



## **5th PRIORITY PROJECT LIST REPORT (APPENDICES)**

**PREPARED BY:**

**LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION  
TASK FORCE**

**October 1996**



Coastal Wetlands Planning, Protection and Restoration Act  
5th Priority Project List Report

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**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix A**

**Summary and Complete Text of the CWPPRA**



**COASTAL WETLANDS PLANNING, PROTECTION, & RESTORATION ACT**  
(Public Law 101-646, Title III)

**SECTION 303. Priority Louisiana Coastal Wetlands Restoration Projects.**

- Section 303a. Priority Project List.
  - NLT 13 Jan 91, Sec. of the Army (Secretary) will convene a Task Force.
    - Secretary
    - Administrator, EPA
    - Governor, Louisiana
    - Secretary, Interior
    - Secretary, Agriculture
    - Secretary, Commerce
  - NLT 28 Nov 91, Task Force will prepare and transmit to Congress a Priority List of wetland restoration projects based on cost effectiveness and wetland quality.
  - Priority List is revised and submitted annually as part of President's budget.
- Section 303b. Federal and State Project Planning.
  - NLT 28 Nov 93, Task Force will prepare a comprehensive coastal wetlands Restoration Plan for Louisiana.
  - Restoration Plan will consist of a list of wetland projects, ranked by cost effectiveness and wetland quality.
  - Completed Restoration Plan will become Priority List.
  - Secretary will ensure that navigation and flood control projects are consistent with the purpose of the Restoration Plan.
  - Upon submission of the Restoration Plan to Congress, the Task Force will conduct a scientific evaluation of the completed wetland restoration projects every 3 years and report the findings to Congress.

**SECTION 304. Louisiana Coastal Wetlands Conservation Planning.**

- Secretary; Administrator, EPA; and Director, USFWS will:
  - Sign an agreement with the Governor specifying how Louisiana will develop and implement the Conservation Plan.
  - Approve the Conservation Plan.
  - Provide Congress with periodic status reports on Plan implementation.
- NLT 3 years after agreement is signed, Louisiana will develop a Wetland Conservation Plan to achieve no net loss of wetlands resulting from development.

**SECTION 305. National Coastal Wetlands Conservation Grants.**

- Director, USFWS, will make matching grants to any coastal state to implement Wetland Conservation Projects (projects to acquire, restore, manage, and enhance real property interest in coastal lands and waters).
- Cost sharing is 50% Federal / 50% State \*

**SECTION 306. Distribution of Appropriations.**

- 70% of annual appropriations not to exceed (NTE) \$70 million used as follows:
  - NTE \$15 million to fund Task Force completion of Priority List and Restoration Plan -- Secretary disburses funds.
  - NTE \$10 million to fund 75% of Louisiana's cost to complete Conservation Plan -- Administrator disburses funds.
  - Balance to fund wetland restoration projects at 75% Federal/ 25% Louisiana \*\* -- Secretary disburses funds.
- 15% of annual appropriations, NTE \$15 million for Wetland Conservation Grants - Director, USFWS disburses funds.
- 15% of annual appropriations, NTE \$15 million for projects authorized by the North American Wetlands Conservation Act - Secretary, Interior disburses funds.

**SECTION 307. Additional Authority for the Corps of Engineers.**

- Section 307a. Secretary authorized to:
  - Carry out projects to protect, restore, and enhance wetlands and aquatic/coastal ecosystems.
- Section 307b. Secretary authorized and directed to study feasibility of modifying the MR&T to increase flows and sediment to the Atchafalaya River for land building and wetland nourishment.

- \* 25% if the state has dedicated trust fund from which principal is not spent.
- \*\* 15% when Louisiana's Conservation Plan is approved.





activities, where appropriate, that would contribute to the restoration or improvement of one or more fish stocks of the Great Lakes Basin; and

"(2) activities undertaken to accomplish the goals stated in section 2006.

