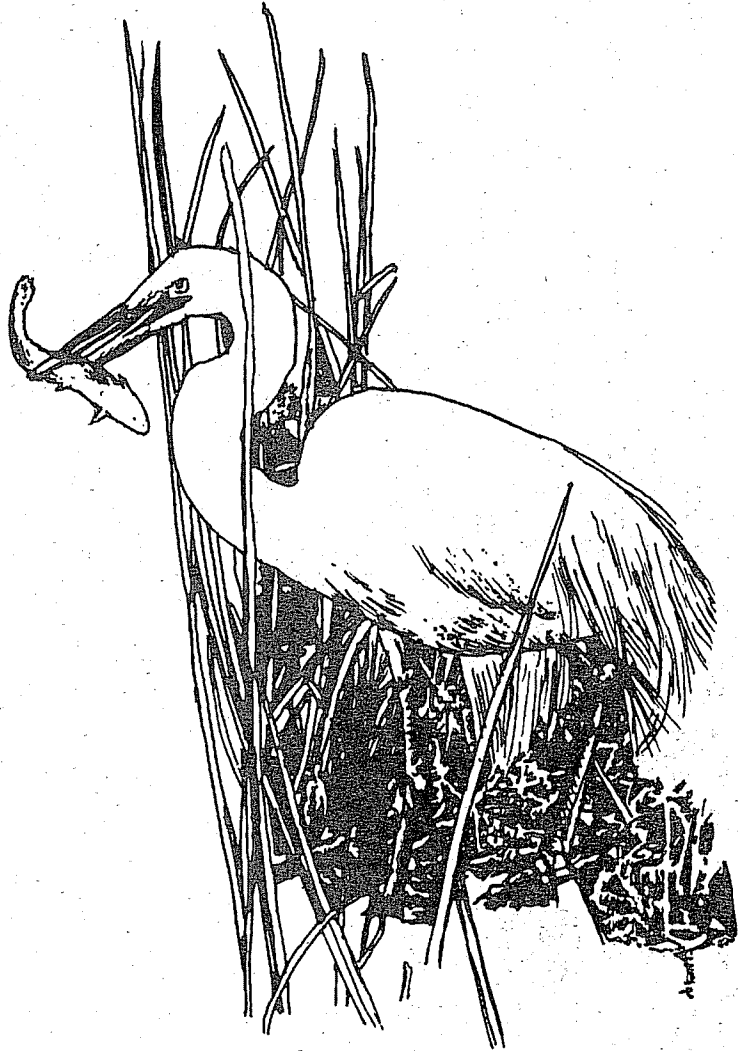


Boundary Study / Environmental Assessment



Barataria Preserve Unit **JEAN LAFITTE**

National Historical Park and Preserve • Louisiana

Boundary Study
Environmental Assessment

October 1996

Barataria Preserve Unit
JEAN LAFITTE

National Historical Park and Preserve • Louisiana

FINDING OF NO SIGNIFICANT IMPACT
for
BOUNDARY STUDY AND ENVIRONMENTAL ASSESSMENT

BARATARIA PRESERVE UNIT
JEAN LAFITTE NATIONAL HISTORICAL PARK AND PRESERVE

AUGUST 1996

I. INTRODUCTION

The National Park Service has prepared a *Final Boundary Study and Environmental Assessment* for the Barataria Preserve Unit of Jean Lafitte National Historical Park and Preserve. This document, in accordance with the National Environmental Policy Act, analyzes the impacts that would result from a potential boundary adjustment that would add approximately 5,800 acres to the current preserve of about 18,400 acres.

The major factor contributing to the decision to re-evaluate the park's boundary configuration was the alignment and construction (ongoing) of the Westwego to Harvey Canal Hurricane Protection Levee by the U.S. Army Corps of Engineers. The levee alters the landscape by delineating the limit of flood protection for urban development. It separates wetlands that are adjacent to the park and subject to storm-driven tidal surges from areas that are protected from tidal flooding. Those wetlands are hydrologically and ecologically linked to the preserve and contribute to the health of the preserve's ecosystem. Also, the levee forms an intermittent alignment with the preserve boundary.

II. BACKGROUND

This document is a substantial revision of the *Draft Boundary Study and Environmental Assessment*, which was distributed for public review in April 1996. The National Park Service received substantial comment from the public during the 90-day review period. Also, there were changes in land ownership and management status of the Couba Island study area since the draft study was written. In weighing the public's concerns and the impact of potential landownership changes, the National Park Service revised its action alternative, alternative 1, and re-evaluated the impacts

in the final environmental assessment.

III. ALTERNATIVES CONSIDERED

Alternative 1 in the *Final Boundary Study and Environmental Assessment* presents a potential boundary adjustment that would include three (out of an original six) study areas--Bayou aux Carpes, Bayou Segnette, and Bayou Verret. These lands are adjacent to the Barataria Preserve and include marsh, swamp, and bottomland hardwood forest. Most of the tracts do not have resident owners, but rather are undeveloped and unoccupied. A few tracts have active oil drilling operations.

Alternative 2 is the "No Action" scenario that analyzed the impacts to the human environment if no boundary adjustment occurred.

IV. PUBLIC INVOLVEMENT

Early planning efforts included three public open houses that were held in October 1994 to introduce the project, its purpose, and solicit public feedback. The study initially examined six study areas for appropriateness and feasibility for inclusion in a potential boundary adjustment. Included as one of those six areas was a wetland portion of a small residential community adjacent to the park called Isle Bonne. The majority of the public response came from Isle Bonne residents and their relatives who were extremely concerned about what they believed to be the potential for losing their land and homes to the federal government.

The *Draft Boundary Study and Environmental Assessment* was placed on public review from April 1 to July 30, 1996. Three public meetings were held in April in the New Orleans metro area. Again, much of the public concern expressed at the meetings revolved around concerns by Isle Bonne residents that their land and way of life was threatened. This concern remained even though their community had been removed from consideration in the draft plan. Other concerns included fears by fishermen, swamp tour businesses, and hunters and trappers, that their access and use of the areas in question would be limited by government regulations. Others in the Westwego area were concerned that bringing the park boundary up to the levee would result in restrictions on land uses inside the levee. The park also received substantial written comments, most of which expressed support for a boundary adjustment. Support

focused on the desire to protect wetlands and water quality, protect cultural resources, provide more educational and recreational opportunities, enhance tourism opportunities, and increase park accessibility.

V. SUMMARY OF IMPACTS/MITIGATION

1. Addition of the three areas would help ensure the long-term health of the preserve's ecosystem and the Barataria estuary by including most of the remaining hydrologically and ecologically-linked land areas within the protection afforded by the National Park System.

2. The adjustment would bring the preserve boundary up to the hurricane levee or a navigable waterway. This would substantially improve the park's ability to identify and patrol its boundary, monitor and protect resources, and gain access to interior park areas for emergency services.

3. Many of public's concerns are mitigated in the final study. All discussion of the Isle Bonné and Highway 3134 study areas has been eliminated from the final study. These areas are not feasible for inclusion in a boundary adjustment.

4. Traditional uses in the three study areas, such as fishing, hunting, trapping, and use of existing recreational camps would continue to occur, with only minor changes.

5. The intrinsic values of the resources and the linkage to Bayou Segnette State Park would increase recreational and educational opportunities; this would further stimulate ecotourism business on the West Bank.

VI. FINDING

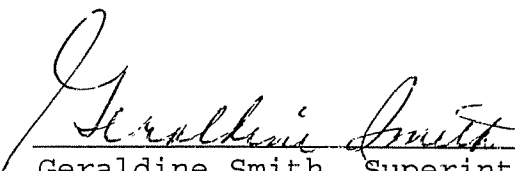
I have determined that an adjustment of the park boundary to include the Bayou aux Carpes, Bayou Segnette, and Bayou Verret study areas, as presented in Alternative 1 of the final *Boundary Study and Environmental Assessment*, would not constitute a significant impact on the environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and the regulations of the Council on Environmental Quality, an environmental impact statement will not be prepared for this

project.

IMPLEMENTATION

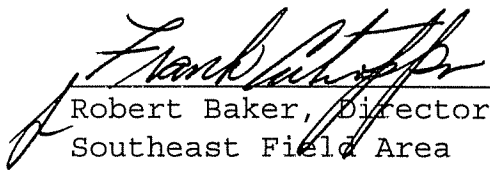
The *Boundary Study and Environmental Assessment* is intended to provide an objective information base for consideration in any future revision of the Barataria Preserve's original legislative boundary. The boundary of the preserve could only be revised through legislation enacted by the U.S. Congress. New legislation might include all, a part, or none of the lands found feasible and appropriate by this study.

Recommended:


Geraldine Smith, Superintendent
Jean Lafitte National Historical
Park and Preserve

Aug. 21, 1996
Date

Approved:


Robert Baker, Director
Southeast Field Area

8/22/96
Date

This final boundary study is intended to provide an objective information base for consideration in any future revision of the Barataria Preserve's original legislative boundary. It is not a land acquisition plan. The boundary of the preserve could only be revised through legislation enacted by the U.S. Congress. New legislation might include all, a part, or none of the lands found feasible and appropriate by this study. If a new boundary for the preserve is created by Congress, the National Park Service would develop a land protection plan to examine all possible means for fulfilling the intent of Congress, which might include measures ranging from purchase of limited easements to fee acquisition of property. Finally, acquisition of easements or lands could only take place if funds for that purpose were appropriated by Congress.

SUMMARY

The boundary for the Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve was established through congressional legislative action in 1978. During the intervening years there have been significant changes in land uses along this original boundary. The single most compelling alteration in land use that prompts this study is the alignment and construction by the U.S. Army Corps of Engineers of the Westwego to Harvey Canal Hurricane Protection Levee. The estimated cost of this flood control project is \$91 million.

The hurricane protection levee's location delineates the limit of flood protection for urban development. It also comprises a major earthwork that now forms an intermittent alignment with the preserve's original boundary. The final levee alignment was the key stimulus in considering a boundary adjustment. However, other adjacent lands with park-related resources were included in the study to ensure a thorough and comprehensive analysis of boundary conditions. Identification of potential land additions to the preserve that could enhance resource integrity and provide greater opportunities for public use and enjoyment were also included.

The *Draft Boundary Study and Environmental Assessment* was released for public review in April 1996. The study evaluated six distinct adjacent wetland areas not currently part of the park that could merit inclusion in a boundary adjustment. Those six study areas were titled: Bayou aux Carpes, Bayou Segnette, Couba Island, Bayou Verret, Highway 3134, and Isle Bonne (see the Barataria Boundary Study Areas map on page 2). The environmental assessment presented two alternatives: alternative 1 described a revised boundary adjustment that included Bayou aux Carpes, Bayou Segnette, Bayou Verret, Couba Island, and the publicly owned portion of Highway 3134. Isle Bonne and the privately owned portion of Highway 3134 were determined not feasible for inclusion because local community concerns outweighed the resource values that these small areas would have contributed. Alternative 2 described a no-action scenario where there would be no change to the current boundary of the Barataria Preserve.

This *Final Boundary Study and Environmental Assessment* has been substantially revised from the draft as the result of public comment and changes in the status of land-

SUMMARY

ownership. In weighing the public's continuing concerns about Isle Bonne and Highway 3134, the National Park Service has removed all discussion of those areas from this final study. Couba Island Study Area has also been removed because the greater part of the island was recently sold to an agency of the state of Louisiana and is being managed by the Louisiana Department of Wildlife and Fisheries. As this is a highly compatible use of that area, there is no need to further pursue its possible inclusion in the park boundary.

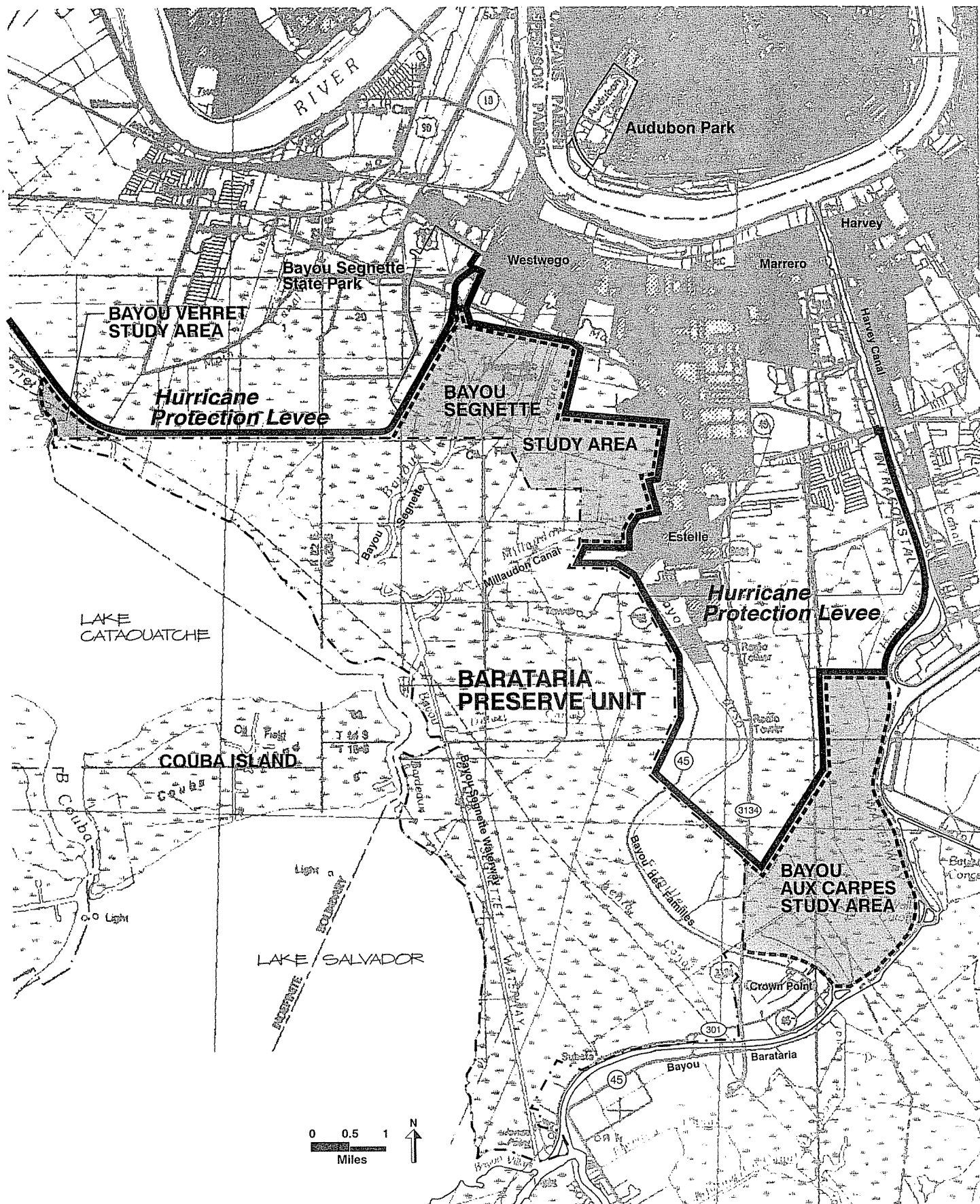
The remaining areas found to be appropriate and feasible for consideration in a boundary adjustment are the following:

- *Bayou aux Carpes Study Area* — The approximately 2,905-acre Bayou aux Carpes area includes wetlands to the east that are hydrologically connected to the preserve and are bounded by the new hurricane protection levee, Harvey Canal, Bayou Barataria, and Bayou des Familles.
- *Bayou Segnette Study Area* — The northernmost potential addition totals approximately 2,728 acres, and extends from the northeast corner of the preserve to the new hurricane protection levee on the north and east and Bayou Segnette State Park on the west. Within the study area are 787 acres of federally owned land that could be transferred to the preserve, at no cost, if the boundary was expanded to include them.
- *Bayou Verret Study Area* — This approximately 161-acre peninsula of marshland adjoins the northwest boundary of the preserve, where Bayou Verret and the Cataouatche Levee Canal meet.

Study areas were evaluated by applying the National Park Service *Criteria for Boundary Adjustments* (1991). Using those criteria, the three study areas noted above, totalling approximately 5,800 acres, were found to be appropriate for inclusion within the boundary of the Barataria Preserve unit, and administration of these new areas was found to be feasible. These areas met the criteria for boundary adjustments and would, by their inclusion, substantially advance the purposes for which Congress created the preserve.

Inclusion of these areas within the boundary would also enhance the effectiveness of interagency management on the larger scale of the upper Barataria basin, delineated as the Lake Salvador Cooperative Resources and Recreation Planning Province in the park's 1995 *General Management Plan*. A revised boundary would also enhance visitor access to, and recreational use of, the Barataria Preserve unit.

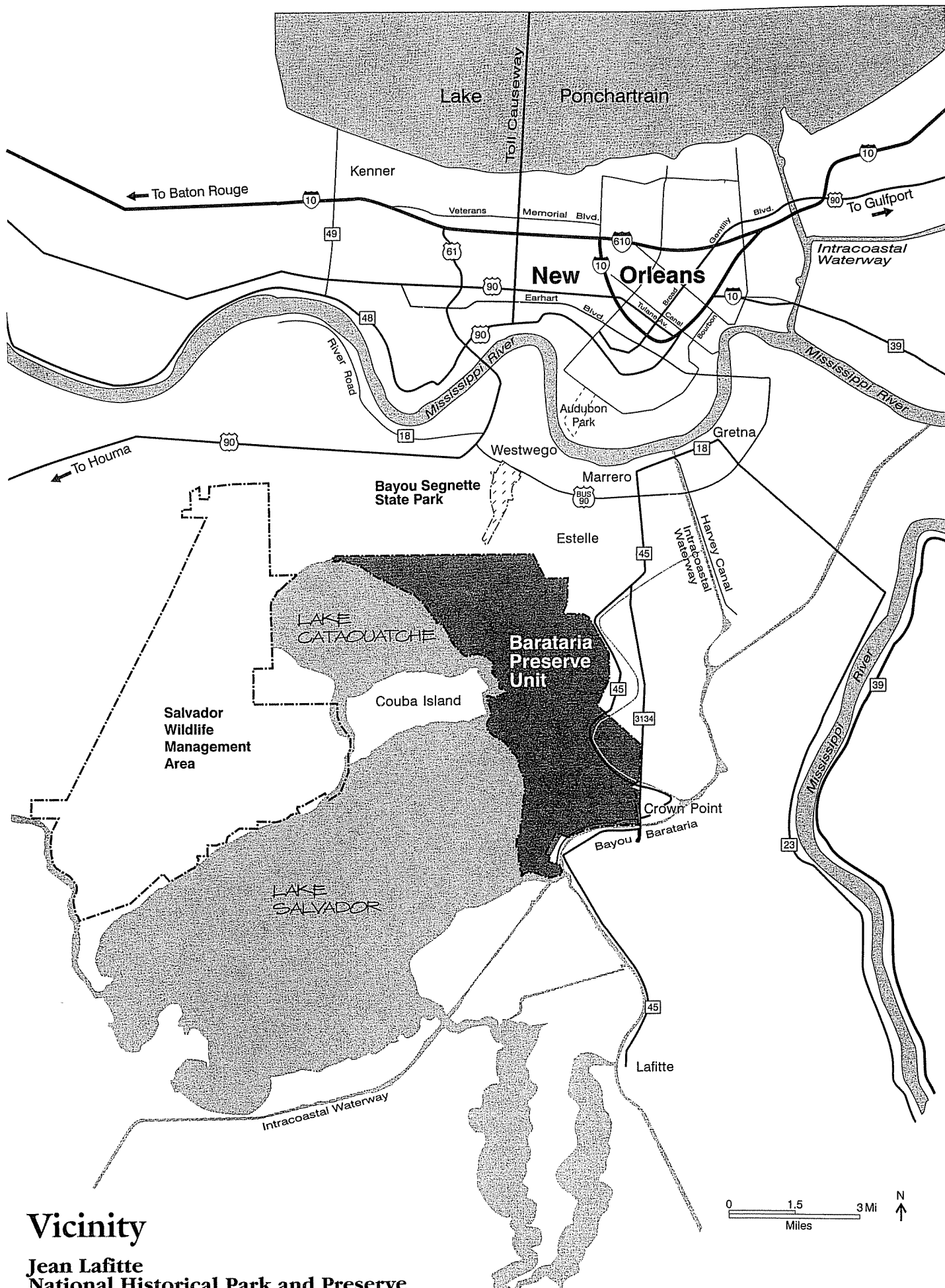
This *Final Boundary Study and Environmental Assessment* also includes new or revised language that responds to public concerns about potential recreational opportunities at the Westwego Airport site; intentions for inclusion or regulation of lands on the drained side of the levee; the dredging of Bayou Segnette Waterway; and pumping stormwater runoff into the park. A comprehensive summary of public comments on the draft study is included in the "Consultation and Coordination" section of the environmental assessment.



- - - - - Park Boundary
- - - - - Potential Boundary Change Alignment
- Study Areas Found Appropriate and Feasible
(Areas found appropriate and feasible for congressional consideration of a potential boundary adjustment.)

Study Findings: Areas found Appropriate and Feasible

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INTRODUCTION

PURPOSE OF THE STUDY

The current boundary of the Barataria Preserve unit was established through the park's 1978 enabling legislation. During the past 16 years, however, major changes in land use and management have taken place, thus creating a compelling need to re-evaluate the park's boundary alignment. Construction by the Army Corps of Engineers of the Westwego to Harvey Canal Hurricane Protection Levee has been the single most significant factor in warranting this study.

The levee alters the landscape in a way that was not envisioned when the park was established in 1978. The levee separates wetlands (subject to storm-driven tidal surges) from residential and undeveloped areas that are protected from tidal flooding. Virtually all lands on the flood side of the protection levee are wetlands regulated under section 404 of the Clean Water Act and the Louisiana Coastal Zone Management Program. These wetlands are hydrologically and ecologically linked to the preserve and contribute to the health and vitality of the preserve's ecosystem. Any future development within these wetlands could adversely affect the integrity of the park's ecosystem, and would be subject to the risk of storm surge and hurricane flooding.

The purpose of this boundary study is to determine if an expansion of the authorized boundary of the Barataria Preserve unit is appropriate and feasible. Lands adjacent to the preserve were evaluated for potential addition on the basis of issues, opportunities, and resource values associated with each study area.

The general area under study is defined by the Harvey Canal and Bayou Barataria on the east and south; Bayou Villars on the south; Lake Salvador, Bayou Couba, Lake Cataouatche, and Bayou Verret on the west;

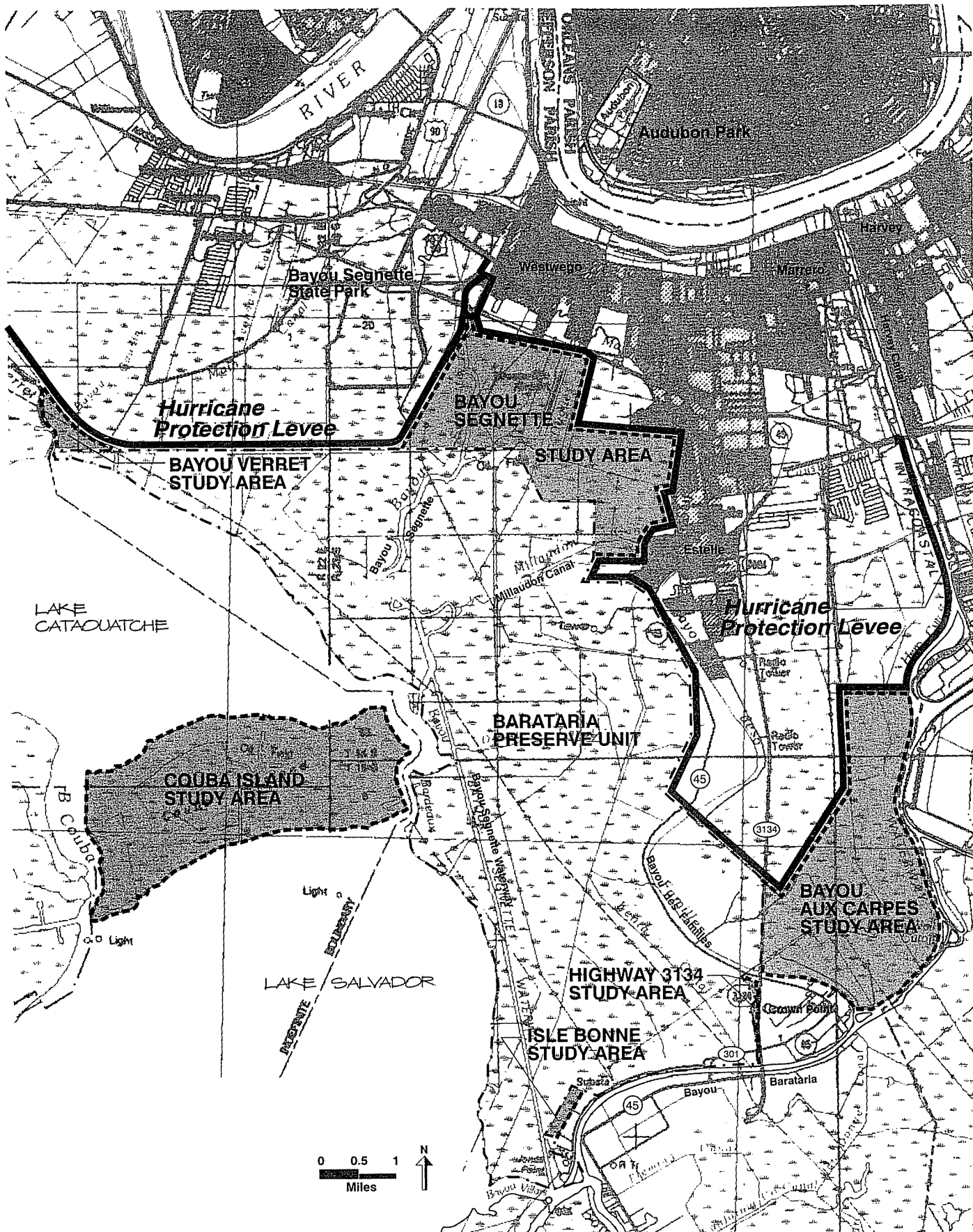
and the hurricane protection levees on the north (see the Barataria Boundary Study Areas map).

