuries.

Archaeological Sites

Two recent and comprehensive studies conducted in coastal Lafourche and Terrebonne parishes both indicate that almost all if not all, archaeological sites on the coast are located on once elevated landforms, regardless of site function (Robblee et al. 2000:99; Weinstein and Kelley 1992:379). Some of these landforms remain elevated today, while others have subsided. Other predictive models for site location in south Louisiana have produced the same results (Beavers 1982; Franks and Yakubik 1990; Gagliano et al. 1979; Speaker et al. 1986; Smith et al. 1986). Therefore, all elevated or once elevated landforms, particularly natural levees and cheniers, in the project area are designated high probability areas for finding archaeological sites. Those areas deemed high

probability ($n=63$) are shown in Plates 1 through 4 and encompass 5586.63 ac. The approximate acreage for each of these 63 areas appears in Table 7-1. These high probability areas are fairly numerous due to the number of natural waterbodies cut by the Calcasieu Ship Channel, and because the channel was originally positioned to follow the routes of preexisting waterways where possible.

All natural levee and abandoned beach landforms in the project area were identified using geologic and historic quadrangle maps. Features exposed at the surface were considered as well as subsided and buried channels, for the latter have associated natural levees. The size of the natural levees associated with these subsided distributaries is currently unknown. However, for the purposes of this study it is assumed that levees associated with major distributary channels such as the Calcasieu River extend 300 m either side of the channel, while those of smaller distributaries extend roughly 100 m either side of the channel. DOQQ maps were then used to examine the current state of these high probability areas. Those high probability areas extensively disturbed by development, dredge disposal, and/or erosion were excluded from Plates 1 through 4.

When dredge disposal site selection is finalized for the proposed project, it is recommended that all known archaeological sites be avoided. The two sites (16CM90 and 16CM91) that are eligible for the NRHP should certainly be avoided or Phase III data-recovery excavations will be necessary. Likewise, all archaeological sites considered potentially eligible for the NRHP ($n=7$), or of undetermined eligibility

Table 7-1. Estimated Acreages for the High-Probability Areas in the Calcasieu River DMMP Project Area.

HIGH-PROBABILITY AREA	LOCATION	ACRES
1	Contains 16CU128 & 16CU129	40.29
2	East of Area 1, Westbank	16.58
3	East of Area 1, Eastbank	15.41
4	Contains 16CU7, 16CU13 & 16CU203	90.58
5	Contains 16CU141, 16CU147 & 16CU197	297.11
6	Contains 16CU41 & 16CU185	36.64
7	Contains 16CU176 & 16CU192	55.36
8	Clooney Island	3.16
9	Coon Island (Contains 16CU120 to 16CU123)	29.55
10	Contains 16CU29 & 16CU30	106.75
11	Contains 16CU32	44.65
12	Contains 16CU8	27.76
13	Abuts Area 12 to the South	49.46
14	East of 16CU119	2.25
15	Contains 16CU175	84.34
16	Contains 16CU14 & 16CU180	74.40
17	Contains 16CU182	29.78
18	At LA Highway 27 and Intracoastal Waterway	68.55
19	Westbank of Black Bayou, North	11.46
20	Westbank of Black Bayou, Central	11.73
21	Westbank of Black Bayou, South	5.19
22	Northbank of Intracoastal Waterway at parish line, North	1.60
23	Northbank of Intracoastal Waterway at parish line, Central	18.61
24	Northbank of Intracoastal Waterway at parish line, South	53.65
25	Contains 12-163 to 12-183	329.28
26	Contains 12-184 to 12-191	157.97
27	Hackberry, North	37.80
28	Hackberry, Central	49.34
29	Hackberry, South	2.32
30	Contains 16CM87	155.10
31	North portion of Vincent's Island	168.87
32	Central portion of Vincent's Island	75.55
33	Contains 16CM91	156.01
34	Chinaberry, Southeast of Area 30	27.38
35	Larger Island Northeast of Vincent's Island	4.81
36	Smaller Island Northeast of Vincent's Island	1.79
37	Contains 16CM17	75.21
38	Contains 16CM111	9.80
39	Contains 16CM110	10.84
40	Southeast of Area 39	31.20
41	South of Area 39	99.82
42	Southwest of Area 39	23.43
43	West of Area 42	9.96
44	Southwest of Area 42	18.03
45	Contains Waterway South of & Adjoining West Fork of Calcasieu River	362.85
46	Large cheniere North of LA Highway 82	455.66
47	Small western cheniere North of LA Highway 82	16.23
48	Small eastern cheniere North of LA Highway 82	37.87
49	"Z"-shaped area South of LA Highway 82	365.38
50	Contains 12-134 to 12-146	67.57
51	Small area northwest of Area 50	1.71
52	Contains 16CM146	699.80
53	Between Areas 50 & 55, North	3.26
54	Between Areas 50 & 55, South	7.17
55	Contains 12-132 to 12-133	64.36
56	South of Area 55	32.65
57	South of Area 54	40.71
58	South of Area 57	53.44
59	Five-fingered cheniere Southeast of Monkey Island	503.28
60	Cheniere on Gulf Coast, Eastbank of Calcasieu River	137.90
61	Cheniere on Westbank of Calcasieu River, North	34.07
62	Cheniere on Westbank of Calcasieu River, Central	32.24
63	Cheniere on Westbank of Calcasieu River, South	51.11
TOTAL ACREAGE		5586.63

