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8th PRIORITY PROJECT LIST REPORT

PREPARED BY:

LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION
TASK FORCE

November 1999



Coastal Wetlands Planning, Protection and Restoration Act
(Breau Act)

8th Priority Project List Report

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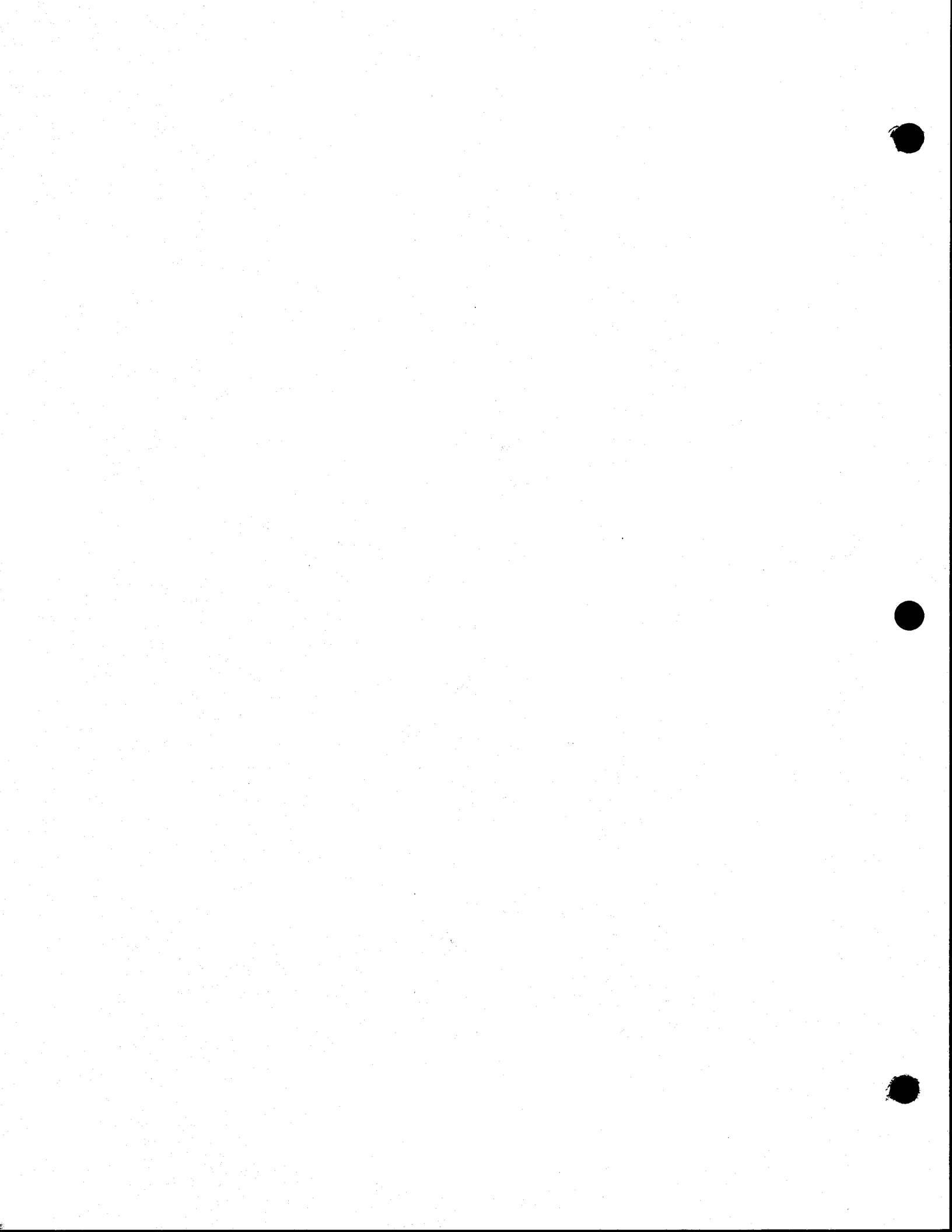
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INTRODUCTION

The State of Louisiana contains about 40 percent of the Nation's coastal wetlands in the lower 48 states. The wetlands, bays, and islands of coast constitute an enormously productive ecosystem. For example, Louisiana coastal wetlands and adjacent areas contribute nearly 30 percent by weight of the total commercial fisheries harvest in the lower 48 states, and on the average, provide overwintering habitat for 50 percent of the migratory waterfowl using the Mississippi Flyway, as well as significant numbers of waterfowl using the Central Flyway. Unfortunately, Louisiana's coastal wetlands are also experiencing about 80 percent of the coastal wetland loss in the lower 48 states, a disproportionately high rate of loss. The problem is extensive and complex, involving 9 separate hydrologic basins. To address the problem, Federal and State agencies have proposed many alternative solutions, providing a wide spectrum of possible means for diminishing, neutralizing, or reversing these losses. In addition, a global observation of these past efforts by Federal, state, and local governments and the public has led to the conclusion that a comprehensive approach is needed to address this significant environmental problem. In response to this, the Coastal Wetlands Planning, Protection and Restoration Act (Public Law 101-646) was signed into law by President Bush on November 29, 1990. This report documents the implementation of Section 303(a) of the cited legislation.

STUDY AUTHORITY

Section 303(a) of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA, or the Breux Act), displayed in Appendix A, directs the Secretary of the Army to convene the Louisiana Coastal Wetlands Conservation and Restoration Task Force to:

. . . initiate a process to identify and prepare a list of coastal wetlands restoration projects in Louisiana to provide for the long-term conservation of such wetlands and dependent fish and wildlife populations in order of priority, based upon the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing coastal wetlands, taking into account the quality of such

coastal wetlands, with due allowance for small-scale projects necessary to demonstrate the use of new techniques or materials for coastal wetlands restoration.

STUDY PURPOSE

The purpose of this study effort was to prepare the 8th Priority Project List (PPL) and transmit the list to Congress, as specified in Section 303(a)(3) of the CWPPRA. Section 303(b) of the act calls for preparation of a comprehensive restoration plan for coastal Louisiana; that effort was completed in November 1993, with the submission of the Louisiana Coastal Wetlands Restoration Plan.

PROJECT AREA

A map of the Louisiana coastal zone is presented in Plate 1, which indicates project locations by number of Priority Project Lists 1 through 8. Plate 2 contains a listing of these project names, referenced by number and grouped by sponsoring agency, for each Priority Project List. The entire coastal area, which comprises all or part of 20 Louisiana parishes, is considered to be the CWPPRA project area. To facilitate the study process, the coastal zone was divided into nine hydrologic basins (refer to map of Plate 1).

STUDY PROCESS

The Interagency Planning Groups. Section 303(a)(1) of the CWPPRA directs the Secretary of the Army to convene the Louisiana Coastal Wetlands Conservation and Restoration Task Force, to consist of the following members:

- the Secretary of the Army (Chairman)
- the Administrator, Environmental Protection Agency
- the Governor, State of Louisiana
- the Secretary of the Interior
- the Secretary of Agriculture
- the Secretary of Commerce.

The State of Louisiana is a full voting member of the Task Force except for selection of the Priority Project List [Section 303(a)(2)], as stipulated in President Bush's November 29, 1990, signing statement (Appendix A). In addition, the State of Louisiana may not serve as a "lead" Task Force member for design and construction of wetlands projects of the priority project list.

In practice, the Task Force members named by the law have delegated their responsibilities to other members of their organizations. For instance, the Secretary of the Army

authorized the commander of the Corps' New Orleans District to act in his place as chairman of the Task Force.

The Task Force established the Technical Committee and the Planning and Evaluation Subcommittee, to assist it in putting the CWPPRA into action. Each of these bodies contains the same representation as the Task Force -- one member from each of the five Federal agencies and one from the State. The Planning and Evaluation Subcommittee is responsible for the actual planning of projects, as well as the other details involved in the CWPPRA process (such as development of schedules, budgets, etc.). This subcommittee makes recommendations to the Technical Committee and lays the groundwork for decisions that will ultimately be made by the Task Force. The Technical Committee reviews all materials prepared by the subcommittee, makes appropriate revisions, and provides recommendations to the Task Force. The Technical Committee operates at an intermediate level between the planning details considered by the subcommittee and the policy matters dealt with by the Task Force, and often formalizes procedures and formulates policy for the Task Force.

The Planning and Evaluation Subcommittee established several working groups to evaluate projects for priority project lists. The Environmental Work Group was charged with estimating the benefits (in terms of wetlands created, protected, enhanced, or restored) associated with various projects. The Engineering Work Group reviewed project cost estimates for consistency. The Economic Work Group performed the economic analysis, which permitted comparison of projects on the basis of their cost effectiveness. The Monitoring Work Group established a standard procedure for monitoring of CWPPRA projects and developed a monitoring cost estimating procedure based on project type.

The Citizen Participation Group. The Task Force also established a Citizen Participation Group to provide general input from the diverse interests across the coastal zone: local officials, landowners, farmers, sportsmen, commercial fishermen, oil and gas developers, navigation interests, and environmental organizations. The Citizen Participation Group was formed to promote citizen participation and involvement in formulating priority project lists and the restoration plan. The group meets at its own discretion, but may at times meet in conjunction with other CWPPRA elements, such as the Technical Committee. The purpose of the Citizen Participation Group is to maintain consistent public review and input into the plans and projects being considered by the Task Force and to assist and participate in the public involvement program. The membership of the Citizen Participation Group is shown in Table 1.

Table 1
Membership of the Citizen Participation Group

Gulf Coast Conservation Association	Concerned Shrimpers of America
Coalition to Restore Coastal Louisiana	Gulf Intracoastal Canal Association
Lake Pontchartrain Basin Foundation	Louisiana Association of Soil and Water Conservation Districts
Louisiana Farm Bureau Federation, Inc.	Louisiana Landowners Association
Louisiana League of Women Voters	Louisiana Nature Conservancy
Louisiana Oyster Growers and Dealers Association	Louisiana Wildlife Federation, Inc.
Midcontinent Oil and Gas Association	New Orleans Steamship Association
Oil and Gas Task Force (Regional Economic Development Council)	Police Jury Association of Louisiana
Organization of Louisiana Fishermen	

Involvement of the Academic Community. While the agencies sitting on the Task Force possess considerable expertise regarding Louisiana's coastal wetlands problems, the Task Force recognized the need to incorporate another invaluable resource: the state's academic community. The Task Force therefore retained the services of the Louisiana Universities Marine Consortium (LUMCON) to provide scientific advisors to aid the Environmental Work Group in performing Wetland Value Assessments. This Academic Assistance Group also assists the Task Force in carrying out feasibility studies authorized by the Task Force. These include:

- The Louisiana Barrier Shoreline study -- March 1995 - March 1999 (managed by the Louisiana Department of Natural Resources), and
- The Mississippi River Sediment, Nutrient, and Freshwater Redistribution study -- March 1995 - ongoing (managed by the Corps of Engineers).

Public Involvement. Even with its widespread membership, the Citizen Participation Group cannot represent all of the diverse interests affected by Louisiana's coastal wetlands. The CWPRA public involvement program provides an opportunity for all interested parties to express their concerns and opinions and to submit their ideas concerning the problems facing Louisiana's

wetlands. The Task Force has held at least eight public meetings each of the last eight years to obtain input from the public. In addition, the Task Force distributes a quarterly newsletter with information on the CWPPRA program and on individual projects.

PLAN FORMULATION PROCESS FOR THE 8th PRIORITY PROJECT LIST

BACKGROUND

The planning effort associated with the CWPPRA initially proceeded simultaneously along two tracks. Section 303(b) of the act calls for the development of a comprehensive restoration plan for Louisiana's coastal wetlands. This long-term plan was developed over a three-year period, with the report (the *Louisiana Coastal Wetlands Restoration Plan*) completed in November 1993. Section 303(a), on the other hand, deals with projects that can be implemented within a short period of time. This section requires that any project selected for a priority project list be substantially complete within five years of its appearance on a list. The intent of this section is to provide a rapid response to the loss of coastal wetlands. The first Priority Project List was to be submitted within one year of enactment of the CWPPRA, with subsequent lists to be prepared annually.

Section 303(a) actually requires that priority project lists be submitted only until such time as the comprehensive restoration plan called for in section 303(b) has been prepared. Projects can then be drawn from the comprehensive plan. In practice, however, the Task Force has found the annual priority list process to be an effective means of developing projects and has continued to use that process -- without the five-year implementation limit. This allows the Task Force to consider the most effective projects to address the state of wetlands loss on an annual basis.

Typically, Priority Project Lists are completed within a one-year time limit. The relatively short time period associated with developing a priority project list necessitated a deviation from the usual plan formulation process. Rather than beginning with a clean slate, it was preferable to begin with projects that were already developed to some degree. The emphasis was to develop where possible projects on which some planning had already been done, although this was not absolutely required for a project to receive consideration. The projects on the First Priority Project List submitted in November 1991 fell into the former category of these.

Preparation of subsequent lists involved somewhat more lead-time than did the first list and employed a more traditional approach. This section describes the process by which the 8th Priority Project List was developed.

Development of the 8th list was a three-stage process: identification and selection of candidate projects, evaluation of candidate projects, and selection of the priority project list.

IDENTIFICATION OF CANDIDATE PROJECTS

Candidate projects are those that the Task Force will evaluate in some detail in order to choose a priority project list. The Planning and Evaluation Subcommittee selects a number of candidate projects as the first step in priority project list development.

Projects considered for the 8th list were derived from the *Louisiana Coastal Wetlands Restoration Plan*, as well as altogether new projects presented for consideration. An identification number was assigned to each project to help keep track through the screening and evaluation process. Each project received a two-letter code to identify its basin; these codes are shown below.

PO	Pontchartrain	AT	Atchafalaya
BS	Breton Sound	TV	Teche/Vermilion
MR	Mississippi River Delta	ME	Mermentau
BA	Barataria	CS	Calcasieu/Sabine
TE	Terrebonne		

Projects that were originally part of the State's Coastal Wetlands Conservation and Restoration Plan use these two letters followed by a number. Projects that were derived from the scoping meetings held in the fall of 1991 are identified by a "P" ("public") preceding the two-letter code (e.g., PPO-52, PTV-18).

Plan formulation meetings held from February through May 1992 were an additional source of projects for consideration for priority project lists. Projects that were proposed during and after these meetings are identified with an "X" (e.g., XTE-41).

Some projects are not specific to one project area, but rather may be applied at any appropriate site on a coastwide basis. These projects are designated "CW," followed by a numerical identifier.

SELECTION OF CANDIDATE PROJECTS

In April 1998 the Planning and Evaluation Subcommittee held a series of meetings for project nominations and the selection of candidate projects. The meetings were held according to the schedule shown in Table 2.

Table 2
Meetings for Project Nominations
and Selection of Candidate Projects

Purpose and Location	Date	Hydrologic Basins
Abbeville, Louisiana	April 1, 1998	Teche-Vermilion Terrebone Mermentau
New Orleans, Louisiana	April 3, 1998	Calcasieu/Sabine Pontchartrain Mississippi River Delta Atchafalaya Barataria Breton Sound

The public was invited to participate in these meetings to nominate projects of their own. An emphasis was placed on nomination of projects listed in the *Louisiana Coastal Wetlands Restoration Plan*, although altogether new projects could also be nominated. A meeting was conducted on April 21, 1998, for the CWPPRA agencies to review and discuss the publicly nominated projects and also to nominate projects of their own. The subcommittee selected the candidate projects from among the nominees at a meeting conducted on April 24, 1998.

The Planning and Evaluation Subcommittee established in advance that the nominee projects to be selected as candidates were to be the top fourteen by closed-ballot agency popular vote. The subcommittee considered the qualitative benefits of each nominee project to establish the project value to the ecosystem and the respective popular vote. In the voting process, the projects having highest- to lowest-value to the ecosystem, respectively, received the highest- to lowest-numerical vote. The popular vote for the nominees is displayed in Table 3.

Of the nominees, 14 projects were chosen as candidates to be evaluated in detail; these were the projects from which the 8th Priority Project List would be selected. In addition, the Planning and Evaluation Subcommittee decided 4 demonstration projects (some proposed by the agencies, others proposed by the public) merited consideration for the 8th Priority Project List. By Task Force decision, the total cost of the 8th Priority Project List was to be in the range of between \$6 to \$8 million. As in prior lists, the Task Force agreed that demonstration projects would generally be limited to about \$2 million.

Upon candidate project selection from the list of nominees, a lead federal agency was then assigned to the development of each candidate project. During project development, the lead agency was responsible for more fully producing designs and cost estimates. The Engineering Work Group met and reviewed each agency's design and cost estimate for the projects.