16 USC 941g.

**SEC. 2009. AUTHORIZATION OF APPROPRIATIONS.**

"(a) There are authorized to be appropriated to the Director—

"(1) for conducting a study under section 2005 not more than \$4,000,000 for each of fiscal years 1991 through 1994;

"(2) to establish and operate the Great Lakes Coordination Office under section 2008(a) and Upper Great Lakes Fishery Resources Offices under section 2008(c), not more than \$4,000,000 for each of fiscal years 1991 through 1995; and

"(3) to establish and operate the Lower Great Lakes Fishery Resources Offices under section 2008(b), not more than \$2,000,000 for each of fiscal years 1991 through 1995.

"(b) There are authorized to be appropriated to the Secretary to carry out this Act, not more than \$1,500,000 for each of fiscal years 1991 through 1995."

Coastal  
Wetlands  
Planning,  
Protection and  
Restoration Act.  
16 USC 3961  
note.

**TITLE III—WETLANDS****SEC. 391. SHORT TITLE.**

This title may be cited as the "Coastal Wetlands Planning, Protection and Restoration Act".

16 USC 3961.

**SEC. 392. DEFINITIONS.**

As used in this title, the term—

(1) "Secretary" means the Secretary of the Army;

(2) "Administrator" means the Administrator of the Environmental Protection Agency;

(3) "development activities" means any activity, including the discharge of dredged or fill material, which results directly in a more than de minimus change in the hydrologic regime, bottom contour, or the type, distribution or diversity of hydrophytic vegetation, or which impairs the flow, reach, or circulation of surface water within wetlands or other waters;

(4) "State" means the State of Louisiana;

(5) "coastal State" means a State of the United States in, or bordering on, the Atlantic, Pacific, or Arctic Ocean, the Gulf of Mexico, Long Island Sound, or one or more of the Great Lakes; for the purposes of this title, the term also includes Puerto Rico, the Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and the Trust Territories of the Pacific Islands, and American Samoa;

(6) "coastal wetlands restoration project" means any technically feasible activity to create, restore, protect, or enhance coastal wetlands through sediment and freshwater diversion, water management, or other measures that the Task Force finds will significantly contribute to the long-term restoration or protection of the physical, chemical and biological integrity of coastal wetlands in the State of Louisiana, and includes any such activity authorized under this title or under any other provision of law, including, but not limited to, new projects, completion or expansion of existing or on-going projects, individ-

ual phases, portions, or components of projects and operation, maintenance and rehabilitation of completed projects; the primary purpose of a "coastal wetlands restoration project" shall not be to provide navigation, irrigation or flood control benefits;

(7) "coastal wetlands conservation project" means—

(A) the obtaining of a real property interest in coastal lands or waters, if the obtaining of such interest is subject to terms and conditions that will ensure that the real property will be administered for the long-term conservation of such lands and waters and the hydrology, water quality and fish and wildlife dependent thereon; and

(B) the restoration, management, or enhancement of coastal wetlands ecosystems if such restoration, management, or enhancement is conducted on coastal lands and waters that are administered for the long-term conservation of such lands and waters and the hydrology, water quality and fish and wildlife dependent thereon;

(8) "Governor" means the Governor of Louisiana;

(9) "Task Force" means the Louisiana Coastal Wetlands Conservation and Restoration Task Force which shall consist of the Secretary, who shall serve as chairman, the Administrator, the Governor, the Secretary of the Interior, the Secretary of Agriculture and the Secretary of Commerce; and

(10) "Director" means the Director of the United States Fish and Wildlife Service.

**SEC. 302. PRIORITY LOUISIANA COASTAL WETLANDS RESTORATION PROJECTS. 16 USC 3922.**

**(a) PRIORITY PROJECT LIST.—**

(1) **PREPARATION OF LIST.—**Within forty-five days after the date of enactment of this title, the Secretary shall convene the 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 on 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.