($n=17$), if they cannot be avoided, will need to be assessed to determine their NRHP status via Phase II testing. Although the remaining 23 sites in the project area are considered ineligible for the NRHP, they also should be avoided if at all possible. Many of these were recorded decades ago after being examined only minimally. There remains the possibility that the ineligible prehistoric sites could nevertheless contain human remains and/or undetected burials. If any of the ineligible sites can not be avoided, it is recommended that those recorded more than 15 years ago be revisited to confirm their ineligibility. The vast majority of the recorded sites in the project area have not been examined in over 20 years, and it is very likely that many have been destroyed by development, erosion, and/or hurricanes. Nevertheless, all previously recorded sites to be impacted should be relocated, if possible, and reevaluated based on their current conditions.

It is also recommended that all high-probability areas shown in Plates 1 through 4 be avoided when dredge disposal area selection is finalized. If these high-probability areas cannot be avoided, they will require Phase I survey. Any new sites found during survey would then have to be evaluated for NRHP eligibility.

Systematic survey should entail a pedestrian search of all high probability areas to locate midden areas, whether these are exposed shell lenses, organically stained earth-midden lenses, or low midden “mounds” situated in what are today swamp or marsh. If, upon field examination, the high-probability areas defined above are obviously wider than depicted in Plates 1 through 4 in some areas, the survey area should be expanded to encompass the entire landform.

Pedestrian survey should be conducted along transects spaced at 20-to-30-m intervals, generally perpendicular to the nearest bankline, natural or otherwise. Subsurface excavations, using a probe, shovel or auger, should be carried out at 20-to-30-m intervals along each transect. It is expected that earth-midden sites situated on elevated natural levees would be examined principally through the use of shovel tests. Buried or subsided shell middens, on the other hand, would be assessed by probing and auger borings. If artifacts or other indications of human activities are encountered, then site assessment procedures should be initiated.

In order to determine the size, depth, and condition of each site, subsurface testing will be required. On shell midden sites, a six to eight foot probe should

be used at 10 to 20 m intervals along the transects of the site grid to determine the depth and extent of the shell deposit. Shovel and/or auger tests should then be excavated at 10-m intervals or less on the site grid to determine the type of landform the site occurs on, detect earth-midden deposits, and perhaps acquire diagnostic artifacts to augment the surface collections. Shovel tests may prove sufficient for sites not already buried by spoil, but augering will be needed at the deeply buried sites. For earth midden sites such as low midden “mounds” situated in the swamp or marsh, the auger should be used in lieu of the probe for site delineation.

When shovel tests are incorporated in the assessment procedures, all soil removed from each hole should be dry-screened through 1/4-in wire mesh where possible. Data from each auger or shovel test, including soil stratum, depth, soil type, soil color, soil texture, and inclusions (such as charcoal, sherds, lithics, faunal remains, etc.) should be collected.

For those high-probability areas best reached via water, survey can be conducted by two-to-four-person crews operating in small boats. The banks of waterbodies should be carefully examined for cultural material. If the banks are obscured by vegetation small areas should be cleared or the bankline probed at 30 to 50 m intervals. When cultural material is identified, the boat should be docked and the bankline walked if possible.