Table 3

Summary of Candidate Projects of the Nominees for the 8th Priority Project List

Status Key: PE = previously evaluated as presented -- no new evaluation necessary ED = previously evaluated, different version -- needs new evaluation NE = new project -- needs evaluation		Status	Summary of Agency Voting							Total
Project No.	Nominee Project Name		DNR	EPA	NRCS	FWS	NMFS	COE		
PBS-1	Upper Oak R. FW Introduction Siphon ^a	PE	0	14	^b 15	12	13	9	63	
XCS-48 (SA-1)	Sabine Refuge Marsh Creation (Revised) ^a	ED	3	9	4	15	14	^b 15	60	
PPO-38	Hopedale Hydrologic Restoration ^a	NE	8	0	13	9	^b 12	14	56	
PO- ^c	Bayou Bienvenue Pumping Station/Terracing ^a	NE	10	5	0	0	^b 11	13	39	
CS-1d	Constance-Holly Beach Sand Management Plan ^a	NE	15	1	11	2	4	^b 6	39	
PME-15	Humble Canal Hydrologic Restoration ^a	ED	11	0	^b 14	7	6	0	38	
XBA-63ii	Barataria Land Bridge Shoreline Protection, Phase 2 ^a	ED	0	2	^b 12	14	5	3	36	
TE-8	Bayou Pelton Wetland Protection ^a	NE	0	0	5	^b 13	9	4	31	
PBA-44	Ft. Jackson/Boothville Diversion ^a	PE	0	10	0	0	^b 15	5	30	
PTV-20	Lake Portage Land Bridge ^a	NE	7	^b 13	^b 10	0	0	0	30	
XBA-73a	Ft. Jackson/Boothville Marsh Creation ^a	NE	0	^b 15	0	0	0	8	23	
ME- ^c	Grand Cheniere Terracing ^a	NE	2	0	0	0	^b 10	11	23	
TE-11a"ii"	Lake Pelto Dedicated Dredging and New Cut Closure	ED	9	11	1	0	0	0	21	
PME-2	Breakwaters at Rockefeller Refuge	ED	14	0	0	0	7	0	21	
XBA-52a	Grand Isle State Park Breakwaters	NE	13	0	6	0	0	0	19	
TV-10b	Weeks Bay Sediment Trapping/Shore Protection	NE	6	0	0	0	0	10	16	
XTE-62	Wine Island Eastward Expansion	PE	12	3	0	0	0	0	15	
PTE-1a	Bayou Terrebonne Ridge Protection	NE	0	6	0	5	3	0	14	
XTE-58	South Bully Camp Outfall Management	NE	0	0	9	3	0	2	14	
MR- ^c	Contained Submarine Maintenance Dredging (CoSMaD) Sediment Trap Operation in the Mississippi River Delta	NE	0	0	0	0	0	12	12	
PTE-15bii	Isles Dernieres Restoration, Whiskey Island, Parts 2 & 3	ED	0	12	0	0	0	0	12	
TE- ^c	East Timbalier Is. Restoration	PE	0	4	0	0	8	0	12	
XTE-55	South Falgout Canal Hydrologic Restoration	NE	0	0	0	11	0	0	11	
C/S-16	Black Bayou Culverts (Modified)	ED	0	0	3	8	0	0	11	
XME-40	North Little Pecan Bayou	NE	0	0	0	10	0	0	10	
CW-6a	Lafourche Dedicated Dredging	PE	0	8	0	0	1	0	9	
TE-2	Falgout Canal Marsh Mgt. Enhancement and Expansion	NE	0	0	8	0	0	0	8	
XCS-48 (SO-8)	Oyster Bayou Hydrologic Restoration	NE	0	0	7	1	0	0	8	
PO-13	Tangipahoa/Pontchartrain Shore Protection	NE	0	0	0	0	0	7	7	

Table 3 (continued)

Summary of Candidate Projects of the Nominees for the 8th Priority Project List

Status Key: PE = previously evaluated as presented -- no new evaluation necessary ED = previously evaluated, different version -- needs new evaluation NE = new project -- needs evaluation		Summary of Agency Voting							
Project No.	Nominee Project Name	Status	DNR	EPA	NRCS	FWS	NMFS	COE	Total
BA ^c	Highway 1 Marsh Creation and Reef Protection	NE	0	7	0	0	0	0	7
XTV-27	Freshwater Bayou Humble Wetlands (modified)	ED	0	0	0	6	0	0	6
ME ^c	Terracing in Grand/White Lake Land Bridge	NE	5	0	0	0	0	1	6
CS ^c	Terracing in Cameron-Creole Watershed	NE	1	0	0	4	0	0	5
XBA-1b1	Detached Segmented Breakwaters at East Grand Terre Is.	NE	4	0	0	0	0	0	4
XME-26	Warren Canal Structure	NE	0	0	0	0	2	0	2
XME-42	South Grand Cheniere Freshwater Introduction	PE	0	0	2	0	0	0	2
PPO-2d, h	Lake Borgne Shore Protection, Shell Beach	PE	0	0	0	0	0	0	0
XPO-74a	Lake Borgne Shore Protection., Proctor Point	NE	0	0	0	0	0	0	0
PO ^c	Fontainebleau State Park Breakwater/Beach Nourishment	NE	0	0	0	0	0	0	0
XPO-81	Point aux Herbes Shore Protection	NE	0	0	0	0	0	0	0
BA ^c	Mendicant Island Restoration	NE	0	0	0	0	0	0	0
XBA-1f1	Bay Champagne Gulf Shore Sediment Replacement	NE	0	0	0	0	0	0	0
PTE-28	Chacahoula Basin Hydrologic Restoration	NE	0	0	0	0	0	0	0
PTV-19	Indian Point Stabilization	NE	0	0	0	0	0	0	0
TV ^c	GIWW Bank Stabilization at Seventh Ward Canal	NE	0	0	0	0	0	0	0
C/A-1a&c	Constance-Holly Beach Breakwater Plan	NE	0	0	0	0	0	0	0
TE-DEMO	Mandalay Erosion Control (DEMO)	NE						b	
PME-5	South Shore Grand Lake Stabilization (DEMO)	NE						b	
ME-DEMO	Flyash Stabilization (White Lake) (DEMO)	NE						b	
CW-DEMO	Maintenance Dredging Matching Fund (DEMO)	NE					b		
Totals:			120	120	120	120	120	120	720

^a Selected by the Planning & Evaluation Subcommittee on April 24, 1998 as a candidate project to be evaluated on the 8th Priority Project List.

^b Indicates project sponsor/co-sponsor, as established on April 24, 1998.

^c New project -- not in Restoration Plan

During the development of designs and cost estimates, the lead agencies furnished this information to the Environmental Work Group. The Environmental Work Group performed a Wetland Value Assessment (WVA) for each candidate project. The section of this report entitled "Evaluation of Candidate Projects" summarizes the information developed by the lead agencies in this process.

EVALUATION OF CANDIDATE PROJECTS

Benefit Analysis (WVA). The WVA is a quantitative, habitat-based assessment methodology developed for use in prioritizing project proposals submitted for funding under the Breaux Act. The WVA quantifies changes in fish and wildlife habitat quality and quantity that are projected to emerge or develop as a result of a proposed wetland enhancement project. The results of the WVA, measured in Average Annual Habitat Units (AAHUs), can be combined with economic data to provide a measure of the effectiveness of a proposed project in terms of annualized cost per AAHU protected and/or gained.

The Environmental Work Group developed the WVA for each project. The Environmental Work Group is assembled under the Planning and Evaluation Subcommittee of the CWPBRA Technical Committee. The Environmental Work Group includes members from each agency represented on the CWPBRA Task Force. The WVA was designed to be applied, to the greatest extent possible, using only existing or readily obtainable data.

The WVA has been developed strictly for use in ranking proposed CWPBRA projects; it is not intended to provide a detailed, comprehensive methodology for establishing baseline conditions within a project area. Some aspects of the WVA have been defined by policy and functional considerations of the CWPBRA; therefore, user-specific modifications may be necessary if the WVA is used for other purposes.

The WVA is a modification of the Habitat Evaluation Procedures (HEP) developed by the U.S. Fish and Wildlife Service (U.S. Fish and Wildlife Service, 1980). HEP is widely used by the Fish and Wildlife Service and other Federal and State agencies in evaluating the impacts of development projects on fish and wildlife resources. A notable difference exists between the two methodologies. The HEP generally uses a species-oriented approach, whereas the WVA uses a community approach.

The WVA was developed for application to the following coastal Louisiana wetland types: fresh marsh (including intermediate marsh), brackish marsh, saline marsh, and cypress-tupelo swamp. Future reference in this document to "wetland" or "wetland type" refers to one or more of those four communities.

The WVA operates under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated or expressed through the

use of a mathematical model developed specifically for each wetland type. Each model consists of the following components:

1. a list of variables that are considered important in characterizing fish and wildlife habitat:
 - a. V_1 --percent of wetland covered by emergent vegetation,
 - b. V_2 --percent open water dominated by submerged aquatic vegetation,
 - c. V_3 --marsh edge and interspersions,
 - d. V_4 --percent open water less than or equal to 1.5 feet deep,
 - e. V_5 --salinity, and
 - f. V_6 --aquatic organism access.
2. a Suitability Index graph for each variable, which defines the assumed relationship between habitat quality (Suitability Index) and different variable values; and
3. a mathematical formula that combines the Suitability Index for each variable into a single value for wetland habitat quality; that single value is referred to as the Habitat Suitability Index, or HSI.

The Wetland Value Assessment models have been developed for determining the suitability of Louisiana coastal wetlands for providing resting, foraging, breeding and nursery habitat to a diverse assemblage of fish and wildlife species. Models have been designed to function at a community level and therefore attempt to define an optimum combination of habitat conditions for all fish and wildlife species utilizing a given marsh type over a year or longer.

The output of each model (the HSI) is assumed to have a linear relationship with the suitability of a coastal wetland system in providing fish and wildlife habitat.

A comprehensive discussion of the WVA methodology is presented in Appendix E.

Designs and Cost Analysis. During the plan formulation process, each of the Task Force agencies assumed responsibility for developing designs, and estimates of costs and benefits for a number of candidate projects. The cost estimates for the projects were to be itemized as follows:

1. Construction Cost
2. Contingencies Cost
3. Engineering and Design
4. Environmental Compliance
5. Supervision and Administration (Corps and the Louisiana Department of Natural Resources (LADNR) Project Management)
6. Supervision and Inspection (Construction Contract)
7. Real Estate
8. Operation and Maintenance
9. Monitoring

In addition, each lead agency provided a detailed itemized construction cost estimate for each project. These estimates are shown in Appendix C.

An Engineering Work Group was established by the Planning and Evaluation Subcommittee, with each Federal agency and the State of Louisiana represented. The work group reviewed each estimate for accuracy and consistency.

When reviewing the construction cost estimates, the work group verified that each project feature had an associated cost and that the quantity and unit prices for those items were reasonable. In addition, the work group reviewed the design of the projects to determine whether the method of construction was appropriate and the design was feasible.

All of the projects were assigned a contingency cost of 25 percent because detailed information such as soil borings, surveys, and -- to a major extent -- hydrologic data were not available, in addition to allowing for variations in unit prices.

Engineering and design, environmental compliance, supervision and administration, and supervision and inspection costs were reviewed for consistency, but ordinarily were not changed from what was presented by the lead agency.

Economic Analysis. The Breaux Act directed the Task Force to develop a prioritized list of wetland projects "based on the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing coastal wetlands, taking into account the quality of such coastal wetlands." The Task Force satisfied this requirement through the integration of a traditional time-value analysis of life-cycle project costs and other economic impacts and an evaluation of wetlands benefits using a community-based version of the U.S. Fish and Wildlife Service's Habitat Evaluation Procedure. The product of these two analyses was an Average Annual Cost per Average Annual Habitat Unit figure for each project, which was used as the primary ranking criterion. The method permits incremental analysis of varying scales of investment and also accommodates the varying salinity types and habitat quality characteristics of project wetland outputs.

The major inputs to the cost effectiveness analysis are the products of the lead Task Force agencies and the Engineering and Environmental Work Groups. The various plans were refined into estimates of annual implementation costs and respective AAHUs.

Implementation costs were used to calculate the economic and financial costs of each wetland project. Financial costs chiefly consist of the resources needed to plan, design, construct, operate, monitor, and maintain the project. These are the costs, when adjusted for inflation, which the Task Force uses in budgeting decisions. The economic costs include, in addition to the financial cost; monetary indirect impacts of the plans not accounted for in the implementation costs. Examples would include impacts on dredging in nearby commercial navigation channels, effects on water supplies, and effects on nearby facilities and structures not reflected in right-of-way and acquisition costs.

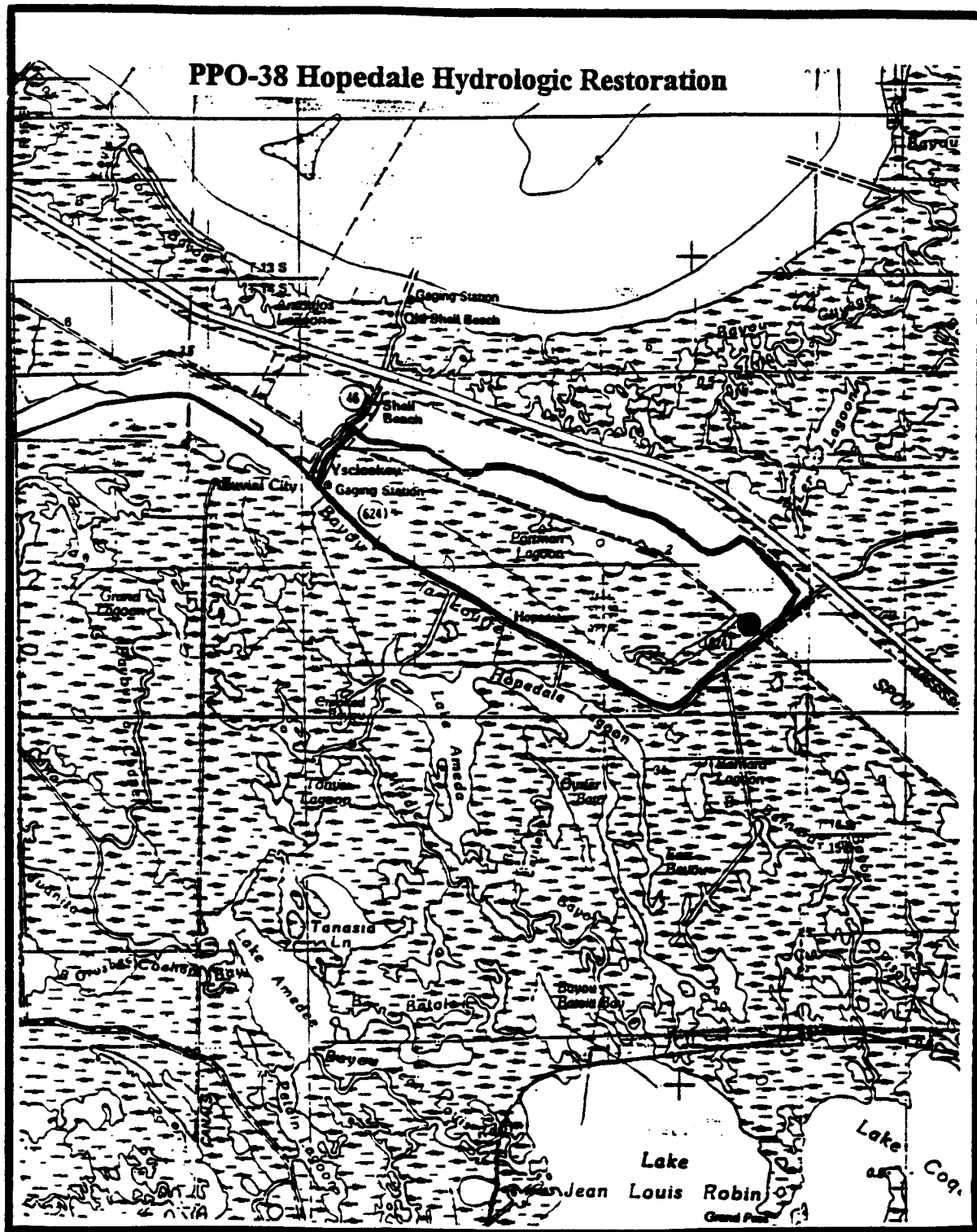
The stream of economic costs for each project was brought to present value and annualized at the current discount rate, based on a 20-year project life. Beneficial environmental outputs were annualized at a zero discount rate and expressed as AAHUs. These data were then used to rank each plan based on cost per AAHU produced. Annual economic costs were also calculated on a per acre basis. Financial costs were adjusted to account for projected levels of inflation and used to monitor overall budgeting and any future cost escalations in accordance with rules established by the Task Force.

Following the review by the Engineering Work Group, costs were expressed as first costs, fully funded costs, present worth costs, and average annual costs. The Cost per Habitat Unit criterion was derived by dividing the average annual cost for each wetland project by the Average Annual Habitat Units (AAHU) for each wetland project. The average annual costs figures are based on 1999 price levels, a discount rate of 7.125 percent, and a project life of 20 years. The fully funded cost estimates developed for each project were used to determine how many projects could be supported by the funds expected to be available in fiscal year 1999. The fully funded cost estimates include operation and maintenance and other compensated financial costs.