(2) **TASK FORCE PROCEDURES.—**The Secretary shall convene meetings of the Task Force as appropriate to ensure that the list is produced and transmitted annually to the Congress as required by this subsection. If necessary to ensure transmittal of the list on a timely basis, the Task Force shall produce the list by a majority vote of those Task Force members who are present and voting; except that no coastal wetlands restoration project shall be placed on the list without the concurrence of the lead Task Force member that the project is cost effective and sound from an engineering perspective. Those projects which potentially impact navigation or flood control on the lower Mississippi River System shall be constructed consistent with section 304 of this Act.

(3) **TRANSMITTAL OF LIST.—**No later than one year after the date of enactment of this title, the Secretary shall transmit to the Congress the list of priority coastal wetlands restoration projects required by paragraph (1) of this subsection. Thereafter,

## Reports.

the list shall be updated annually by the Task Force members and transmitted by the Secretary to the Congress as part of the President's annual budget submission. Annual transmittals of the list to the Congress shall include a status report on each project and a statement from the Secretary of the Treasury indicating the amounts available for expenditure to carry out this title.

## (4) LIST OF CONTENTS.—

(A) AREA IDENTIFICATION; PROJECT DESCRIPTION.—The list of priority coastal wetlands restoration projects shall include, but not be limited to—

(i) identification, by map or other means, of the coastal area to be covered by the coastal wetlands restoration project; and

(ii) a detailed description of each proposed coastal wetlands restoration project including a justification for including such project on the list, the proposed activities to be carried out pursuant to each coastal wetlands restoration project, the benefits to be realized by such project, the identification of the lead Task Force member to undertake each proposed coastal wetlands restoration project and the responsibilities of each other participating Task Force member, an estimated timetable for the completion of each coastal wetlands restoration project, and the estimated cost of each project.

(B) PRE-PLAN.—Prior to the date on which the plan required by subsection (b) of this section becomes effective, such list shall include only those coastal wetlands restoration projects that can be substantially completed during a five-year period commencing on the date the project is placed on the list.

(C) Subsequent to the date on which the plan required by subsection (b) of this section becomes effective, such list shall include only those coastal wetlands restoration projects that have been identified in such plan.

(5) FUNDING.—The Secretary shall, with the funds made available in accordance with section 306 of this title, allocate funds among the members of the Task Force based on the need for such funds and such other factors as the Task Force deems appropriate to carry out the purposes of this subsection.

## (b) FEDERAL AND STATE PROJECT PLANNING.—

(1) PLAN PREPARATION.—The Task Force shall prepare a plan to identify coastal wetlands restoration projects, in order of priority, based on the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing the long-term conservation of 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. Such restoration plan shall be completed within three years from the date of enactment of this title.

(2) PURPOSE OF THE PLAN.—The purpose of the restoration plan is to develop a comprehensive approach to restore and prevent the loss of coastal wetlands in Louisiana. Such plan shall coordinate and integrate coastal wetlands restoration

projects in a manner that will ensure the long-term conservation of the coastal wetlands of Louisiana.

(3) **INTEGRATION OF EXISTING PLANS.**—In developing the restoration plan, the Task Force shall seek to integrate the "Louisiana Comprehensive Coastal Wetlands Feasibility Study" conducted by the Secretary of the Army and the "Coastal Wetlands Conservation and Restoration Plan" prepared by the State of Louisiana's Wetlands Conservation and Restoration Task Force.

(4) **ELEMENTS OF THE PLAN.**—The restoration plan developed pursuant to this subsection shall include—

(A) identification of the entire area in the State that contains coastal wetlands;

(B) identification, by map or other means, of coastal areas in Louisiana in need of coastal wetlands restoration projects;

(C) identification of high priority coastal wetlands restoration projects in Louisiana needed to address the areas identified in subparagraph (B) and that would provide for the long-term conservation of restored wetlands and dependent fish and wildlife populations;

(D) a listing of such coastal wetlands restoration projects, in order of priority, to be submitted annually, incorporating any project identified previously in lists produced and submitted under subsection (a) of this section;