Two systematic surface collection methods can then be employed at discovered sites, again depending on site condition and location. Many of the sites are expected to occur in a linear pattern along the natural watercourse, producing an accumulation of lag “beach” material (primarily *Rangia* and/or oyster shell in the case of prehistoric sites) along the bank. This beach material can be sectioned off into 10-to-30-m long collecting units, depending on the overall length of the beach deposit. The units will extend from the waters edge to at least the bankline and then continue on top of the bank were possible. All cultural material should then be collected by unit. The unit boundaries will also serve as a site grid.

For well-preserved, intact sites which are not oriented parallel to a specific bankline, a “ray” pattern of transects can be employed. In this system, the presumed central point of each site or midden location is identified and a series of lines run out from that point at specific angles to the cardinal directions. Initial lines should be placed at 90°, 180°, 270°, and 360°. These could then be supplemented by additional lines at 45°,

135°, 225°, and 315°, if more detailed information on site size or configuration is required. Pedestrian survey and subsurface testing can be conducted along these transects.

Each new site discovered during Phase I survey should be photographed from various angles to provide a record of its condition. A sketch map should also be produced for each site identified. The map should be to scale and show the locations of all subsurface tests and surface collection units. Important environmental, cultural, and physiographic features, such as canals, modern standing structures, vegetation, etc., should also be included on the map. Precise site positions should be obtained with differential GPS. The overall aim of all these assessment procedures would be to determine whether or not each site is eligible for inclusion in the National Register of Historic Places.

Dredge disposal sites may utilize portions of the project area presumed to have a low probability of containing archaeological sites (i.e., all areas not shown as high probability in Plates 1 through 4). These include terrain identified as inland swamp, fresh marsh, brackish marsh, and salt marsh, and do not require further investigations.

Standing Structures

When dredge disposal site selection is finalized for the proposed project, it is recommended that all recorded standing structures in the project area and the Shell Beach Drive Historic District be avoided. If the Calcasieu River Bridge is determined eligible for the NRHP by DHP, impacts to this structure should certainly be avoided. If avoidance is not possible, Phase III HABS/HAER (Historical American Building Survey/Historic American Engineering Record) recordation will be necessary for this bridge. Likewise, all recorded standing structures within the project area considered potentially eligible for the NRHP ($n=2$), or of undetermined eligibility ($n=29$), if they can not be avoided, will need to be assessed to determine their NRHP status. All of these 31 structures were recorded by the Division of Historic Preservation in 2002. It is likely that many were damaged or destroyed by Hurricane Rita in 2005. No further work is required at those 203 standing structures that are not eligible for the NRHP.

While Cameron Parish has been completely surveyed for standing structures over 50 years in age, Calcasieu Parish has not. Therefore, the likelihood of encountering unrecorded structures within the project area in Calcasieu Parish is considered high.

If unrecorded structures over 50 years in age are encountered in the dredge disposal areas finally selected, these structures will need to be recorded and their NRHP eligibility accessed.

While high probability areas for archaeological sites do not always coincide with those for standing structures, in the restrictive marginal plain environment they appear to. Therefore, a survey for standing structures can be conducted in tandem with the archaeological survey of high probability areas.

Shipwrecks

As noted previously, the possibility for historic shipwreck sites in the project area is considered high, for the Calcasieu River and the lakes and bayous it adjoins saw heavy use by watercraft throughout the historic period. Previous research in Terrebonne Parish has demonstrated that larger waterways in the coastal region can contain numerous sunken and derelict vessels that have been purposefully abandoned or accidentally lost. Flayharty and Muller (1983) recorded 69 derelict boats, including luggers, trawlers, Lafitte skiffs, tow boats as well as modern recreational craft on Bayou Grand Caillou. Six of these vessels were identified as potentially eligible for inclusion in the National Register of Historic Places. In a reconnaissance survey of Bayou du Large, Stout (1992) recorded the presence of 37 derelict vessels between Falgout Canal and Grand Pass. These included wooden luggers, Lafitte skiffs, and flatboats, as well as steel- and fiberglass-hulled boats. Stout, specifically, notes the historic importance of some of these vessels as “folk boats;” vernacular craft that are no longer being made in the area and whose remains as archaeological sites may provide the best or “only surviving record of their existence” (Stout 1992:23). The lesser bayous feeding into the Calcasieu, which were traveled by small craft such as pirogues or skiffs, may also have been the loci of the abandonment or sinking of these types of vessels. Prehistoric vessel remains might also be encountered in these lesser waterways as evidenced by the pirogue fragments (16CM147) found on Long Point Bayou.