The concept of expanding the boundary has been under discussion for several years as part of the planning stages for the hurricane protection levee. In 1989, the Jefferson Parish Planning Department and the parish's Economic Development Commission recommended extending the northern half of the preserve and adding to the park the lands known as Bayou aux Carpes. A boundary study for the Barataria Preserve unit is also called for in the park's *General Management Plan*. In addition, practical reasons for expanding the boundary were identified by the National Park Service in a technical assistance report to the Army Corps of Engineers. The report considered potential development of a recreation corridor along adjacent portions of the hurricane protection levee.

This revised final report presents the resource analysis of the three study areas found to be appropriate and feasible for consideration in a boundary adjustment. In the "Resource Analysis and Findings" section, each study area is described and evaluated using the National Park Service *Criteria for Boundary Adjustments* (1991).

BOUNDARY STUDY PROCESS

The boundary study has been conducted by a team of National Park Service staff from Jean Lafitte National Historical Park and Preserve, the Southwest Regional Office, and the Denver Service Center, with contributions and cooperation from agencies, organizations, and individuals primarily in the greater New Orleans area. Included is an environmental assessment that considers the impacts of a boundary adjustment on natural and cultural resources and on the socio-economic character of surrounding



Barataria Boundary Study Areas

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- Park Boundary
- Potential Boundary Change Alignment
- Study Areas

communities. Calculation of land-cost estimates was not a part of this process. Such detailed estimates would necessarily be developed in the event there is consideration of legislative action to authorize a boundary adjustment.

Major steps in the boundary study process have included the following:

identifying issues and concerns related to the park boundary and the boundary study

evaluating the resources of the six study areas in terms of appropriateness for inclusion in the boundary based on the National Park Service *Criteria for Boundary Adjustments* (1991)

examining alternative configurations for a boundary adjustment and evaluating the environmental effects of these alternatives in the draft study and environmental assessment

providing opportunities for public involvement and using public input to improve the study

Public Involvement Steps

- A newsletter announcing the study and public meetings was mailed to over 12,000 individuals and organizations.
- A series of public meetings was held in adjacent communities in October 1994. They were attended by landowners, local officials, and a range of interested citizens and organizations.
- Follow-up meetings were held at the request of landowner groups or landowner representatives.
- Consultations were held with members of the Chitimachas and Houmas communities.

- Briefings were given to local, state, and congressional officials on the status of the boundary study.
- The draft study was mailed to over 400 people and was available at local libraries, the park, and as handouts at public meetings. The original review period of 30 days was extended an additional 60 days in response to public comment, and ended on June 30, 1996.
- Three public meetings were held in April 1996. They were attended by landowners, local officials, local business people, and a range of interested citizens and organizations.

For a more detailed discussion of the public involvement effort and a summary of public comments, please refer to the "Consultation and Coordination" section in the environmental assessment.

Selection of Study Areas

During the study's initial stages, study areas were identified based on the following characteristics:

- contributes to the fulfillment of the purposes for which the preserve was created
- is contiguous with, or adjacent to, the existing boundary
- consists primarily of wetlands, hydrologically and ecologically connected to those of the preserve
- is essentially free from development and is unprotected by the hurricane protection levee system currently under construction
- provides enhanced opportunities for visitor or National Park Service use and access
- provides clearly defined and manageable boundaries

INTRODUCTION

After preliminary analysis by National Park Service staff, and public input during the scoping process, six areas, totaling approximately 9,368 acres, were chosen for study:

- Bayou aux Carpes — est. 2,905 acres east of the boundary
- Bayou Segnette — est. 2,728 acres north of the boundary
- Couba Island — est. 3,475 acres west of the boundary
- Bayou Verret — est. 161 acres northwest of the boundary
- Highway 3134 — est. 41 acres southeast of the boundary
- Isle Bonne — est. 58 acres south of the boundary

After final analysis by the National Park Service staff and public input on the draft boundary study, three study areas were removed from further consideration. Community concerns over the inclusion of Isle Bonne and the privately owned portion of the Highway 3134 Study Areas outweighed the resource and management values those small areas would ultimately contribute to the preserve. The publicly owned portion of the Highway 3134 Study Area remains a feasible and appropriate parcel for potential future inclusion in the park boundary. It is state owned and no transfer of ownership is sought. Inclusion within the boundary would improve boundary recognition and would allow an opportunity for cooperation with the state for law enforcement and maintenance. Because of its small acreage, it could be addressed as a minor boundary adjustment if any future legislation was passed. Couba Island ownership transferred to an agency of the state of Louisiana for management as a wildlife management area, eliminating any need to consider it further.

The National Park Service determined that the Bayou Verret, Bayou Segnette, and

Bayou aux Carpes Study Areas had resource and management values of enough significance to merit their continued inclusion in this *Final Boundary Study* even though some opposition to these areas' inclusion has been expressed.

EVALUATION CRITERIA

Criteria for boundary adjustments to units of the national park system appear in chapter 2 of National Park Service *Management Policies* (National Park Service 1988) and are applied in accordance with a supplement to National Park Service *Planning Process Guidelines* (National Park Service 1980a), dated December 1991. According to these criteria, boundary revisions may be recommended for the following reasons:

to include significant resources or opportunities for public enjoyment related to the purposes of the park

to address such operational and management issues as access and boundary identification by topographic or other natural features or roads

to protect park resources critical to fulfilling the park's purposes

This section of National Park Service *Management Policies* also states that boundary revision recommendations will be preceded by the following determinations:

it will be feasible to administer the added lands, considering size, configuration, ownership, costs, and other factors

other alternatives for management and resource protection are not adequate

In determining whether an area is appropriate for consideration, the resource analyses need to meet at least one of the first three criteria, and both of the last two criteria.

Upon completion of this study, implementation of its findings at any level would require action by Congress to establish a revised boundary and authorize and appropriate funds for land acquisition by the National Park Service. Once congressionally authorized, the National Park Service would initiate the plans and administrative actions necessary to protect and manage any additional lands included in the park.

The goal of this planning and public involvement process has been to improve the quality of the boundary study by ensuring that it takes into consideration a wide range of public concerns and, at the same time, protects the resource values for which Congress established the Barataria Preserve unit. The final boundary study therefore represents the culmination of thorough evaluation and consideration of public comment and concludes the boundary study process for the Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve.

BACKGROUND

Public Law 95-625 authorized the establishment of Jean Lafitte National Historical Park and Preserve in 1978 to preserve "significant examples of natural and historical resources of the Mississippi Delta region and to provide for their interpretation in such a manner as to portray the development of cultural diversity in the region." The park consists of a variety of units distributed throughout the Delta region of Louisiana.

The Barataria Preserve unit is the only unit of Jean Lafitte National Historical Park and Preserve with a substantial land base. It is managed primarily as a natural area, which includes approximately 18,437 acres. An overview of the Barataria area is presented below. For a more complete description of the resources, see the "Affected Environment" section.

The study areas are within the modern delta of the Mississippi River and have very low topographic relief. Marshes average from 0.5 to 1.0 feet above mean sea level in elevation. The natural levee along Bayou des Familles, formerly a major distributary of the Mississippi River, forms the backbone of the Barataria area, averaging about 4.5 feet above mean sea level. The landscape consists of ponds, bayous, marshes, baldcypress-water tupelo swamps, and bottomland hardwood forests on natural levees. All of the study area is hydrologically, geologically, and ecologically part of the same landscape as the preserve. These wetlands are an important part of the larger Barataria Estuary and are highly productive for both fish and wildlife.

Natural levees along bayous contain shell middens and other evidence of prehistoric and historic human occupation. Past residents lived in isolated settlements and, over the years, included American Indians; Isleños from the Canary Islands; and people of European, African, and Asian ancestry who continue to harvest the bounty of the wetlands.

Impacts from European land use began with small settlements in the 18th century, including small-scale farming and timber harvesting. The 19th century saw the development of plantation agriculture on the natural levees. Commercial logging of the swamps began in earnest in the late 19th century. During the 20th century, land development schemes, as well as oil and gas exploration and production, have left a network of canals. There are 50 oil and gas wells within the study areas; of these, 40 are plugged and abandoned, two are inactive, seven are active, and one is being used as an injection well for brine disposal. According to Louisiana law, mineral rights are not severable and remain with the surface owner, unless the land is purchased by a government entity. In the case of governmental land acquisition, the mineral rights are retained by the original private owner.

INTRODUCTION

Owners often lease mineral rights to others for exploration and production.

All resources and residents in the Barataria area, as in the rest of Louisiana's Mississippi River Delta region, are affected by regional and local deltaic processes. The Delta is a fluid landscape created by the dynamic relationship between alluviation (i.e., the deposition of sediments during periodic floods) and subsidence as layers of sediments compact. In an effort to control flooding, European settlers in the region began building artificial levees along the Mississippi River and other water courses, unwittingly reducing the alluviation side of the equation while subsidence continued. The net result is that the Barataria area — and much of the region — is slowly disappearing. State and federal agencies are only now realizing the ecological and economic consequences of this dynamic shift. In the Barataria Preserve unit, regional subsidence has increased shoreline erosion along Lake Salvador and converted freshwater marshes to intermediate marshes as salinity increased, causing other shifts in vegetation. Consequently, the Barataria wetlands are a slowly dwindling resource. State and federal agencies are beginning to explore cooperative ways of simulating natural hydrology and alluviation in order to restore part of the balance.

The Barataria Preserve unit is in Jefferson Parish, Louisiana, approximately 10 miles south of New Orleans, near the communities of Gretna, Harvey, Marrero, and Westwego, an area collectively called the West Bank. Over the last few decades, the West Bank has experienced rapid residential and commercial development as a suburb of New Orleans. Land development in an active

delta has many special problems, and the low-lying West Bank is particularly vulnerable to flooding during hurricanes. In the past, hurricanes pushed a storm surge of water out of the Gulf of Mexico and Lake Salvador, flooding West Bank communities.

To meet this threat, in 1986 the Army Corps of Engineers approved a 26-mile-long hurricane protection levee from Westwego to the Harvey Canal on the south side of the West Bank. It was clear from the start of the project that the alignment of the hurricane protection levee would set the limit of protected development for the area. The final settlement of the hurricane protection levee's alignment (after over a decade of public controversy) and the levee's ongoing construction have created new conditions and opportunities in the vicinity of the preserve. For instance, the National Park Service is currently advising the Army Corps of Engineers on the design of a recreational trail system using the levee right-of-way as a corridor. If implemented, the trail system would be managed by local entities and would tie into outdoor recreational opportunities provided at the preserve, Bayou Segnette State Park, and local communities.

The hurricane protection levee is a new and obvious landscape feature that delineates the limit of flood protection for urban development. It could also serve as the boundary of wetlands that would be accessible to the public and protected from further development. With continuing changes in the Barataria Preserve unit wrought by regional subsidence and increasing urbanization, it could be timely to broaden the resource base to include more of the Barataria Estuary. This study explores those possibilities.

Resource Analysis and Findings



BAYOU AUX CARPES STUDY AREA

DESCRIPTION

(Note: All distance and area measurements used in the text of this study are estimates).

The Bayou aux Carpes Study Area encompasses most of the swamp basin drained by Bayou aux Carpes, situated between Bayou des Familles and Bayou Barataria. Part of this basin is within the Westwego to Harvey Canal Hurricane Protection Levee, but the study area itself remains an intact and functioning wetland outside the levee system. It includes a portion of the east natural levee of Bayou des Familles, as well as the Highway 3134 corridor. Mature forests, abundant wildlife, good water quality, and picturesque scenery characterize the area. The study area is shown on the Bayou aux Carpes Study Area Ownership Pattern map.

The Bayou aux Carpes area is separated from the preserve by Louisiana Highway 3134, constructed in the mid-1970s, shortly before the park was created in 1978. It shares with the preserve both its natural system and its cultural past. Cultural influences have included prehistoric settlement by American Indians, an 18th-century settlement of Canary Islanders, and 19th-century plantation agriculture. Baldcypress and water tupelo trees were logged at the turn of the century, and a historic logging canal survives from this era. Starting in the 1950s, about 2.25 miles of oil field canals were cut, a 0.75-mile oil field road was built, and a 2.25-mile pipeline canal was dredged. None of these facilities are currently active. Although the canals had localized impacts, the hydrology of the area was not greatly disrupted. The study area also includes about 100 acres of pasture.

In 1964 the Army Corps of Engineers approved a flood control project to encompass the Bayou aux Carpes site in a levee, install a pump station to drain the wetlands, and then fill the area for development. Initial

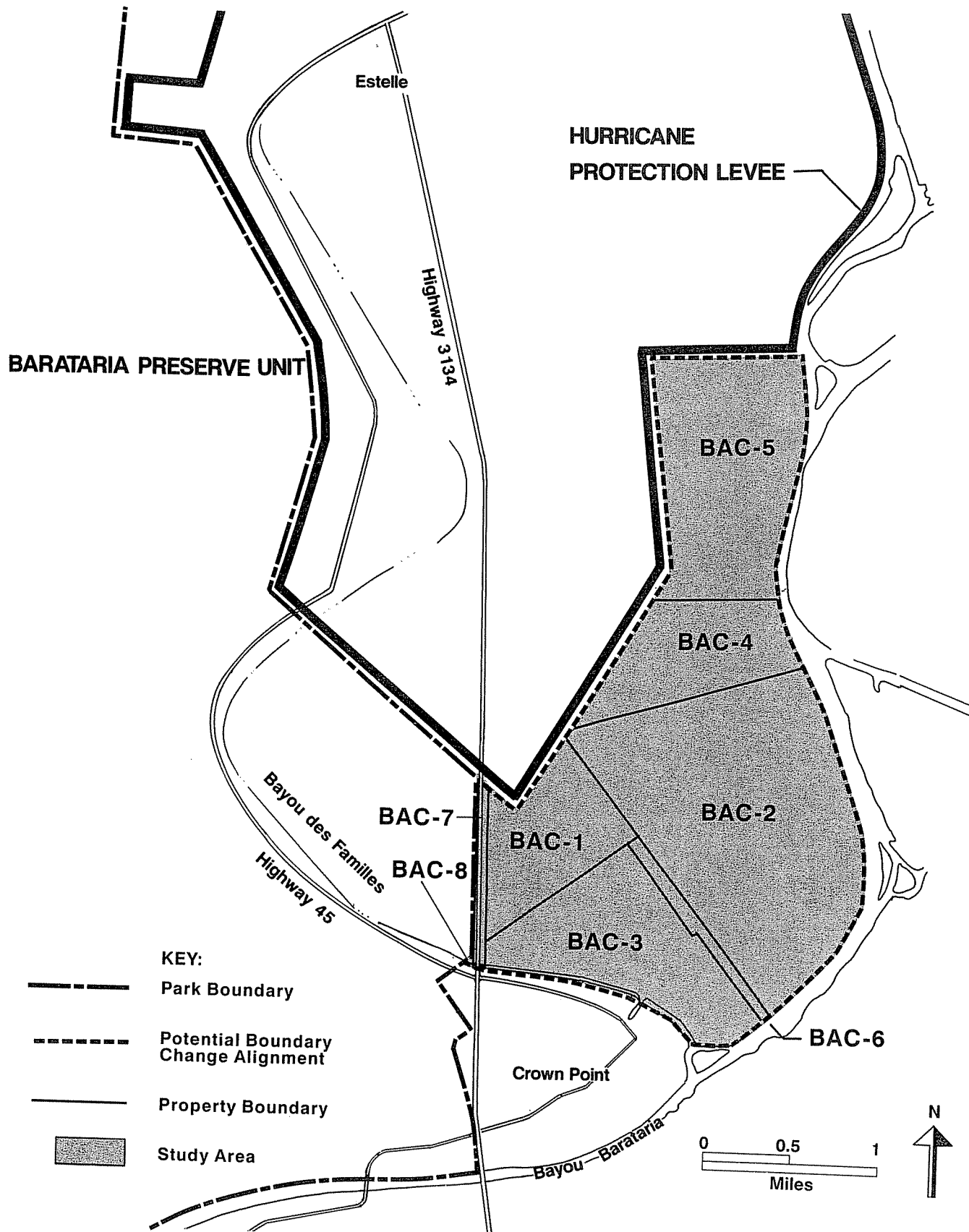
levee construction enclosed the site and plugged the natural mouth of the bayou. Fortunately, a gap was left in the levee that allowed for water exchange with Bayou Barataria, and, consequently, the area's hydrology remained relatively intact. Before further construction could be carried out on the levee in the 1970s, new environmental legislation and regulations changed the political and legal environment for the drainage project. After a series of regulatory reviews and court actions, the Environmental Protection Agency declared the Bayou aux Carpes area to be of significant value as a wetland. As a result, special restrictions were placed on disposal operations within the area under section 404(c) of the Clean Water Act (Environmental Protection Agency 1985).

EVALUATION CRITERIA

Significant Resources or Opportunities for Public Enjoyment Related to The Purposes of the Park

Natural Resource Values. The Bayou aux Carpes Study Area is part of the same ecosystem as that of the Barataria Preserve unit. The 1985 final determination of the Environmental Protection Agency described the Bayou aux Carpes area as containing bottomland hardwoods, wooded swamps, freshwater marshes, ponds, and open waterways (Environmental Protection Agency 1985). Studies of the area have found the following:

- Bayou aux Carpes is hydrologically linked to 600 acres of bottomland hardwood forest and swamp in the Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve; disturbance of flow within the Bayou aux Carpes drainage could adversely impact the park's resources.



Bayou aux Carpes Study Area Ownership Pattern

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- The Bayou aux Carpes Study Area is a source of organic carbon and nitrogen for Bayou Barataria and thus contributes important nutrients necessary to maintain the Barataria Estuary.
- The study area supports numerous aquatic organisms. Surveys found estuarine species such as bay anchovy, striped mullet, threadfin shad, tidewater silverside, and blue crab; 15 species of freshwater fishes, including channel and blue catfish, sunfish, bass, and others important to sport and commercial fisheries; and 27 taxa of microinvertebrates. Juvenile forms of crawfish, blue crabs, and bay anchovies were present, indicating that the area is a nursery for these species.
- At least 70 wildlife species were observed during brief surveys, including nine amphibian species, 10 reptiles, 45 birds, and 6 mammals. The U.S. Fish and Wildlife Service reported high habitat values for the area. Species diversity should be equivalent to the adjacent preserve, where 380 species of vertebrate animals have been identified.
- The study area serves as a water retention basin, seasonally receiving rainfall and water from Bayou Barataria and slowly releasing the water to downstream systems. The wetland also absorbs pollutants and excessive nutrients from urban runoff into Bayou Barataria and assimilates inorganic nitrogen, thereby improving water quality in the area.
- Publicly accessible waterways in the Bayou aux Carpes Study Area provide recreational opportunities (see discussion below).
- There is an active bald eagle nest within the site; bald eagles are federally listed as threatened.
- Most of the study area is classified as wetland and is within the 100-year floodplain from hurricane storm surge. Approximately 15% is open water and freshwater marsh, 60% is swamp, and 25% is bottomland hardwoods on natural levees and spoil banks, some of which are comprised of cleared pasture. A high diversity of plants can be found, as in the adjacent preserve, where more than 340 native species have been identified.
- The marsh and wooded wetlands serve as valuable feeding, resting, and nesting habitats for "numerous species of game and non-game animals and commercially important fur-bearers" (Army Corps of Engineers 1986). In short, the Bayou aux Carpes area not only supports wildlife, but also contributes to traditional hunting, fishing, and trapping activities by the community. These activities provide food, recreation, and, for some, income. Expansion of the preserve's boundary could help ensure the availability of these types of opportunities by monitoring fish and wildlife resources while providing for public access and controlled harvesting.

Cultural Resource Values. The Bayou aux Carpes Study Area has not been systematically surveyed for cultural resources. One unnumbered prehistoric site is present at the confluence of Bayou des Familles and Bayou Barataria. It has not been surveyed, and little information is available. Aerial photographs reveal that traces of the historic field system, dating to the 18th century, are still present on the natural levee along Bayou des Familles. The pattern of late 18th-century house sites already discovered within the preserve is virtually certain to extend along the bayou into the study area. Nineteenth-century plantation-era remains are anticipated as well. A late 19th-century to early 20th-century logging canal is present just east of the Bayou des Familles ridge. There is high overall potential for the discovery of additional archeological sites, both historic and prehistoric.

Recreational Opportunities. Current recreational use of the area includes commercial boat tours, limited boating, and fishing on publicly accessible waterways. Lands other than natural waterways are not open for public use. Access for hunting and trapping is controlled by the landowners. Bounded on the west by Louisiana Highway 3134, on the north by the proposed Westwego to Harvey Canal Hurricane Protection Levee Recreation Corridor, and on the east by Bayou Barataria, the study area has good potential for public access. Access could be provided to the study area interior from Highway 3134 by way of waterways and limited existing roads.

Interpretive opportunities at Bayou aux Carpes could expose visitors to the wetland ecology of Louisiana's Mississippi River Delta region. The contributions of wetlands to the region's economy and the high cost, both in economic and aesthetic terms, of wetland disappearance could be effectively interpreted in this area. Special opportunities exist for interpretation of the human story at Bayou aux Carpes. Topics include the use and enjoyment of forests (logging, forest recreation), waterways (transportation on Harvey Canal, Bayou Barataria, and the Intracoastal Waterway), farming, oil and gas exploration, and wildlife.

The study area lands are privately owned, so public access to the area is limited to state-owned waterways. The public has access to fishing and boating in state waters, but hunting, trapping, and any other land-based activities require the property owner's permission.

Operational and Management Issues

A resource management goal of the preserve is to reintroduce natural water flows in the preserve's waterways. The opportunity exists to prevent future hydrological disruption of wetlands already within the boundary and to reintroduce and maintain more natural water flows under the highway, thus

protecting and enhancing the preserve's ecosystem.

The one parcel (BAC-8) that lies to the west of Highway 3134 is at the conjunction of Bayou des Familles, the highway, and a utility corridor. The tract is mostly unimproved, although part of it was filled by borrow material from the adjoining highway. The tract supports bottomland hardwood vegetation typical of the Bayou des Familles natural levee and some swamp vegetation at the bayou edge. Because the site fronts Highway 3134, and because most of it is fill and not wetlands, a permit for development might not be needed. Inappropriate development of the site would be an intrusion on the landscape and inconsistent with the purposes of the preserve.