(E) a detailed description of each proposed coastal wetlands restoration project, including a justification for including such project on the list;

(F) the proposed activities to be carried out pursuant to each coastal wetlands restoration project;

(G) the benefits to be realized by each such project;

(H) an estimated timetable for completion of each coastal wetlands restoration project;

(I) an estimate of the cost of each coastal wetlands restoration project;

(J) identification of a lead Task Force member to undertake each proposed coastal wetlands restoration project listed in the plan;

(K) consultation with the public and provision for public review during development of the plan; and

(L) evaluation of the effectiveness of each coastal wetlands restoration project in achieving long-term solutions to arresting coastal wetlands loss in Louisiana.

(5) **PLAN MODIFICATION.**—The Task Force may modify the restoration plan from time to time as necessary to carry out the purposes of this section.

(6) **PLAN SUBMISSION.**—Upon completion of the restoration plan, the Secretary shall submit the plan to the Congress. The restoration plan shall become effective ninety days after the date of its submission to the Congress.

(7) **PLAN EVALUATION.**—Not less than three years after the completion and submission of the restoration plan required by this subsection and at least every three years thereafter, the Task Force shall provide a report to the Congress containing a scientific evaluation of the effectiveness of the coastal wetlands restoration projects carried out under the plan in crea-

Reports.

ting, restoring, protecting and enhancing coastal wetlands in Louisiana.

(c) **COASTAL WETLANDS RESTORATION PROJECT BENEFITS.**—Where such a determination is required under applicable law, the net ecological, aesthetic, and cultural benefits, together with the economic benefits, shall be deemed to exceed the costs of any coastal wetlands restoration project within the State which the Task Force finds to contribute significantly to wetlands restoration.

(d) **CONSISTENCY.**—(1) In implementing, maintaining, modifying, or rehabilitating navigation, flood control or irrigation projects, other than emergency actions, under other authorities, the Secretary, in consultation with the Director and the Administrator, shall ensure that such actions are consistent with the purposes of the restoration plan submitted pursuant to this section.

(2) At the request of the Governor of the State of Louisiana, the Secretary of Commerce shall approve the plan as an amendment to the State's coastal zone management program approved under section 306 of the Coastal Zone Management Act of 1972 (16 U.S.C. 1455).

(e) **FUNDING OF WETLANDS RESTORATION PROJECTS.**—The Secretary shall, with the funds made available in accordance with this title, allocate such funds among the members of the Task Force to carry out coastal wetlands restoration projects in accordance with the priorities set forth in the list transmitted in accordance with this section. The Secretary shall not fund a coastal wetlands restoration project unless that project is subject to such terms and conditions as necessary to ensure that wetlands restored, enhanced or managed through that project will be administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations.

(f) **COST-SHARING.**—

(1) **FEDERAL SHARE.**—Amounts made available in accordance with section 306 of this title to carry out coastal wetlands restoration projects under this title shall provide 75 percent of the cost of such projects.

(2) **FEDERAL SHARE UPON CONSERVATION PLAN APPROVAL.**—Notwithstanding the previous paragraph, if the State develops a Coastal Wetlands Conservation Plan pursuant to this title, and such conservation plan is approved pursuant to section 304 of this title, amounts made available in accordance with section 306 of this title for any coastal wetlands restoration project under this section shall be 85 percent of the cost of the project. In the event that the Secretary, the Director, and the Administrator jointly determine that the State is not taking reasonable steps to implement and administer a conservation plan developed and approved pursuant to this title, amounts made available in accordance with section 306 of this title for any coastal wetlands restoration project shall revert to 75 percent of the cost of the project: *Provided, however,* that such reversion to the lower cost share level shall not occur until the Governor has been provided notice of, and opportunity for hearing on, any such determination by the Secretary, the Director, and Administrator, and the State has been given ninety days from such notice or hearing to take corrective action.