DESCRIPTION OF CANDIDATE PROJECTS

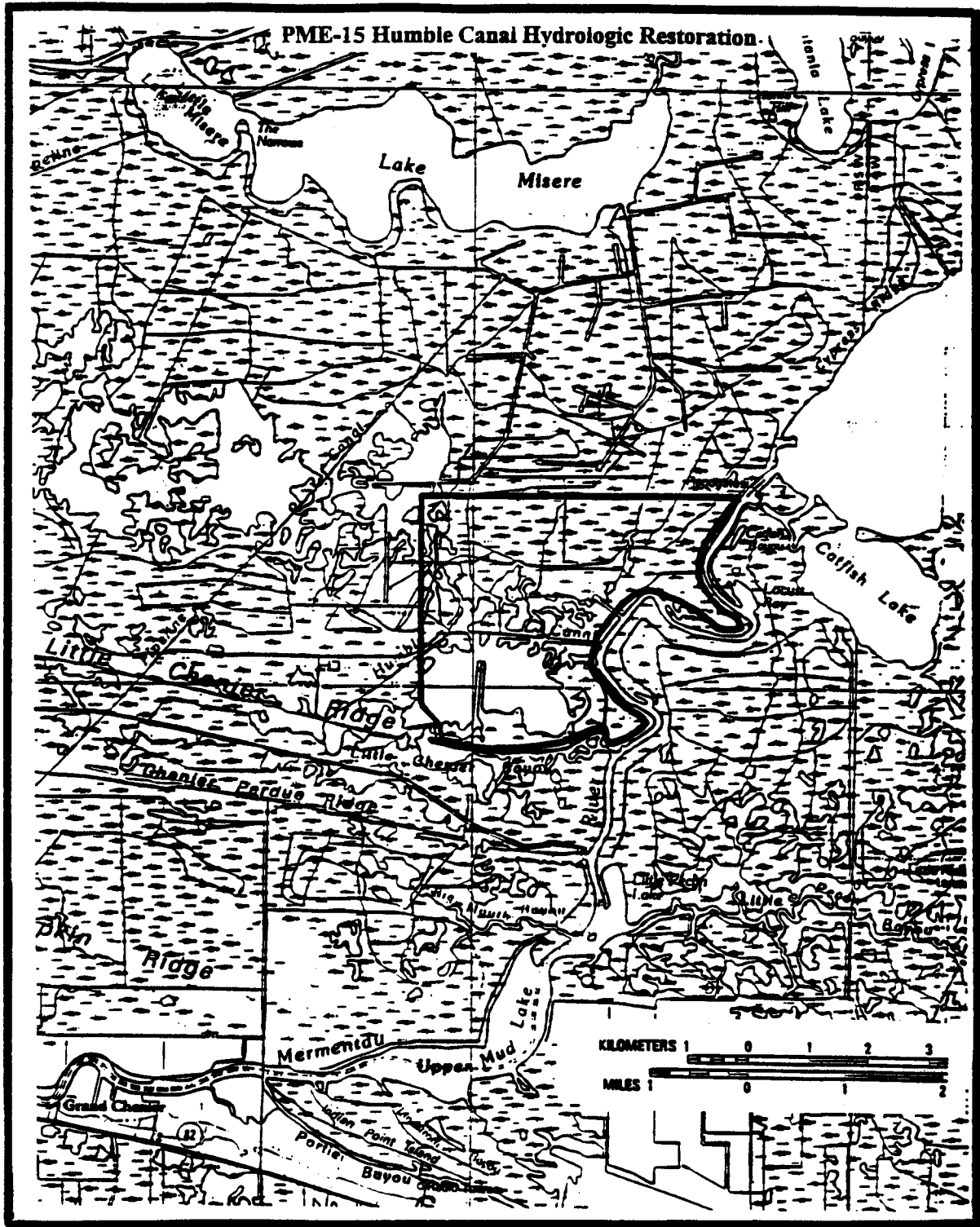
This section provides a brief description of each candidate project. The descriptions include the project location, features, anticipated benefits, and a map identifying the project area and project features.

One candidate project, Grand Cheniere Terracing, was terminated early in the project development process, due to the identification of difficulties with land rights acquisition. For this reason, a description for this project is not presented in this report.



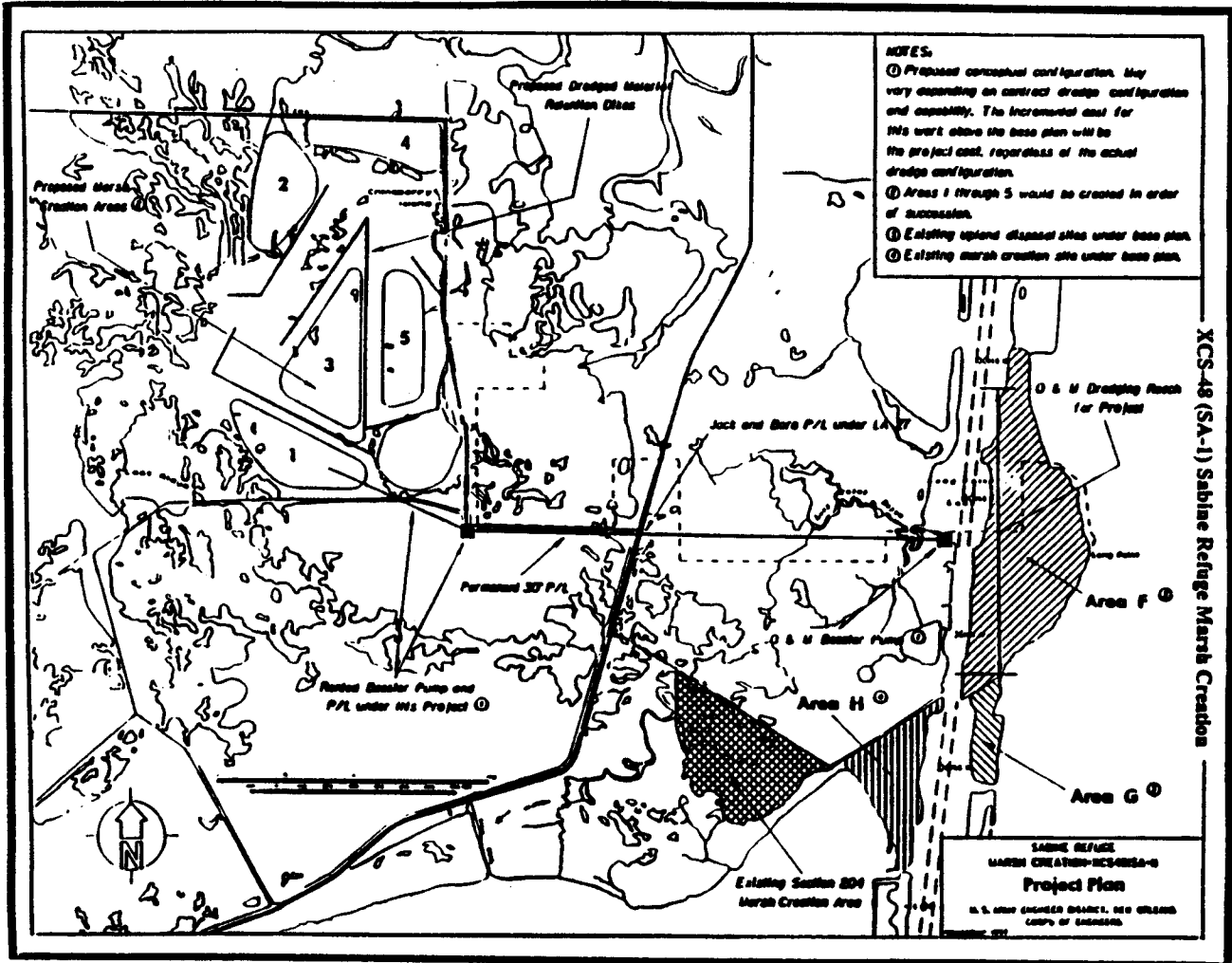
Hopedale Hydrologic Restoration (PPO-38)

The 3,805 acre project area is located southeast of Yscloskey, in St. Bernard Parish. This area is bordered by LA Hwy. 46 to the west, LA Hwy. 624 to the east and south, and the Mississippi River Gulf Outlet (MRGO) disposal area to the north. Replacing the culverts would allow water within the system to drain more rapidly, reducing wetland loss rates.



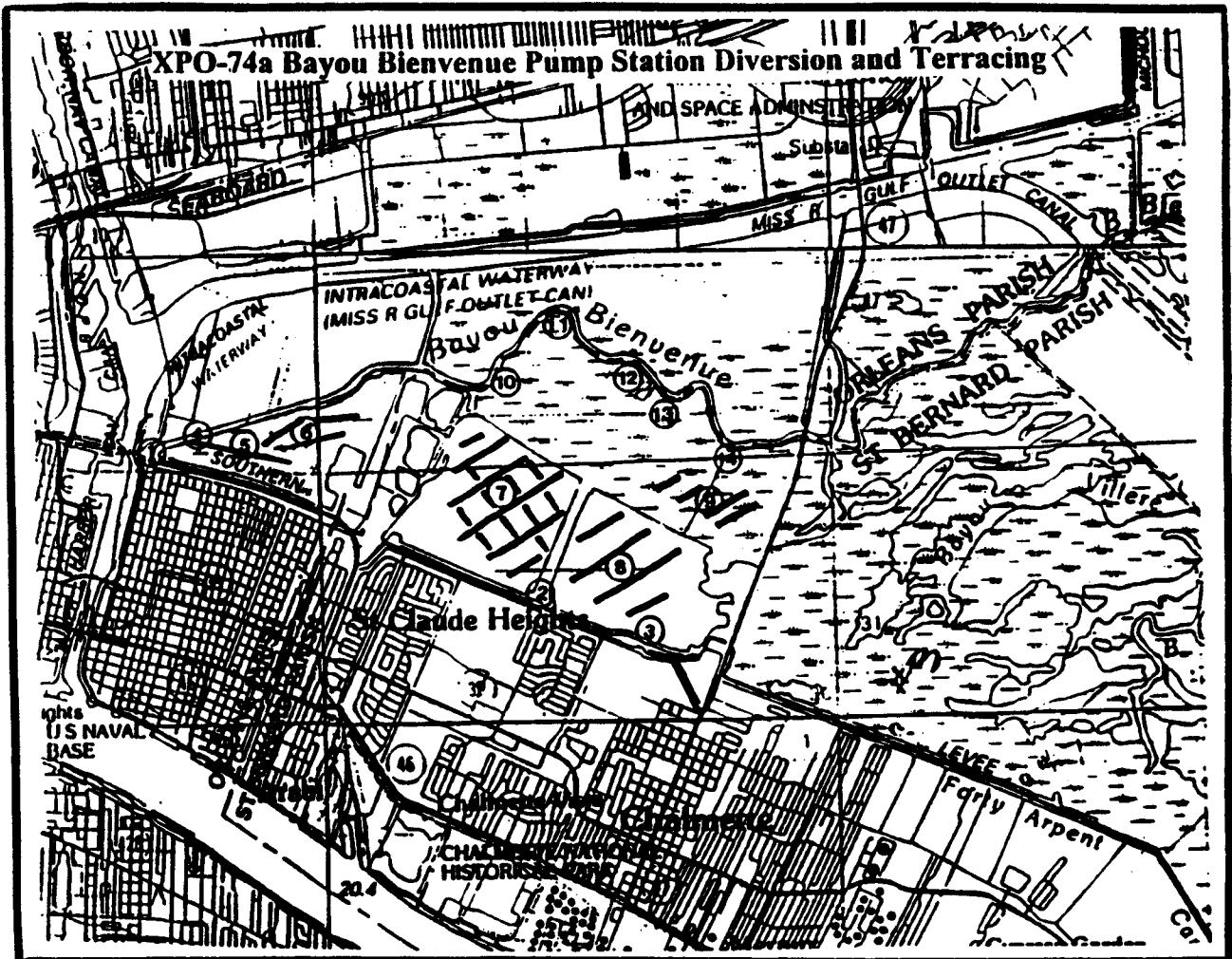
Humble Canal Hydrologic Restoration (PME-15)

The project is located in the Lakes Sub-basin of the Mermentau Basin, on the west bank of the Mermentau River approximately two miles southwest of Grand Lake at the Humble Canal in Cameron Parish, LA. The objective of this project is to restore historic hydrology to the project area by reducing saltwater intrusion from the Mermentau River and allowing for drainage of high water levels from the marsh to the river.



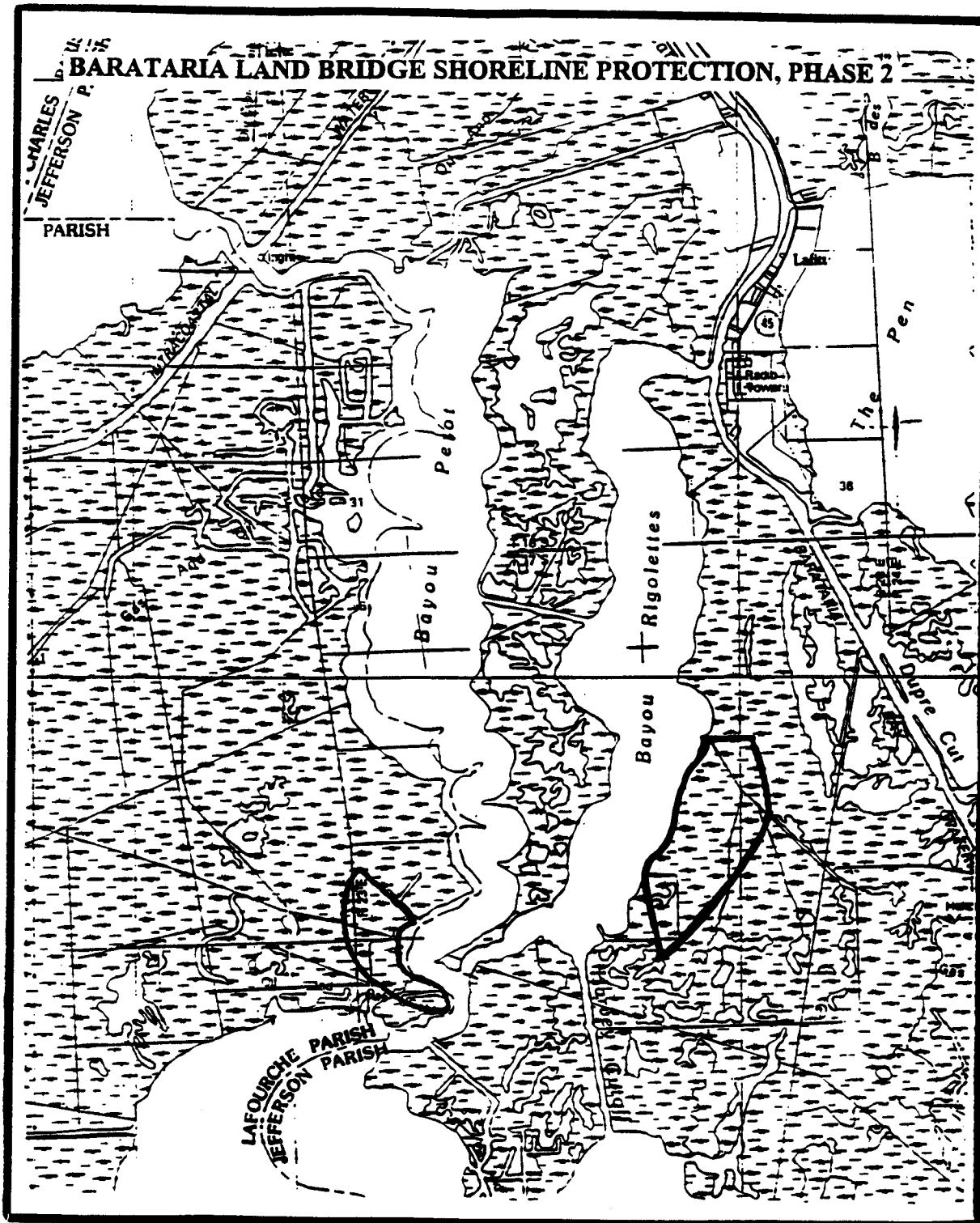
Sabine Refuge Marsh Creation (XCS-48 (SA-1))

The project is located on the Sabine National Wildlife Refuge, west of Hwy. 27, in large, open water areas north and northwest of Brown's Lake in Cameron Parish, LA. This project encompasses approximately 5,776 acres. The objectives are to create marsh in large, open water areas to block wind-induced saltwater intrusion and reduce open water fetch and erosion of marsh edges.