Those portions of the project area with the highest potential for containing historic shipwrecks are the shallow and constricted areas where ships were forced to navigate in close proximity to shoals. Historically these areas were at the head of Calcasieu Lake, at the head of Calcasieu Pass (East and West Fork), and at the mouth of Calcasieu Pass. Old docking areas at settlements along the Calcasieu, or ferry landings like those on Calcasieu Pass, are other places where older

ships may have sunk or been abandoned. For instance, underwater survey of old dock facilities on Bayou Schaffer in coastal St. Mary Parish revealed some 20 sunken vessels ranging in date from roughly 1880 to 1970 (Charles Pearson, personal communication 2003; Pearson and Saltus 1991).

Of the 40 shipwrecks documented for the project area in the historical record, only 27 are more than 50 years old. Likewise, just six of the 18 wrecks noted on Department of Commerce maps occurred over 50 years ago. (These constitute a single wreck each at SL-1, SL-11, and SL-12, and three wrecks at SL-13). Only these wrecks, if encountered, would be of sufficient age to be potentially eligible for the NRHP. However, the location of only the latter six wrecks can be pinpointed with any degree of accuracy. Concerning the known wrecks less than 50 years in age, it remains a possibility, although a remote one, that some of these may have been snagged by the remains of older unrecorded or unidentified wrecks. While the location of the 88 magnetic anomalies recorded in Calcasieu Lake in 2005 (Enright et al. 2005) are known, none have been positively identified as shipwrecks to date and their ages remain undetermined.

No known shipwreck sites over 50 years in age occur in the Calcasieu Ship Channel itself, and as the channel has been dredged in the past, encountering unrecorded wrecks of sufficient age during renewed dredging is considered unlikely. However, these conditions apply only if the channel is not deepened or widened to any degree. It is recommended that the dredge crews be given specific channel width and depth measurements within which to confine their work.

When dredge disposal site selection is finalized for the proposed project, it is recommended that all

natural stream bottoms be avoided. These include those of the Calcasieu River and all the lakes and bayous it adjoins. Only by avoiding these areas will all potential shipwreck sites, recorded and unrecorded, be successfully avoided. If avoidance of a natural stream bottom is not possible, further investigations will be necessary.

Informant interviews are recommended to determine what, if any, wrecks, docks or navigation hazards that might be 50 years old or older occur in the selected natural stream bottom. The informant interviews then need to be supplemented with visual reconnaissance of the proposed disposal site. Particular note should be made of docks, landings, etc., as well as any exposed or sunken vessels. This examination for non-terrestrial cultural resources could be conducted in tandem with the survey for archaeological sites and standing structures, if warranted. A remote sensing survey of the selected natural stream bottom will then be necessary to ensure that all unrecorded wrecks are identified and to corroborate any information gathered via interviews and field reconnaissance. The NRHP eligibility of all wrecks identified in the proposed disposal area will then be determined via the remote sensing data, and/or by diving on targets.

Postscript

If the disposal areas proposed in September 2007 (see Figure 1-2 and Plates 1-4) are employed for the present project, no cultural resources on or eligible for listing on the NRHP, or areas with a high probability for containing unrecorded cultural resources, will be affected. If, after September of 2007, the DMMP project plans are altered in any way, the impact to cultural resources will need to be reassessed accordingly.