The hurricane protection levee and the Bayou Barataria/Harvey Canal would make a park boundary that is clearly identifiable and relatively easy to patrol. As part of the park boundary, the study area would be protected from inappropriate development.

Protection of Park Resources Critical to Fulfilling the Park's Purposes

Although a considerable degree of protection against major filling has been provided by the Environmental Protection Agency under the Clean Water Act, and though the area is regulated as part of the state's coastal zone, the potential for disruption of drainage patterns from inappropriate development remains a threat to a 600-acre area of the preserve. Acquisition of sufficient interests in the Bayou aux Carpes area could ensure protection of this vulnerable portion of the park, in the event that regulations are changed.

Within the ecosystem of which the Barataria Preserve unit is a part — the Lake Salvador and Bayou Barataria drainages of the upper Barataria Estuary — most of the original forest has been lost to development. Of the area's remaining contiguous forest, most is outside the preserve's present boundary. The

forests of the Bayou aux Carpes Study Area comprise about 30% of that contiguous forest. Many forest-dwelling species of invertebrates, amphibians, reptiles, birds (including many declining neotropical migrants), and mammals require large blocks of forest to maintain viable populations. Loss of these forests to logging, development, or even inadequate management practices would have serious long-term effects on the biological diversity of the preserve.

Feasibility of Administering Additional Lands

The size (approximately 2,905 acres) and configuration of the Bayou aux Carpes area pose no major management problems. In fact, the Bayou aux Carpes area, situated between the hurricane protection levee and Bayou Barataria/Harvey Canal, is a clearly identifiable and manageable tract.

Landownership is shown on the Bayou aux Carpes Ownership Pattern map and in table 1. There are nine plugged petroleum wells within the Bayou aux Carpes Study Area. No oil or gas production is currently underway.

The National Park Service conducted a preliminary survey for hazardous materials and concluded that it is unlikely such materials are on the site.

Alternatives for Others to Manage and Protect Resources

The Environmental Protection Agency restrictions on disposal in the Bayou aux Carpes Study Area may continue to prevent major development projects dependent on filling, but it may not prevent inappropriate development on nonwetland areas.

A current memorandum of understanding between Jefferson Parish and the Environmental Protection Agency establishes a "prohibited services area" along the Highway 3134 corridor that prevents new developments from connecting with a water main. The arrangement would not prevent private developers from obtaining water from alternative sources.

FINDINGS

In summary, the Bayou aux Carpes Study Area meets the criteria for boundary adjustments in the following ways:

It has exemplary natural resource values and has been designated by the Environmental Protection Agency as a wetland of significant value.

It contains a valuable heritage of natural and cultural resources that could be made available for public enjoyment and education through boat tours, interpretive programs, and traditional hunting, fishing, and trapping.

The health and environmental stability of the current preserve are, in part, dependent on the continued health of the Bayou aux Carpes area because of its hydrologic and ecologic influences.

The levee and waterways create well-defined and distinct borders that would allow for ease in monitoring and accessing the site.

The size, configuration, and ownership pattern would make it relatively feasible to manage, once appropriate interests were procured.

TABLE 1: BAYOU AUX CARPES - PROPERTY SUMMARY

Tract No. Owner	Acres	Resources	Conditions/Issues
BAC-1 Molaison, et al.	(est.) 283.00	Swamp with natural levee and backslope bottomland hardwoods	Two plugged oil wells; two canals; one abandoned oil field road
BAC-2 Molaison, et al.	(est.) 1,131.00	Marsh, swamp, and limited bottomland hardwoods	Six plugged oil wells; five oil exploration canals; one aban- doned gas pipeline and canal; one abandoned oil field road
BAC-3 Creppel, et al.	(est.) 399.00	Natural levee bottomland hard- woods; swamp; historic logging canal and agricultural features; prehistoric archeological site	A house, a mobile home, and outbuildings; 100 acres of pasture; tour boat staging facilities — four wood-frame structures, picnic area, pilings for securing boats; one plugged oil well and access canal; an abandoned lumbering canal; a cabin used as an attraction for boat tours
BAC-4 Harvey, et al.	(est.) 534.00	Swamp with limited bottom- land hardwoods; bald eagle nest	Unimproved, except traversed by gas pipeline right-of-way (not active)
BAC-5 Marrero Land and Improvement Assoc.	(est.) 475.00	Marsh and swamp, with lim- ited bottomland hardwoods	Unimproved, except traversed by gas pipeline right-of-way (not active)
BAC-6 Marrero Land and Improvement Assoc.	(est.) 45.00	Swamp with limited bottom- land hardwoods	Unimproved, except traversed by an oil exploration canal; access road ends on property
BAC-7 State of Louisiana Department of Transportation and Development	(est.) 37.39	Swamp and bottomland hard- woods; open-water aquatic habitat; filled highway corridor with roadside vegetation	Improved, with a divided four- lane highway, borrow canals, and culverts
BAC-8 Schreiber, et ux.	(est.) 0.79	Predominantly bottomland hardwoods with some cypress swamp and filled land	Unimproved, other than fill
Total approximately 2,905 acres			

BAYOU SEGNETTE STUDY AREA

DESCRIPTION

The final alignment of the Westwego to Harvey Canal Hurricane Protection Levee left approximately 2,728 acres between the levee and the Barataria Preserve unit. This area is referred to in this report as the Bayou Segnette Study Area. Almost two-thirds of the study area is baldcypress-water tupelo swamp. The remaining one-third, along Bayou Segnette, is a highly diverse freshwater marsh. On the north and east, the area lies adjacent to commercial and residential sections of Westwego and Marrero — suburbs of New Orleans. The study area is shown on the Bayou Segnette Study Area Ownership Pattern map.

Bayou Segnette State Park is adjacent to the western edge of the study area. The 580-acre state park has rental cabins overlooking the marsh and includes such nature-oriented activities as guided walks, naturalist programs, camping, and picnicking. It also provides facilities for active recreation, including a large wave pool.

About 250 acres (or one-tenth) of this study area have been filled and developed and are therefore highly vulnerable to future development. By expanding the existing preserve boundary to include the entire study area, the land would be protected from inappropriate development and would link the Barataria Preserve unit with Bayou Segnette State Park.

EVALUATION CRITERIA

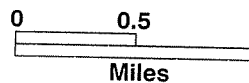
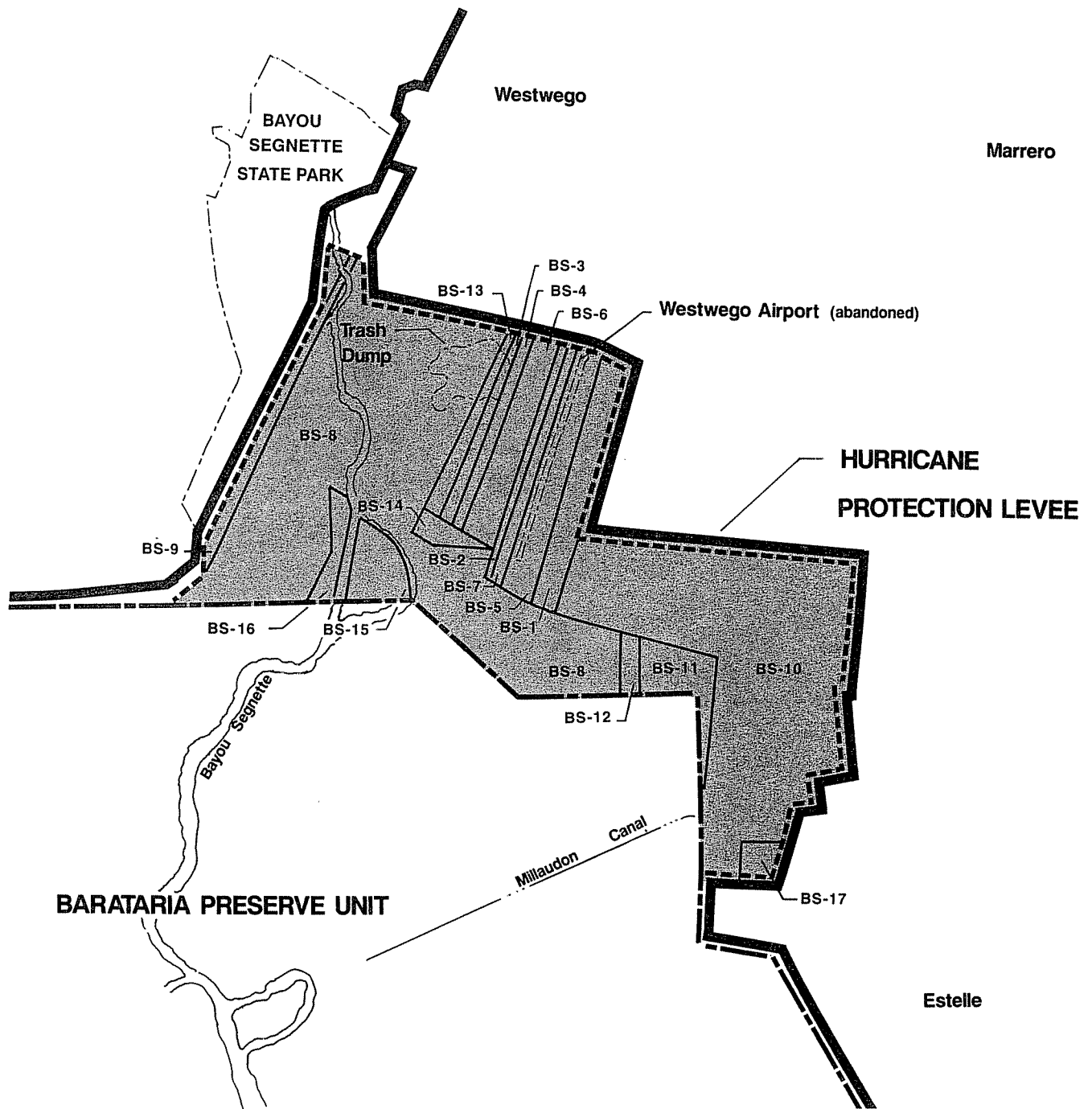
Significant Resources or Opportunities for Public Enjoyment Related to the Purposes of the Park

Natural Resource Values. The study area is a continuation of the ecosystem and hydrology occurring in the Barataria Preserve unit. The eastern two-thirds of the study area contain one of the largest contiguous baldcypress swamps in the vicinity of the preserve and sustain a high population of wildlife.

The western one-third is primarily freshwater marsh. The area contributes organic carbon and nitrogen, supports many estuarine organisms, serves as a nursery for some species, and is prime wildlife and fishery habitat. Biological diversity is equivalent to the adjacent preserve, where 340 species of native vascular plants and 380 species of vertebrates have been recorded to date.

The central portion of the study area has been significantly impacted in the past 35 years. This area includes the Bayou Segnette Oil Field, the abandoned Westwego Airport and adjacent abandoned trailer park (totaling about 130 acres of filled land), and a former dump for household trash and construction debris (about 120 acres of filled land). The airport and dump are no longer in operation, but the filled land has development potential and could be made accessible from Lapalco Boulevard after the new levee is completed. Preliminary surveys indicate that the airport tract could contain hazardous materials. There are also concerns about the quality of fill material used at this site and at the dump. More detailed investigations would be necessary to determine if such materials are present.

Water quality in Bayou Segnette and the canals is often poor, with persistently low available oxygen (i.e., low dissolved oxygen concentrations and high biochemical oxygen demands); high nitrogen and phosphorus levels; and high fecal bacteria densities (Army Corps of Engineers 1986; National Park Service 1992). This condition appears to be related to sluggish circulation of water in the canals combined with undertreated stormwater runoff from adjoining urban and industrial lands; sewage from inadequate septic systems at recreational camps; and algal blooms caused by high nutrient concentrations. The pattern of water quality problems across the study area is unclear. It is probable that water pollution is largely concentrated in the canals and is less of a problem in adjoining wetlands, both because stormwater runoff and septic effluents are concentrated in deeper canals and because



- KEY:**
- Park Boundary
 - Potential Boundary Change Alignment
 - Property Boundary
 - Study Area

Bayou Segnette Study Area Ownership Pattern

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wetlands act as efficient water filtration systems and nutrient sinks. Water quality studies in the preserve indicate that conditions improve farther south, away from the canal pump stations.

Cultural Resource Values. The study area has not been systematically surveyed for archeological resources. There are currently no known archeological sites. Most of the study area is swamp and marsh, the remainder being disturbed filled sites and bottom-land hardwoods. The hardwood habitat is almost entirely confined to manmade spoil banks along canals and dredged bayous, and to filled swamp areas associated with the airport and landfill. One small area of natural levee occurs in the extreme southeast corner. There is limited potential for the discovery of additional prehistoric archeological sites. The study area contains several period canals, dating to the mid-19th century, some of which have not been widened or deepened in the 20th century.

Recreational Opportunities. Recreational activities in this study area are based largely on the region's natural resources. Tourism has become a major economic factor in neighboring communities. Several commercial boat tours now use the area. The trend is toward increasing recreational use, from both tourism and expanding residential development of the West Bank. As development expands away from the river and the resource base declines, the recreational potential of undeveloped, natural areas will increase. The decreasing public accessibility to swamp and marsh areas in the region enhances the value of such protected areas as Bayou Segnette State Park, the Barataria Preserve, and the remaining natural environments between them. Linking the Barataria Preserve unit with Bayou Segnette State Park and a potential recreation corridor along the Westwego to Harvey Canal Hurricane Protection Levee would greatly enhance recreational opportunities. Protection of natural areas, as well as provision for recreational use of them, is essential in offering residents and visitors alike a desirable quality of life.

Most of the study area lands are privately owned, so public access to the area is mostly

limited to state-owned waterways. The public has access to fishing and boating in state waters, but hunting, trapping, and any other land-based activities require the property owner's permission. Four camps (one a permanent residence, another currently unoccupied and in poor repair) are located in the study area. Improved public access to the study area would provide a variety of recreational opportunities, exposing visitors to geographical, ecological, and cultural cross-sections of the delta environment. The area provides many examples of natural environments — and human uses of Louisiana's Mississippi River Delta region — that create excellent opportunities for interpreting the primary stories of Jean Lafitte National Historical Park and Preserve.

Protection of the area would provide visitors with additional opportunities to experience resources on commercial tours or private boats. More opportunities for picnicking, canoeing, and hiking could be made available, as could wildlife observation and photography. Interpretation could illustrate how natural and cultural histories are mutually influenced over time. Traditional hunting and trapping activities and camp operation would continue in accordance with park regulations.

In 1995 the city of Westwego and others proposed the development of a regional wetland park called the WHARF, a major recreational complex for people with disabilities. The site is proposed at the abandoned Westwego Airport (parcel BS-5). This ambitious project is currently only in the planning stages but is reflective of the increasing interest and demand for greater public accessibility and recreational opportunities in the wetland environment of the area. (Further discussion of this project is in "Regional Recreation Plans" section.)

Operational and Management Issues

Much of the study area is relatively undisturbed, but sections containing the Bayou Segnette Oil Field, the former Westwego Airport, a former sewage oxidation pond, and the abandoned trash dump are highly

impacted. These developments include filled land and, therefore, have development potential.

At the Westwego Airport tract, review of past ownership and uses and preliminary site observations indicate that hazardous materials could be present (National Park Service 1993). The remaining filled areas are also of potential concern, primarily because of questions regarding the quality of their fill material. The Department of the Interior policy states:

Before any real estate is acquired by the Department for the United States, a determination will be made to ascertain whether hazardous substances are present in or on such real estate. The Department will not acquire any real estate if an expenditure of Departmental funds is required for cleanup of such real estate, except at the direction of Congress, or for good cause with the approval of the Secretary (Departmental Manual, part 602, chapter 2.3).

Consequently, further investigation of the airport tract, as well as the other filled areas, for hazardous materials would be necessary prior to any acquisition.

Water quality problems in the Bayou Segnette Study Area would not be solved by inclusion in the park boundary, although cooperative efforts with responsible agencies could be effective. Control of the problem would require close cooperation among local, state, and federal agencies in improving water resources and discharges. The waters of the study area flow southward into the preserve; water quality problems between the two areas are thus inextricably linked, and a solution must be sought at the source.

The brine injection well, and six of the seven active oil and gas wells, are located in the Bayou Segnette Study Area. If lands were acquired, the National Park Service would manage surface access to minerals according to regulations in 36 CFR 9b. These regulations were promulgated to ensure that all nonfederal oil and gas operations are con-

ducted in a manner consistent with the purposes for which the national park system and each park unit were created. Under 36 CFR 9b, existing operations would be exempt from the regulations. Only new operations would be required to submit plans for approval.

Protection of Park Resources Critical to Fulfilling the Park's Purposes

Water quality in the Bayou Segnette Study Area has been adversely affected by pollution (National Park Service 1992). Inclusion of the study area in the Barataria Preserve unit would give additional impetus to improving and controlling the quality of water entering from sources outside the wetlands. It would also prevent any further use of filled locations for activities incompatible with the purposes of Jean Lafitte National Historical Park and Preserve.

Within the ecosystem of which the Barataria Preserve unit is a part, most of the original forest has been lost to development. Of the area's remaining contiguous forest, most is outside the present boundary of the preserve. The forests of the Bayou Segnette Study Area comprise about 20% of that contiguous forest. Many forest-dwelling species of invertebrates, amphibians, reptiles, birds (including many declining neotropical migrants), and mammals require large blocks of forest to maintain viable populations. Loss of these forests to logging, development, or inadequate management practices would have serious long-term effects on the biological diversity of the preserve.

Feasibility of Administering Additional Lands

The size (approximately 2,728 acres) and configuration of the study area pose no major management problems. In fact, 787 acres of the area are federally owned and could be transferred to the preserve if included in a new boundary authorization. Because the current northern boundary of the preserve is indiscernible in the field, the hurricane protection levee, which forms the

upper boundary of the study area, would create a clearly defined and identifiable boundary.

Landownership is shown on the ownership pattern map and in table 2. Development potential could be limited by federal and state wetland, floodplain, and water quality regulations.

Other factors affecting management feasibility include water quality concerns and the potential presence of hazardous materials, as described above.

Alternatives for Others to Manage and Protect Resources

In the 1973 suitability/feasibility study for the Proposed Jean Lafitte National Cultural Park, the National Park Service recommended that the northern half of the preserve, together with the study area, be added to the state's Salvador Wildlife Management Area. Expansion of the state game management area was never authorized, and its prospects seem highly unpromising today.

The Clean Water Act and Louisiana's Coastal Zone Management Program afford some measure of regulatory oversight for development activities in wetlands. Laws and regulations protecting floodplains and wetlands could limit future development in the study area but would not prevent development of filled lands in its northern portion. There are also no guarantees that current protection will exist in future years.

Federal and state water quality regulations provide theoretical protection of water resources in the study area. However, current regulations have not solved water quality problems associated with stormwater runoff from developed areas.

FINDINGS

In summary, the Bayou Segnette Study Area meets the criteria for boundary adjustments in the following ways:

The flow and quality of water from the study area into the northern half of the preserve contribute significantly to the preserve's ongoing hydrologic health and stability.

The extensive forests of Bayou Segnette contribute significantly to the stability of the preserve's forest ecosystem and exhibit one of the prime examples of baldcypress swamp in the Barataria area.

The current boundary follows old ownership lines that are not easy to locate because they weave through wetlands. The new boundary would be significantly easier to identify, access, and patrol because it would follow roads, the levee, and the boundary of Bayou Segnette State Park.

The site would open up new opportunities to visitors by connecting the preserve with Bayou Segnette State Park, and with the proposed recreation corridor along the levee.

The size, configuration, and pattern of ownership pose no significant concerns regarding the management of the site. The only exception is where past use of about 250 acres (10%) in and near the abandoned Westwego Airport has resulted in filled wetlands and the possibility of hazardous wastes. These areas would not be feasible for purchase and management until further analysis for hazardous materials is completed and necessary cleanup occurs. The impetus behind managing these lands ties to their high potential for incompatible development and the consistency of a boundary alignment with the Westwego to Harvey Canal Hurricane Protection Levee.

RESOURCE ANALYSIS AND FINDINGS

TABLE 2: BAYOU SEGNETTE - PROPERTY SUMMARY

Tract no. Owner	Acres	Resources	Conditions/Issues
BS-1 Mayronne, et al.	(est.) 150	Swamp, with limited bottomland hardwoods; 19th-century canal	Unimproved
BS-2 Mayronne	(est.) 31	Swamp with some marsh; bottomland hardwoods limited to spoil banks	One oil exploration canal
BS-3 Vegas, et al.	(est.) 39	Marsh, swamp, limited bottomland hardwoods, and disturbed land, succeeding to hardwoods	Portion of a large dump for construction materials and household trash capped by clay; one active oil well; one capped well; oil exploration canals. Potential presence of hazardous materials — further investigation would be required.
BS-4 Boyd/Reed	(est.) 39	Swamp, marsh, and limited bottomland hardwoods confined to spoil	Portion of a large dump for construction materials and household trash capped by clay; oil exploration canals; one plugged oil well. Potential presence of hazardous materials — further investigation would be required.
BS-5 Elmer, et al.	(est.) 145	Swamp, bottomland hardwoods confined to spoil, and disturbed land (about 70 acres)	Abandoned Westwego Airport (runway, seaplane canal, five hangars, administration building, fuel storage tanks); abandoned Westwego Mobile Home Park (debris/trash); abandoned camp; active oil field operations facility (gas separator, pipelines, shop/shed, tanks); one active and two plugged oil wells; one brine injection well; oil exploration canals; abandoned oil drums. Potential presence of hazardous materials — further investigation would be required.
BS-6 Celotex Co.	(est.) 150	Swamp, marsh, and limited bottomland hardwoods confined to spoil	Extensive oil exploration canals; two active and two plugged wells; electric transmission lines
BS-7 Barbe Land and Development Corp.	(est.) 34	Swamp and bottomland hardwoods confined to spoil	One oil exploration canal

Tract no. Owner	Acres	Resources	Conditions/Issues
BS-8 Marrero Land and Improvement Assoc. (or Wisner Foundation in part)	(est.) 983	Bayou Segnette traverses the property; relatively undisturbed marsh is predominant west of the bayou; to the east is a mixture of marsh and swamp; bottomland hardwoods occur along Bayou Segnette and on spoil banks; disturbed vegetation succeeding to hardwoods is found on the landfill; there are two historic canals	Extensive oil exploration canals; six plugged oil wells; four storage tanks (removal scheduled); abandoned brine dump; gas pipeline and electric transmission line; three camps, one used as residence; abandoned access road and portion of a clay-capped dump containing construction material and household trash. Potential presence of hazardous materials — further investigation would be required.
BS-9 Tulane Univ.	(est.) 70	Open water, with some swamp and marsh; bottomland hardwoods confined to spoil	Tract consists primarily of the Company Canal, dredged between 1951 and 1963, which fronts Bayou Segnette State Park
BS-10 United States of America	(est.) 787 (for transfer)	Swamp and a small area of natural levee bottomland hardwoods; other hardwoods confined to spoil	Traversed by the Millaudon Canal (1850s) and gas pipeline; one active oil well; conveyed by Act of Sale to United States of America on April 7, 1994; once the Army Corps of Engineers determines right-of-way limits needed for levee, balance of property will be declared excess; possible transfer to the National Park Service
BS-11 Rathborne Land Co.	(est.) 73	Swamp	Unimproved
BS-12 Rose, et al.	(est.) 17	Swamp	Unimproved
BS-13 Nolan, et al.	(est.) 39	Swamp and marsh, with bottomland hardwoods confined to spoil; early successional hardwoods on landfill	Oil exploration canals; two plugged wells; abandoned access road and portion of a clay-capped dump containing construction material and household trash. Potential presence of hazardous materials — further investigation would be required.
BS-14 Westbank/Beatty Group	(est.) 30	Swamp and marsh, with bottomland hardwoods confined to spoil; historic canal	One active and two plugged oil wells; oil exploration canals

RESOURCE ANALYSIS AND FINDINGS

Tract no. Owner	Acres	Resources	Conditions/Issues
BS-15 Westbank Development Corp.	(est.) 61	An island created by a 19th-century cutoff of a meander bend in Bayou Segnette with marsh, swamp, and some bottomland hardwoods	One oil exploration canal; two plugged wells
BS-16 Company Canal Inc.	(est.) 52	Marsh, with some swamp and bottomland hardwoods along Bayou Segnette	Unimproved
BS-17 Jefferson Parish	(est.) 28	Fill material covered by early successional vegetation	Old capped sewage oxidation pond north of the Oak Cove subdivision; area partially filled with rubble (potential presence of hazardous materials — further investigation would be required); temporary access from Tusa Drive; levee construction may block access
Total approximately 2,728 acres			

BAYOU VERRET STUDY AREA

DESCRIPTION

This study area is a natural extension of the marsh ecosystem found just to the south in the Barataria Preserve unit. The qualities of the ecosystem and the well-defined boundary created by Bayou Verret and the Cataouatche Levee Canal would make for a natural extension of the preserve's boundary. The study area is shown on the Bayou Verret Study Area Ownership Pattern map.