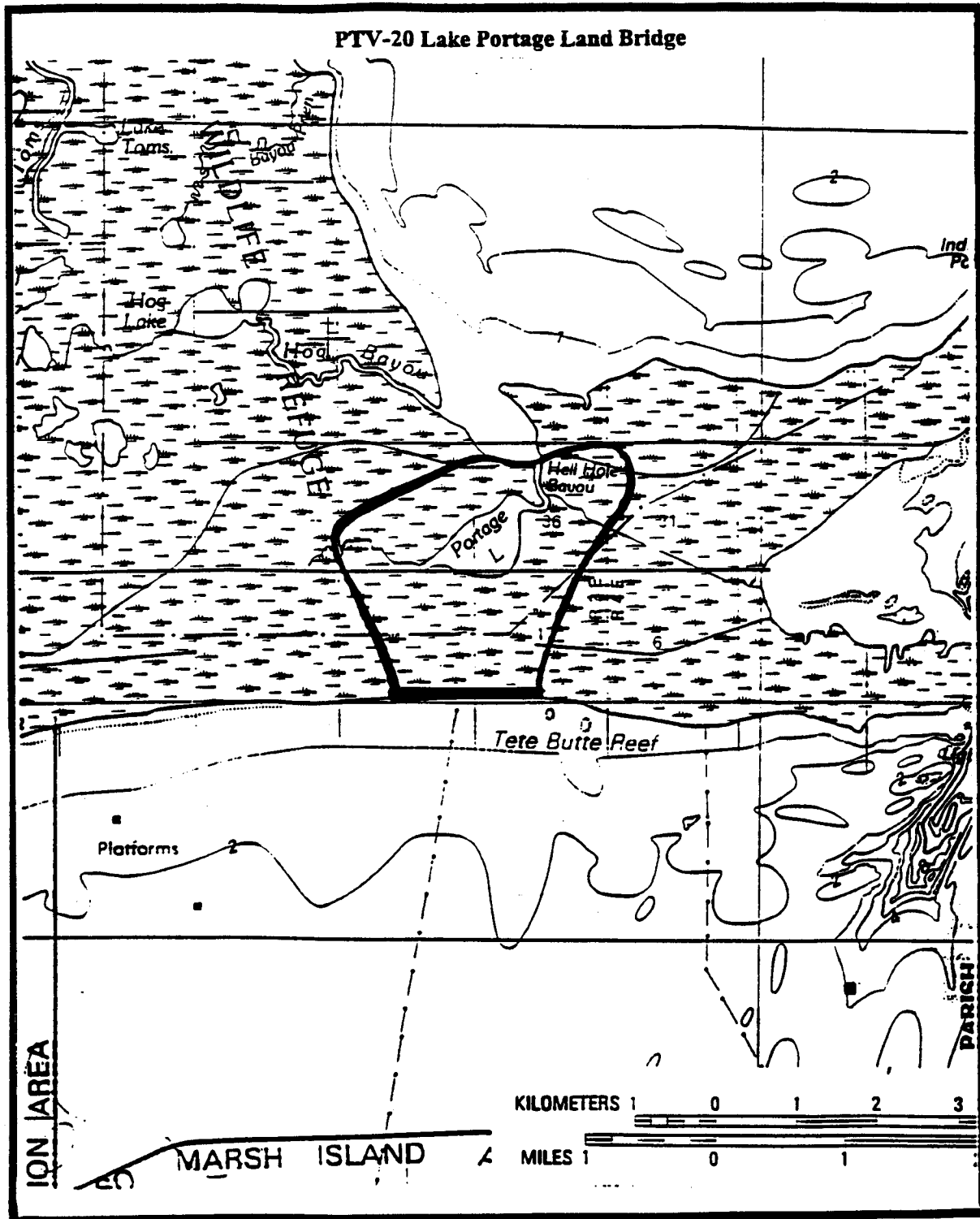
Bayou Bienvenue Pump Diversion and Terracing (XPO-74a)

This 2,661 acre area is located in Chalmette, in Orleans and St. Bernard Parishes. The area is bordered by Paris Road to the east, the Chalmette hurricane protection levee to the south, and Bayou Bienvenue to the north. The project area consists of two shallow water ponds. The fresh water and nutrients introduced would benefit marsh growth while the marsh would improve water quality.



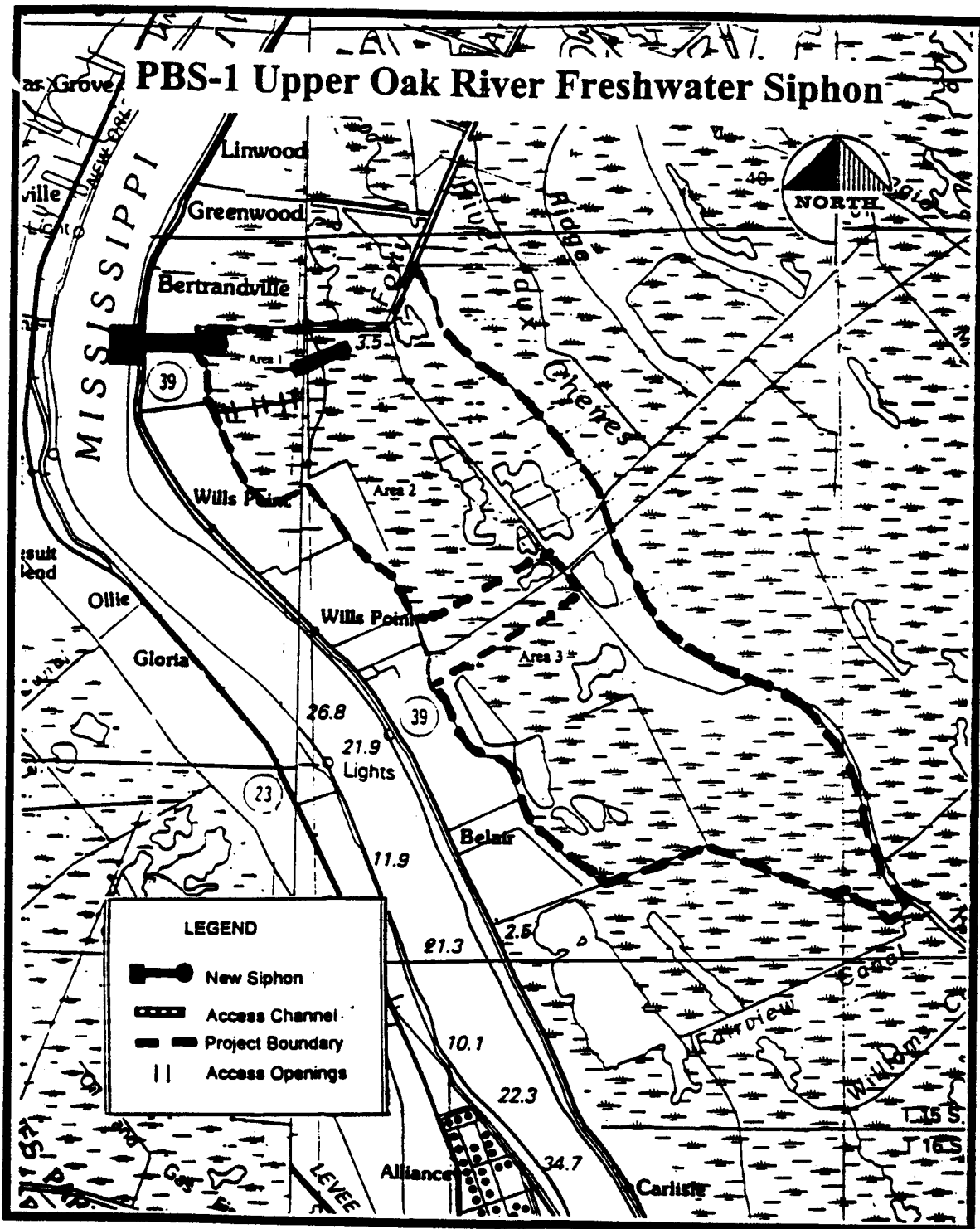
Barataria Land Bridge Shoreline Protection, Phase II (BA-27, XBA-63)

The Barataria Basin Land Bridge Shoreline Protection Phase II project is located in Jefferson and Lafourche Parishes on the east bank of the Bayou Rigolettes and the west bank of Bayou Perot. The project would protect about 8,000 feet of the eastern shoreline of Bayou Rigolettes and about 8,000 feet of the western shoreline of Bayou Perot. Phase II represents about 22% of the total length of the initially proposed shoreline protection.



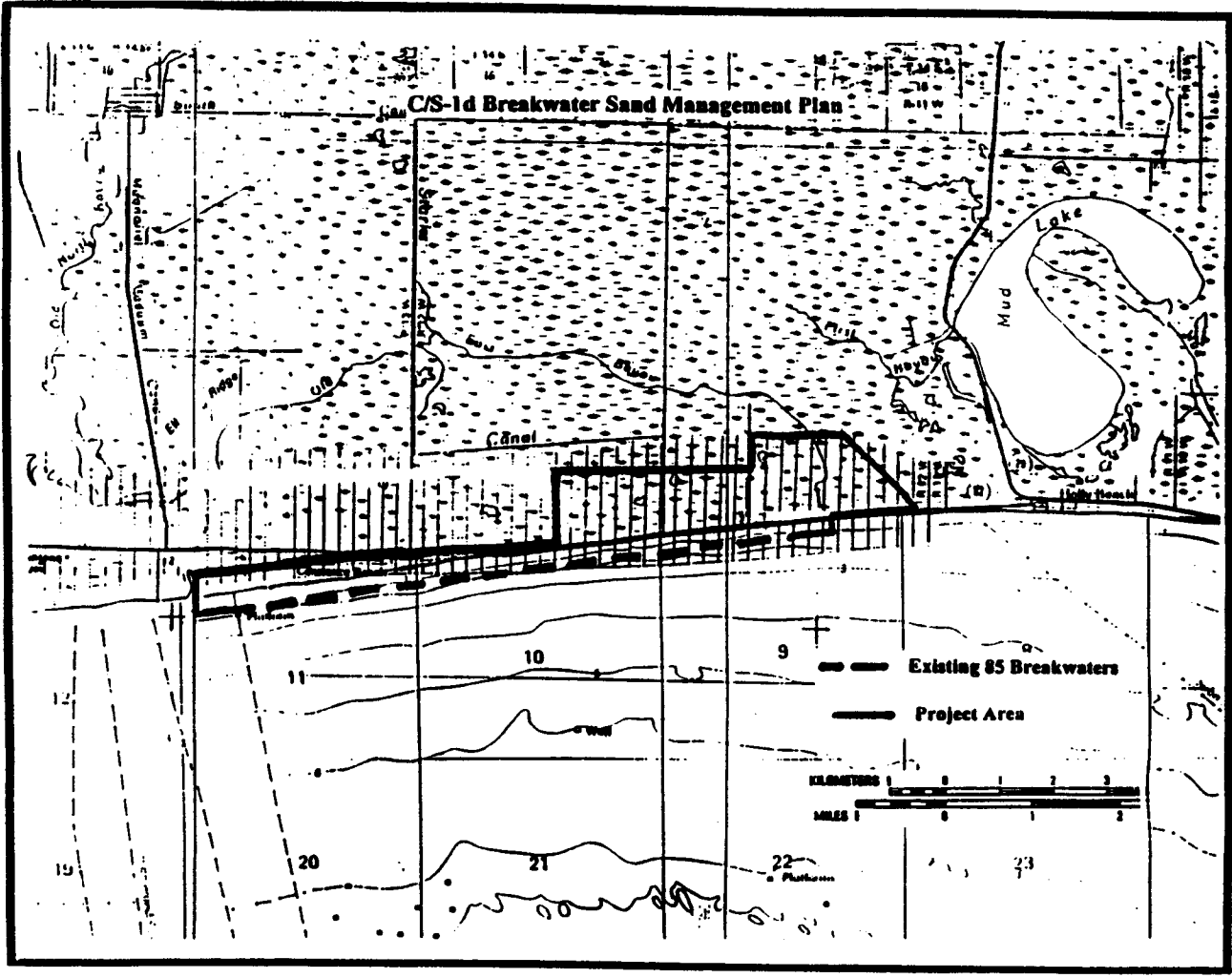
Lake Portage Land Bridge (PTV-20)

This project covers 1,552 acres and is located immediately south from Lake Portage within the Paul J. Rainey Wildlife Refuge, located to the west of Southwest Pass in Vermilion Parish, La. The objective of this project is to protect the land bridge south of Lake Portage from breaching and creating another pass from Vermilion Bay to the Gulf of Mexico.



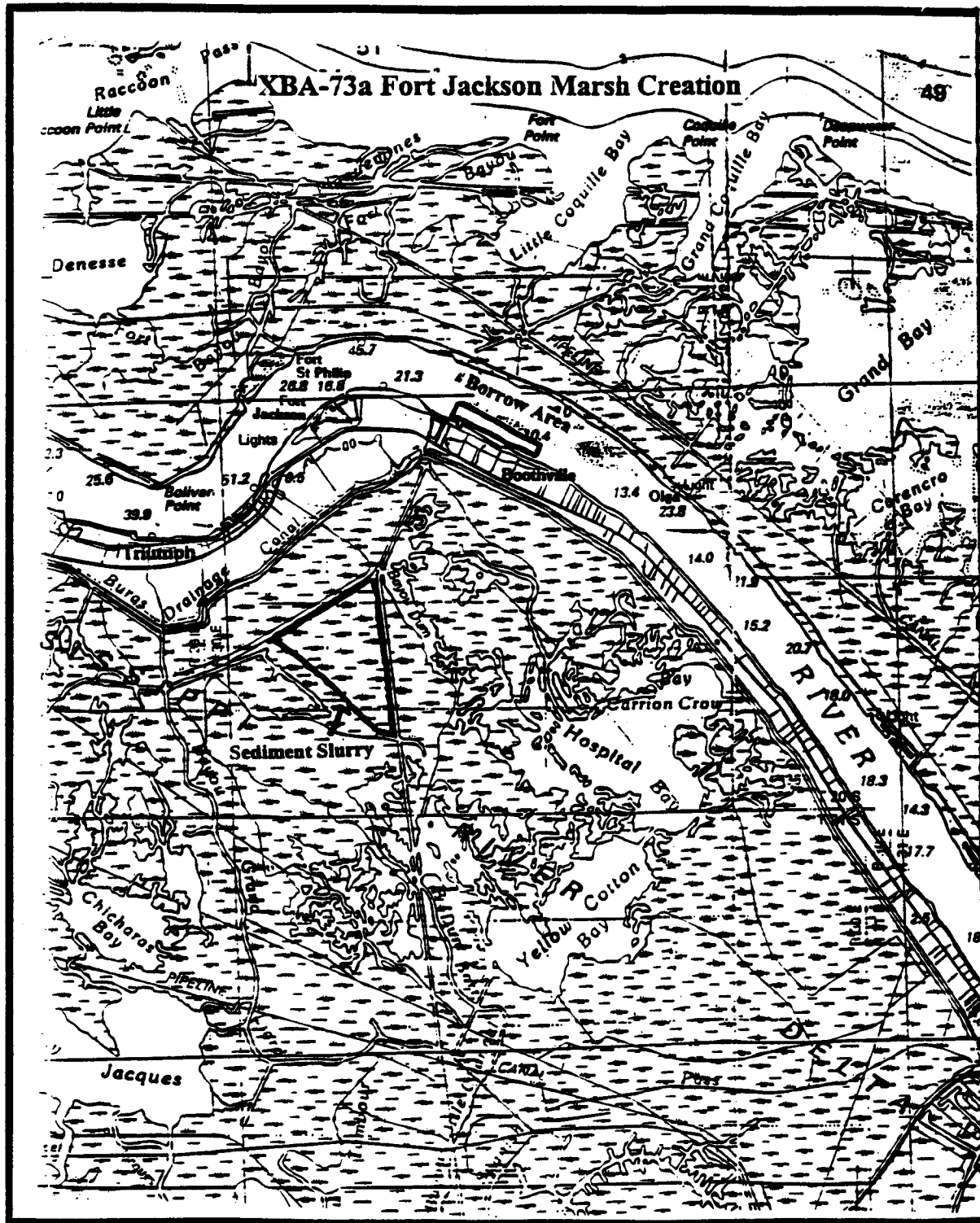
Upper Oak River Freshwater Siphon (PBS-1)

This project is located on the east bank of the Mississippi River in Plaquemines Parish 6 miles south of the Belle Chase Ferry and approximately 1/2 mile south of Bertrandville. The project area consists of approximately 4,618 acres. The objective of this project is to introduce freshwater and sediment from the Mississippi River through a siphon system, reduce the rate of land loss, increase vegetative diversity and submerged aquatic vegetation, and increase dissolved oxygen levels in the water.