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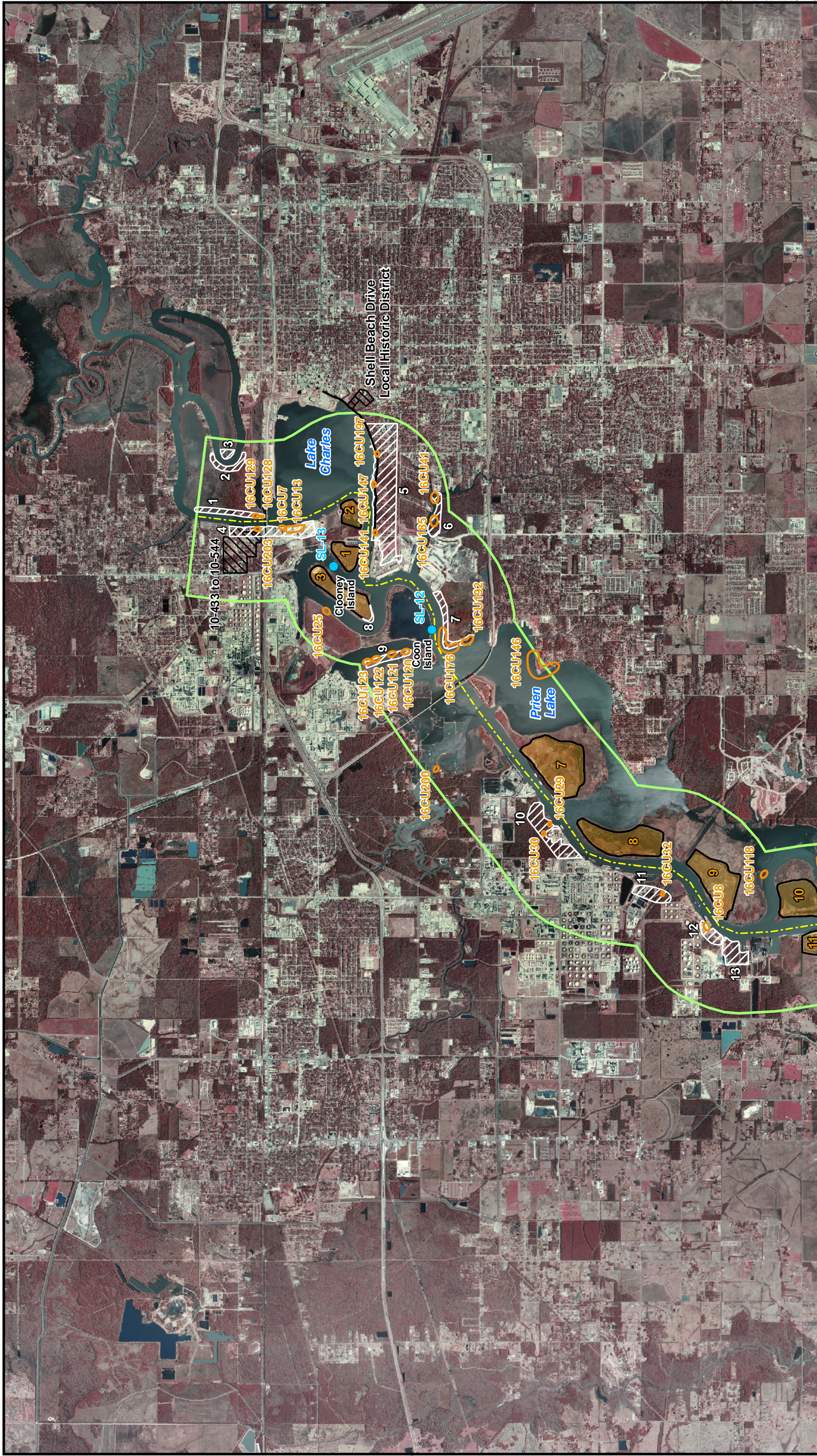
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Appendix

PLATES OF CALCASIEU RIVER AND PASS DMMP PROJECT AREA



Legend

- Shipwreck Location
- Archaeological Site
- Project Area
- Calcasieu Ship Channel
- Proposed Disposal Areas:
- High Probability Area
- CDF Site
- Standing Structure
- Beneficial Use Site