(3) **FORM OF STATE SHARE.**—The share of the cost required of the State shall be from a non-Federal source. Such State share shall consist of a cash contribution of not less than 5 percent of

the cost of the project. The balance of such State share may take the form of lands, easements, or right-of-way, or any other form of in-kind contribution determined to be appropriate by the lead Task Force member.

(4) Paragraphs (1), (2), and (3) of this subsection shall not affect the existing cost-sharing agreements for the following projects: Caernarvon Freshwater Diversion, Davis Pond Freshwater Diversion, and Bonnet Carre Freshwater Diversion.

**SEC. 304. LOUISIANA COASTAL WETLANDS CONSERVATION PLANNING.**

16 USC 3953.

**(a) DEVELOPMENT OF CONSERVATION PLAN.—**

(1) **AGREEMENT.**—The Secretary, the Director, and the Administrator are directed to enter into an agreement with the Governor, as set forth in paragraph (2) of this subsection, upon notification of the Governor's willingness to enter into such agreement.

**(2) TERMS OF AGREEMENT.—**

(A) Upon receiving notification pursuant to paragraph (1) of this subsection, the Secretary, the Director, and the Administrator shall promptly enter into an agreement (hereafter in this section referred to as the "agreement") with the State under the terms set forth in subparagraph (B) of this paragraph.

**(B) The agreement shall—**

(i) set forth a process by which the State agrees to develop, in accordance with this section, a coastal wetlands conservation plan (hereafter in this section referred to as the "conservation plan");

(ii) designate a single agency of the State to develop the conservation plan;

(iii) assure an opportunity for participation in the development of the conservation plan, during the planning period, by the public and by Federal and State agencies;

(iv) obligate the State, not later than three years after the date of signing the agreement, unless extended by the parties thereto, to submit the conservation plan to the Secretary, the Director, and the Administrator for their approval; and

(v) upon approval of the conservation plan, obligate the State to implement the conservation plan.

**(3) GRANTS AND ASSISTANCE.—**Upon the date of signing the agreement—

(A) the Administrator shall, in consultation with the Director, with the funds made available in accordance with section 306 of this title, make grants during the development of the conservation plan to assist the designated State agency in developing such plan. Such grants shall not exceed 75 percent of the cost of developing the plan; and

(B) the Secretary, the Director, and the Administrator shall provide technical assistance to the State to assist it in the development of the plan.

**(b) CONSERVATION PLAN GOAL.—**If a conservation plan is developed pursuant to this section, it shall have a goal of achieving no net loss of wetlands in the coastal areas of Louisiana as a result of development activities initiated subsequent to approval of the plan.

exclusive of any wetlands gains achieved through implementation of the preceding section of this title.

(c) **ELEMENTS OF CONSERVATION PLAN.**—The conservation plan authorized by this section shall include—

- (1) identification of the entire coastal area in the State that contains coastal wetlands;
- (2) designation of a single State agency with the responsibility for implementing and enforcing the plan;
- (3) identification of measures that the State shall take in addition to existing Federal authority to achieve a goal of no net loss of wetlands as a result of development activities, exclusive of any wetlands gains achieved through implementation of the preceding section of this title;
- (4) a system that the State shall implement to account for gains and losses of coastal wetlands within coastal areas for purposes of evaluating the degree to which the goal of no net loss of wetlands as a result of development activities in such wetlands or other watery has been attained;
- (5) satisfactory assurances that the State will have adequate personnel, funding, and authority to implement the plan;
- (6) a program to be carried out by the State for the purpose of educating the public concerning the necessity to conserve wetlands;
- (7) a program to encourage the use of technology by persons engaged in development activities that will result in negligible impact on wetlands; and
- (8) a program for the review, evaluation, and identification of regulatory and nonregulatory options that will be adopted by the State to encourage and assist private owners of wetlands to continue to maintain those lands as wetlands.