EVALUATION CRITERIA

Significant Resources or Opportunities for Public Enjoyment Related to the Purposes of the Park

Natural Resource Values. The Bayou Verret Study Area is a continuation of the ecosystem and hydrology occurring in the Barataria Preserve unit. Surface water flow in this study area is contiguous with the preserve's marshes along the north shore of Lake Cataouatche and east bank of Bayou Verret. The area contributes organic carbon and nitrogen, supports estuarine organisms, serves as a nursery for some species, and is prime wildlife habitat.

Cultural Resource Values. The study area has not been systematically surveyed for archeological resources. There are currently no known archeological sites. The study area is 95% marsh. There is a narrow strip of higher ground along Bayou Verret, but whether this is a natural levee or simply dredge spoil has not been determined. If it is natural levee, there is a potential for archeological sites, though they are likely to be largely subsided or buried by spoil.

Recreational Opportunities. Present recreational activities in this study area are based largely on the region's natural resources. The trend is for increasing recreational use, from both tourism and expanding residential development of the West Bank. As develop-

ment expands away from the river, the recreational potential of undeveloped, natural areas will increase as the resource base declines. Decreasing public accessibility to marsh areas in the region enhances the value of such protected areas as Bayou Segnette State Park, the Barataria Preserve unit, and the remaining natural environments between them. Protection of natural areas, as well as provision for recreational use of them, is essential in offering residents and visitors alike a desirable quality of life.

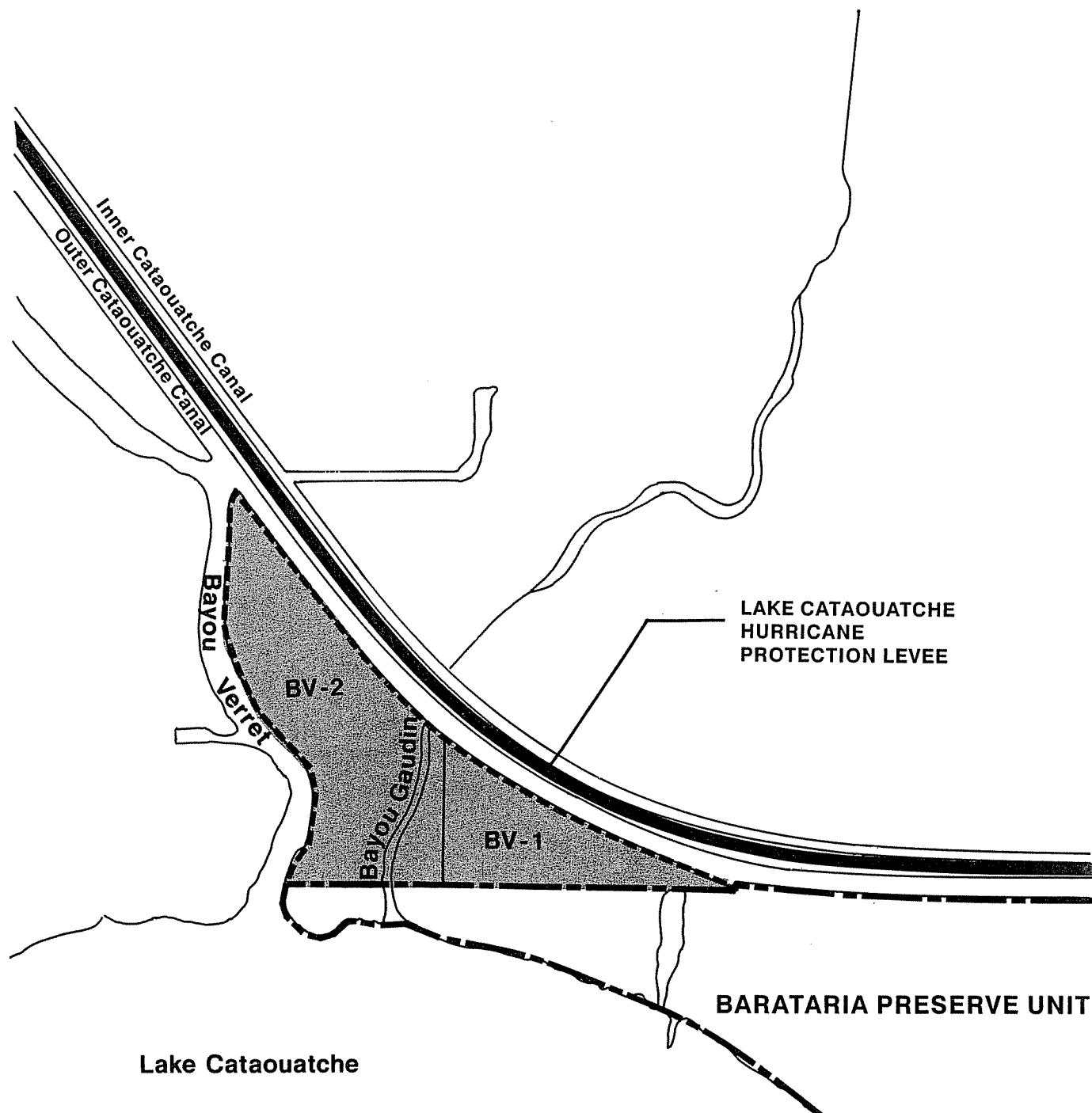
The study area lands are privately owned, so public access to the area is limited to state-owned waterways. The public has access to fishing and boating in state waters, but hunting, trapping, and any other land-based activities require the property owner's permission.

Operational and Management Issues

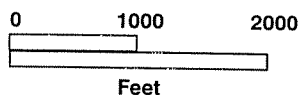
No landscape feature separates this area from the adjacent preserve. Inclusion of this area within the preserve's boundary would be consistent with the goal of having a boundary that is contiguous with such definable features as levees and water bodies and that allows unimpeded access for the purposes of boundary identification and patrol.

Protection of Park Resources Critical to Fulfilling the Park's Purposes

The study area consists of undisturbed marsh. Inclusion of this area would allow for areawide management of hydrology in these wetlands. This area is adjacent to the Davis Pond Freshwater Diversion Project outfall area. This area would provide increased opportunities for coordination between the two agencies for beneficial uses of Davis Pond sediments and freshwater.



Lake Cataouatche



BARATARIA PRESERVE UNIT

LAKE CATAOUCHE
HURRICANE
PROTECTION LEVEE

BV-2

BV-1

Bayou
Verret

Bayou Gaudin

KEY:



Park Boundary



Potential Boundary
Change Alignment



Property Boundary



Study Area

Bayou Verret Study Area Ownership Pattern

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Feasibility of Administering Additional Lands

The size (161 acres) and configuration of the study area pose no major management problems. The current northern boundary of the preserve is difficult to discern in the field. The hurricane protection levee and Bayou Verret would be a more clearly defined and identifiable boundary.

Landownership is shown on the ownership pattern map and in table 3. Development potential is limited by federal and state wetland, floodplain, and water quality regulations.

Alternatives for Others to Manage and Protect Resources

In the 1973 *Suitability/Feasibility Study for the Proposed Jean Lafitte National Cultural Park*, the National Park Service recommended that the northern half of the preserve, together with the study area, be added to the state's Salvador Wildlife Management Area. Expansion of the state game management area was never authorized, and its prospects seem highly unpromising today.

Federal and state regulations protecting floodplains and wetlands could limit future development in the study area.

Federal and state water quality regulations provide theoretical protection of water resources in the study area. However, current regulations have not solved water quality problems associated with stormwater runoff from developed areas, such as the nearby Lake Cataouatche pumping station.

FINDINGS

In summary, the Bayou Verret Study Area meets the criteria for boundary adjustments in the following ways:

The current boundary follows an old ownership line that is not easy to locate in the field. The addition would improve the boundary alignment by using existing shoreline and levee features, ensuring easier monitoring and access.

The location, configuration, and simple ownership pattern would make it relatively feasible to manage, once appropriate interests were procured.

This is a relatively small parcel that is contiguous to, and an extension of, the marsh ecosystem of the Barataria Preserve.

TABLE 3: BAYOU VERRET - PROPERTY SUMMARY

Tract no. Owner	Acres	Resources	Conditions/Issues
BV-1 Churchill Farms, Inc.	(est.) 50	Freshwater marsh	Unimproved; one 20-inch and one 10-inch gas pipeline cross from southeast to northwest
BV-2 Marcello, et al.	(est.) 111	Freshwater marsh; scrubby bottomland hardwoods along bayou	Unimproved; one 20-inch and one 10-inch gas pipeline cross from southeast to northwest
Total	approximately 161 acres		

CONCLUSIONS

OVERVIEW

This study was undertaken to examine the appropriateness and feasibility of including lands within the boundary of the Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve that

- contribute toward the realization of the preserve's purposes
- are adjacent to the existing boundary
- are primarily wetlands, hydrologically and ecologically connected to those of the preserve
- are essentially free from development and are unprotected by the hurricane protection levee system currently under construction
- provide enhanced opportunities for visitor use and access
- have clearly defined and manageable boundaries

RESOURCE ANALYSIS SUMMARY

Bayou aux Carpes Study Area (2,905 acres)

The area contains relatively undisturbed examples of natural levee crest and backslope bottomland hardwoods, baldcypress-water tupelo swamp, and freshwater marsh.

The area is hydrologically connected to the Barataria Preserve unit.

The area has been designated by the Environmental Protection Agency as a wetland of significant value.

The area is part of the Barataria Estuary and is ecologically important to the estuary.

The area contains extensive forest important to maintaining forest communities within the preserve.

The area has high potential for significant archeological and historical resources ranging from 700 B.C. to the present.

The area is linked to the proposed hurricane levee recreation corridor.

The area would provide opportunities for public recreation and natural resource interpretation.

The area's potential for containing prehistoric and historic sites presents opportunities for protection, research, and interpretation.

The area is a clearly identifiable and manageable unit.

Bayou Segnette Study Area (2,728 acres)

Of the total area, 787 acres are federally owned and could be transferred if a new boundary is authorized.

The area links the Barataria Preserve unit with Bayou Segnette State Park and the proposed hurricane levee recreation corridor.

The area is also a part of the Barataria Estuary and is an extension of the ecological communities found in the preserve.

The area contains relatively undisturbed examples of baldcypress-water tupelo swamp and freshwater marsh.

The area contains extensive forest important to maintaining forest communities within the preserve.

The area shares the same hydrology as the adjacent preserve.

The area contains 19th-century canals representing historic patterns of use.

The area could provide opportunities for public recreation and interpretation.

The area would provide opportunities for improved Park Service access for patrol, emergency services, and resource management.

The potential boundary would be clearly identifiable, and the addition would be manageable. However, at some locations, former land-use patterns could require the implementation of restoration efforts.

Bayou Verret Study Area (161 acres)

The area contains undisturbed freshwater marsh.

The area is hydrologically connected to the Barataria Preserve unit.

The area is part of the Barataria Estuary and is ecologically important to the estuary.

The area would provide limited opportunities for public recreation.

The area is a clearly identifiable and manageable unit.

STUDY FINDINGS

The following study areas — Bayou aux Carpes, Bayou Segnette, and Bayou Verret — have been evaluated and determined to be appropriate and feasible for consideration in a revised boundary alignment. These areas would contribute to the preserve by

adding approximately 5,800 acres in three adjacent areas containing significant, mostly unprotected, wetland resources associated with the purpose of the preserve

helping to ensure the long-term health of the preserve's ecosystem and estuary as a whole by including most of the remaining hydrologically linked land areas within the protection afforded by the national park system

substantially improving the park's ability to identify and patrol its boundary, monitor and protect resources, and gain access to interior park areas for emergency services

linking the preserve with Bayou Segnette State Park, the Salvador Wildlife Management Area, and the proposed Westwego to Harvey Canal Hurricane Protection Levee Recreation Corridor, thus providing expanded opportunities for public recreation and education

eliminating the potential for incompatible development or activities on filled wetland sites that would negatively impact resource qualities and/or the visitor experience

improving both water quality and the visitor experience by limiting such potentially adverse activities as commercial development and new recreational camp developments.

The entirety of the Isle Bonne Study Area and the privately owned properties within the Highway 3134 Study Area were also evaluated in the draft boundary study, but they were determined not to be feasible for consideration because of landowner and community opposition.

The publicly owned portion of the Highway 3134 Study Area remains a feasible and appropriate parcel for potential future inclusion in the park boundary. No transfer of ownership is anticipated and because of its small acreage, it could be addressed as a minor boundary adjustment if any future legislation is passed.

Couba Island was also evaluated in the draft study. It was found to be both feasible and

CONCLUSIONS

appropriate for inclusion in a potential boundary adjustment. But in December 1995, the greater part of Couba Island, tract CI-1, was donated to the New Orleans City Park Improvement Association, a state agency that manages City Park in New Orleans. The association has entered into a 25-year lease with the Louisiana Department of Wildlife and Fisheries to manage the surface as the

Timpken Wildlife Management Area, in conjunction with the adjacent Salvador Wildlife Management Area. As this is a highly compatible use of that area, there is no need to further pursue its possible inclusion into the park boundary. For more detailed information on these study areas, refer to the draft.

Environmental Assessment



INTRODUCTION

NEED FOR A BOUNDARY STUDY OF THE BARATARIA PRESERVE UNIT, JEAN LAFITTE NATIONAL HISTORICAL PARK AND PRESERVE

The current boundary of the Barataria Preserve was established prior to the final alignment of the Westwego to Harvey Canal Hurricane Protection Levee. In many cases, the preserve's boundary, when established, followed alignments that did not correspond with roads or clearly identifiable landscape features. As a result, the boundary has been difficult to identify, access, and monitor. Furthermore, the preserve's resources are suffering incremental degradation from such local and regional influences as water pollution, soil subsidence, reduced nutrient deposition, loss of habitat, and interrupted hydrological flows. The levee's alignment makes clear what lands will remain in the floodplain, connected to the natural systems of the preserve as it now exists. In response, the National Park Service has conducted this boundary study of surrounding lands. Its purpose is to analyze whether inclusion of these areas' resources would, first and foremost, help protect the health of the preserve's natural systems for the enjoyment of present and future generations. The study also investigates ways, through the possible addition of these lands, of improving boundary identification and access, thereby affording more effective management.

Any steps to revise the preserve's legislated boundary will require new federal legislation. Should Congress choose to consider a revision, this study may be used for guidance in developing legislative language. In the event that a new legislative boundary is created, a land protection plan would be developed that would examine all options for protection of the newly included resources. If land acquisition is the method of protection chosen through this process, it could only take place if Congress appropriated funds for that purpose.

CONSIDERATION OF ALTERNATIVES

This environmental assessment presents as alternative 1 a potential boundary adjustment of the Barataria Preserve unit to include the three study areas evaluated in this report. All three were found to be appropriate and feasible for inclusion within the boundary. Alternative 2 reflects the continued management of the preserve, following the existing boundaries. This environmental assessment summarizes the two alternatives and assesses the predicted impacts of each.

OTHER ALTERNATIVES CONSIDERED AND ELIMINATED

During early planning stages, the park received written comments from several citizens and organizations requesting that it consider other areas for this boundary study. Those areas included an approximately 150-acre tract of wetlands in Crown Point, east of Highway 3134; a strip of bottomland hardwoods along Highway 45 and north of the park entrance; and approximately 500 acres of impounded and partly drained wetlands north of the V-shaped reach (V-levee) of the Westwego to Harvey Canal Hurricane Protection Levee.

The tract of approximately 150 acres of wetlands in Crown Point, east of Highway 3134, is outside the levee system. It is hydrologically linked to the preserve through culverts under the highway and provides a buffer between the preserve and a development zone. If added to the preserve, this area of baldcypress-water tupelo swamp and bottomland hardwoods would offer important ecosystem values. However, its size, configuration, accessibility, and separation from the preserve by the highway and bridge approaches would make management and administration difficult. Because of the infeasibility of administering, managing,

patrolling, and protecting the tract, it was not included as a boundary study area.

The strip of bottomland hardwoods along Highway 45, north of the park entrance, as well as the approximately 500 acres of impounded and partly drained wetlands north of the V-levee, are part of the same forested ecosystem occupying the Bayou des Familles ridge of which the preserve is a part. Indeed, the total area of impounded, undeveloped wetlands north of the levee but ecologically linked to the preserve amounts to more than 3,000 acres. The levee has severed all surface hydrological links between the preserve and this area, thus preventing estuarine organisms from utilizing these wetlands. Terrestrial organisms, on the other hand, do move between the two areas, and the forests north of the levee provide important habitat for individuals, species, and systems shared with the preserve. Because the area is ecologically, but not hydrologically, linked to the preserve, it serves as an important buffer between the preserve and developed areas. However, because it is inside the levee system, and not hydrologically linked to the preserve's wetlands, it does not possess the characteristics identified as prerequisite for inclusion as a boundary study area.

Alternative 1 in the draft boundary study discussed a boundary adjustment configuration that included the following four study areas — Bayou aux Carpes, Bayou Segnette, Bayou Verret, and Couba Island — and the publicly owned portion of the Highway 3134 Study Area, for a total approximate acreage of 9,290. (The Isle Bonne Study

area and the privately owned portion of the Highway 3134 Study Area had been eliminated from consideration during the scoping process and were not a part of alternative 1 in the draft study.)

Upon weighing the public comments received on the draft study in spring of 1996 and responding to changes in the status of landownership, the National Park Service has substantially revised this final boundary study, including alternative 1. Couba Island Study Area and the publicly owned portion of the Highway 3134 Study Area have been removed from the alternative. Couba Island Study Area has been removed because the greater part of the island was recently donated to an agency of the state of Louisiana and is being managed by the Louisiana Department of Wildlife and Fisheries. As this is a highly compatible use of that area, there is no need to further pursue its possible inclusion in the park boundary. The state-owned portion of the Highway 3134 Study Area is a small parcel, and while it is appropriate for potential future inclusion in the park boundary, a transfer of ownership is not required in order to effect preferred management goals. Because of its small acreage, this parcel would be addressed as a minor boundary adjustment if any future legislation is passed.

The resource analysis and findings discussions relating to these three study areas (Couba Island, Isle Bonne, and Highway 3134) have been removed from this final study. That information can be found in the draft boundary study.

ALTERNATIVES

ALTERNATIVE 1

This alternative would provide a framework for the establishment of a new legislative boundary for the Barataria Preserve unit that would include approximately 5,800 additional acres, increasing the preserve's size by about 30%. Of this acreage, about 24% (1,415 acres) is marsh and open water; 58% (3,340 acres) is swamp forest; and 18% (1,040 acres) is bottomland hardwoods growing on higher natural levees, dredge spoil, or fill. The acreage would be comprised of three of the study areas. All have been evaluated against the *Criteria for Boundary Adjustments* (NPS 1991) and found to be both appropriate and feasible for consideration. Each of these areas is an important natural extension of the Barataria Preserve's ecosystem and hydrology. Protection of this continuity of habitat will help to maintain the preserve's health and diversity. For additional information about the following resource areas, refer to the resource analysis section in the final boundary study and the "Affected Environment" section of this environmental assessment.

- The 2,905-acre Bayou aux Carpes Study Area is a large, complex wetland system that is hydrologically linked to 600 acres of swamp and bottomland hardwoods in the preserve. It includes about 15% open water and freshwater marsh; 60% baldcypress-water tupelo swamp; and 25% bottomland hardwoods growing on the natural levee of Bayou des Familles and on dredge spoil associated with canals and Bayou Barataria. The study area includes eight properties, with only one permanent residence. There are no active oil and gas operations. A nature-oriented swamp tourboat operation is the only commercial activity. The area is bordered by well-defined features, including the hurricane protection levee, Bayou Barataria, and Bayou des Familles. These features would

allow the area to be easily identified and patrolled.

- The 2,728-acre Bayou Segnette Study Area lies between the existing preserve boundary and the Westwego to Harvey Canal Hurricane Protection Levee. The proximity of the levee as a significant landscape feature would improve the park staff's ability to identify, access, and monitor the preserve. The area is about two-thirds baldcypress-water tupelo swamp and about one-third freshwater marsh; shrubs and bottomland hardwoods grow on dredge spoil and on a small area of natural levee in the southeast corner of the study area. No hydrological barrier of any sort exists between the study area and the preserve. Water, nutrients, and estuarine organisms move freely across the boundary.

The Bayou Segnette Study Area, comprised of 28 separate properties, contains a once-extensive oil and gas field that has dwindled to six active extraction wells, a brine injection well, and a small processing operation. A small seaplane airport and a trailer park, constructed on about 130 acres of fill, have been closed for several years. A 120-acre household landfill for the community of Westwego is capped and abandoned, and a 28-acre sewage oxidation pond has been partially filled. There are three occupied camps, one of which serves as a permanent residence.

- The 161-acre Bayou Verret Study Area is a small section of freshwater marsh in the northwest corner of the preserve. It is hydrologically linked to preserve marshes. This area has a boundary that is contiguous with such well-defined landscape features as the Lake Cataouatche Levee and Bayou Verret, and would thereby greatly improve park staff ability to access, mark, and patrol the preserve.

ENVIRONMENTAL ASSESSMENT

There are no developments within the area.

These areas are all important natural extensions of the ecosystem and hydrology occurring in the preserve. Protection of this continuity of habitat will help to maintain the preserve's health and diversity.

ALTERNATIVE 2

The Barataria Preserve unit would continue to be managed in ways consistent with the

park's legislation and general management plan. This alternative does not change the preserve's current boundary configuration. Any activities associated with neighboring properties would follow, as applicable, established procedures, regulations, and agreements.

ENVIRONMENTAL CONSEQUENCES

IMPACTS OF ALTERNATIVE 1

Impacts on Park Management

If all of the approximately 5,800 acres identified as appropriate and feasible were included in a new boundary for the preserve, the park would need additional funding to obtain the personnel and supplies necessary to ensure adequate management and protection.

Personnel: 3 full-time equivalent positions/\$150,000 recurring personnel costs (estimate)

Supplies, Materials, and Administrative Services: \$40,000/annum (estimate)

Impacts on Natural Resources

Natural Systems. The overall long-term health of the preserve's various natural systems would be considerably improved if more habitat areas were protected. Under this alternative, the additional habitat would include 1,415 acres of marsh and open water; 3,340 acres of swamp forest; and 1,040 acres of bottomland hardwood forest. The vast majority of this acreage is undeveloped and uninhabited. This level of land-area continuity would ensure better hydrological integrity; protect forest species often dependent upon large, unbroken tracts; and better protect potential critical habitat necessary for the continued existence of threatened and endangered species. Acquisition of the study areas would more than double the amount of protected forest habitat, helping to ensure long-term biological diversity.

Vegetation. Most of the remaining parcels of undeveloped bottomland hardwood forest, swamp, and marsh outside the Westwego to Harvey Canal Hurricane Protection Levee would be protected within the preserve's boundary. Acreages for the three major vegetation types are noted above. Species

found within these types are discussed in the affected environment section.

Floodplains. The Army Corps of Engineers (1986) estimates flood heights at 7.0 feet above mean sea level for a 100-year event to 9.0 feet for the standard project hurricane — the maximum estimate. According to the Federal Emergency Management Agency, the flooding would occur without velocity (i.e., wave action) and is therefore not a high-hazard area (Federal Emergency Management Agency 1976). All study area additions are outside the hurricane protection levee and within the 100-year floodplain. Incorporating the 100-year floodplain within the new preserve boundary would protect it from development incompatible with the preserve's purpose and resource values.

Wetlands. More than 95% of the study area is wetlands. (About 80 acres of natural levee, less than 1% of the study area, is not jurisdictionally classified as wetlands. The remaining non-wetlands are areas of dredge spoil and elevated areas created by placing fill in wetlands.) This large area of adjacent wetlands would be protected from development incompatible with the preserve's purpose.