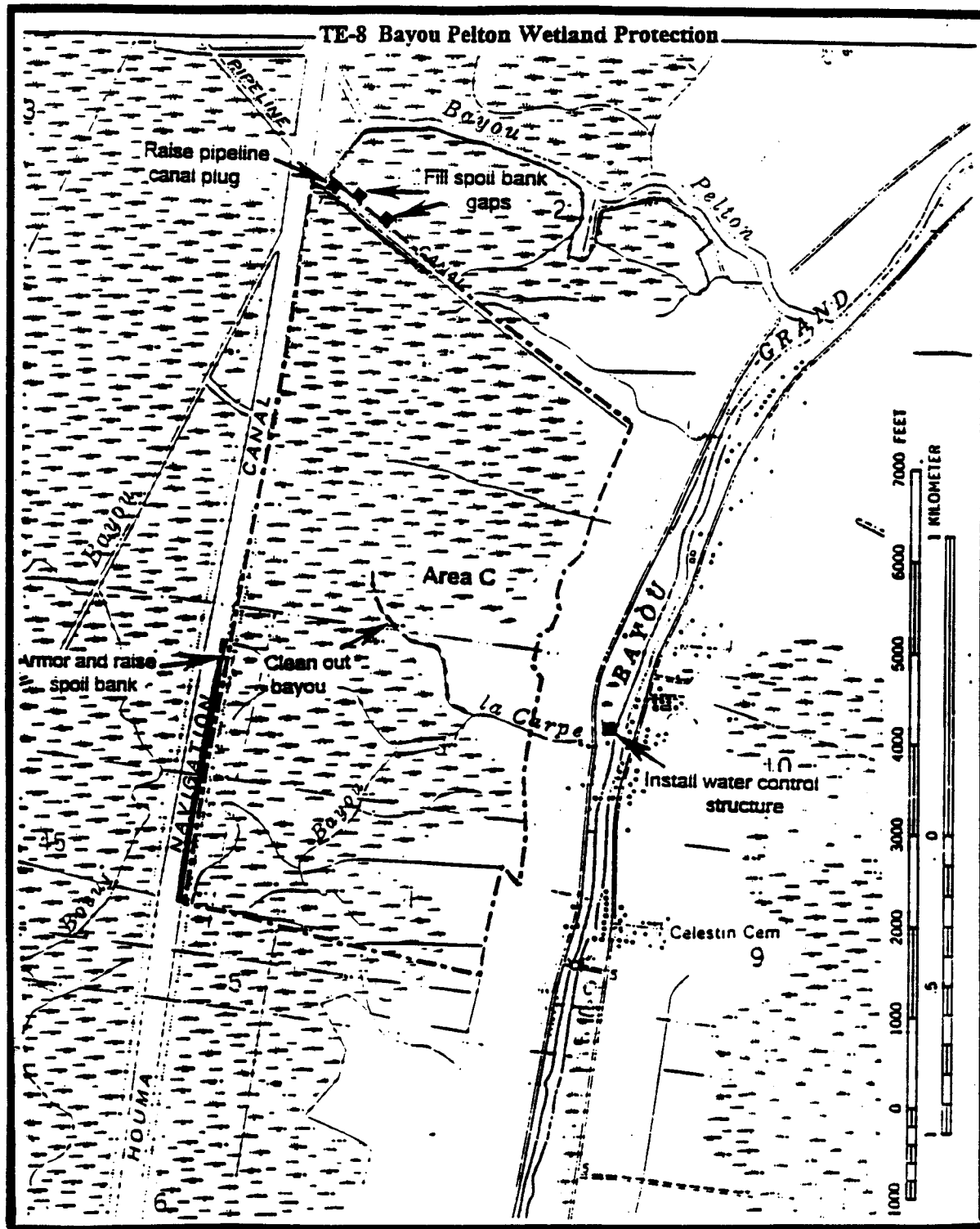
Constance to Holly Beach Breakwater Sand Management (C/S-1d)

These projects are located along the Gulf of Mexico shoreline, between Ocean View and Holly Beaches, adjacent to LA Highway 82 in Cameron Parish. The purpose of this project is to provide additional protection to the chenier and coast between Holly and Constance Beaches.



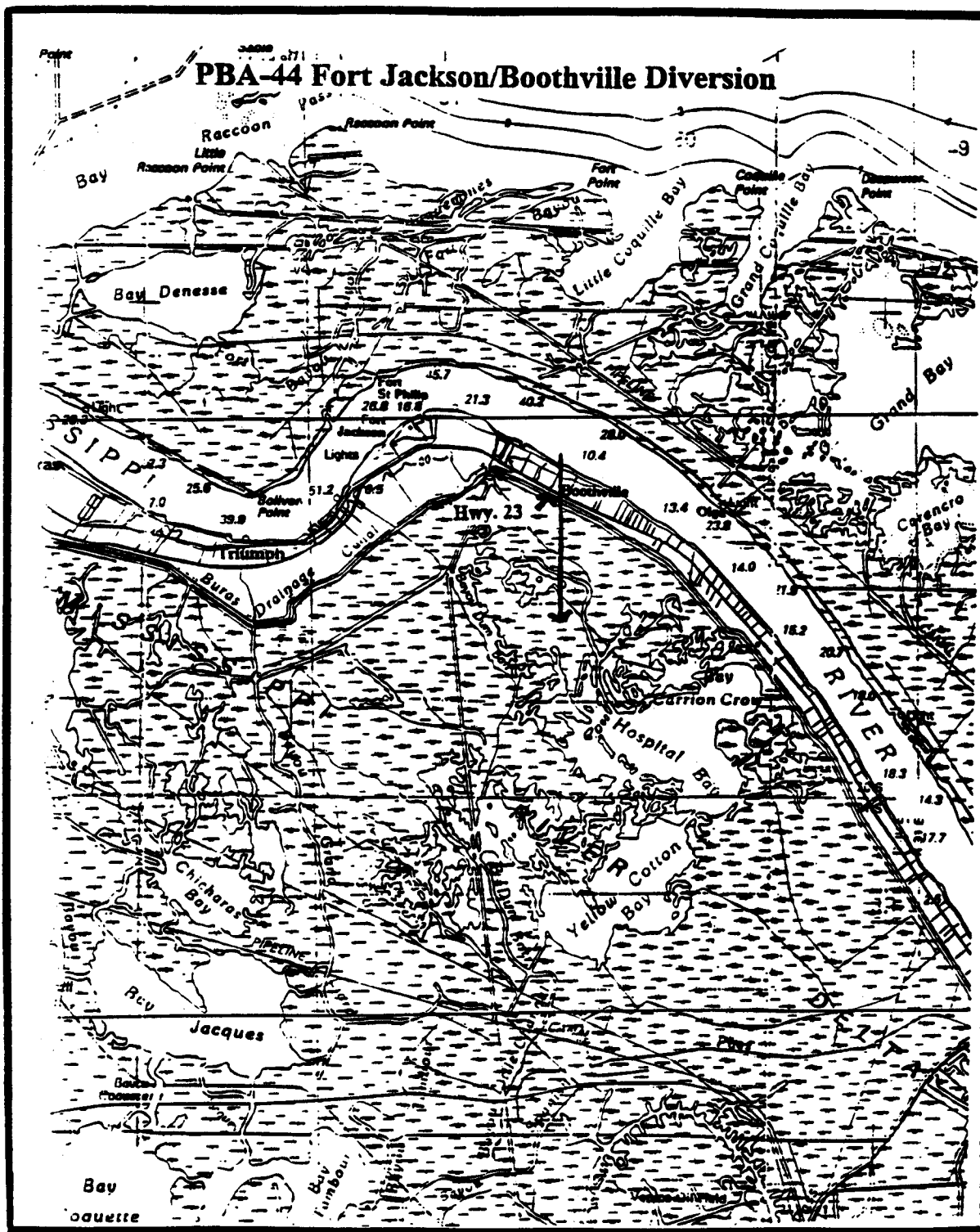
Fort Jackson Marsh Creation (XBA-73a)

The borrow area for this project is located in the Mississippi River, about 15 miles above Head of Passes at Boothville, in Barataria Basin, LA. The marsh creation portion is located about 2 miles south of Fort Jackson, just northwest of Hospital and Yellow Cotton Bays. The objective of this project is to introduce sediment into this area to promote marsh creation.



Bayou Pelton Wetlands Protection (TE-8)

This project is located immediately east of the Houman Navigation Channel (HNC), south of Bayou Pelton and west of Bayou Grand Calliou in Terrebonne Parish, La. The project encompasses approximately 475 acra. The project objective is to reduce saltwater intrusion, and relieve excessive water levels within the project area by improving drainage.



Fort Jackson/Boothville Diversion (PBA-44)

This project is located approximately 3,000 ft. south of Fort Jackson, in Plaquemines Parish. The total project area is 81,768 acres and contains 3,800 acres of intermediate marsh, 3640 acres of brackish, 14,472 acres of saline marsh and 59,832 acres of open water. Some of the objectives of this project are to restore the historic hydrology throughout the area, and reduce saltwater intrusion.

PROJECT SELECTION PROCESS

Background and Rationale of Ranking Criteria Development.

The priority list selection process has undergone several changes during the life of the Breaux Act. These changes have generally been aimed at 1.) increasing public involvement or 2.) making the project evaluation and selection process more rigorous. The emphasis in the process of selecting the 8th Priority Project List was placed in the first of these objectives.

In the past, projects have been evaluated and ranked in order of cost-effectiveness; the project with the lowest average annual fully funded cost per average annual habitat unit is ranked first, and the rest follow in order of increasing average annual fully funded cost/AAHU. One means of selecting the priority project list from this ranked list would be simply to begin at the top of the list and approve as many projects as could be built with that year's funding (usually about \$40 million). However, this has never been the procedure used by the Task Force.

In the past, selection of the list involved considerable discussion at all three levels in the Task Force hierarchy: the Planning and Evaluation Subcommittee prepared a recommended list for the Technical Committee; the Technical Committee revised the list and presented a recommendation to the Task Force; and the Task Force considered that recommendation and generally made revisions before giving final approval to a priority project list.

Factors other than cost-effectiveness have always figured into the Task Force's decisions. These other factors include such things as implementability (the ease with which a project can be brought to construction) and public support. The Task Force has at times also taken into account the geographical distribution of projects in the coastal zone.

In an attempt to make the selection process rigorous, use was made of a procedure developed by the Technical Committee. This procedure took into account various criteria to produce an overall ranking of candidate projects. The criteria were evaluated such that each would have a maximum value of 10 points. Each criterion was weighted in a manner deemed appropriate by the committee to reflect its relative importance, and the sum of the resulting values gave a score for each project. Candidate projects were ranked according to these scores to produce a recommended list for consideration by the Task Force. The Technical Committee required a two-thirds majority vote for any deviation from the ranked list. Table 4 lists the criteria and their assigned weights.

Table 4
Candidate Project Ranking Criteria

Criterion	Weight
Cost-Effectiveness	0.55
Longevity/Sustainability	0.15
Support of Restoration Plan Strategy	0.15
Supporting Partnerships	0.05
Public Support	0.05
Risk/Uncertainty	0.05
Total	1.00

Cost-Effectiveness. The committee agreed that cost-effectiveness is the single most important criterion in the ranking and selection of projects (it is, in fact, the only criterion mentioned in the Breaux Act). For this reason, the committee assigned a weight of 0.55 to the cost-effectiveness index, so that it would count for more than half of a project's total score. The index itself is based on a comparison of the relative values of projects' cost-effectiveness as measured by the ratio of average annual costs to average annual habitat units. A base 10 logarithm is used to prevent skewing of the results in the case of a project with a very high average annual fully funded cost/AAHU (very low cost-effectiveness). The equation for determining the cost-effectiveness index is given below.

$$\text{Cost-effectiveness index of project } n = 5 \log_{10} (100 (E_n/E_1)) ,$$

where E_1 = average annual fully
funded cost/AAHU of
the most cost-
effective project

and E_n = average annual fully
funded cost/AAHU of
project n

In the case of the most cost-effective project (the project with the lowest average annual fully funded cost/AAHU), the term E_n/E_1 has the value of unity, and the cost-effectiveness index is 10.

Longevity/Sustainability. This criterion measures a project's estimated ability to continue to produce wetlands benefits over time. Projects that achieve long-term maintenance or restoration of natural processes (such as sediment transport via a crevasse) and can be sustained without extensive replacement actions will be favored over projects that will produce only short-term benefits or require extensive maintenance

or replacement of project features to sustain long-term wetland benefits. The determination of longevity/sustainability is made by the Environmental and Engineering Work Groups, considering the following factors.

1. The ability of a project (including planned operation, maintenance, and replacement actions) to provide wetland benefits through the end of the 20-year project life.

2. The project's ability to provide wetland benefits beyond target year 20 without any further operation, maintenance, or replacement of project features. This evaluation would consider effects of anticipated site-specific conditions, such as hydrology, wave energy, saltwater intrusion, subsidence, and landscape conditions.

3. The extent that a project provides sediment, or facilitates or maintains peat build-up, sufficient to withstand or offset relative sea level rises and storms events.

4. Predictions of longevity/sustainability made through use of reliable simulation models, especially in the case of projects where there is substantial uncertainty and such models can be employed at a reasonable cost and in a timely manner.

Each work group representative and the assigned member of the Academic Assistance Group scored each project based on the one condition from among those listed below which they determined to be most applicable. An average score was then taken.

1. Project expected to continue providing substantial wetland benefits more than 40 years after construction: 10 points.

2. Project expected to provide substantial wetland benefits 30 to 40 years after construction: 7 points.

3. Project expected to cease providing substantial wetland benefits 20 to 30 years after construction: 3 points.

4. Project expected to cease providing substantial wetland benefits less than 20 years after construction: 0 points.

Support for Restoration Plan. Candidate projects that were identified in the November 1993 *Louisiana Coastal Wetlands Restoration Plan* or subsequent revisions as "critical" projects were given a score of 10 in this category. Candidate projects that were listed as supporting or altogether new received a score of 3.

Supporting Partnerships. The State's required cost share for CWPPRA projects is derived from the State's Wetlands Conservation and Restoration Fund (Trust Fund). The degree to which non-Federal partnering entities agree, in writing, to contribute all or part of the State's cost-share with non-Trust Fund sources will weigh favorably in project selection; contributions could consist of cash or in-kind services, including those covering maintenance, operation, or replacement expenses. Donation of land rights would not be considered as a

financial contribution. The following formula was used to calculate the partnership index, which cannot exceed 10 points:

Partnership Index = $10(PS/SS)$,

Where: SS = dollar amount of the required 25 percent non-Federal cost share

and PS = dollar amount of the non-Federal partner contribution (other than that provided via the Trust Fund).

Public Support. The degree of public support (evidenced by written endorsement or testimony at a CWPPRA-related public meeting) is an indicator of a project's acceptability and implementability.

Traditionally, in past lists, values were assigned according to which of the following conditions applied to each project.

1. Project is supported by local and State elected officials and Congressional representatives: 10 points.
2. Project is supported by 2 of above entities: 7 points.
3. Project is supported by 1 of above entities: 3 points.
4. Project without support by any of the above entities: 0 points.

Risk/Uncertainty. Projects with a greater probability of long-term success are ranked higher than those for which there is a greater level of uncertainty regarding success. Uncertainty may stem from a project's location in a rapidly changing or subsiding area, vulnerability to hurricane damage, or the use of untested or otherwise questionable methods. Risk may arise when contaminated sediments, water quality issues, or other problems are involved.

Each Task Force agency's Environmental Work Group member and a representative from the Academic Assistance Group scored each project between 0 and 10. The higher the score the greater the degree of confidence that the project will meet its objectives. Points were averaged for each project to determine the final raw scores.

Table 5 shows the summary of candidate project rankings. The table is sorted by project in descending order, based on the sum of the weighted criteria points that resulted from evaluation of each candidate project.