(d) **APPROVAL OF CONSERVATION PLAN.**—

(1) **IN GENERAL.**—If the Governor submits a conservation plan to the Secretary, the Director, and the Administrator for their approval, the Secretary, the Director, and the Administrator shall, within one hundred and eighty days following receipt of such plan, approve or disapprove it.

(2) **APPROVAL CRITERIA.**—The Secretary, the Director, and the Administrator shall approve a conservation plan submitted by the Governor, if they determine that—

- (A) the State has adequate authority to fully implement all provisions of such a plan;
- (B) such a plan is adequate to attain the goal of no net loss of coastal wetlands as a result of development activities and complies with the other requirements of this section; and
- (C) the plan was developed in accordance with terms of the agreement set forth in subsection (a) of this section.

(e) **MODIFICATION OF CONSERVATION PLAN.**—

(1) **NONCOMPLIANCE.**—If the Secretary, the Director, and the Administrator determine that a conservation plan submitted by the Governor does not comply with the requirements of subsection (d) of this section, they shall submit to the Governor a statement explaining why the plan is not in compliance and how the plan should be changed to be in compliance.

(2) **RECONSIDERATION.**—If the Governor submits a modified conservation plan to the Secretary, the Director, and the Administrator for their reconsideration, the Secretary, the

Director, and Administrator shall have ninety days to determine whether the modifications are sufficient to bring the plan into compliance with requirements of subsection (d) of this section.

(3) **APPROVAL OF MODIFIED PLAN.**—If the Secretary, the Director, and the Administrator fail to approve or disapprove the conservation plan, as modified, within the ninety-day period following the date on which it was submitted to them by the Governor, such plan, as modified, shall be deemed to be approved effective upon the expiration of such ninety-day period.

(f) **AMENDMENTS TO CONSERVATION PLAN.**—If the Governor amends the conservation plan approved under this section, any such amended plan shall be considered a new plan and shall be subject to the requirements of this section; except that minor changes to such plan shall not be subject to the requirements of this section.

(g) **IMPLEMENTATION OF CONSERVATION PLAN.**—A conservation plan approved under this section shall be implemented as provided therein.

(h) **FEDERAL OVERSIGHT.**—

(1) **INITIAL REPORT TO CONGRESS.**—Within one hundred and eighty days after entering into the agreement required under subsection (a) of this section, the Secretary, the Director, and the Administrator shall report to the Congress as to the status of a conservation plan approved under this section and the progress of the State in carrying out such a plan, including and accounting, as required under subsection (c) of this section, of the gains and losses of coastal wetlands as a result of development activities.

(2) **REPORT TO CONGRESS.**—Twenty-four months after the initial one hundred and eighty day period set forth in paragraph (1), and at the end of each twenty-four-month period thereafter, the Secretary, the Director, and the Administrator shall report to the Congress on the status of the conservation plan and provide an evaluation of the effectiveness of the plan in meeting the goal of this section.

#### SEC. 305 NATIONAL COASTAL WETLANDS CONSERVATION GRANTS.

16 USC 3954.

(a) **MATCHING GRANTS.**—The Director shall, with the funds made available in accordance with the next following section of this title, make matching grants to any coastal State to carry out coastal wetlands conservation projects from funds made available for that purpose.

(b) **PRIORITY.**—Subject to the cost-sharing requirements of this section, the Director may grant or otherwise provide any matching moneys to any coastal State which submits a proposal substantial in character and design to carry out a coastal wetlands conservation project. In awarding such matching grants, the Director shall give priority to coastal wetlands conservation projects that are—

(1) consistent with the National Wetlands Priority Conservation Plan developed under section 301 of the Emergency Wetlands Resources Act (16 U.S.C. 3921); and

(2) in coastal States that have established dedicated funding for programs to acquire coastal wetlands, natural areas and open spaces. In addition, priority consideration shall be given to coastal wetlands conservation projects in maritime forests on coastal barrier islands.