CALCASIEU RIVER AND PASS DMMP PROJECT

COASTAL ENVIRONMENTS, INC.
BATON ROUGE, LA, 70802 225-383-7455

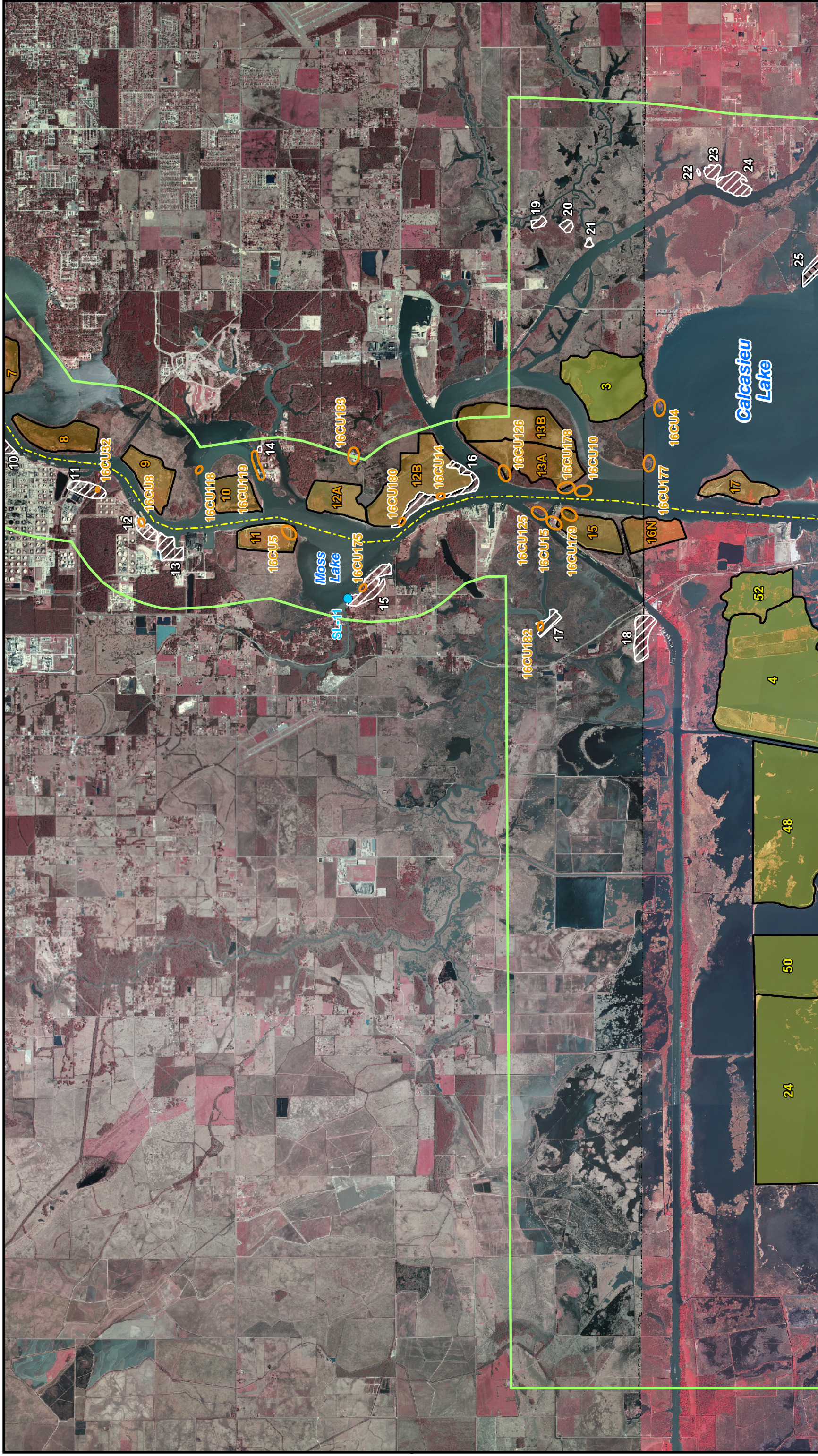
Project Location

Sources: 2004 and 2005 USGS DOQQ.

**Maps compiled with data derived from sources noted CEI does not warrant the validity of these data. Property boundaries were not obtained from a registered survey, and should be considered approximate.

0 0.5 1 Miles
0 3,000 6,000 Feet

Plate 1 of 4. Calcasieu River & Pass DMMP project area showing known cultural resources and high probability areas.