Table 3
Rankings for Projects of the 8th Priority Project List

Project Physical Type:	Sponsoring Agencies:		Rank by Summation of Criteria Weights	Physical Type	Systemic (Y) or Non-Systemic (N)	Sponsoring Agency	Fully Funded Total Cost	Average Annual Cost (AAC)	Average Annual Habitat Units (AAHUs)	Average Annual Cost/AAHU for Project "n" (E _n) = AAC/AAHU	Rank by E _n	Cost Effectiveness Index (CEI) = $\log_{10}(100E_n)$ E _n = AAC/AAHU of most cost-effective candidate project	Cost Effectiveness (CE) = 0.55CEI	Longevity/Sustainability Average Point Score (LSP)	Longevity/Sustainability (LS) = 0.15LSP	Restoration Plan Support Average Point Score (RSP)	Restoration Plan Support (RS) = 0.15RSP	Dollar Value of the Req'd. 15% Non-Federal Cost Share (SS)	Dollar Amount of the Non-Federal Contribution (FS)	Supporting Partnership Index (SPI) = 10(P/SS)	Supporting Partnership (SP) = 0.05*SPI	Public Support Index (PUI)	Public Support (PU) = 0.05PUI	Risk/Uncertainty Index (RUI)	Risk/Uncertainty (RU) = 0.05RUI	Summation of Criteria Weights = CE+LS+RS+SP+PS+RU	Alternate Summation of Criteria Weights = CE+LS+RS+SP+RU
	Project No.	Project Name																									
FD = Freshwater Diversion HR = Hydrologic Restoration MC = Marsh Creation SD = Sediment Diversion SP = Shoreline Protection SR = Sediment Retention		COE = US Army Corps of Engineers EPA = Environmental Protection Agency NMFS = National Marine Fisheries Service NRCS = Natural Resources Conservation Service USFWS = US Fish and Wildlife Service	1	HR	N	NRCS	\$ 1,497,598	\$ 79,758	297	\$ 269	1	10.00	5.50	6.2	0.93	10	1.5	\$ 224,640	\$ -	0	0	10	0.50	6.2	0.31	8.74	8.24
	PME-15	Humble Canal Hydrologic Restoration (C)	2	HR	N	NMFS	\$ 2,134,413	\$ 135,566	269	\$ 504	2	8.63	4.75	6.2	0.93	10	1.5	\$ 320,162	\$ -	0	0	10	0.50	6.4	0.32	8.00	7.50
	PPO-38	Hopedale Hydrologic Restoration (C)	3	MC/HR	S	NMFS	\$ 4,577,238	\$ 4,625,632	4010	\$ 1,154	3	6.83	3.76	10.0	1.5	10	1.5	\$ 6,836,586	\$ -	0	0	0	0.00	7.6	0.38	7.14	7.14
	PBA-44	Fl. Jackson/Boothville Diversion	4	MC/HR	N	NMFS	\$ 3,202,184	\$ 258,044	203	\$ 1,271	4	6.82	3.64	6.2	0.93	10	1.5	\$ 480,328	\$ -	0	0	7	0.35	5.4	0.27	6.68	6.34
	XPO-74a	Bayou Bienvenue Pumping Station/Terracing (e)	5	MC	N	COE	\$ 10,475,936	\$ 816,508	382	\$ 2,137	5	5.50	3.02	8.2	1.23	10	1.5	\$ 1,571,390	\$ -	0	0	0	0.00	7.8	0.39	6.14	6.14
	XCS-48 (SA-1)	Sabine Refuge Marsh Creation (Revised)	6	FD	S	NRCS	\$ 12,982,068	\$ 1,063,798	153	\$ 6,963	7	2.83	1.61	8.6	1.32	10	1.5	\$ 1,947,313	\$ -	0	0	3	0.15	7.6	0.38	4.98	4.81
	PBS-1	Upper Oak R. FW Introduction Siphon (b)	7	SP	Y	NRCS	\$ 7,161,749	\$ 628,697	129	\$ 4,858	6	3.71	2.04	3.0	0.45	10	1.5	\$ 1,074,262	\$ -	0	0	10	0.50	5.0	0.25	4.74	4.24
	XBA-631A	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 1 (c)	8	HR/SP	N	NRCS/EPA	\$ 4,544,966	\$ 352,418	34	\$ 10,365	10	2.07	1.14	7.0	1.05	10	1.5	\$ 681,745	\$ 100,000	1.5	0.07	10	0.50	6.8	0.34	4.60	4.10
	PTV-20	Lake Portage Land Bridge (C)	9	HR/SP	N	FWS	\$ 3,101,010	\$ 223,643	24	\$ 9,327	9	2.30	1.26	5.4	0.81	10	1.5	\$ 485,152	\$ -	0	0	0	0.00	6.4	0.32	3.88	3.88
	TE-8	Bayou Pelton Wetland Protection (b)	10	HR/SP	N	NRCS	\$ 13,660,497	\$ 1,206,615	159	\$ 7,569	8	2.74	1.51	3.0	0.45	10	1.5	\$ 2,050,275	\$ -	0	0	10	0.50	5.0	0.25	4.21	3.71
	XBA-631B	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 3 (c)	11	MC	N	EPA	\$ 11,163,161	\$ 1,074,944	83	\$ 12,951	11	1.58	0.87	8.2	0.93	10	1.5	\$ 1,874,474	\$ -	0	0	0	0.00	7.4	0.37	3.87	3.67
	XBA-73aII	Fl. Jackson/Boothville Marsh Creation, Increment 2	12	MC	N	EPA	\$ 10,505,261	\$ 1,011,144	21	\$ 48,150	14	1.27	0.70	3.8	0.57	10	1.5	\$ 1,575,789	\$ -	0	0	0	0.00	4.6	0.23	3.00	3.00
	XBA-73aI	Fl. Jackson/Boothville Marsh Creation, Increment 1	13	MC	N	EPA	\$ 7,161,749	\$ 628,697	30	\$ 20,880	12	0.55	0.30	3.0	0.45	10	1.5	\$ 1,074,262	\$ -	0	0	10	0.50	5.0	0.25	3.00	2.50
	XBA-631C	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 2 (c)	14	SP	N	COE	\$ 28,302,880	\$ 2,488,729	54	\$ 46,088	13	1.17	0.65	0.0	0	10	1.5	\$ 3,945,434	\$ -	0	0	10	0.50	3.0	0.15	2.80	2.30
	CS-1d	Constance-Holly Beach Sand Management Plan (c)		SP	N	COE	\$ 2,014,512																				

NOTES:

- (a) State support was received on this project.
- (b) Local support was received on this project.
- (c) Congressional, state, and local support was received on this project.
- (d) Congressional and local support was received on this project.
- (e) State and local support was received on this project.

Demonstration Projects

CW-9	Maintenance Dredging Matching Fund Demonstration Project	MC	NMFS	\$ 1,749,835
PTE-66	Bank Protection Demonstration Project on the Gulf Intracoastal Waterway (GIWW) at Mandalay, Louisiana (b)	SP	COE	\$ 1,697,090
PME-47	Shore Protection Demonstration Project on White Lake, Louisiana	SP	COE	\$ 1,619,390
PME-48	Shore Protection Demonstration Project on Grand Lake, Louisiana (d)	SP	COE	\$ 1,619,390
BA-71	Periodic Introduction of Freshwater, Sediment and Nutrients at Selected Sites along the Mississippi River	FD	COE	\$ 2,014,512

Rationale for Selection. The November 1993 *Louisiana Coastal Wetlands Restoration Plan* noted that a serious effort to address the state's problem of coastal wetlands loss would necessitate the investigation and implementation of large-scale restoration projects. During 1995, the State of Louisiana assumed a position of strong support for large-scale projects, particularly restoration of barrier islands and diversions of sediment and fresh water. The Task Force took steps to assure the selection of some large-scale projects when it approved a policy devoting two-thirds of future years' funding to "large-scale projects with systemic effects."

The Technical Committee assigned the candidate projects a category based on estimated costs and project outputs, in accordance with the policy. In general, projects with estimated costs exceeding \$10 million were considered large-scale projects. In addition, the committee classified as large-scale those projects expected to produce what they considered systemic, process-level benefits. Table 5 presents the systemic/non-systemic classification of the candidate projects, based on these categories assigned by the Technical Committee.

The Task Force provided specific guidance to the Technical Committee for selection of the 8th Priority Project List. Prior to initiation of the 8th Priority Project List process, the Task Force guidance stated that:

1. the total value of candidate and demonstration projects was to be funded based on unallocated funds of the construction allotment, considering other possible funding needs arising in the current budget year. Projects that were projected to cost over about \$25 million should be considered in a separate study process;

2. the nomination process of the 8th Priority Project List was to be held in each of the four Coast 2050 Regions, with the evaluation process limited to about 10 to 12 candidates in the current selection process. Public meetings were to be held statewide, to obtain input prior to actual project selection. Firm project cost figures were to be obtained prior to that meeting;

3. improved project development and minimization of duplication of effort was to be striven for through interagency coordination. The Planning and Evaluation Subcommittee was to meet before initiating the 8th Priority Project List development process to discuss and (to the extent possible) reach agreement on key problems, opportunities, focus areas, and appropriate project types, and to promote interagency project development;

4. there be a continuance to strive for selection of projects, or add-ons to such projects, which implement key basin restoration strategies and achieve process-level benefits; those benefits should extend far beyond the construction site, and were to restore or enhance natural wetland building or wetland maintenance processes in major portions of basins, subbasins, or other natural hydrologic units (e.g., inter-distributary basin);

5. priority was to be given to cost-effective projects that lack major implementation problems and would restore degraded wetlands, facilitate deltaic accretion, or reduce rapid wetland loss rates through enhanced freshwater and sediment management or by arresting severe invasion of marine processes into freshwater or low-salinity wetlands;

6. projects to be avoided included those projects that would:

a. be located where wetland benefits are unlikely to be sustainable without disproportionate operation, maintenance and replacement costs;

b. primarily designed to address localized channel bank erosion, unless erosion constitutes immediate systemic threat to extensive wetlands via severe hydrologic alteration or saltwater intrusion; and

c. likely to be funded via other programs;

7. consideration to large-scale barrier island and river diversion projects was to be deferred until feasibility study results are available and indicate substantial wetland benefits. Focus was to be given to current efforts on building previously authorized barrier island restoration projects;

8. any demonstration projects recommended would be likely to illustrate effective new techniques and materials with a high likelihood of widespread, cost-effective application to coastal restoration. These projects were not to be simply experiments to test possible new approaches (i.e., the emphasis is on demonstration, and not research and development); and

9. the 8th Priority Project List selection process be completed by December 1998. This was revised to January 1999 by the Task Force to accommodate the selection process.

In preparation of the Task Force meeting for project selection of the 8th Priority Project List, the Technical Committee developed a list of recommended projects for the Task Force. The Technical Committee's decision was aided by a list of preferred projects presented by the State. In general, the recommended list was developed based on the ranking procedure described above and a consideration of the policy requiring two-thirds of the year's funding to be allocated to projects with systemic, process-level benefits. The Technical Committee conducted a vote of its members of the candidate projects to aid in the development of a recommended list to the Task Force for the 8th Priority Project List. A summary of these voting results, which served as a recommendation of the Technical Committee to the Task Force for the 8th Priority Project List, is shown in Table 6.

On January 20, 1999, the Louisiana Coastal Wetlands Conservation and Restoration Task Force made its recommendation for the 8th Priority Project List. The list is shown in Table 7. The schedule shown in Table 7 could vary depending upon the availability of funds and the outcome of the engineering and design effort for the Bayou Lafourche Siphon project.

Table 6
Technical Committee Vote (Descending Order)
of Candidate Projects Recommended for Selection on the 8th Priority Project List

Project No.	Candidate Project Name	Fully Funded Cost	Cummulative Fully Funded Cost
PPO-38	Hopedale Hydrologic Restoration	\$ 2,179,491	\$ 2,179,491
PME-15	Humble Canal Hydrologic Restoration	\$ 1,526,136	\$ 3,705,627
XCS-48 (SA-1)	Sabine Refuge Marsh Creation (Revised)	\$ 10,475,936	\$ 14,181,563
XPO-74a	Bayou Bienvenue Pumping Station/Terracing	\$ 3,295,574	\$ 17,477,137
XBA-63ii A	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 1	\$ 7,172,329	\$ 24,649,466
PTV-20	Lake Portage Land Bridge	\$ 4,559,400	\$ 29,208,866
PBS-1	Upper Oak R. FW Introduction Siphon	\$ 12,944,800	\$ 42,153,666
CS-1d	Constance-Holly Beach Sand Management Plan	\$ 26,302,890	\$ 68,456,556
XBA-63ii B	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 3	\$ 13,668,497	\$ 82,125,053
XBA-73aii	Ft. Jackson/Boothville Marsh Creation, Increment 2	\$ 11,163,161	\$ 93,288,214
TE-8	Bayou Pelton Wetland Protection	\$ 3,101,010	\$ 96,389,224
XBA-63ii	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 2	\$ 7,161,749	\$ 103,550,973
PBA-44	Ft. Jackson/Boothville Diversion	\$ 45,577,238	\$ 149,128,211
XBA-73ai	Ft. Jackson/Boothville Marsh Creation, Increment 1	\$ 45,577,238	\$ 194,705,449

Project No.	Demonstration Project Name	Fully Funded Cost	Cummulative Fully Funded Cost
PTE-68	Bank Protection Demonstration Project on the Gulf Intracoastal Waterway (GIWW) at Mandalay, Louisiana	\$ 1,697,090	\$ 1,697,090
CW-9	Maintenance Dredging Matching Fund Demonstration Project	\$ 1,749,638	\$ 3,446,728
PME-47	Shore Protection Demonstration Project on White Lake, Louisiana	\$ 1,619,390	\$ 5,066,118
PME-48	Shore Protection Demonstration Project on Grand Lake, Louisiana	\$ 1,619,390	\$ 6,685,508
BA-71	Periodic Introduction of Freshwater, Sediment, and Nutrients at Selected Sites along the Mississippi River	\$ 2,014,512	\$ 8,700,020

Table 7
Task Force Selection of Projects for the 8th Priority Project List

Project No.	Candidate Project Name	Fully Funded Total Project Cost	Fully Funded Approved Cost	Cummulative Fully Funded Approved Cost	Average Annual Habitat Units (AAHU) for Total Project	Acres Protected/Created for Total Project	Cost per AAHU
PPO-38	Hopedale Hydrologic Restoration	\$ 2,179,491	\$ 2,179,491	\$ 2,179,491	269	134	\$405
PME-15	Humble Canal Hydrologic Restoration	\$ 1,526,136	\$ 1,526,136	\$ 3,705,627	297	378	\$257
XCS-48 (SA-1)	Sabine Refuge Marsh Creation (Revised)	\$ 10,475,936	\$ 5,920,248 ^a	\$ 9,625,875	386	993	\$1,357
XPO-74a	Bayou Bienvenue Pumping Station/Terracing	\$ 3,295,574	\$ 3,295,574	\$ 12,921,449	203	442	\$812
XBA-63ii A	Barataria Land Bridge Shoreline Protection, Phase 2, Increment 1	\$ 7,172,329	\$ 7,172,329	\$ 20,093,778	129	337	\$2,780
PTV-20	Lake Portage Land Bridge	\$ 4,559,400	\$ 1,013,820 ^b	\$ 21,107,598	9	24	\$25,330
PBS-1	Upper Oak R. FW Introduction Siphon	\$ 12,944,800	\$ 2,500,239 ^b	\$ 23,607,837	153	339	\$4,230
		8th Priority Project List Totals =		\$ 23,607,837	1446	2647	

NOTES:

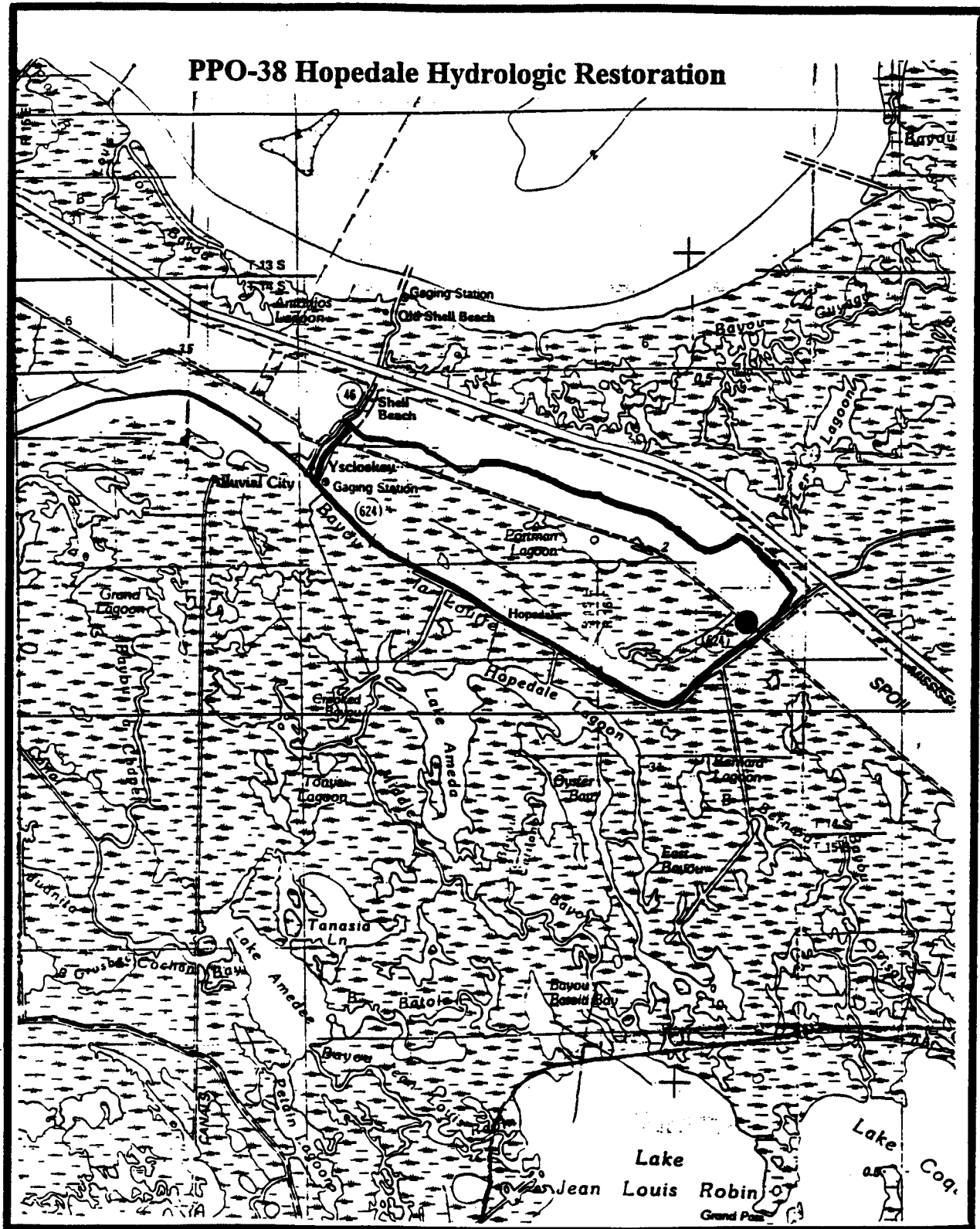
^a Indexed cost for permanent pipeline installation and dredge placement activities for first of five dredging events, to be performed in conjunction with Calcasieu River channel maintenance dredging. Funding for Event Nos. 2 through 5 are planned for future Priority Project Lists, about every other year in connection with channel maintenance activities.