Wildlife. Both game and nongame wildlife populations would benefit from the enhanced ecosystem protection and management that would result from a realignment of the preserve's boundary along the hurricane protection levee. Interior, forest-dependent species would benefit from long-term maintenance of a sufficiently large block of forest. For additional discussion of species associated with areas included in alternative 1, refer to the affected environment section.

Threatened and Endangered Species. Any threatened and endangered species, declining species, and state species of special concern found in the study areas would all

receive added protection under this alternative. This level of ecosystem protection would be of long-term benefit to species in these categories. For a description of species, refer to the affected environment section. The Bayou aux Carpes area has at least one bald eagle nesting site; another nesting pair just south of the Bayou aux Carpes may also use that habitat. Inclusion would help ensure protection for this threatened species and its habitat.

Water Quality. Protection and proper management of large wetland areas help maximize the potential of those wetlands to filter pollution from urban runoff and maintain a healthy estuary. In this alternative, the park would be a stronger partner in the decision-making process for the future design and placement of pumping stations, and in finding solutions to stormwater runoff problems that exist at present. Pumping treated wastewater and untreated urban stormwater runoff from leveed areas to wetlands are recognized regional problems that will require creative solutions. Poor water quality down estuary from pumping stations has led to closure of areas for recreational purposes and for harvest of shellfish. The preserve already receives the effluent from several pumping stations both directly and indirectly. The amount of effluent received would not change as a result of these boundary adjustments, but the preserve's management of land and waterways that receive pumping station effluent would enhance opportunities for development of creative solutions, such as wetland retention, that would be difficult to achieve with intervening private landowners. Prevention of future development in the study areas will protect the preserve from further water quality degradation. The addition of these areas would also increase the park's ability to become a meaningful participant in freshwater diversion projects, such as the one at Davis Pond.

Impacts on Cultural Resources

There is little information about cultural resources within the study areas. Should Congress choose to implement this alternative, the overall impact on cultural resources would be beneficial because of added protection provided by federal laws and regulations. The park could then proceed to inventory cultural resources and develop a management plan for protection.

Prehistoric. There are no known archeological sites within the Bayou Verret and Bayou Segnette Study Areas. Because Bayou Segnette has some natural levee built up by prehistoric riverflows, there is some possibility of the occurrence of archeological sites.

There is one known but unnamed archeological site within the Bayou aux Carpes Study Area at the confluence of Bayou des Familles and Bayou Barataria. The Bayou des Familles' broad, natural levee in the Bayou aux Carpes Study Area has the potential to yield numerous additional prehistoric sites. Federal ownership might also provide greater resources for the eventual protection of sites from erosion and other environmental degradation.

Any archeological sites located in the alternative 1 study areas would be brought under federal regulatory protection from development, removal, or disturbance by this alternative. In the event of future development, avoidance of sites would be required, and an archeological survey of the development area would be carried out well in advance of any design work.

Historic. There are several identified cultural resources from the historic period in the three study areas. Undisturbed segments of two 19th-century canals — Sharp Canal and Dugues Canal — remain extant in the Bayou

Segnette Study Area. A turn-of-the-century logging canal is extant in the Bayou aux Carpes Study Area. Aerial photography shows the outlines of 18th-century land grants and 19th-century plantation fields within the present confines of the Bayou aux Carpes Study Area.

Features such as these are included in the Barataria Historic District. Identification of other such historic structures will undoubtedly occur with future research.

This alternative would bring any historic sites under federal regulatory protection from development, removal, or disturbance. In the event of future development, avoidance of sites would be required, and an archeological survey of the development area would be carried out well in advance of any design work.

Ethnographic. Traditional community uses of the study area, including occupation of recreational camps, crawfishing, fishing, trapping, and hunting, would continue. Species taken, length of seasons, the need for permits, and public safety closures would somewhat modify traditional use patterns. Public ownership of the study areas would help ensure access and long-term availability of these resources for use by a larger community.

Individuals who currently lease rights to hunt and fish on properties in the study area would lose their exclusive rights and be subject to the same limitations as other members of the public.

Consultations with two American Indian tribes — the Chitimachas and Houmas — are underway as part of this boundary study. Consultations with American Indians are required by the National Park Service for compliance with section 106 of the National Historic Preservation Act of 1966, as amended, and other laws and policies. Consultation meetings were held with members of the United Houma Nation Tribal Council on November 17, 1994, and with members of

the Chitimacha Tribe of Louisiana on November 18, 1994. Discussion concerning ties with the Barataria Preserve unit in particular, and Louisiana's Mississippi River Delta region in general, followed. Cultural history and traditional and/or contemporary associations with cultural and natural resources in the region were addressed. A resolution stating each tribe's position on the boundary study was requested. The meetings served as a forum in which to exchange ideas and share past associations with the park.

Impacts on the Socioeconomic Environment

Regional Impacts. Alternative 1 would result in modest economic impacts on the region. Increases in such commercial activities as swamp tours and canoe rentals are likely because the study areas are now under private ownership and have restricted access. Recreational opportunities would increase, including picnicking, wildlife observation, and recreational boating. Tourism and increased recreational use would probably generate some new businesses in the local community to serve the visitor. This would result in some new jobs and local business revenue. Potential drawbacks would include increased litter and traffic.

Private Development. This alternative would place the subject land areas under the protection afforded to the National Park Service areas; therefore, they would not be subject to potential private development. Despite the lack of hurricane flood protection and sewage treatment, residential development has proceeded rapidly in areas outside the levee system near the park. For instance, an area of bottomland hardwoods across Bayou Barataria from the preserve has recently been subdivided, and clearing and house construction have converted this once-unbroken tract of forest into a highly fragmented resource. Inclusion of the study areas within the boundary would preclude this kind of development and habitat destruction.

TABLE 4: PROPERTY ASSESSMENTS AND TAX REVENUES

Area	Assessed Value	Tax Revenue
Bayou aux Carpes	\$125,140	\$16,096
Bayou Segnette	276,788	24,488
Bayou Verret	3,903	656
Total	\$405,831	\$41,240

If all privately owned properties under this alternative were acquired in fee-simple title as part of an implementation plan, they would be removed from local tax rolls. The National Park Service would then make payments in lieu of taxes. The current estimated assessed values of the three study areas and corresponding estimated tax revenues are shown in table 4.

Hunting and Fishing. Alternative 1 would increase those areas open to the general public for hunting, trapping, and commercial fishing, with the latter two activities requiring issuance of special-use permits. Some hunting and trapping activities presently occurring on private lands would be modified through park regulations. Some commercial activities, such as providing guide services for hunters, would be curtailed. Recreational camps located within the proposed boundary would convert from a lease system to a special-use permit system.

Local Residents. There is one house site at Bayou aux Carpes that has existed for many years. Depending upon the strategy adopted by a land protection plan, options for any residents could range from sale and relocation, to lifetime use and occupancy, to sale of an easement preventing further development. Any of these strategies could have a significant effect on residents and their heirs.

The addition of the Bayou Segnette Study Area would provide direct linkage between the Barataria Preserve unit and Bayou Segnette State Park, Louisiana's most visited

state park. If the proposed recreational corridor along the levee is developed by the Army Corps of Engineers and others, that would be another major link and recreational asset associated with these sites. The area is easily accessible by expressway from New Orleans.

Land Use Outside New Boundary. Public concern was expressed about the intentions of the Park Service to seek future additional boundary adjustments beyond the levee into the protected side that would serve as "buffers" to the preserve. There is no intention or practical purpose to go beyond the levee. The type of land areas the Park Service is seeking in a boundary adjustment are clearly outlined on page 3, including the following:

- consist primarily of wetlands, hydrologically and ecologically connected to those of the preserve
- are essentially free from development and are unprotected by the hurricane protection levee system currently under construction
- provide clearly defined and manageable boundaries

The lands on the protected side of the levee will be hydrologically severed from the levee's wet side; have been or might eventually be drained, filled, and developed; and would not contribute to providing a clearly defined boundary as would the levee.

The levee corridor is envisioned as the transition between the zone of development and protected wild areas. One of the levee's purposes is to provide a safe area for economic development of the growing West Bank region of the New Orleans metropolitan area.

Oil and Gas. Oil and gas operations would continue. If lands are acquired, the National Park Service would manage surface access to any future operations according to regulations in 36 CFR 9b.

Westwego Airport. One of the tracts within the Bayou Segnette Study Area (BS-5), which contains the abandoned Westwego Airport, is the subject of a recreational development proposal by the city of Westwego. A master plan to convert the site to a park (to be named Wetland Harbor Activity and Recreational Facility or WHARF) that has wetlands accessible to visitors with disabilities has been developed by the city, Jefferson Parish, and the Jefferson Parish Economic Development Commission (JEDCO) by Design Consortium, Ltd., in 1995. The proposal calls for the phased development of a multipurpose meeting center, cabins, sports facilities, docks, boat launch, boardwalks, trails, observation tower, and wetland botanic complex, and sensory garden. As envisioned, the WHARF would be a compatible, publicly owned inholding within a new boundary, leading to an opportunity for partnership between the city and the preserve. It would provide a nonfederally owned access point for visitors, especially those with disabilities, that would be an alternative to the heavily used visitor facilities on Highway 45 within the preserve and at Bayou Segnette State Park. It would also provide a transitional link between the preserve and the proposed recreational corridor along the hurricane protection levee.

Bayou Segnette Waterway/Port of Westwego. The terminus of Bayou Segnette at Company Canal, north of the Bayou Segnette Study Area, has traditionally been a small port facility, providing Westwego with

a navigable link to the Gulf of Mexico. In 1957 the U.S. Army Corps of Engineers (Corps) dredged a deeper and wider channel through Bayou Segnette 5.8 miles from Westwego to its mouth at Bayou Bardeaux, and dredged a 6.4-mile canal linking the mouth to the Gulf Intracoastal Waterway.

Of the 12.2-mile Bayou Segnette Waterway, more than 10 miles is already within the preserve; the addition of the Bayou Segnette Study Area within a new boundary would include about 1.5 additional miles within the preserve. The waterway is the responsibility of the Corps, which retains a congressionally mandated superior jurisdiction. A small shrimping and fishing fleet, several tour boats, and a large number of recreational vessels that launch at the state park use the waterway. Maintenance dredging of the waterway is occasionally necessary. The Corps is required to balance the benefit of a deeper channel against its environmental effect on wetlands. However, because most of the channel already passes through the park, a boundary change would have minimal added effect, except that the Corps would have fewer adjacent landowners with whom to resolve issues such as obtaining right-of-way for beneficial spoil placement (i.e., marsh creation and maintenance).

IMPACTS OF ALTERNATIVE 2

Impacts on Park Management

Park personnel and funding requests for the management of the Barataria Preserve would continue to be based on management needs for the acreage within the current boundary and would be consistent with guidelines in the general management plan.

Impacts on Natural Resources

Natural Systems. The natural systems that operate in the existing preserve are being degraded by surrounding local and regional changes in the environment. Some examples

are disruption of hydrological flows and nutrient deposition, water pollution, and removal of habitat. Most of the original bottomland hardwood forest is gone. Of the remaining contiguous forest, most is outside the preserve's boundary. If the forest outside the present boundary deteriorates or further disappears, the remaining forest within the boundary will become a smaller, more isolated habitat island, and biodiversity will decline.

Vegetation. The last remnants of marsh and swamp outside the Westwego to Harvey Canal Hurricane Protection Levee that are connected with the preserve would not be protected within the preserve boundary. The bottomland hardwood forest included within the Bayou aux Carpes Study Area, which is ecologically linked to the preserve, would not be included within the preserve and would continue to lack the protection this scarce vegetation type needs.

Floodplains. The Army Corps of Engineers (1986) estimates flood heights at 7.0 feet above mean sea level for a 100-year event to 9.0 feet for the standard project hurricane — the maximum estimate. According to the Federal Emergency Management Agency, the flooding would occur without velocity (i.e., wave action) and is therefore not a high-hazard area (Federal Emergency Management Agency 1976). The 100-year floodplain within the current preserve boundary would be protected from development conflicting with the preserve's mission. Other 100-year floodplains within the subject study areas outside the hurricane protection levee would not enjoy maximum protection of floodplain values.

Wetlands. The healthy functioning of wetlands within the preserve's boundary could be seriously impaired if wetlands in the study areas — especially those of Bayou aux Carpes and Bayou Segnette — are developed, allowed to deteriorate, or managed improperly.

Threatened and Endangered Plants. No federally listed threatened or endangered plant species are known to occur within the study areas. If any do occur, the ecosystem protection provided by preserve management would not be available, although protection under the provisions of the Endangered Species Act would remain.

Those plants that are species of concern under the state Natural Heritage Program would be afforded no legal protection outside the preserve's boundary.

Threatened and Endangered Animals. Federally listed threatened and endangered species would remain protected under the provisions of the Endangered Species Act but would not receive the added protection that inclusion in the preserve's boundary would afford. The bald eagle nest in the Bayou aux Carpes Study Area would remain on private property and would therefore be subject to the influences of future land-use changes. Species of concern under the state Natural Heritage Program would not receive the maximum protection.

Wildlife. Game and nongame wildlife populations occurring in the three contiguous study areas would not benefit from the ecosystem protection and management that would be provided by including these areas within the preserve's boundary. Wildlife within the preserve, especially interior forest-dwelling species, would decline if the size of the contiguous forest shrinks.

Water Quality. Water quality problems would, at best, continue. If development were to take place within the study areas, water quality would deteriorate further. Opportunities for creative solutions to stormwater runoff problems would be diminished, as would park participation in the management of freshwater diversion projects, such as the one at Davis Pond.

Impacts on Cultural Resources

Prehistoric. Both known and unknown archeological sites might be endangered under private ownership, as has been the case in the past when such activities as road building or levee construction have disrupted shell middens. Under this alternative, where such sites would lack the guardianship provided by National Park Service acquisition, the protection afforded by federal regulation and National Park Service policy could not be called upon.

Historic. Both known and unknown historic cultural resources might incur adverse impacts without the guardianship associated with National Park Service acquisition and the resulting protection afforded by federal regulation and National Park Service policy. Federal ownership might also provide greater resources for the eventual protection of sites from erosion and other environmental degradation.

Ethnographic. Traditional uses of land in the area would continue to evolve along the present course. More and more land would be either closed to traditional users or restricted to fee access, in the form of hunting clubs or guide services. More and more canals would be closed by landowners, restricting access for fishing. This trend toward greater land-use restrictions and commercialization of resource-extraction activities is expected to continue.

Another trend that is expected to continue, though at a slower pace, is conversion of land from natural areas to developed areas, with the result of ending traditional uses.

Residents and resident landowners would not be directly affected by this alternative. However, land-use conversion by neighbors would continue, having direct and indirect effects upon traditional uses.

Impacts on the Socioeconomic Environment

Socioeconomic impacts from implementing alternative 2 would be minimal. Existing park resources and interpretive programs would continue to attract visitors to the Barataria Preserve unit in the same, or slightly larger, numbers.

Lands identified in the study are subject to wetland regulations. These regulations can restrict dredge and fill activities, thus placing limitations on commercial development. Permit applications for dredge and fill on private lands are often approved with modifications. As a result, relatively undisturbed areas of bottomland hardwoods, baldcypress water tupelo swamp, and freshwater marsh could be subject to the kind of residential development now taking place in areas near the park, as, for instance, in the area immediately across Bayou Barataria.

Access to these areas would be subject to private landowner restrictions and might preclude public use for recreation, hunting, or trapping.

Landownership, current land uses, and the local property tax base outside the current preserve boundary would remain unaffected.

Businesses wishing to operate additional swamp tours and canoe rentals within the current preserve boundary would be subject to issuance of a commercial-use license.

COMPLIANCE WITH FEDERAL AND STATE LAWS, EXECUTIVE ORDERS, AND REGULATIONS

The following are the laws, regulations, and policies considered in preparing the environmental assessment and could potentially require compliance in implementing a boundary adjustment and managing lands within the park boundary.

National Environmental Policy Act of 1969

This act sets forth the federal policy to preserve important historic, cultural, and natural aspects of the nation's heritage. It requires federal agencies to use a systematic, interdisciplinary approach that integrates natural and social sciences in planning and decision making that could have an impact on the human environment.

The *Boundary Study and Environmental Assessment* was prepared pursuant to the act and its implementing regulations and guidelines.

Section 7: Endangered Species Act of 1973

In compliance with the Endangered Species Act of 1973, as amended, the National Park Service initiated informal consultation with the U.S. Fish and Wildlife Service and the Louisiana Natural Heritage Program during the development of this study. The threatened and endangered plants and animals and species of concern identified as a result of consultation are discussed in the "Affected Environment" section of this environmental assessment.

Should the National Park Service propose future actions within the park, it will consult and coordinate with the U.S. Fish and Wildlife Service and state heritage program to identify and analyze potential impacts on threatened and endangered species and develop mitigation measures. Formal consultation with the Fish and Wildlife Service will

be requested if it is determined that an NPS action is likely to adversely affect a threatened or endangered species.

Executive Orders 11988 ("Floodplain Management") and 11990 ("Protection of Wetlands")

Environmental documents would be prepared whenever adverse impacts on floodplains or wetlands could be expected from agency actions. Environmental documents would be made available for public review for not less than 60 days prior to issuing a "Finding of No Significant Impact" (FONSI) or a "Notice of Intent" (NOI) to prepare an environmental impact statement. When the action would involve adverse impacts to wetland or floodplain areas, the FONSI or final environmental impact statement would be coupled with a separate "Statement of Findings" document.

Section 404, Clean Water Act

The National Park Service will submit applications for section 404 permits to the Army Corps of Engineers when the agency anticipates the need to discharge dredged or fill material into the waters of the United States, including wetlands and waterways.

Coastal Zone Management Act of 1972

As required by section 307 of the Coastal Zone Management Act of 1972, the National Park Service has consulted with the Louisiana Coastal Management Division requesting a consistency determination with the approved Louisiana Coastal Resource Program (LCRP). Through this consultation, the *Boundary Study and Environmental Assessment* has been determined to be consistent with the LCRP. Regarding any future agency

actions that may affect the LCRP, the National Park Service will consult with the state.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

This law regulates the cleanup of hazardous or toxic contaminants at closed or abandoned sites. In response to CERCLA, the Department of Interior's policy set forth in 602 DM 2 states "It is Departmental policy to minimize the potential liability of the Department and its bureaus by acquiring real property that is not contaminated unless directed by the Congress, court mandate, or as determined by the Secretary." This policy requires the acquiring bureau to conduct preacquisition environmental site assessments (level 1, 2, 3 surveys) to determine the nature and extent of contamination.

Preliminary assessment of properties in the Bayou Segnette study area identified as parcels BS-2, 13, and 17, have indicated these sites have the potential of containing hazardous materials. If these sites were included in a boundary adjustment, further assessment would be required.

National Historic Preservation Act of 1966

The draft study was submitted for review and comment to the state historic

preservation officer (SHPO) as well as to the advisory council on historic preservation (ACHP). If future actions affecting cultural resources are proposed within the park, the SHPO and ACHP will be afforded an opportunity to review and comment. The National Park Service will ensure that all work is carried out in accordance with the *Secretary of the Interior Standards and Guidelines for Archeology and Historic Preservation*.

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)

This order requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The alternatives addressed in this boundary study effort were evaluated and it was determined that none of these actions would result in significant direct or indirect negative or adverse effects on any minority or low-income population or community.

AFFECTED ENVIRONMENT

Louisiana's Mississippi River Delta region is an area of dynamic geological processes and highly productive ecosystems. The resources evaluated in the final boundary study contain representative samples of the delta's underlying physical structure and the diverse natural habitats built upon it. The study areas also contain evidence of the succession of human occupation dating back to the very creation of the land by deltaic processes.

NATURAL RESOURCES

Geology and Hydrology

The Barataria Preserve unit boundary study area is in the upper freshwater zone of the Barataria-Terrebonne Estuary, the largest and most productive estuary in the United States. This broad, low-lying estuary is situated between the two active distributary arms of the Mississippi River and contains within it several subdeltaic lobes (subdeltas) built and abandoned by distributary arms of the river over the last 5,000 years. The preserve is situated on the Bayou des Familles-Bayou Barataria lobe, which was occupied and built from roughly 3,500 to 1,500 years ago. An abandoned arm of the river, Bayou des Familles, forms the backbone of the preserve. Once one-third of a mile wide and carrying one-third of the river's flow, it is now a narrow tidal stream. Its channel was filled in by sediments as the river slowly abandoned the Bayou des Familles' course. The filled streambed is flanked by natural levees, reaching an elevation of about 5 feet above mean sea level, that were formed by deposition of sediments during annual spring floods. Soils change and elevations decrease to near sea level perpendicular to the line of the levees. The land is actively subsiding because the modern delta sits atop thousands of feet of unconsolidated sediments deposited during previous delta-building episodes.

Originally, the area's hydrology was controlled by three forces — rainfall, tides, and the Mississippi River. Beginning with the first French settlements along the river in 1718, the river's contribution has been steadily diminished by human changes, including the construction of artificial levees and the closing of distributary channels. Since 1927, no river water has entered the upper Barataria basin. Hydrology is now controlled entirely by rainfall (more than 60 inches annually) and tides. The daily lunar tidal range is quite small, less than 1 foot on average, but climatic factors, including wind direction and speed, weather fronts, and tropical cyclonic events, can greatly amplify tidal ranges.

Hydrological conditions have also been altered by the building of levees and canals. Most of the "uplands" in the study area's watershed have been developed and surrounded by storm protection levees. Rain falling inside these levees no longer flows evenly to lowlands, but is instead collected and carried over the levees by stormwater drainage pumps and discharged at discrete points. The preserve's wetlands have also been modified by canals, beginning with small plantation drains in the 18th century, and progressing through the logging canals of the 19th century to the oil field, navigation, and drainage canals of the 20th century.

These changes have fundamentally altered the area's hydrology. No freshwater or sediments from the river now reach the study area; runoff from uplands is restricted to channels and contains urban pollution; rainwater concentrates in canals instead of flowing as a sheet; saline waters follow canals northward from the gulf and invade former freshwater areas; and tidal ranges are amplified by the canal network.

These hydrological problems are not restricted to the study area, and actions are

underway to restore the hydrology of the entire basin through diversion from the Mississippi River, as well as by other techniques. These alterations, taking place deltawide, would nevertheless profoundly affect the preserve's hydrological functions.

Louisiana contains 40% of the nation's coastal wetlands, yet it is experiencing an 80% loss of its coastal wetlands. These wetlands support 30% of the nation's annual harvest of fish and shellfish and 40% of the harvest of wild furs and hides. Actions to restore the hydrology of Louisiana's coastal wetlands and the Barataria basin are being coordinated through several concurrent, coordinated processes (van Heerden 1994; Gagliano 1994). In 1990, Congress passed the Coastal Wetlands Planning, Protection and Restoration Act. This act directed that federal agencies, in concert with the state of Louisiana, develop a comprehensive approach to restore and prevent the loss of coastal wetlands. The state has implemented a Coastal Wetland Conservation and Restoration Program to coordinate its share of the effort. In addition, in 1992, the Barataria-Terrebonne National Estuary Program initiated a 5-year effort to develop a comprehensive management plan for guiding actions to protect and restore the estuarine complex. All of these efforts seek to restore components of the basin's natural system through diversions of freshwater and sediments from the Mississippi River into the estuary, which would reverse the process of wetland loss.

Soils

Four major soil types are found in the area: Sharkey-Commerce, Barbary, Lafitte-Clovelly, and Kenner-Allemands. The Sharkey-Commerce soils are firm mineral soils associated with the natural levee and silted river channel; these are the best soils for development and agriculture. Barbary soils are semifluid mineral soils deposited on the backslope of the natural levee and associated with swamps. Kenner-Allemands soils consist of thick organic layers underlaid with

thin clays that are associated with fresh marshes; Lafitte-Clovelly soils are semifluid organic soils associated with the more saline intermediate marshes. These other soils are generally poorly suited for development and would not readily support foot traffic. Only the Sharkey-Commerce soils could be considered prime farmland, but, due to subsidence, high water tables, and frequency of flooding, the soils in the study area are generally unsuitable for agriculture.

Wetlands and Floodplains

More than 95% of the study area is wetland. The U.S. Fish and Wildlife Service's National Wetlands 1992 Inventory has mapped the area and classified it as palustrine emergent, palustrine forested, palustrine scrub-shrub, and estuarine intertidal emergent wetlands.