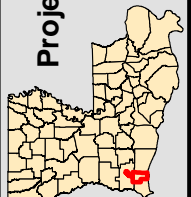
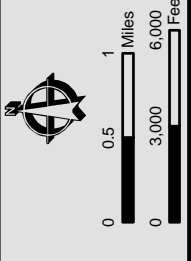
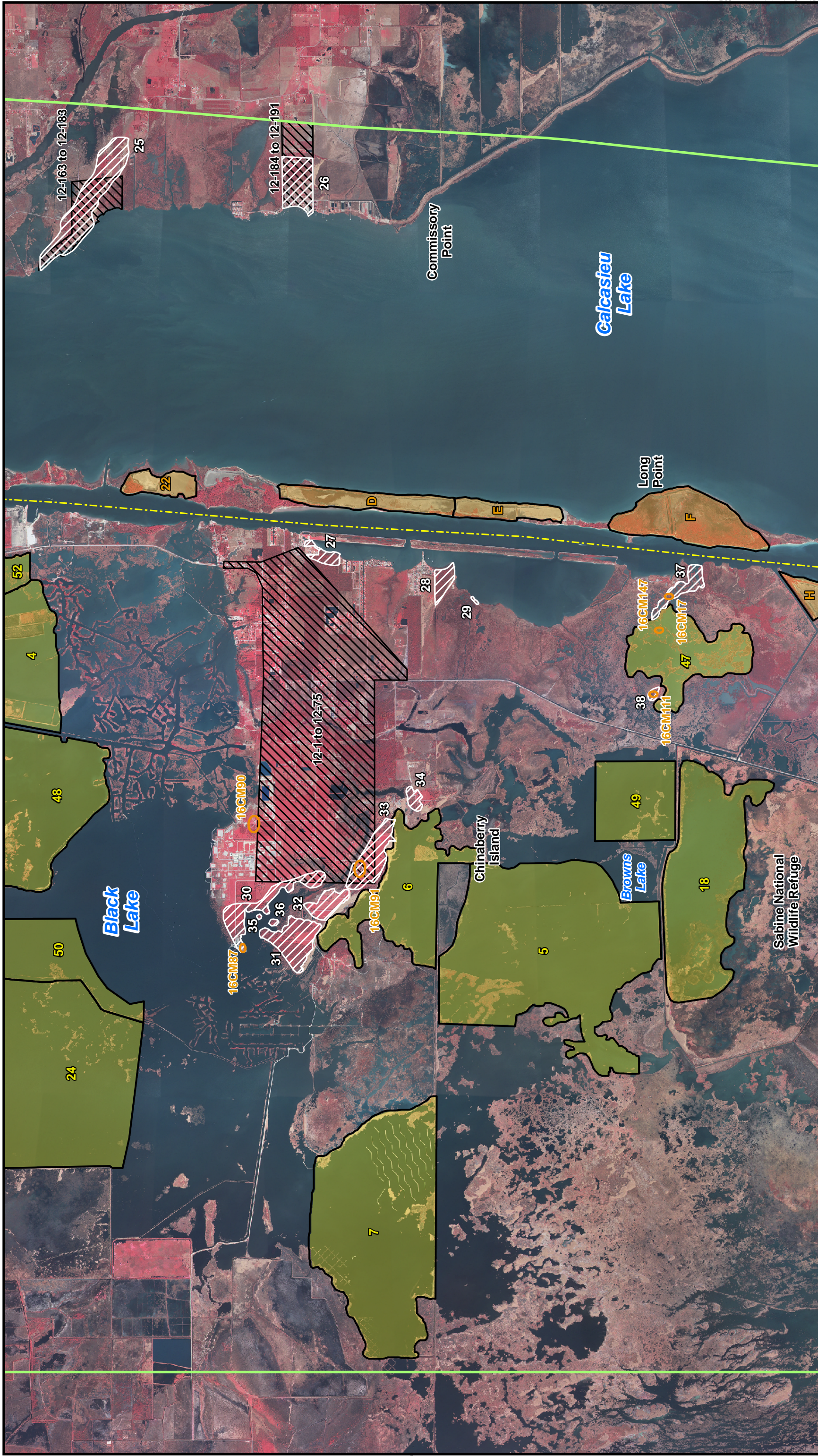
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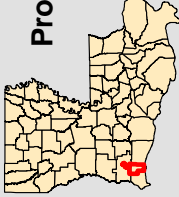
Plate 2 of 4. Calcasieu River & Pass DMMP project area showing known cultural resources and high probability areas.



Legend


- Shipwreck Location
- Archaeological Site
- High Probability Area
- CDF Site
- Beneficial Use Site
- Calcasieu Ship Channel
- Standing Structure