^b Indexed funding approved to initiate plans and specifications, where remaining funding requirements would be met in future Priority Project Lists at the time the project pre-construction, engineering, and design requirements are complete.

DESCRIPTIONS OF SELECTED AND FUNDED PROJECTS

This section provides a concise narrative of each selected project that was funded. The project details provided include the project location and size, problems, features, effects and issues, benefits and cost, status, and a map identifying the project area and features.

PPO-38 Hopedale Hydrologic Restoration



Project: PPO-38 Hopedale Hydrologic Restoration

Federal Sponsor: National Marine Fisheries Service

Location and Size:

The 3,805 acre project area is located southeast of Yscloskey, in St. Bernard Parish. This area is bordered by LA Hwy. 46 to the west, LA Hwy. 624 to the east and south, and the Mississippi River Gulf Outlet (MRGO) disposal area to the north. The project area consists of shallow water ponds, brackish marsh, and some higher elevation wetlands along the Bayou La Loutre Ridge.

Problems:

In the 1950s, a water control structure was placed into a canal leading from the project area to Bayou La Loutre (Site 1). This canal parallels the back MRGO spoil containment dike. When installed, this structure contained three galvanized iron culverts with flapgates. As time passed, the flapgates were removed and never replaced. During recent years, two of the three culverts have collapsed. The collapsing of the culverts has adversely impacted wetlands in the project area through the loss of drainage capability. High water elevations from high tides and rainfall ponds on the marsh surface, have reduced plant health and have led to accelerated marsh loss.

Project Objectives:

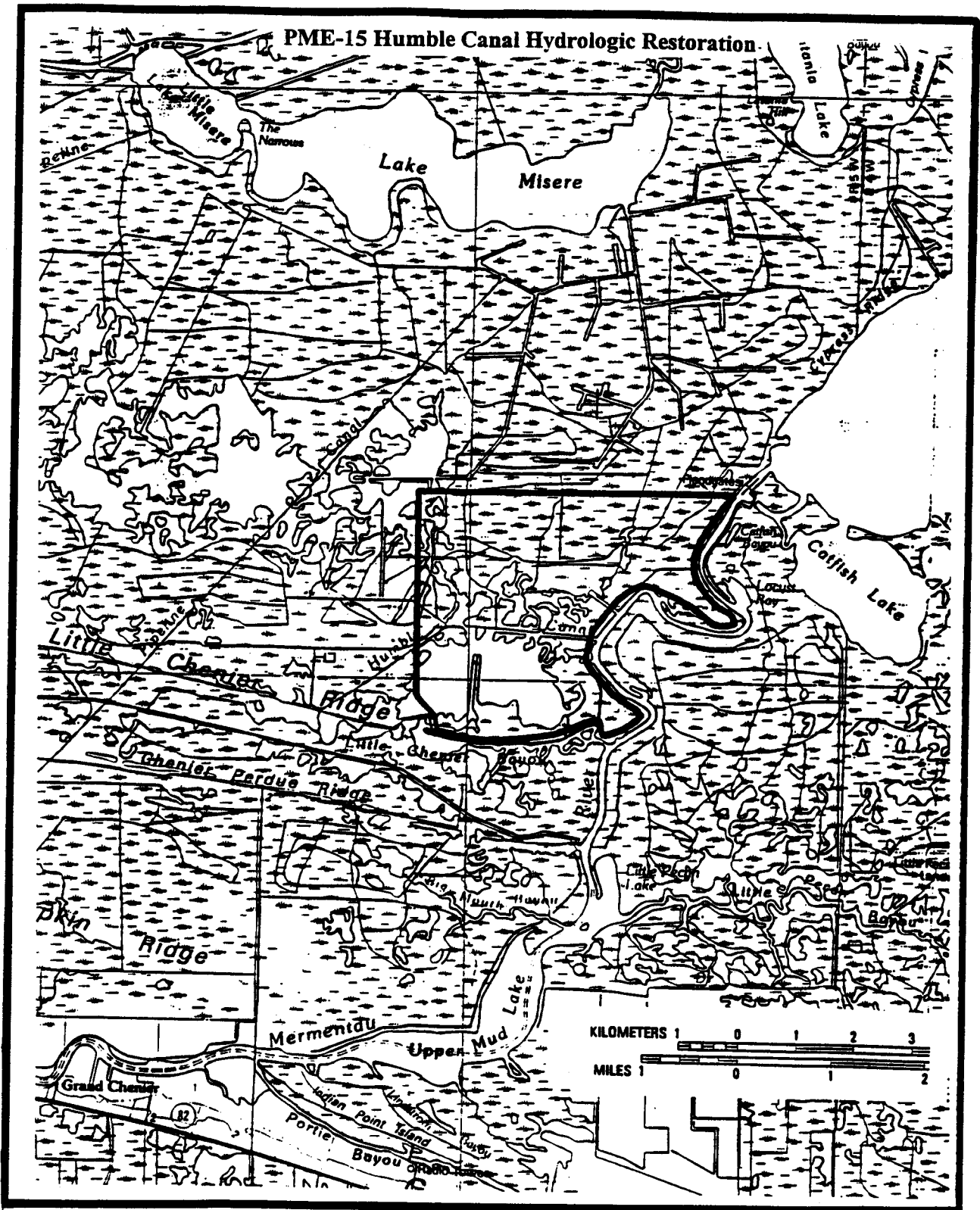
Replacing the culverts would allow water within the system to drain more rapidly, reducing wetland loss rates. Additionally, replacement of degraded culverts will improve marine fishery access to wetlands within the project area.

Project Features:

- 1) Control Structure in Hopedale Canal
100' steel sheet piling with four 10' X 10' flap gates and two 60" Diameter Sluice Gates
- 2) Gated Highway 624 Culverts
Site 1: three 36" diameter flap gated culverts
Site 2: one 36" diameter sluice gated culvert
Site 3: one 60" diameter sluice gated culvert
Site 4: two 36" diameter flap gated culverts

Benefits and Costs:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 2,179,491	\$405	269	134



Project: PME-15 Humble Canal Hydrologic Restoration

Federal Sponsor: Natural Resources Conservation Service

Location:

This project is located in the Lakes Sub-basin of the Mermentau Basin, on the west bank of the Mermentau River approximately two miles southwest of Grand Lake at the Humble Canal in Cameron Parish, LA. This area encompasses 4,030 acres of fresh and intermediate marsh habitat located north of the structure location in the "Big Burn".

Problems:

The Grand and White Lakes system has been maintained as a fresh to intermediate marsh environment with limited loss of wetlands. This has been accomplished through water management utilizing natural ridges, levees, locks, and water control structures. This project would replace the Humble Canal structure which has fallen into disrepair. This project is compatible with the overall basin strategy of treating critical areas of marsh loss within the interior of the basin, and managing water levels with structures in the Lakes Sub-basin to relieve stress on interior wetlands. The project would also relieve this area from continued saltwater intrusion from the Mermentau River, which threatens the viability of the fresh to intermediate marshes within "Big Burn".

Project Objectives:

The objective of this project is to restore historic hydrology to the project area. This will be accomplished by reducing saltwater intrusion from the Mermentau River, and allowing for drainage of high water levels from the marsh to the river.

Project Features:

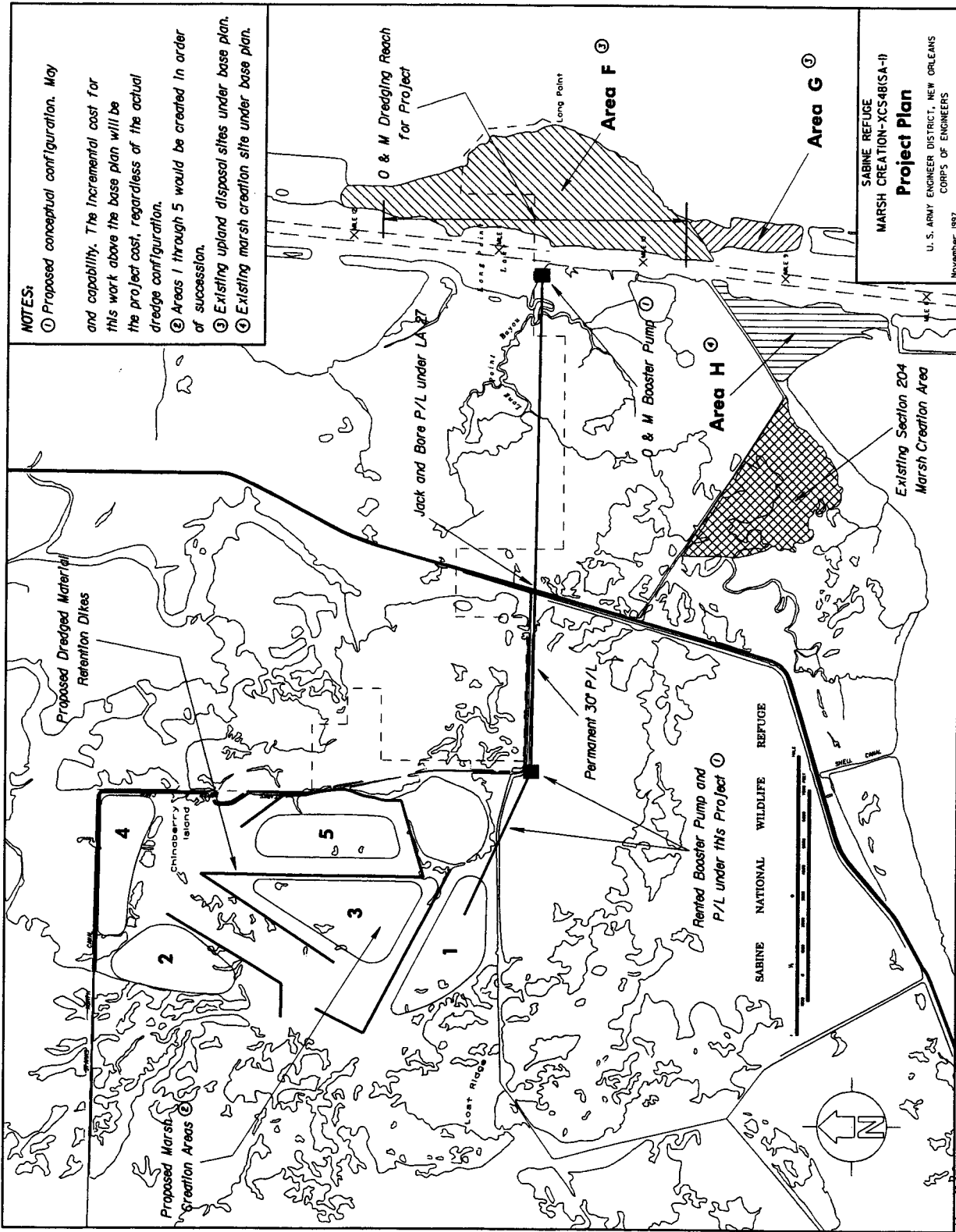
This project will install three 48-inch flapgated culverts. Consideration will be given later to increasing the number of structures to five, to increase water level reduction efficiency and the ingress and egress of marine organisms.

Effects and Issues:

Estuarine fisheries will likely benefit from the project due to the present lack of fisheries access to the area. The Wetland Value Assessment conducted in 1992 indicated that constructing this project would increase fisheries access.

Cost and Benefits:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 1,526,136	\$257	297	378



Enclosure 1

Project: XCS-48 (SA-1) Sabine Refuge Marsh Creation

Federal Sponsor: U.S. Fish and Wildlife Service/U.S. Army Corps of Engineers

Location:

This project is located on the Sabine National Wildlife Refuge, west of Hwy. 27, in large, open water areas north and northwest of Brown's Lake in Cameron Parish, LA. This project encompasses approximately 5,776 acres.

Problems:

Problems in this area include:

- 1.) Wind-related saltwater pumping and freshwater loss in large, open water areas
- 2.) Wind-related erosion of marsh areas
- 3.) Sites suitable for marsh creation adjacent to the Calcasieu Ship Channel are currently occupied

Project Objectives:

- 1.) Create marsh in large, open water areas in a strategic manner to block wind-induced saltwater introduction and freshwater loss
- 2.) Create marsh in large, open water areas to reduce open water fetch and erosion of marsh edges

Project Features:

This project will construct earthen partitions within the shallow open water areas to serve as material retention dikes. These dikes will be planted with smooth cordgrass to cover approximately 27,000 linear ft of dike surfaces. Dredged slurry obtained from the USACE Operation and Maintenance Dredging of the Calcasieu Ship Channel will be placed in the containment areas no higher than +3.25 ft National Geodetic Vertical Datum (NGVD). A permanent dredge discharge pipeline will be installed, and a booster pump and temporary pipelines will be utilized only during the dredging events. Weirs and fortification of a shell road may be necessary to further contain the dredged slurry. Maintenance of the retention dikes may be needed during the life of the project (20 years). This project has been divided into five increments, such as Increment 2 will be a continuation of Increment 1, Increment 3 will be a continuation of Increments 1 and 2, etc. A creation event will occur every two years according to which number of increments are chosen. Costs and benefits of each increment are listed below.

Benefits and Costs:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 10,475,936	\$1,357	386	993



Project: XPO-74a Bayou Bienvenue Pump Station Diversion and Terracing

Federal Sponsor: National Marine Fisheries Service

Location:

This 2,661 acre area is located in Chalmette, in Orleans and St. Bernard Parishes. The area is bordered by Paris Road to the east, the Chalmette hurricane protection levee to the south, and Bayou Bienvenue to the north. The project area consists of two shallow water ponds that were formerly leveed and under pump, a former cypress swamp that is now entirely shallow open water, and degraded marsh.

Problems:

In the 1940s, a hurricane breached the protection levee on the back side of Chalmette. When rebuilt, it was relocated southward such that over 1,000 acres that were formerly under pump were now tidally influenced. The construction of the Mississippi River Gulf Outlet and its connection to Bayou Bienvenue allowed saline water to flow into what was formerly classified by O'Neil in 1949 as Three cornered grass and Saw grass marsh. The western-most open water "cell" was also densely vegetated with cypress trees. This saline water destroyed the cypress swamp and altered the vegetative regime to a more salt tolerant species. Three forced drainage pumps discharge into this area. These pump stations are a source of fresh water and nutrients that could be forced to flow through the shallow water ponds and marsh.

Project Objective:

The fresh water and nutrients introduced would benefit marsh growth while the marsh would improve water quality flowing down Bayou Bienvenue and under the Paris Road bridge.