The entire preserve is within the 100-year floodplain. The probable flood elevation of a 100-year storm is 6 feet above mean sea level in the vicinity of the visitor center on Highway 45.

Plants and Wildlife

The natural communities of the preserve and boundary study areas fall into three broad types, reflecting the underlying geological structure: hardwood forest, swamp, and marsh. These major plant communities are associated with natural levee ridge, back-slope swamp, and interlevee marsh. Characteristic ecological communities occupy each of these habitats, with over 340 species of native vascular plants and 380 species of vertebrate animals thus far identified in the preserve.

On ribbons of firm natural levee alluvial soils, the only ground above sea level, a hardwood forest of ridge and bottomland species grows that includes water oak (*Quercus nigra*), live oak (*Quercus virginiana*), American elm (*Ulmus americana*), sweetgum (*Liquidambar styraciflua*), hackberry (*Celtis*

occidentalis), red maple (*Acer rubrum*), and green ash (*Fraxinus pennsylvanica*). Palmetto (*Sabal minor*) is frequently in the understory, as well as hawthorne, holly, and complex associations of vines and epiphytes.

On the backslopes of these natural levees, where the soils are inundated much of the year, a swamp forest grows that consists of baldcypress (*Taxodium distichum*) and tupelo gum (*Nyssa aquatica*), in association with black willow (*Salix nigra*), red maple, pumpkin ash (*Fraxinus profunda*), wax myrtle (*Myrica cerifera*), and a floating herbaceous understory. Portions of both the bottomland and swamp forests are nearing maturity, and both contain a number of ancient specimens. The study area's forests are among the finest examples remaining in the delta of this original forest ecosystem.

The study area's marshes occur beyond the swamps, where alluvial soils have subsided well below sea level. Above this sunken surface, generations of marsh plants laid down a layer of peat, often many feet thick. The peat supports a unique floating marsh characterized by annual grasses, sedges, rushes, and forbs, known as *flotant*. The preserve anchors the eastern end of one of the largest regions of floating marsh in the world, stretching westward in a broad band to the Atchafalaya basin. In some places, the *flotant* is so thick that it supports a unique floating community of shrubs and small trees.

Marshes in the Barataria area are either intermediate marshes, growing in slightly brackish water, or freshwater marshes. Intermediate marshes adjoin the shoreline of Lake Salvador in the western part of the study area and appear to be expanding, due to subsidence and the resultant saltwater intrusion. Intermediate marshes contain bulltongue (*Sagittaria lancifolia*), wiregrass (*Spartina patens*), and three-cornered grass (*Scirpus olneyi*). In freshwater marshes, predominant species include bulltongue, maidencane (*Panicum hemitomum*), softstem bullrush (*Scirpus validus*), pennywort

(*Hydrocotyle bonariensis*), iris (*Iris giganteaerulea*), smartweed (*Polygonum* spp.), spikerush (*Eleocharis* spp.), and alligator weed (*Alternanthera philoxeroides*).

Each of the area's plant communities supports a characteristic fauna, and wildlife is particularly abundant in the delta. Subtropical warmth, high rainfall, and fertile soils combine to create a highly productive ecosystem. Invertebrate primary consumers, including crawfish, crabs, and shrimp, help anchor an intricate food chain that supports the more visible wildlife. The area is rich in other estuarine organisms, including clams; larval oysters; brown, white, and river shrimp; blue crabs; and red swamp crawfish.

At least 45 species of both freshwater and saltwater fish have been recorded, including gar, bowfin, mosquitofish, killifish, catfish, largemouth bass, other sunfish, eels, redfish, and spotted seatrout. Twenty-three species of amphibians are known, including sirens, amphiumas, newts, semiterrestrial salamanders, toads, narrow-mouthed toads, five species of treefrogs, and four species of true frogs. Forty-three species of reptiles include the American alligator; five species of turtles (most notably, the alligator snapping-turtle); five species of lizards; and 22 species of snakes, among them the endemic delta subspecies of black-masked racer. Over 240 species of birds are known, including wading birds nesting in rookeries; wintering ducks and geese; raptors; shorebirds; owls; and 115 species of neotropical migrants, 28 species of which nest. Finally, 30 species of mammals are known, including mink, otter, beaver, muskrat, nutria, and deer.

Threatened and Endangered Plants

No federally listed threatened or endangered plant species are known to occur in the study area.

In a letter dated April 10, 1992, the Louisiana Natural Heritage Program identified two rare plants found within or near the

boundaries of the Barataria Preserve unit. These were swamp milkweed (*Asclepias incarnata*) and floating antler-fern (*Ceratopteris pteridoides*), both considered to be imperiled in Louisiana because of rarity or other factors making them vulnerable to extinction within the state. Their records indicate that, although floating antler-fern is common within the study area, its population fluctuates and may be affected by cold winters. Swamp milkweed has not yet been found. Records also indicate that another species identified by the state Natural Heritage Program as being of concern, creeping spike-rush (*Eleocharis fallax*), has been recorded within the study area. This is the most recent information provided by the heritage program.

Threatened and Endangered Animals

The following federally listed endangered animal species have been recorded in the study areas: brown pelican (*Pelicanus occidentalis*), which occasionally wanders to Lake Salvador from its habitat in lower Barataria Bay; least tern (*Sterna antillarum*), an uncommon migrant, individuals of which are presumed to be from the endangered interior population (*S. a. athalassos*); and American peregrine falcon (*Falco peregrinus*), an uncommon migrant and winter visitor, perhaps including the endangered subspecies (*F. p. anatum*). Federally listed threatened species on record are: American alligator (*Alligator mississippiensis*); arctic peregrine falcon (*F. p. tundrius*), a migrant that winters in Louisiana and is listed as threatened due to the similarity of its appearance to the American peregrine falcon; and bald eagle (*Haliaeetus leucocephalus*), an uncommon migrant and regular winter visitor. An active nest of the southern bald eagle (*H. l. leucocephalus*), a winter breeder, is within the study area in the Bayou aux Carpes swamp. Federal category 2 candidate species recorded from the preserve include: alligator snapping turtle (*Macrochelys temminckii*); loggerhead shrike (*Lanus ludovicianus*); and cerulean warbler (*Dendroica*

cerulea), which does not breed in the preserve. The study area is within the known range of the southeastern myotis bat (*Myotis austroriparius*), but there are, as yet, no records (pending the Heritage Conservation report).

State animal species of special concern found within the preserve include the saltmarsh topminnow (*Fundulus jewkinsi*), a species of unknown status within the state, and Cooper's hawk (*Accipiter cooperii*), a species of concern as a breeder in Louisiana that has been recorded on numerous occasions during the breeding season and is presumed to breed. Other bird species of special concern as breeders that have been recorded are: American white pelican (*Pelicanus erythrorhynchos*), reddish egret (*Egretta rufescens*), glossy ibis (*Plegadis falcinellus*), osprey (*Pandion haliaetus*), American swallow-tailed kite (*Elanus leucurus*), broad-winged hawk (*Buteo platypterus*), least tern (*Sterna antillarum*), Caspian tern (*S. caspia*), gull-billed tern (*S. nilotica*), warbling vireo (*Vireo gilvus*), yellow warbler (*D. petechia*), worm-eating warbler (*Helmitheros vermivorus*), and Louisiana waterthrush (*Seiurus motacilla*). None of these species has been found to be breeding; only osprey, swallow-tailed kite, and broad-winged hawk appear to be candidates for eventual breeding.

CULTURAL RESOURCES

Archeological Resources

Discovered archeological sites in the preserve area represent the continuous span of human occupation in Louisiana's Mississippi River Delta region, from the Tchefuncte period (600-200 B.C.) to the Plaquemine period (A.D. 1000-1200). Thus far, more than 80 prehistoric archeological sites, ranging from the earliest Tchefuncte, through the Marksville, Troyville, Coles Creek, Plaquemine, and Mississippian periods, have been discovered inside the preserve's boundaries. Known Marksville sites in the delta are extremely rare (although a few have been found within

the present boundaries of the preserve), probably because they are overlaid by later occupations. Archeologists project, on the basis of earlier discoveries, that future findings will occur in the same patterns as in the past; that is, closest to the banks of bayous and along the shoreline of Lake Salvador and other natural waterways. The preserve's archeological resources, like its natural resources, are subject to subsidence and erosion. In Jefferson Parish, 47% of known archeological sites, especially in the Barataria region, have been lost to subsidence, erosion, dredging, and development (Army Corps of Engineers 1986).

Historical Resources

American Indians are documented to have occupied the area from A.D. 1600 to 1850. They lived on the natural levees or on artificial mounds of earth and shell. They subsisted by hunting, fishing, and gathering in the streams, forests, swamps, and marshes, supplementing wild foods with limited agriculture or horticulture, perhaps as early as the Marksville period. Bayou Barataria was originally called Bayou des Ouachas by the French, apparently after a tribe frequenting the Barataria area at the time of European contact (Janssen 1987). "Numerous tribes were living in the vicinity of the Barataria Basin during the period of French exploration and settlement in the late seventeenth and early eighteenth centuries: Bayougoulas, Mugulashas, Chitimachas, Yagnesitos, Tchatchagoulas, Tilapanis, Taensas, Ouachas, and Tchaouchas. . . . Those with enduring historical associations with the Barataria Basin were the Chitimachas, Ouachas, and Tchaouchas. . . . Documentary evidence indicates that the Ouachas and Tchaouchas continued to live in Barataria until at least the mid-nineteenth century" (Swanson et al. 1991). In general, various tribes were decimated by European-introduced diseases, eliminated by warfare, assimilated by other peoples, or moved to other locations in Louisiana.

A glance at the map provided in "Locations of Modern Louisiana Indian Groups" (Gregory 1992) reveals that the Houma people appear to be the closest inhabitants to what is now the Barataria Preserve unit. A 1718 map by Guillaume Delishe shows the Oumas, or Houmas, to be located along the Mississippi River in the vicinity of Bayou Metairie and Bayou Saint John (Swanson 1975). In a series of successive migrations during the 18th century, the Houmas moved from north of present-day Baton Rouge, along the Mississippi River, to where they are now in the Dulac-Golden Meadow region (Spitzer 1979). Their last territory could have overlapped into the Barataria area.

Guillaume Delishe's 1718 map suggests that the Chitimachas, whose main village at the time was near the mouth of Bayou Lafourche, may have extended their territory into the swamps and marshes of Barataria (Swanson 1975). Anthropologist Barbara Holmes (National Park Service 1986a) refers to the Chitimachas, along with the Ouachas and Tchaouchas, as inhabiting "the edges of Barataria Basin and perhaps its interior." Today, the Chitimachas, after moving around like the Houmas, are in the Bayou Teche area, centered around the community of Charenton (Gregory 1979).

The Barataria region was known to the French — and explored by them — shortly after the founding of New Orleans in 1718. The region became known in history for its network of waterways leading to the city. Barataria Bay served as a sheltered harbor in this vicinity of the Gulf Coast; it had sufficient depth for large vessels delivering goods. The numerous bayous that wended their way to the Mississippi River and New Orleans were used by colonists, traders, fur trappers, fishermen, smugglers, and pirates (Swanson 1975).

One of the earliest identifiable French landowners in the Barataria basin was Claude Dubrueil, who held, among other properties, what is now the southern end of the preserve. Dubrueil arrived on the scene

Since the late 1950s, the study area's population and economic growth have had a dramatic effect on its land-use patterns by transforming a significant amount of acreage from undeveloped to urbanized uses. The major physical features and characteristics that have influenced land-use trends in the West Bank are the Mississippi River, the existence of several major transportation arterials, proximity to the Central Business District, the availability of land suitable for development, and the availability of moderately priced housing.

Population growth and residential developments historically have depended on the construction and maintenance of levees along the area's waterways. Prior to the construction of levees, the highest lands in the area were along the Mississippi River, where the banks were built up during many years of overflow. The lands near the river were developed first because their proximity to the river makes them desirable industrial sites and because they are generally flood-free. An existing levee protects the study area from flooding by the Mississippi River.

As it became necessary for development to expand away from the river, it took place along natural levee ridges. As ridges became fully developed, it became necessary to construct levees to protect the developments that infringed into lower, wetter lands and to provide canals and pumping stations to evacuate the rainfall and afford internal drainage. Pumping typically results in accelerated subsidence, with the end result of ground elevations in developed areas that are often below sea level.

The rapid growth of the West Bank's population has also generated a significant demand for services of all types, especially medical and commercial. Strip commercial development has occurred along portions of major thoroughfares, and several shopping centers have developed near the study area. The level of capital invested in these centers is an indicator of the private sector's expectation for growth potential in the study area. The

economic potential of the area appears favorable, despite recent declines in the petrochemical industries. The area's mild climate, natural resources, high potential for continued expansion of port activities, and tourist industries are major factors encouraging growth.

In its *Development 2000: Comprehensive/Land Use Plan*, Jefferson Parish addressed future patterns and directions expected to occur by the year 2000 as follows:

Residential land uses will expand in areas near Barataria (Louisiana Highway 45) and Lapalco Boulevards and in the Highway 3134 (Lafitte-Larose Highway) area. Because of the increasing population pressures expected to occur, the development of high-density residential units will likely take place in present areas. While it is probable that medium-to high-density developments will predominate in areas near the first two roadways, soil conditions and distance considerations will encourage low-density development near the Highway 3134 (Lafitte-Larose Highway) area.

Commercial land uses along the West Bank Expressway will remain at their present levels because they are adequate to serve forecasted population growth. Commercial land uses are projected to increase significantly along Lapalco and Barataria Boulevards as evidenced by the construction of several shopping centers at the intersection of these two arteries. Office parks, storage, distribution, and service facilities will continue to occupy a growing share of the commercially desirable land in the project area to the year 2000.

Industrial land uses will also continue to grow, especially in areas north of the Estelle Outfall Canal. Industrial acreage in the project area along the Harvey Canal and the Mississippi River will more than likely be completely absorbed by the year

2000. Primary uses will continue to be oriented toward the port and shipbuilding industries (Jefferson Parish Planning Department 1981).

Regional Recreation Plans

Tourism growth in New Orleans and an expanding population in the West Bank area create recreational demands and, as a result, opportunities for leisure-service providers. A long history of recreational planning for the West Bank indicates an interest in recreational and economic needs of local communities.

The *Wetland Harbor Activity and Recreational Facility* (WHARF) is a major new plan for the redevelopment of the abandoned Westwego Airport. This plan was developed for the city of Westwego, Jefferson Parish, and the Jefferson Parish Economic Development Commission by Design Consortium, Ltd. in 1995. It is an ambitious plan to develop a wetland park of universal design that would meet the needs of people with disabilities. It is a \$28 million proposal that recommends the phased development of such facilities as a multipurpose meeting facility and activity deck, indoor and outdoor court sports, boardwalks, rental fishing boats and boat launch, a sensory garden, wetland botanic complex, a multipurpose group camp with dormitories, and cabins. Implementation is anticipated to require a public/private partnership using funding from a broad spectrum of users with the potential for federal matching funds. The site is proposed in the Bayou Segnette Study Area and would be a compatible recreation complex within the Barataria Preserve unit if the study area was included in an expanded boundary.

A comprehensive, parishwide recreation plan, completed in 1967, went largely unheeded. The plan was revised in 1972 and, again, underwent little implementation. The 1982 *Jefferson Parish Recreation Master Plan* proposed utilizing existing facilities to provide passive recreational activities (Design Consortium 1982). The plan also

recommended ambitious new developments for the levee systems along the Mississippi River and the swamp/marshlands between the Mississippi River and the Gulf of Mexico. The plan recommended a major park in Gretna that would combine active and passive recreation and use of the levee greenbelt for jogging, biking, and viewing the river. A Westwego development on the waterfront would include revenue-producing concessions, a boat landing, a restaurant, observation decks, picnic facilities, and bike/foot trails. From the landing, access could be provided to Bayou Segnette State Park and a proposed marina and fishing village complex. By levee trail and waterways, access could also be provided to Jean Lafitte National Historical Park and Preserve, swamp and marsh environments, and the area within the hurricane protection levee predicted for future West Bank residential growth.

The *Jefferson Parish Bicycle Path Plan* (Burk and Associates, Inc. 1975), prepared for the Regional Planning Commission and the Federal Highway Administration, found Jefferson Parish the ideal pilot study to provide comprehensive bicycle facilities for the region. Several routes, including River Road, Lapalco Boulevard, West Bank Expressway, and Louisiana Avenue were proposed to link destinations in the area and connect with other bicycle systems in the region. A 1985 Louisiana recreation survey indicated there were less than 30 bicycle-related recreational facilities in the state. In a report to the 1990 Louisiana legislature, the Louisiana Bicycle Advisory Committee recommended that the state aggressively develop a series of rail-trails and levee trails that could be used for recreation and for attracting tourism.

Implementation of the *Bayou Segnette State Park Master Plan Report* (Design Consortium 1982) proposals could make the park one of the most important and most visited recreational areas in the state. Day-use and overnight recreation areas would provide facilities for a variety of activities, including camping, canoeing, hiking, lodging, boat-launch capabilities, open-field sports, and

picnicking. The park's location gives it the potential to be a major gateway to other West Bank recreational opportunities.

The Jefferson 2000: Community Asset Development Plan (Jefferson Parish Economic Development Commission 1990), proposed by the Jefferson Parish Economic Development Commission, with technical support from the Jefferson Parish Planning Department, selects, reforms, and recommends implementation of many proposals from previously described plans. In the Bayou Segnette area, the Jefferson development plan proposes improvements for the state park, a 250-room hotel and resort/conference center, a civic/community center, one or two 18-hole golf courses, a 60-acre theme park, an Acadia Village visitor center, and links by boat and car to the Jean Lafitte National Historical Park and Preserve environmental education center. The plan proposes restricting development adjacent to the canal to heavy industry north of Lapalco, light to medium industry east and south of Lapalco, and changing light industry and office zoning/single family residential/ neighborhood commercial areas south and west of Lapalco. Commercial fishing ports were proposed for two sites in or near the study area — Westwego and Lafitte/ Barataria — to create jobs and upgrade deficient docking facilities. The plan recommends development of tourism/recreational services, such as swamp tours, bayou-side dining, shopping, and retail seafood sales in Westwego.

The Bayou Segnette Corridor Study (C. E. Meyer and Associates 1990) focuses on the development of a commercial harbor and related facilities to stimulate economic development and promote tourism in the area between Bayou Segnette and the Mississippi River. Bayou and swamp tour operations already have a foothold in the area. This study recommends expansion of visitor attractions to include restaurants, shops, and walkways affording a close-up view of the harbor, its fleet, and the neighboring swamp. A riverboat landing/observation area at the river and corridor along Louisiana Street could poise the Westwego harbor to provide for

the recreational needs of the greater New Orleans area.

The Army Corps of Engineers is currently planning and developing a 14-mile East Bank levee bicycle path. When completed, the recreational greenway will extend from the Jefferson Street/St. Charles Parish line in Kenner to Audubon Park, immediately across the river from the study area.

The Army Corps of Engineers is developing an enhanced levee on the West Bank adjacent to the Jackson Street Ferry landing. A levee-top promenade will provide access stairs, trash receptacles, benches, and lighting for passive recreational activities overlooking the Mississippi River. A similar development is planned for a section of levee adjacent to the Harvey Canal Lock. These developments represent early attempts to answer for some of the recreational deficiencies identified in other plans. They also point to the demonstrated potential for the Westwego to Harvey Canal Hurricane Protection Levee recreational study to become part of a much larger levee-based recreation network.

Jefferson Parish is presently exploring the possibility of creating an approximately 250-acre regional park to serve the West Bank, which would be located in the area just north of the V-levee reach of the Westwego to Harvey Canal Hurricane Protection Levee. As conceived, the park would mirror the East Bank's Lafreniere Park in size, design, and amenities. It would include playing fields, tennis courts, waterways, jogging and bicycle trails, and picnic areas. There are also proposals to locate a public golf course in the same general area.

Although much of previous planning is described only in general terms, similar developments in several proposals indicate a considerable interest in economic and recreation development throughout the study area. However, due to lack of funding, the less-than-unanimous support of proposals, and other reasons, most of the ambitious recommendations remain unimplemented.

CONSULTATION AND COORDINATION

SUMMARY OF SCOPING PROCESS

On September 30, 1994, a brochure was mailed to approximately 12,000 individuals and organizations, which announced the project and upcoming public meetings and provided general information concerning the study purpose and study area. The mailing included 140 documented landowners (many parcels have multiple landowners), residents of adjacent communities, other West Bank residents and businesses, and various agencies and organizations identified to have a potential interest in the effort.

Three public open houses were held in October to explain the purpose of the project; the location of the areas to be studied; and the general procedure for the boundary study, including future opportunities for public involvement. These meetings offered the public an early opportunity to ask questions and express concerns and/or support. A public comment form was made available at all three meetings. A follow-up meeting was held, as requested, for Isle Bonne and Highway 3134 residents.

The majority of comments at the three meetings came from a group of Isle Bonne residents or relatives of residents. They expressed extreme concern that their land and homes might be taken away or that this effort was the first step in eventually taking over the entire area. Many were concerned about their ability to stay on the land or leave the land to their children. Some expressed interest in pursuing alternatives to National Park Service ownership that might still protect resources.

Written comments received as a result of the meetings ranged from requests that the National Park Service discontinue the study to requests that the National Park Service expand the study to include several other areas, particularly Couba Island. The Jefferson Parish Council passed a resolution

on November 16, 1994, requesting the National Park Service "not to expropriate any developed property in the Crown Point and Isle Bonne area for the expansion of the park boundary."

Consultation meetings were held with members of the United Houma Nation Tribal Council on November 17, 1994, and with members of the Chitimacha Tribe of Louisiana on November 18, 1994. Discussion concerning ties with the Barataria Preserve unit in particular, and Louisiana's Mississippi River Delta region in general, followed. A resolution stating each tribe's position on the boundary study was requested. The meetings served as a forum in which to exchange ideas and share past associations with the park.

PUBLIC REVIEW OF THE DRAFT BOUNDARY STUDY AND ENVIRONMENTAL ASSESSMENT

Record of Public Comment

Notice of availability of the *Draft Boundary Study/Environmental Assessment* was announced in the *Federal Register* on March 29, 1996 (61 FR 7676), and through news releases and letters to individuals, organizations, agencies, and congressional representatives on the project mailing list. Over 400 documents were distributed to local libraries and to the public by direct mailing, by handout at public meetings, and upon request from the park and Denver planning office.

The draft study was originally placed on 30-day review during April 1996. Upon the request of several members of the public and Congressman Tauzin, the review period was extended an additional 60 days to June 30, 1996. The boundary study received considerable coverage by the media and public interest has been relatively intense,

particularly by those people who live, work, or recreate in the general preserve area.

The transcripts of the public meetings and copies of all written correspondence commenting on the project are on file at the park and available on request. All public comments are retained by the federal government as part of the official public record for 30 years. Below is a summary of the range of comments received. During the public meetings, many of the comments were delivered as questions to Superintendent Belous. Therefore, where appropriate, answers are given to questions raised during the public meetings. At the conclusion is a listing of names of those who provided written comment and who signed in (legibly) at the public meetings and who stated their name when commenting at the meeting.

Summary of the Public Meetings

Three public meetings were held in April 1996. Each was well attended and public comments were recorded. Many of the public chose to attend all three meetings. The chart below summarizes the meeting locations, times, and number of individuals who signed in. For every meeting there were several people who did not sign in.

University of New Orleans, New Orleans, LA
April 9, 1996, 6:00-9:00 p.m.
13 people

West Bank Regional Library, Harvey, LA
April 10, 1996, 2:00-5:00 p.m.
21 people

Environmental Education Center, Barataria Preserve, Marrero, LA
April 10, 1996, 6:30-9:30 p.m.
77 people

The vast majority of those who spoke at the meetings were people who resided or had business interests in or near the Isle Bonne, Bayou Segnette, and Bayou aux Carpes Study Areas. Most were opposed to the

potential expansion of the preserve or were concerned about federal activities within the current preserve and used the meetings as an opportunity to express those concerns.

Inclusion of Isle Bonne in Final Study.