Project Location



CALCASIEU RIVER AND PASS DMMP PROJECT

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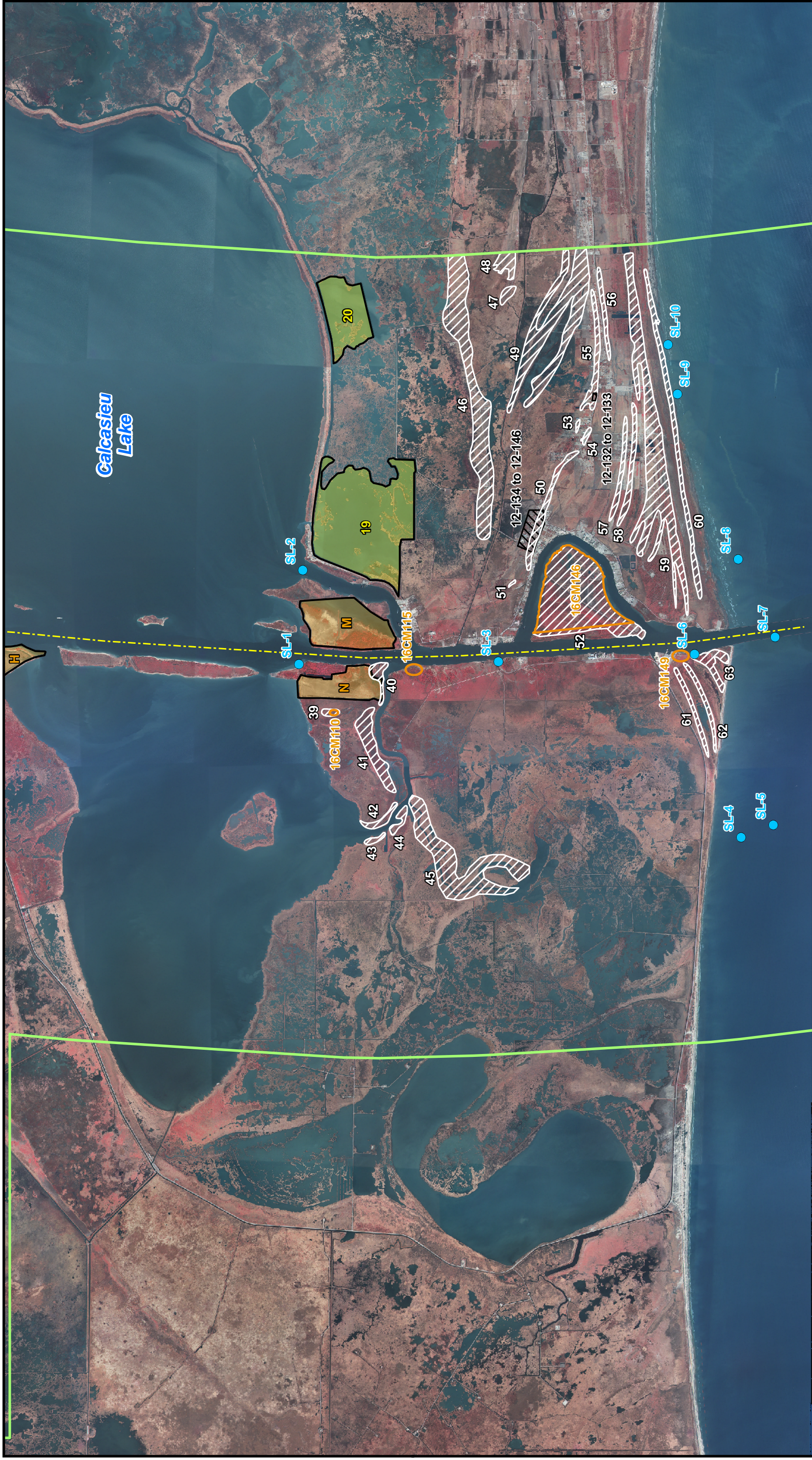
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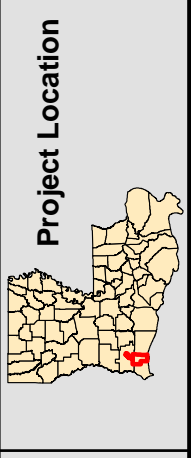
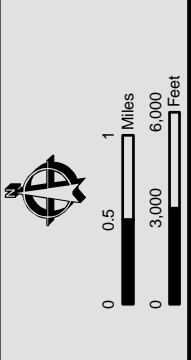
0 0.5 1 Miles

0 3,000 6,000 Feet

Plate 3 of 4. Calcasieu River & Pass DMMP project area showing known cultural resources and high probability areas.



Sources: 2004 and 2005 USGS DOQQ.
 **Maps compiled with data derived from sources noted. CEI does not warrant the validity of these data. Property boundaries were not obtained from a registered survey, and should be considered approximate.



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- Legend**
- Shipwreck Location
 - Project Area
 - Archaeological Site
 - High Probability Area
 - CDF Site
 - Calcasieu Ship Channel
 - Standing Structure
 - Beneficial Use Site

Plate 4 of 4. Calcasieu River & Pass DMMP project area showing known cultural resources and high probability areas.