Project Features:

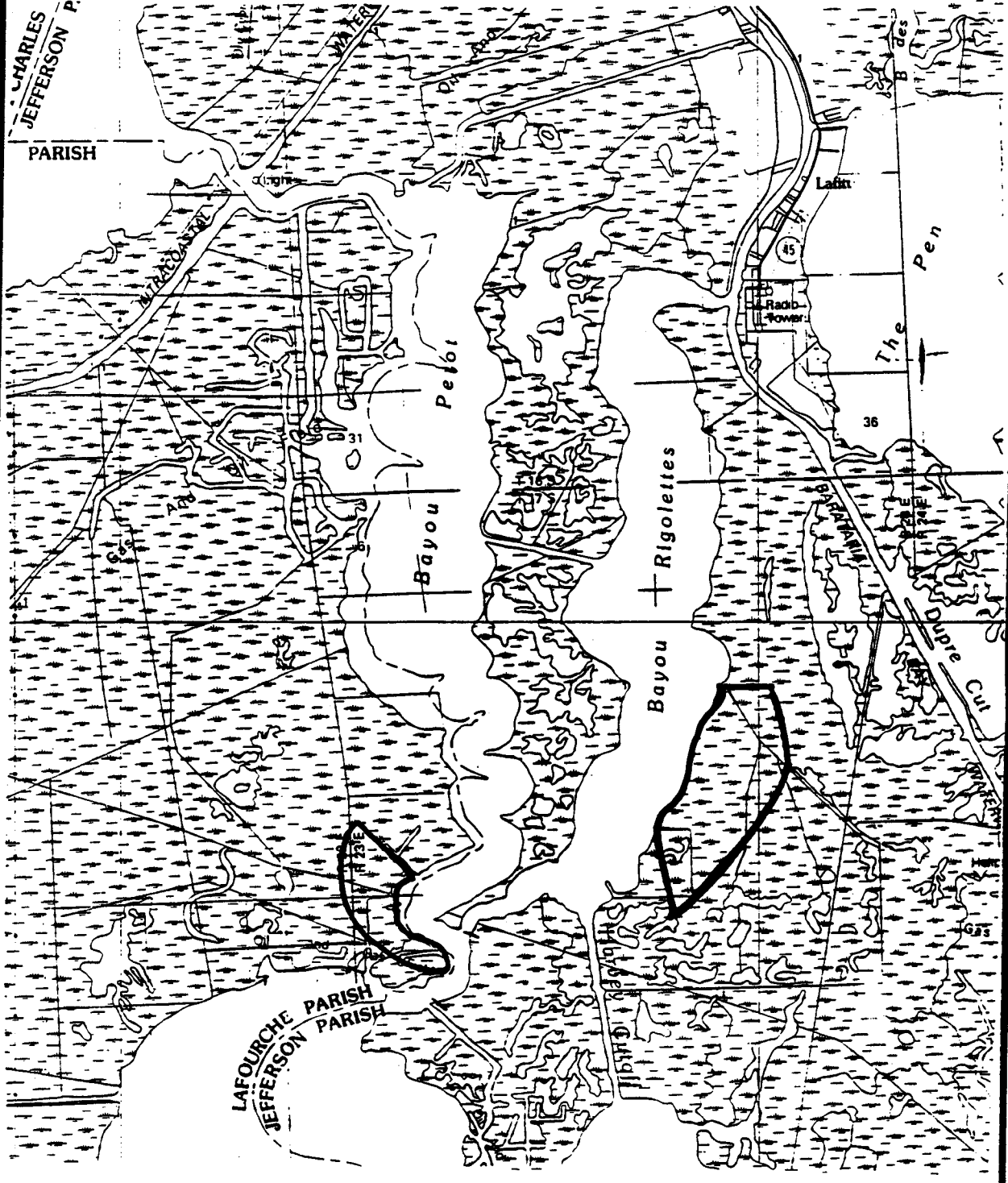
The project consists of:

- 1) Existing Orleans Parish Pump Station,
- 2-3) Existing St. Bernard Parish Pump Stations,
- 4) Shell Armored Plug in Bayou Bienvenue,
- 5) Dredge a 2,500 ft long channel 50 ft wide and 5 ft deep through the southern bank of Bayou Bienvenue into the heart of the 430-acre cell and plant smooth cordgrass on the spoil bank of the discharge channel.
- 6) Transplant smooth cordgrass plants on 20 ft. centers in the triangle "cell" (Area A)
- 7-9) Create 100,000 linear feet of terraces in shallow open water areas (Area B). Each terrace would be 15 ft wide at the top and smooth cordgrass would be planted at the base of each terrace.
- 10) Install a low level weir with a boat bay in Bayou Bienvenue,
- 11) Install a plug in the narrow pipeline channel, and
- 13) Install a plug in this narrow channel.

Benefits and Costs:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 3,295,574	\$812	203	442

BARATARIA LAND BRIDGE SHORELINE PROTECTION, PHASE 2



Project: BA-27, XBA-63 Barataria Land Bridge Shoreline Protection, Phase 2

Federal Sponsor: Natural Resources Conservation Service

Location and Size:

The Barataria Basin Land Bridge Shoreline Protection Phase II project is located in Jefferson and Lafourche Parishes on the east bank of the Bayou Rigolettes and the west bank of Bayou Perot. The project would protect about 8,000 feet of the eastern shoreline of Bayou Rigolettes and about 8,000 feet of the western shoreline of Bayou Perot. Phase II represents about 22% of the total length of the initially proposed shoreline protection.

Problems:

Erosion rates of up to 114 ft/yr along western shoreline of Bayou Perot and the eastern shoreline of Bayou Rigolettes is causing severe marsh loss in the area. The Barataria Land Bridge is a key feature in the Barataria estuary, and it is likely to be lost if the erosion in the area is not reduced.

Project Objectives:

The objective of this project is to reduce shoreline erosion for the above referenced area. Secondary benefits would include maintenance and increasing the extent of submerged aquatic vegetation on the protected side of project features where such features form protected coves. A reduction in future interior marsh loss rates would also occur within certain parts of the project area.

Project Features:

The conceptual design of this project incorporates three techniques to address different shoreline conditions in this project area. These techniques include:

- 1) Rock riprap or some sort of reinforced matting to stabilize and maintain existing shoreline.
- 2) PVC sheetpile or other similar approach to hold vegetation in place where there is continuous, relatively uninterrupted, but marshy shoreline.
- 3) Rock breakwater with a shell core capable of bridging across open water areas in places where there is broken or discontinuous marsh (islands, points, coves, etc.)

Effects and Issues:

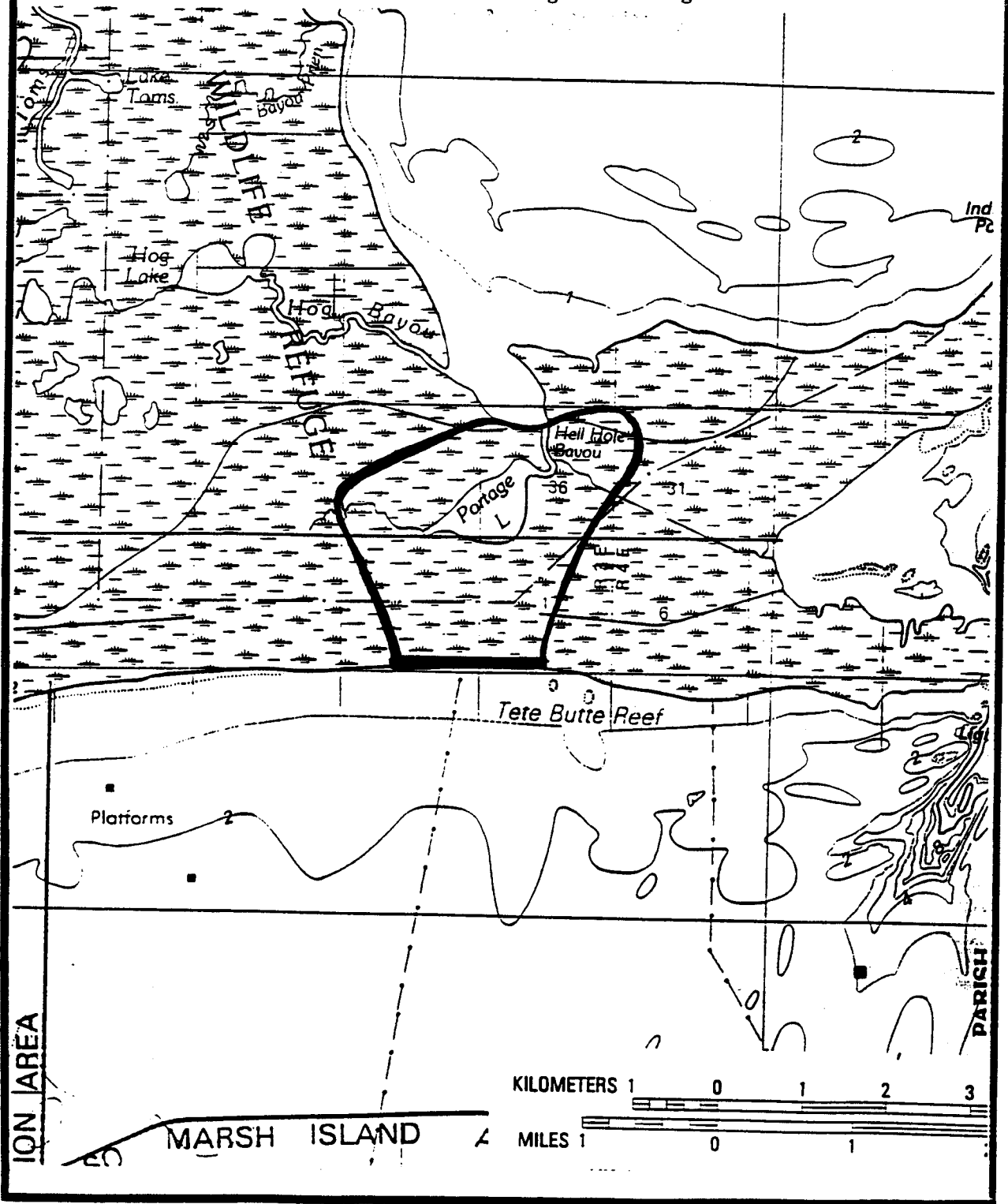
This project may impede fisheries access if breaks or fish dips are not included within the project design.

Benefits and Costs:

This phase will be an addition/continuation of BA-27, XBA-63, which was authorized for PPL-7.

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 7,172,329	\$2,780	129	337

PTV-20 Lake Portage Land Bridge



Project: PTV-20 Lake Portage Land Bridge

Federal Sponsor: Natural Resources Conservation Service/Environmental Protection Agency

Location:

This 1,552 acre project is located immediately south from Lake Portage within the Paul J. Rainey Wildlife Refuge, located to the west of Southwest Pass in Vermilion Parish, LA.

Problems:

In 1971, a gas liquids pipeline was constructed by the Sea Robin Pipeline Company which completely spans this land bridge, thus threatening the creation of a tidal channel throughout this area. The Gobi Mats constructed by Sea Robin are three years old and holding well, however the bulkhead to the north of the lake has failed and the southern bulkhead has recently washed out to a nine foot depth on the western side. Should these structures fail, a tidal channel would occur that could wash out the soils in this area. In addition, it is apparent that significant shoreline erosion is occurring at both the east and west sides of the Gobi Mats, as well as around the edges of the bulkhead entering into southern Lake Portage.

Project Objectives:

The objective of this project is to protect the land bridge south of Lake Portage from breaching and creating another pass from Vermilion Bay to the Gulf of Mexico.

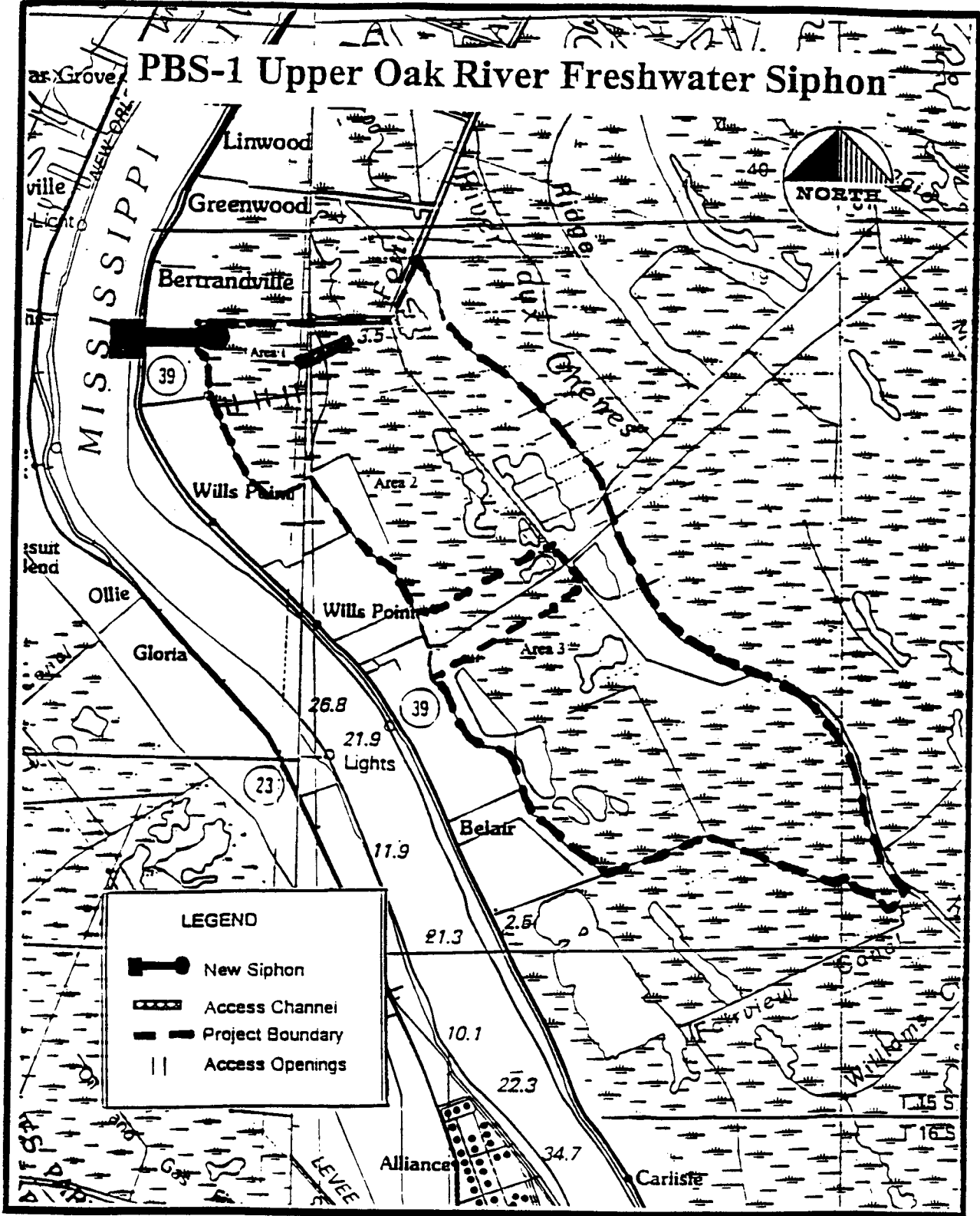
Project Features:

- 1) Placement of a rock containment dike approximately 100 feet off the Gulf shoreline, one mile in length, and then backfilling to marsh level with material dredged from Lake Portage.
- 2) Backfill the pipeline canal to marsh level from the Gulf to Lake Portage with dredge material from the Lake.





Cost and Benefits:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 4,559,400	\$25,330	9	24

PBS-1 Upper Oak River Freshwater Siphon



LEGEND

-  New Siphon
-  Access Channel
-  Project Boundary
-  Access Openings

Project: PBS-1 Upper Oak River Freshwater Siphon

Federal Sponsor: Natural Resources Conservation Service

Location:

The project is located on the east bank of the Mississippi River in Plaquemines Parish 6 miles south of the Belle Chase Ferry and approximately ½ mile south of Bertrandville. The project area consists of approximately 4,618 acres.

Problems:

The area is suffering from interior marsh breakup due to saltwater intrusion and reduced water quality in the northwestern project area due to limited water exchange. The problems in the area are mainly caused by the Mississippi River levee system that has blocked historic sediment and nutrient laden freshwater flows into the area.

Project Objectives:

- ◆ Introduce freshwater and sediment from the Mississippi River through a siphon system
- ◆ Reduce the rate of land loss
- ◆ Increase vegetative diversity in the project area
- ◆ Increase submerged aquatic vegetation
- ◆ Increase dissolved oxygen levels in the water (especially in the northwestern corner)
- ◆ Increase emergent vegetation through vegetative plantings

Project Features:

- 1) Construct a 1,000 cfs capacity freshwater siphon
- 2) Construct a 1,600 ft x 600 ft conveyance channel through an existing ridge to allow water to flow to the east to Oaks ridge and to the south
- 3) Construct openings through abandoned board road

Effects and Issues:

This area does not receive benefits from the Caernarvon project. This project should not have any negative effect to oysters or oyster leases. Presented and supported by Plaquemines Parish.

Benefits and Costs:

Fully Funded Cost	AAC/AAHU	AAHU	Total Acres Benefitted
\$ 12,944,800	\$4,230	153	339

SUMMARY AND CONCLUSIONS

The 8th Priority Project List consists of 7 funded projects, for a total fully funded cost of \$23,607,837. The total benefits of the projects are estimated to be 1,446 Average Annual Habitat Units, based on a comparison of future with and without-project conditions over the 20-year project life.

The Task Force believes the recommended projects represent the best strategy for addressing the immediate needs of Louisiana's coastal wetlands. The Task Force will conduct a final review of the plans and specifications for each project prior to the award of construction contracts by the lead Task Force agency and the allocation of construction funds by the Task Force chairman.

BIBLIOGRAPHY

U.S. Fish and Wildlife Service. 1980. Habitat Evaluation Procedures (HEP) Division Ecol. Service ESM 102, U.S. Fish and Wildlife Service, Washington DC. 141 pp.