Residents of Isle Bonne were very concerned that the final boundary study would include the same information about Isle Bonne that is in the draft document and this would be sent to Congress. Individuals felt that some of the things written about Isle Bonne, particularly the Vincent tract, were untrue, negative, and "made the area sound terrible". Their concern was that if Congress read this, Congress would assume it was true and be compelled to take the land. Hope was expressed that if there was enough opposition at the public meetings, all of the written discussion of Isle Bonne would be removed.

The discussion of the Isle Bonne Study Area, the Highway 3134 Study Area, and the Couba Island Study Area were removed from this final version of the boundary study.

Maintaining Lifestyle and Heritage. Several residents of Isle Bonne continued to be very concerned that the National Park Service intended to take their land and homes away from them. They are afraid of becoming displaced, with no place to go. They want to be able to pass the land on to their children and grandchildren. They do not want to see their land become part of a tourist attraction.

Some spoke about how they have been taking care of their land, how they believe in conservation. Another spoke about the tradition they grew up with of living in and off of the swamp, of trapping and hunting and collecting moss, and how sentimental this lifestyle is to them.

A few asked if the federal government would, instead of taking the land, work with neighboring landowners and provide guidance on taking care of the land in a way compatible with the park.

Some citizens expressed concerns about the future of those who lease sites for hunting and fishing camps and about whether they would be allowed to continue this traditional use. Associated questions were raised about related traditional uses such as hunting, trapping, and fishing, and their status under a new boundary configuration.

A Westwego alderman spoke to the public on the importance of holding on to their land to make money, feed the family, and make a living; that their land had potential for farming crustaceans. Also, he noted that the park had been closed due to the federal budget and was concerned that the government does not have the money to operate it and currently the state Wildlife and Fisheries agent does a good job patrolling these lands.

The primary areas of concern based on public comment — Isle Bonne and Highway 3134 Study Areas — have been removed from the study and are considered not feasible for inclusion. Traditional uses, like hunting, trapping, and fishing, are in general protected under the park's enabling legislation and would be unaffected by a boundary modification. Areas now closed to traditional uses by private landowners would be reopened if included within the preserve. Camp occupation is considered a traditional use by the park, therefore, camp owners with valid leases are allowed to remain in the park. The traditional one-year lease is converted to a park-issued permit renewable on a yearly basis. That permit may place some additional controls on maintenance and water quality.

Revisiting a Boundary Adjustment. One citizen asked if the Isle Bonne community could receive in writing a promise by the Park Service that their community would not be included in another boundary study within the next 20 years. Another expressed the great burden of that possibility, since the Park Service tried to "take it" in the past.

No promise regarding another boundary study can be made, but given the comprehensive

approach taken in this study, another study is very unlikely.

Oil and Gas Operations. An owner of two gas wells in the Bayou Segnette Study Area wanted to know what would happen to his operations if the boundary was expanded.

For further discussion of oil and gas leasing within the park, refer to page 39.

Enough Regulations Currently to Protect Area. A representative of the Marrero Land Improvement Association and others did not want to see more layers of regulation applied to their land and operations. He listed the laws and government offices involved that he felt ensure protection of these areas, such as the Corps of Engineers and the Clean Water Act Section 404 permit program, the Environmental Protection Agency oversight, Louisiana Department of Natural Resources coastal management program and oil and gas regulations.

Regulations do not in themselves guarantee protection from development; rather, they require only that potential developers submit their plans for review and a permit. Furthermore, regulations are subject to change either through revision by the regulatory agency or by legislative action.

Purchasing a Landfill. One citizen was concerned about why the park would take on the added responsibility of a landfill in the Bayou Segnette Study Area. Because this area is on the edge of the study area, the question was why wouldn't the park just cut that out of the study area.

The National Park Service is restricted from acquiring properties with hazardous materials and must conduct pre-acquisition assessments of the land to ensure the property is not contaminated. Therefore, even if included within a boundary expansion, acquisition is likely only if there is no hazardous substance issue.

Take care of what you have. Several people questioned whether the park could take care of what they currently have within their

boundary because of the federal deficit, the park having to close because of the federal furlough, the fact that the park did not even own all the land inside current boundaries, and the limited park staff. They noted ongoing problems within the park such as erosion along Bayou Segnette Waterway and trees that are falling into the canal, saltwater intrusion that is killing the cypress trees, litter, vandalism, and poaching.

A representative for the Bayou Segnette Community Boater's Association (membership approximately 650 people) made several observations. While the existence of the preserve is seen as a good federal action, perhaps it is a big as it needs to be. The removal of Couba Island was a good example of local people addressing and establishing things compatible with the park. Also the WHARF project is local, compatible, and creates jobs.

Nonwetlands in Bayou aux Carpes. One landowner in the Bayou aux Carpes Study Area spoke about his property not being wetlands and that he is opposed to the government taking his land and asked what it would take for the government to give Jean Lafitte National Park back to the state.

Threats to Commercial Fishing and Tour Boats. A major concern by the Boater's Association and others is that a park expansion will take away many more jobs, particularly from small and large commercial fishermen, than it will create. Tour boat operators and others voiced concern whether tour boats would continue to be permitted to operate and bring the public in to see the traditional Cajun lifestyles in the swamp.

Westwego Mayor Billiot and the city council voiced concern about what impact a boundary expansion would have on the people who make a living using motorized boats for swamp tours and commercial and recreational fishing. They noted that the park does prohibit motorized boat use in some areas currently. Alderman Green presented Westwego Resolution 96-4A, "expressing strong

opposition to the expansion of the Barataria Preserve Unit of Lafitte National Historic Park . . . because of the potential for adverse impacts to the occupations and welfare of the citizens of Westwego."

Also, many citizens voiced frustration about either not being able to get their boat through Bayou Segnette Waterway or the hazards they experience if they try due to lack of dredging. The Boater's Association was concerned that further park expansion would create even more problems with getting the canal dredged. But in a different perspective, the association representative noted serious concerns about some of the larger landowners limiting public access to smaller canals by posting signs and driving pilings. She noted that perhaps the study will help people who use this area realize "that we have to be stewards of the environment and work closely with the Park Service in order to preserve our habitat and use it as much as possible for both commercial and recreational means."

Please note the following page in this document for more information regarding the above concerns: Bayou Segnette Waterway/Port of Westwego, page 39.

Extend Review Period. There were requests to extend the 30-day review period, citing the fact that the project had taken one and a half years to reach this stage and the public was only being given 30 days to comment.

The project review period was extended, resulting in a 90-day period that closed June 30, 1996.

The WHARF project. Westwego Mayor Billiot was disappointed that the boundary study did not reflect any information about the Westwego/Jefferson Parish plan to develop the old Westwego airport site (in Bayou Segnette Study Area) into a recreation area accessible to people with disabilities.

Please note the following pages in this document for more information regarding the above concerns: "WHARF" development, pages 17, 39, and 54.

The Perceived Ripple Effect of an Expanded Boundary. Mayor Billiot of Westwego was concerned that if the park came all the way to the city's edge at the levee, that the National Park Service would impose tougher requirements on the city's stormwater drainage system and their discharge system for the wastewater plant.

Also, the mayor wanted to know if the park boundary came right up to the levee, would the Park Service require the development of a buffer zone on the dry side of the levee that would ban commercial or residential building. Marrero Land Improvement Association voiced similar concern, "... because to permit commercial development so close to the new boundary would adversely impact the park and that position . . . would inhibit the ability, not just of our company but other landowners, to develop their properties inside the levee."

Please note the following pages in this document for more information regarding the above concerns: Water quality, page 36; land use outside new boundary, page 38.

Summary of Written Comment

A total of 83 written responses were received on the *Draft Boundary Study / Environmental Assessment* during the 90-day comment period. Of these, 21 were letters from individuals, 4 were petitions (with a total of 409 signatures), 26 were comment forms from individuals, 1 was a survey (with a total of 454 survey participants) conducted by a private friends group, 14 were letters from private groups and organizations, 3 were letters from local businesses, 1 from the Delta Region Preservation Commission, 9 were letters or resolutions from state, parish, and city agencies, and 1 from a federal agency. Correspondence was received from

three members of U.S. Congress, with one member providing specific comment on the study.

The overwhelming majority of written comments from individuals, businesses, and organizations were in support of a boundary expansion, either as presented in alternative 1 in the draft or a revised version thereof. The petitions all represented opposition to the project and included signatures of citizens who voiced their opposition at those public meetings. The survey results represented a range of positive opinions. The agency responses represented a range of opinions.

The summary of written comments are organized below roughly by group.

Responses from Individuals

The following is a summary of letters and comment forms that were received from a number of individuals.

Educational and Recreational Value. Some commentators spoke about the preserve being the only "natural" national park area in Louisiana and the very important educational role an enlarged preserve has to the citizens of Louisiana to "...de-mystify wetlands and educate them about their significance."

Another commentator noted that of land use choices, enlarging the preserve "...provides a more wholesome spiritual and educational recreation that is easily accessible to the entire city area."

Protection of Resources and Livelihood. Many people commented on the importance of protecting and maintaining the resources. One noted that the current boundary is "fragile to human disturbances, both short and long-term. The expansion would further protect the core area of the preserve from the many human development and recreation activities." Others noted importance of

protecting the ecological systems within the preserve, particularly managing the area as "... a discreet hydrological unit will provide the best long-term management both for it and all adjacent privately held areas, as well as all the organisms that dwell within."

Another commentor spoke on the vital importance of protecting resources and thereby protecting a way of life: "Residents in this basin depend directly and indirectly on the natural resources found so abundantly in our marshes, estuaries, and inland bays. It is critical to protect these resources for the organisms which depend on them as nurseries, for the residents which depend on them for their livelihoods, for communities which depend on them for protection, and for all of us who enjoy both their bounty and beauty. It is critical that we protect these resources that they may provide us and our children with sustainable opportunities for the future."

Another spoke about how most of the people who enjoy the preserve are in "the quiet majority" and fail to convey their concerns that the "very richness that has made us famous is being lost" as more and more subdivisions are built around the preserve.

A Westbank resident and camp owner within the park boundary on Bayou Segnette supported the expansion. Based on her observations "Everything the Park Service has done thus far has improved the quality of the area, especially water quality. . . ." She adds that, while she agrees with many of the valid points raised by opponents, ". . . when considered in the big picture of local environmental problems, changing land use patterns, and the need for future generations to experience the natural areas that I so enjoy, preservation of this unique wetland area is essential. Unless some governmental agency steps in to coordinate development in the area under study, I foresee degrading water quality from the many landfills to the northwest of this area, unrestricted tourism growth that will deteriorate the natural experience of both

travelers and residents, berthing of a gambling boat on Bayou Segnette which will devastate the socioeconomic stability of the fishing village of Westwego, and continued closure of canals and lands that have been historically available to everyone. The National Park Service is the logical choice."

This camp owner also noted that she had spoken both with camp owners who have a special use permit with the Park Service and with persons who hunt and trap on preserve land. She said they had assured her that "... the regulations do not unduly interfere with their quality of life." She said that the cooperative agreement with the Wisner Foundation was so unrestrictive that many camp lessors were not even aware that their camps were inside the preserve.

A commentor from St. Bernard Parish commented on the need by much of the wildlife, especially many species of breeding birds, for large expanses of unbroken habitat. "This habitat needs to be protected within the preserve boundary if there is to be any chance for the continued maintenance of healthy populations of forest and marsh-dependent species."

An Expansion Will Enhance Tourism.

Another person who had worked in nature-based tourism sees park expansion as "... a catalyst to economic development in surrounding communities." She commented that a "park expansion would only help increase tourism" because local businesses are visited by the same people who visit the park. These people are also paying for tours of local fishing industry activities, such as the raising, farming or processing of crab, shrimp, and crawfish. She noted that "protecting marshes, swamps and wildlife in the park promotes more tourism and protects the natural and cultural resources upon which tourism is based." She also noted that "tourism is one of the fastest growing businesses in Louisiana and many members of harvesting businesses are turning to tourism in order to diversify. I see park

expansion as a catalyst to economic development in surrounding communities."

Better Access and Manageability. One person noted that the inclusion of Bayou Segnette study area would provide a closer alternative for public access to the preserve. Another commented on how the expansion of the preserve up to the hurricane protection levee will allow the levee to serve as a linear park, providing greater public access to both Bayou Segnette State Park and Barataria Preserve, as well as allow the park staff better access to the resources, thereby making the park more manageable.

A camp owner on the Wisner Tract notes that "...access would be virtually impossible to children and novice "swamp rats" if not for the trails maintained by park personnel."

Add Other Areas to the Preserve. A commentator who supports the park expansion does not feel the study goes far enough and wants to see other areas included that were rejected in the environmental assessment. These include the bottomland hardwoods along Highway 45 just north of the park entrance and the 147 acres in Crown Point. He disagrees that the Crown Point acreage would be difficult to manage because of the road separating it from the rest of the park. He feels the road would allow this hydrologically linked acreage to be easily patrolled. He notes further that it is valuable habitat for a wide variety of animals. He feels purchase would "end the constant pressure from Jefferson Parish to turn that swamp into a housing development."

Expand But.... Many people who commented in favor of the expansion said they wanted to exclude Isle Bonne, for example, "for legal and humanitarian reasons and to avoid the heavy opposition." Some did not support acquisition unless it was from willing sellers only. One person supported the expansion only if fishing and motorboating would "... still be allowed in the Bayou Segnette Area as it has been in the past. This area is too large for senior citizens or the handi-

capped to use paddle type boats only." A couple commentators noted that land owners should be informed about the option of having conservation easements on their property rather than having it acquired outright. Another commentator said she wished the study effort had involved more community planning at the outset to have helped prevent the public's fears the government wanted to take their land.

Threatened Heritage. One commentator noted that he and his family had been leasing camps in the Bayou Segnette area for at least four decades and feels strongly that if the park acquires this area, his heritage and way of life would end. He feels the trappers who lease this land "... have managed and protected this land successfully and keep the heritage alive for the tourist to see and enjoy. . . ."

An Isle Bonne resident wrote on behalf of many family members and neighbors expressing concern that a park expansion would take her family home and heritage away. She went on to correct Park Service statements she believes are false or inaccurate about land uses on her family's property.

Manage What You Have. This person feels strongly that the Park Service can not manage or police the land that they currently have because of evidence of illegal night hunting; not allowing alligators to be trapped that results in overpopulation; and not trapping nutria effectively.

Exclusion of Tour Boats. One citizen is sure that if the land becomes park land, the Park Service would shut down the tour boat businesses which, he said, 60,000 people patronized last year. If this happens he says "many citizens would be unemployed and the state and federal government would not collect the revenue it is currently receiving from this business."

Funding an Expansion. One commentator expressed hope that "Congress provides the necessary funding for the protection of a

national treasure." Another suggested that funding for park expansion could be possibly funded as part of a wetlands mitigation program required of developers of the Estelle Plantation Partnership Project within the V-levee.

Valuation of Property. One person demanded that his property in Bayou aux Carpes be valued as property available for commercial development because it would have been available in the early 1970s if the U.S. Government had not stopped the construction of the levee and pumping system. He says he is convinced that "agencies of the U.S. Government began acting over 20 years ago to remove the entire Bayou aux Carpes area from commercial development and save the area for future expansion of the Park at little or no cost to the U.S. Government."

Other Comments. The following are some of the additional comments found in the written correspondence from individuals.

- "The park should be three times larger."
- "I like to see my taxes spent in this manner."
- "...no better use of this land than inclusion in the preserve, particularly the Bayou aux Carpes area if there is a lawsuit settlement involving a regulatory taking."
- "...impressed with the quality of services delivered by park staff and their management of this precious resource."
- "...over the infinite years of the future ...the new purchases would add up to a far greater positive result than the negatives resulting from the purchases."
- "The Park Service should also exert utmost pressure and employ any political clout it may have to prevent the Corps of Engineers from using any borrow areas on the outside of the protection levee."

Response by Petition. Four petitions signed by a total of 409 individuals were submitted to the park during the 90-day comment period. Three of those petitions were submitted early in the comment period and were signed by a total of 117 individuals. The petition statement was "The following undersigned are opposed of the U.S. Department of Interior's plans to expand the Jean Lafitte National Historical Park to include all or parts of the following areas: Bayou Carpes, Bayou Segnette, Couba Island and Bayou Verret." Near the close of the comment period another petition was submitted with 292 signatures from primarily West Bank residents. This petition was distributed by a person concerned about an Isle Bonne property and entitled the survey "We The People". In summary the petition stated that "'We the people' are against this intrusion and take over of personal property...[We] see that tourists already have more than enough land to enjoy and explore. We also see the present Jean Lafitte Park being neglected...[We] see the homes, property and livelihoods being threatened by this boundary study. We are against being bound, and literally have our land taken away. We want to stay free from bureaucracy and preserve our heritage. For this reason, we ask you to join with us to put a stop to this take over of property...."

Response by Survey. The "Friends of Jean Lafitte Park" prepared a "Park Expansion Survey" that was taken between May 5 and June 27, 1996, in the parking lot of the Barataria Preserve's Coquille Trail. The survey results showed that 368 responders supported expansion of the boundary only if the Isle Bonne study area was left out; 89 supported expansion with or without the Isle Bonne study area; 17 supported unconditional expansion; 41 refused to participate, giving reasons such as they were too hot to stop, were in a hurry, that they did not care or did not have enough information; 9 were going to mail in their survey; and 3 were against expansion. Several people checked more than one answer on their survey,

resulting in more responses than actual surveys.

Response from the Delta Regional Preservation Commission

[Note: The Delta Region Preservation Commission was chartered by Congress to advise the secretary of the interior and the National Park Service on the management of Jean Lafitte National Historical Park and Preserve.]

The DRPC adopted a resolution on April 24, 1996 "supporting the addition to the park of those areas found suitable and appropriate for inclusion within the boundary." The major points they make in support are the following:

- The preserve, being the only natural area of the delta and of Louisiana included within the national park system, is "a vital symbol of the determination of Louisiana's citizens to protect their heritage."
- The preserve, with its location on the edge of New Orleans and accessibility to thousands of local, national, and international visitors a year, is helping to spread the message "far and wide that our wetland heritage is threatened and in need of a determined national effort to prevent its complete destruction."
- Regarding public opposition, the DRPC states "we are firmly convinced that, on balance, these concerns are outweighed by the benefits to be derived from a modified boundary." Further, the "fears and objections voiced . . . we believe to be misconceptions and misunderstandings." They go on to note that the Draft Study clearly proposed purchase only from willing sellers at Isle Bonne and Highway 3134. Also, in regards to fears the government will take property owner's land away without just compensation is unfounded. The fifth amendment insures otherwise. ". . . To date the government has paid out over \$18 million from the Land and Water Conservation Fund

for property within the present boundary is ample demonstration of this reality."

- Those concerned that traditional activities will be curtailed on new land added to the preserve need not be because the legislation creating the preserve guarantees preserve lands will remain available to the public for fishing, hunting, trapping and recreation. Camps and traditional uses within the boundary have continued, oil and gas extraction is specifically permitted, public land can only be transferred through donation.
- "The question of dredging the [Bayou Segnette] waterway is an important one but is independent of boundary questions. Competing interests must be weighed, including those of the citizens of Isle Bonne, who at the boundary study meetings expressed their dismay over the high rates of erosion that they have witnessed along the waterway. In the end, this is a matter for resolution by the U.S. Army Corps of Engineers, which has superior jurisdiction over the waterway, and to whom the park is only an advisor on this question."
- The DRPC notes that the ecotourism businesses on the Westbank "will be the ultimate beneficiaries of an expanded, protected, and healthy park ecosystem." They state that thousands more tourists are attracted to the Westbank area because of the park and that more benefits would accrue to Westwego "especially if the levee corridor is transformed into a recreational greenspace, serving as a gateway to the park and linking Westwego, Bayou Segnette State Park, and other communities."
- Regarding fears that by moving the boundary to the levee, the park will seek to curtail development, the DRPC reminds that the park service is not a regulatory agency, and thus has no authority to control activities outside its boundary and ownership. Also, the boundary study rejected specifically a proposal to include lands within the levee system.

- In response to arguments that the present landowners are good stewards of the wetlands, the DRPC chooses to disagree based on their past involvement in the long debate over the fate of those lands. They note that these are the same landowners who fought to have their lands included in the levee system so they could convert them to subdivisions. They are the same landowners "who have allowed landfills, trash dumps, unfettered canal building and brine discharges on their property . . . and have systematically closed their land and waterways to public access, and propose their conversion to mariculture."

Responses from Local Businesses

Chacahoula Bayou Tours. The owner and operator of a Westwego swamp tour business and local property owner felt that ". . . we should aggressively pursue the expansion. The opportunity to close the gap between the levee, the proposed recreational corridor, and the Bayou Segnette State Park, should not be lost." He said "I can see day to day deterioration of this area from public, private and commercial abuse. A great future for recreation and economic growth in the area, not to mention the opportunity for ecological stabilization, is mandatory."

Louisiana Swamp Tours. A local homeowner and swamp tour operator supports the expansion because he believes in the need for ecological stabilization and the fact that Louisiana cannot afford to lose any more wetlands. He noted that the study areas are "very sensitive areas that are still in a relative pristine state. The swamps surrounding the park is critical habitat that is unreplaceable and very important to diffusing the tidal surge of a hurricane. If left unprotected, sooner or later, the demand for some of this land might influence politicians to utilize it for purposes other than for what nature intended it to be used." He commented further that the homes of people along Highway 301 should not be purchased

since most of these families have their roots there.

The Marrero Land and Improvement Association, Ltd. The president of Marrero Land wrote to express the company's opposition to the expansion of the preserve. The following are some of the major points in the letter:

- The Park Service is ". . . premature to propose a further intrusion upon private ownership of these lands before the Park Service has even acquired the lands in the current PPZ [park]."

- Marrero Land emphasized that the existing state and federal legal and regulatory protection is sufficient on these lands and provide as much, if not more, protection than the protection which will be given Couba Island by the Louisiana Wildlife and Fisheries Commission. They note that Couba was excluded because of the perceived protection it would receive from the commission. The existing regulations and oversight provides ". . . enhancement of Park values and public access and enjoyment without the need to acquire privately-owned lands within the Study Areas."

- "The incremental benefits from an expansion of Park boundaries would not warrant the added cost to the public from property acquisitions, particularly in view of the ongoing efforts to balance the federal budget."

- Marrero Land noted that the levee's alignment, combined with other regulatory conditions, would "effectively limit future development to areas within the levee." Some of the other conditions they noted include the Memorandum of Understanding between the EPA and Jefferson Parish Council which establishes a "prohibited service area" for the provision of water south of the Levee alignment; the EPA's Section 404(c) determination in the Bayou aux Carpes study area; and the federal

ownership of the "CIT" tract in the Bayou Segnette study area.

- "Marrero Land is concerned that if the Park boundary is extended up to the Levee, there may be efforts to assert that development within the Levee should not take place because it will now have an adverse affect upon the newly expanded Park boundary. This concern has been heightened by the actions of certain members of the environmental community who have already raised objections in permit proceedings for development activities within the Levee on the grounds that these activities could, allegedly, adversely impact the Park."

Responses from Private Groups and Organizations

Louisiana Wildfowl Carvers and Collectors Guild. The guild's letter, signed by 26 members, was in full support of the expansion for many reasons:

- The park's existence has allowed the game to return and flourish after being "almost decimated by renegade hunters".
- The park has generated a microtourism climate consisting of many swamp tour businesses and spinoff additional businesses such as restaurants, canoe rental shops, souvenir shops....
- The expansion would "prevent piecemeal development in an area presently open to the whims of political and economic change."
- The inclusion of the three areas into the park would "link physically the beautiful and exceptional facilities of the Bayou Segnette State Park and provide a future recreational potential levee corridor. This would also allow the tourism businesses in Westwego a link with a stable and protected resource that will always be open to the public and the natural resources of the park,

public enjoyment, and business opportunities."

Stonebridge Garden Club. The garden club passed a unanimous resolution that supports the expansion to preserve the "precious land with many historical elements . . . for future generations to study and enjoy."

Louisiana Wildlife Federation. The LWF supports the expansion and commends the Park Service for presenting "a thorough review of the available options for configuring a revised boundary that can provide further enhancement and protection of the Barataria unit." They acknowledged the controversy generated by the report and noted that "since funding is not available at this time to acquire the additional lands, and funds for acquisition are normally conditioned on the private owner(s) being willing to sell, we hope this minor glitch does not short circuit this sound and proactive planning for the Barataria unit."

The Audubon Institute. A letter from the Environmental Policy Office of the Institute supported the expansion because it offers a "wonderful opportunity to protect significant wetlands and habitat while promoting ecotourism in the state. Citizens of Louisiana stand to benefit from both wetlands protection and environmentally sound economic development." It noted that each year the institute has increasing numbers of international visitors interested in ecotour outings and that expanding the boundary "allows our state to enhance it's status as a preferred travel destination."

Louisiana Archeological Society. The society's Delta Chapter commented on their involvement in archeological work and discoveries in and around the preserve and study areas. The letter supported in particular the inclusion of parts of the Bayou aux Carpes study area that contain the most significant archeological sites and cultural features. They also asked that exceptions be made to consider inclusion of the Bayou des Familles ridges north of the park (now leveed and

hydrologically separated) that remain undeveloped due to historic and archaeological value.

Louisiana Audubon Council. The council wrote on behalf of its 4,500 members in support of inclusion of those lands found to be "appropriate and feasible" in the draft boundary study. The reasons given:

- It would help achieve Public Law 95-625 Section 902 (c) that mandates the "preservation and protection of water quality within the core area."

- Property owners who have approached the NPS requesting that the park purchase their property should not be denied the opportunity to "sell their land to enlarge the Barataria Preserve and produce additional public benefits."

- And "with the expected future growth of the west bank of Jefferson Parish, the Barataria unit may be the only easily accessible green space left near New Orleans for public enjoyment."

Orleans Audubon Society The society stated that "We support this expansion as a way to provide protection for an environmentally sensitive, unique wetland ecosystem. Including these areas into the National Park System will provide them the long-term protection and scientific management they deserve."

Women for a Better Louisiana. The Women for a Better Louisiana expressed their support for the expansion of the park to include the Bayou aux Carpes, Bayou Segnette, and Bayou Verret study areas through purchase from willing sellers. The primary reasons for support of an expansion were the protection of wetlands and the enhanced opportunities for recreation. They noted that protection and restoration of Louisiana's coastal wetlands and environmental education are among the group's longstanding goals. In response to the various objections and reservations expres-

sed by some local citizens, they stated their belief that the many visitors to the preserve could "provide a base for development in areas surrounding the park around outdoor and wildlife-related recreation such as swamp tours, birding, canoe rental, fishing expeditions and the like and could stimulate other businesses (restaurants and retail outlets)." They also noted their concern about the loss of fisheries in the Barataria Basin and the importance of protecting nursery areas to help protect fisheries for both commercial and sport fishing.

Jefferson Business Council. The council, an organization representing businesses in Jefferson Parish, stated they do not believe there is a need to expand the preserve boundaries in order to protect the core resources of the preserve. They believe that current regulatory control exercised by state and federal agencies provides the necessary protection. Also, they note that "...there is little likelihood that lands outside the Levee could or would be developed" because the alignment of the hurricane protection levee "is recognized as establishing a 'growth line' for the Westbank of Jefferson Parish." They also expressed a major concern that if the park boundary is moved closer to the levee, that the park's proximity will be used as a reason by others for "...restricting development of lands within the Levee. Our organization is unalterably opposed to any action which would prevent or inhibit the conventional use and development of these areas of the Westbank."

The Chamber. The Executive Committee of the West Bank Council of The Chamber/ New Orleans and the River Region support the position of the Jefferson Business Council and stated that their concerns parallel those of the council. They note "Of particular significance was the prior understanding by all stakeholders that the levee would be established as the growth line, allowing lands located within the levee to be utilized for the growth and expansion of the Westbank."

League of Women Voters of Jefferson Parish. The league wrote to express their support for adding the Bayou aux Carpes, the Bayou Segnette, and the Bayou Verret study areas to the preserve. They support the inclusion because it "... will have the effect of making its boundary and the levee contiguous, protecting the intervening wetlands from adverse development, insuring better water quality for the area and preserving the remaining hardwood and cypress forest resource, thereby saving important estuarine and wildlife habitats for natural observation and recreation."

League of Women Voters of New Orleans. The league expressed its strong support for inclusion of the three study areas.

Responses from Agencies & Elected Officials

City of Westwego. The Board of Aldermen of the City of Westwego passed Resolution No. 96-4 (a) on April 8, 1996, "expressing strong opposition to the expansion of the Barataria Preserve unit of Lafitte National Historic Park...because of the potential for adverse impacts on the occupations and welfare of the citizens of Westwego."

City of New Orleans. The mayor of New Orleans wrote a letter of support for the project and comments "the levee construction has created adjacent lands that are logically suited for inclusion in your park. Not only are those 'fastlands' environmentally sensitive and located next to existing park boundaries, but any dredging and filling in those areas would be subject to 404 permitting, thereby reducing the desirability of this area for future development. Finally, I understand that the expansion will not include certain pockets of land whose landowners were opposed to the plan."

U.S. Representative Billy Tauzin. Congressman Tauzin went on record in a letter to the Park Service opposing the study

in its current form. His major concerns were the impacts to present landowners and "... the economic threat to the fishermen, hunters, trappers, and swamp tour industry." He also encouraged the Park Service to complete acquisition of the land within the current boundary of the Barataria unit before looking to acquire elsewhere. He also suggested use of park funding on expanding the educational programs at the visitors center to help visitors understand how the area evolved by learning about the historic uses of the region.

Wisner Trust Property. A representative of the Edward Wisner Donation Advisory Committee clarified that tract BS-8 was incorrectly identified as being owned by Marrero Lands and that part ownership is claimed by the heirs of Edward Wisner. Also, she noted that the committee has not discussed the expansion, but that the original donation documents (1914) prohibit the alienation of trust property.

Jefferson Parish, Office of the Council. The council formally transmitted Resolution No. 82039, which they adopted on May 8, 1996, "expressing opposition of the council to the proposed expansion of the Barataria unit." The resolution states under section 2 that "The Jefferson Parish Council does not support an expansion of the Park boundaries in view of: (i) the need to protect and preserve the livelihood and historical values and culture of the citizens of Jefferson Parish who have lived, worked and recreated on these lands all their lives; (ii) the unnecessary interference with uses and activities on private lands that do not adversely affect Park values; (iii) the adequacy of the existing Federal and State permit programs to regulate the impacts of activities in these areas; and (iv) the impact upon private property rights. Under section 3 the council opposes "any expansion...that would have the effect of imposing limitations upon the conventional development of lands within the Westbank Hurricane Protection Levee which are needed and

intended to accommodate the future growth and development of the Parish."

Jefferson Parish Economic Development and Port District. The Port District commented on their interest and concern about the proposed boundary alignment. Their major concern was the possibility that the "inclusion of the whole of Bayou Segnette Waterway within the boundaries of the National Park could create permanent social and economic changes to the Port of Westwego if [the waterway] is not kept open to navigation by both shallow and deep draft vessels with maintenance dredging. Therefore, it is imperative that navigational dredging of Bayou Segnette be assured as part of any boundary realignment legislation." They summarized with "it is our belief that a balance of public and private resources is needed for a solid economic base in Jefferson Parish."

Louisiana Department of Transportation and Development. The LADOTD responded that "we cannot release either parcel", referencing the part of BAC-7 that includes the right-of-way upon which LA 3134 is constructed and parcel HWY-1 which contains an existing connection from LA 3134 to LA 301.

U.S. Fish and Wildlife Service. The USFWS commented that the proposed expansion-area wetlands "have substantial habitat values and support aquatic resources of national importance. Those resources include various fish and wildlife species regarded by the Service as federal trust resources, such as interjurisdictional fishes, resident and migratory waterfowl, wading birds, and neotropical migratory songbirds. Unfortunately, such wetlands are becoming scarce both on a national and regional basis. The Service believes the proposed boundary extension could reduce the rates of wetlands loss and fragmentation in that area, and help maintain the fish and wildlife habitat value of those wetlands."

Other Agency Responses. Other responses did not supply substantive comment or were noting compliance or acknowledgement of having reviewed the study.

The following list includes the names of individuals, businesses, organizations, and agencies that either attended (signed-in) the public meetings or provided written comment. Hopefully this list reflects the majority of people who commented. People who spoke at the meetings but did not sign in or state their name for the record may not be listed. (Not all names on the meeting sign-in sheets were legible, therefore a few have been left off the list.) The petition and survey signatures are not listed here. Copies of these are available from the park.

Public Meetings

Judy Alario
Alice Angelica
Guy Angelica
James Anhauser
N. Buckner Barkley Jr.
R.C. Bealer
S.M. Beemish
Arnold Bellanger
Troy Bichaux
Robert E. Billiot, Mayor of Westwego
Peggy Bourgeois
Charles and Melba Boyd
Mike Breaux
Giselle Camardelle
James J. Camardelle
Art Cormier
Don R. Coulon
Sue Coulon
Whitney Coulon
Claude P. Dardar
Jerry L. Dean
Earl A. Defiore
Joe DiMarco
Pete DiMarco
Sandra Dingman
Nick Dominique
Carolyn Drachenberg
J. Drachenberg
James L. Drachenberg

ENVIRONMENTAL ASSESSMENT

Vickie Duffourc
Druiry J. Dupre
Lida Durant
Rich G. Dufour
Stephanie Easley, NPS Employee
Gary R. Eicke
Charlotte Fremaux
Charlotte Falgout
Vanice Falgout
Leroy Foret
Pam and Mark Gauthier
Ron Gonzales
Glenn Green
Gary Guidry
Melvin Guidry
Greg Guillory
Marietta S. Herr
Bridget Vincent Holt
Gerald Johnson
Gerald Johnson Jr.
Don Laborie
Mike Landry
Claudia and Cary Lauand
Blaine G. McMahon
Dr. John Meaux
Mr. and Mrs. Melford
Philip Menk Jr.
Noel Morlas
Robert Pitre
Anthony Prestenbach
Arthur Prestenbach Jr.
Bill Quenan
Kay Radlauer
Walter Rahls
Merlin Seminary
John I. Shaddinger
Leroy Schouest
Randall Slayton
Valentine Slayton
April Smith
Galen Smith
Jason Smith
D. Stanley
S. Ted Sternberg
Steve Stevenson
Martha Thibodeaux
Garrison Touns
Karen Turgeon
Todd Valence
Vincent Vastola
Frank Verdin

Ron Verdin
Denise Vincent
James H. Vincent Sr.
Jim Vincent
Ryan Vincent
Kate Ward
Billy Watts
Karen and Danny Wells
David White
Allen Wisner
Gulser Wood

**Letters and Comment Forms from
Individuals**

David Accarso
Carl Bankston
Gerard R. Barbier
Harold Barrow
Raymond L. Bodenheimer
Wayne Bonvillain
Gretchen Bourgeois
Loretta Persohn Brehm
Frances N. Bergersen
Douglas C. Brougher
LeRoy E. Bylmer, Jr.
Giselle Vincent Camardelle
Norman Cyrus
Vickie Duffourc
Lida Ochsner Durant
Mr. and Mrs. Michael F. Dutrey
Sevilla White Finley
Charlotte and Emmett H. Fremaux
Gary Gilbert
Caroline and Peter Guynn
Albert D. Harvey Jr.
Mr. and Mrs. Richard D. Herr
Clifford M. Kenwood
Peggy S. Keefer
Lorraine Lagrange
Evelyn Landry
Barbara Laughlin
Fred E. Lillie
Laura Linz
Patricia M. Mahry
Glenn Ousset
Kit Payne
Arthur Prestenbach Jr.
Robert D. Purrington
Kay Radlauer
Carolyn Reggio

Judy Reis
Marco and Linda Rosamano
Betty B. Ross
Darlene J. Smith
Galen N. Smith
Sharoyne Smith
Jim Vincent
Joseph I. Vincent
B. Wakefield
David A. White, Ph.D.

Letters from Businesses

Marrero Land & Improvement Assoc., Ltd.
Louisiana Swamp Tours
Chacahoula Bayou Tours

Letters from Organizations

Estelle Civic Association
Orleans Audubon Society
Women For A Better Louisiana
League of Women Voters - New Orleans
League of Women Voters
of Jefferson Parish
The Executive Committee of the West
Bank Council of the Chamber
Jefferson Business Council
Edward Wisner Donation Advisory
Committee
Louisiana Wildfowl Carvers
and Collectors Guild
Stonebridge Garden Club
Louisiana Wildlife Federation
The Audubon Institute
Louisiana Archeological Society
Louisiana Audubon Council

Letters from Agencies and Elected Officials

Delta Region Preservation Commission
Congress of the United States - House of
Representatives and the Senate
Jefferson Parish Council
Louisiana State Historic Preservation
Office
City of Westwego
Mayor's Office of Environmental Affairs,
New Orleans
State of Louisiana - Department of
Transportation and Development
State of Louisiana - Department of Natural
Resources
National Park Service - Gulf Coast System
Support Office
U.S. Fish and Wildlife Service

Appendixes/Bibliography/ Preparers & Consultants



APPENDIX: LEGISLATION

PUBLIC LAW 95-625, AS AMENDED

JEAN LAFITTE NATIONAL HISTORICAL PARK AND PRESERVE

Sec. 901. In order to preserve for the education, inspiration, and benefit of present and future generation significant examples of natural and historical resources of the Mississippi Delta region and to provide for their interpretation in such manner as to portray the development of cultural diversity in the region, there is authorized to be established in the State of Louisiana the Jean Lafitte National Historical Park and Preserve (hereinafter referred to as the "park"). The park shall consist of (1) the area of approximately twenty thousand acres generally depicted on the map entitled "Barataria Marsh Unit-Jean Lafitte National Historical Park and Preserve" numbered 90,000B and dated April 1978, which shall be on file and available for public inspection in the office of the National Park Service, Department of the Interior; (2) the area known as Big Oak Island; (3) an area or areas within the French Quarter section of the city of New Orleans as may be designated by the Secretary of the Interior for an interpretive and administrative facility; (4) folk life centers to be established in the Acadian region; (5) the Chalmette National Historical Park; and (6) such additional natural, cultural, and historical resources in the French Quarter and Garden District of New Orleans, forts in the delta region, plantations, and Acadian towns and villages in the Saint Martinville area and such other areas and sites as are subject to cooperative agreements in accordance with the provisions of this title.

Sec. 902. (a) Within the Barataria Marsh Unit the Secretary is authorized to acquire not to exceed eight thousand six hundred acres of lands, waters, and interests therein (hereinafter referred to as the "core area"), as depicted on the map referred to in the first section of this title, by donation, purchase with donated or appropriated funds, or exchange. The Secretary may also acquire by any of the foregoing methods such lands and interests therein, including leasehold interests, as he may designate in the French Quarter of New Orleans for development and operation as an interpretive and administrative facility. Lands, waters, and interests therein owned by the State of Louisiana or any political subdivision thereof may be acquired only by donation. In acquiring property pursuant to this title, the Secretary may not acquire right, to oil and gas without the consent of the owner, but the exercise of such rights shall be subject to such regulations as the Secretary may promulgate in furtherance of the purposes of this title.

(b) With respect to the lands, waters, and interests therein generally depicted as the "park protection zone" on the map referred to in the first section of this title, the Secretary shall, no later than six months from the date of enactment of this Act, in consultation with the affected State and local units of government, develop a set of guidelines or criteria applicable to the use and development of properties within the park protection zone to be enacted and enforced by the State or local units of government.

(c) The purpose of any guideline developed pursuant to subsection (b) of this section shall be to preserve and protect the following values within the core area:

- (1) fresh water drainage patterns from the park protection zone into the core area;
- (2) vegetative cover;
- (3) integrity of ecological and biological systems; and
- (4) water and air quality.

(d) Where the State or local units of government deem it appropriate, they may cede to the Secretary, and the Secretary is authorized to accept, the power and authority to confect and enforce a program or set of rules pursuant to the guidelines established under subsection (b) of this section for the purpose of protecting the values described in subsection (c) of this section.

(e) The Secretary, upon the failure of the State or local units of government to enact rules pursuant to subsection (b) of this section or enforce such rules so as

Establishment.
16 USC 230.

Description.

Lands, waters and in-
terests, acquisition.
16 USC 230a.

Guidelines or criteria,
consultation.

Values, preservation and
protection.

Authority, ceding.

Acquisitions.

APPENDIX

to protect the values enumerated in subsection (c) of this section, may acquire such lands, servitudes, or interests in lands within the park protection zone as he deems necessary to protect the values enumerated in subsection (c) of this section.

(f) The Secretary may revise the boundaries of the park protection zone, notwithstanding any other provision of law, to include or exclude properties, but only with the consent of Jefferson Parish.

(g) The Secretary is authorized to acquire lands or interests in lands by donation, purchase with donated or appropriated funds or exchange, not to exceed approximately 20 acres, in Acadian villages and towns. Any lands so acquired shall be developed, maintained and operated as part of the Jean Lafitte National Historical Park.

Sec. 903. Within the Barataria Marsh Unit, the owner or owners of improved property used for noncommercial residential purposes on a year-round basis may, as a condition of the acquisition of such property by the Secretary, elect to retain a right of use and occupancy of such property for noncommercial residential purposes if, in the judgment of the Secretary, the continued use of such property for a limited period would not unduly interfere with the development or management of the park. Such right of use and occupancy may be either a period ending on the death of the owner or his spouse, whichever occurs last, or a term of not more than twenty-five years, at the election of the owner. Unless the property is donated, the Secretary shall pay to the owner the fair market value of the property less the fair market value of the right retained by the owner. Such right may be transferred or assigned and may be terminated by the Secretary, if he finds that the property is not used for noncommercial residential purposes, upon tender to the holder of the right an amount equal to the fair market value of the unexpired term. As used in this section, the term "improved property" means a single-family, year-round dwelling, the construction of which was begun before January 1, 1977, which serves as the owner's permanent place of abode at the time of its acquisition by the United States, together with not more than three acres of land on which the dwelling and appurtenant buildings are located which the Secretary finds is reasonably necessary for the owner's continued use and occupancy of the dwelling.

Sec. 904. In furtherance of the purposes of this title, and after consultation with the Commission created by section 907 of this title, the Secretary is authorized to enter into cooperative agreements with the owners of properties of natural, historical, or cultural significance, including but not limited to the resources described in paragraphs (1) through (6) of the first section of this title, pursuant to which the Secretary may mark, interpret, restore and/or provide technical assistance for the preservation and interpretation of such properties, and pursuant to which the Secretary may provide assistance including management services, program implementation, and incremental financial assistance in furtherance of the standards for administration of the park pursuant to section 906 of this title. Such agreements shall contain, but need not be limited to, provisions that the Secretary, through the National Park Service, shall have the right of access at all reasonable times to all public portions of the property covered by such agreement for the purpose of conducting visitors through such properties and interpreting them to the public, and that no changes or alterations shall be made in such properties except by mutual agreement between the Secretary and the other parties to such agreements. The agreements may contain specific provisions which outline in detail the extent of the participation by the Secretary in the restoration, preservation, interpretation, and maintenance of such properties.

Sec. 905. Within the Barataria Marsh Unit, the Secretary shall permit hunting, fishing (including commercial fishing), and trapping in accordance with applicable Federal and State laws, except that within the core area and on those lands acquired by the Secretary pursuant to section 902(c) of this title, he may designate zones where and establish periods when no hunting, fishing, or

Boundaries, revision.

Use and occupancy right,
retention.
16 USC 230b.

"Improved property."

Cooperative agreements.
16 USC 230c.

Hunting, fishing, and
trapping.
16 USC 230d.

trapping shall be permitted for reasons of public safety. Except in emergencies, any regulations of the Secretary promulgated under this section shall be put into effect only after consultation with the appropriate fish and game agency of Louisiana.

Sec. 906. The Secretary shall establish the park by publication of a notice to that effect in the Federal Register at such time as he finds that, consistent with the general management plan referred to in section 908, sufficient lands and interests therein (i) have been acquired for interpretive and administrative facilities, (ii) are being protected in the core area, and (iii) have been made the subject of cooperative agreements pursuant to section 904. Pending such establishment and thereafter the Secretary shall administer the park in accordance with the provisions of this title, the Act of August 25, 1916 (39 Stat. 535), the Act of August 21, 1935 (49 Stat. 666), and any other statutory authorities available to him for the conservation and management of natural, historical, and cultural resources.

Sec. 907. (a) There is established the Delta Region Preservation Commission (hereinafter referred to as the "Commission"), which shall consist of the following:

- (1) two members appointed by the Governor of the State of Louisiana;
- (2) two members appointed by the Secretary from recommendations submitted by the President of Jefferson Parish;
- (3) two members appointed by the Secretary from recommendations submitted by the Jefferson Parish Council;
- (4) two members appointed by the Secretary from recommendations submitted by the mayor of the city of New Orleans;
- (5) one member appointed by the Secretary from recommendations submitted by the commercial fishing industry;
- (6) three members appointed by the Secretary from recommendations submitted by local citizen conservation organizations in the delta region;
- (7) one member appointed by the Chairman of the National Endowment for the Arts;
- (8) two members appointed by the Secretary from recommendations submitted by the Police Jury of Saint Bernard Parish; and
- (9) one member who shall have experience as a folklorist and who is familiar with the cultures of the Mississippi Delta Region appointed by the Secretary of the Smithsonian Institution.

(b) Members of the Commission shall serve without compensation as such. The Secretary is authorized to pay the expenses reasonably incurred by the non-Federal members of the Commission in carrying out their duties.

(c) The function of the Commission shall be to advise the Secretary in the selection of sites for inclusion in the park, in the development and implementation of a general management plan, and in the development and implementation of a comprehensive interpretive program of the natural, historic, and cultural resources of the region. The Commission shall inform interested members of the public, the State of Louisiana and its political subdivisions, and interested Federal agencies with respect to existing and proposed actions and programs having a material effect on the perpetuation of a high-quality natural and cultural environment in the delta region.

(d) The Commission shall act and advise by affirmative vote of a majority of its members: *Provided*, That any recommendation of the Commission that affects the use or development, or lack thereof, of property located solely within a single parish or municipality shall have the concurrence of a majority of the members appointed from recommendations submitted by such parish or municipality.

(e) The Directors of the Heritage Conservation and Recreation Service and the National Park Service shall serve as ex officio members of the Commission and provide such staff support and technical services as may be necessary to carry out the functions of the Commission. The Commission shall terminate twenty years from the date of approval of this Act.

Sec. 908. (a) There is authorized to be appropriated, to carry out the provisions of this title, not to exceed

Consultation.

Notice, publication in Federal Register.
16 USC 230e.

Administration

16 USC 1 *et seq.*
16 USC 461 note.

Delta Region Preservation Commission, establishment and membership.
16 USC 230f.

Compensation and expenses.

Functions.

Appropriation authorization. 16 USC 230g.

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\$50,000,000 from the Land and Water Conservation Fund for acquisition of lands, waters, and interests therein and such sums as necessary for the development of essential facilities.

(b) Within three years from the date of enactment of this title, the Secretary, after consultation with the Commission, shall submit to the Committee on Interior and Insular Affairs of the House of Representatives, and the Committee on Energy and Natural Resources of the Senate a general management plan for the park indicating--

(1) transportation alternatives for public access to the park;

(2) the number of visitors and types of public use within the park which can be accommodated in accordance with the protection of its resources;

(3) the location and estimated cost of facilities deemed necessary to accommodate such visitors and uses; and

(4) a statement setting forth the actions which have been and should be taken to assure appropriate protection, interpretation, and management of the areas known as Big Oak Island and Couba Island.

Sec. 909. The area described in the Act of October 9, 1962 (76 Stat. 755), as the "Chalmette National Historical Park" is hereby redesignated as the Chalmette Unit of the Jean Lafitte National Historical Park. Any references to the Chalmette National Historical Park shall be deemed to be references to said Chalmette Unit.

Sec. 910. By no later than the end of the first full fiscal year following the date of enactment of this section, the Secretary shall submit to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate, a comprehensive report with recommendations as to sites within the Mississippi River Delta Region which constitute nationally significant examples of natural resources within that region.

General management plan, submittal to congressional committees.

Chalmette Unit, redesignation.
16 USC 230h.

Report to congressional committees.
16 USC 230i.

PUBLIC LAW 95-625, NOV. 10, 1978, 92 STAT.3534
AS AMENDED BY:
PUBLIC LAW 96-87, OCT. 12, 1979, 93 STAT. 665
PUBLIC LAW 100-250-FEB. 16, 1988, 102 STAT.16
PUBLIC LAW 100-355 [H.R.2203]; JUNE 28, 1988

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