(c) **CONDITIONS.**—The Director may only grant or otherwise provide matching moneys to a coastal State for purposes of carrying out a coastal wetlands conservation project if the grant or provision is subject to terms and conditions that will ensure that any real property interest acquired in whole or in part, or enhanced, managed, or restored with such moneys will be administered for the long-term conservation of such lands and waters and the fish and wildlife dependent thereon.

(d) **COST-SHARING.**—

(1) **FEDERAL SHARE.**—Grants to coastal States of matching moneys by the Director for any fiscal year to carry out coastal wetlands conservation projects shall be used for the payment of not to exceed 50 percent of the total costs of such projects; except that such matching moneys may be used for payment of not to exceed 75 percent of the costs of such projects if a coastal State has established a trust fund, from which the principal is not spent, for the purpose of acquiring coastal wetlands, other natural area or open spaces.

(2) **FORM OF STATE SHARE.**—The matching moneys required of a coastal State to carry out a coastal wetlands conservation project shall be derived from a non-Federal source.

(3) **IN-KIND CONTRIBUTIONS.**—In addition to cash outlays and payments, in-kind contributions of property or personnel services by non-Federal interests for activities under this section may be used for the non-Federal share of the cost of those activities.

(e) **PARTIAL PAYMENTS.**—

(1) The Director may from time to time make matching payments to carry out coastal wetlands conservation projects as such projects progress, but such payments, including previous payments, if any, shall not be more than the Federal pro rata share of any such project in conformity with subsection (d) of this section.

(2) The Director may enter into agreements to make matching payments on an initial portion of a coastal wetlands conservation project and to agree to make payments on the remaining Federal share of the costs of such project from subsequent moneys if and when they become available. The liability of the United States under such an agreement is contingent upon the continued availability of funds for the purpose of this section.

(f) **WETLANDS ASSESSMENT.**—The Director shall, with the funds made available in accordance with the next following section of this title, direct the U.S. Fish and Wildlife Service's National Wetland Inventory to update and digitize wetlands maps in the State of Texas and to conduct an assessment of the status, condition, and trends of wetlands in that State.

Texas.

16 USC 3955.

**SEC. 304. DISTRIBUTION OF APPROPRIATIONS.**

(a) **PRIORITY PROJECT AND CONSERVATION PLANNING EXPENDITURES.**—Of the total amount appropriated during a given fiscal year to carry out this title, 70 percent, not to exceed \$70,000,000, shall be available, and shall remain available until expended, for the purposes of making expenditures—

(1) not to exceed the aggregate amount of \$5,000,000 annually to assist the Task Force in the preparation of the list required under this title and the plan required under this title, including preparation of—

- (A) preliminary assessments;
- (B) general or site-specific inventories;
- (C) reconnaissance, engineering or other studies;
- (D) preliminary design work; and
- (E) such other studies as may be necessary to identify and evaluate the feasibility of coastal wetland restoration projects;

(2) to carry out coastal wetlands restoration projects in accordance with the priorities set forth on the list prepared under this title;

(3) to carry out wetlands restoration projects in accordance with the priorities set forth in the restoration plan prepared under this title;

(4) to make grants not to exceed \$2,500,000 annually or \$10,000,000 in total, to assist the agency designated by the State in development of the Coastal Wetlands Conservation Plan pursuant to this title.

(b) **COASTAL WETLANDS CONSERVATION GRANTS.**—Of the total amount appropriated during a given fiscal year to carry out this title, 15 percent, not to exceed \$15,000,000 shall be available, and shall remain available to the Director, for purposes of making grants—

(1) to any coastal State, except States eligible to receive funding under section 306(a), to carry out coastal wetlands conservation projects in accordance with section 305 of this title; and

(2) in the amount of \$2,500,000 in total for an assessment of the status, condition, and trends of wetlands in the State of Texas.

(c) **NORTH AMERICAN WETLANDS CONSERVATION.**—Of the total amount appropriated during a given fiscal year to carry out this title, 15 percent, not to exceed \$15,000,000, shall be available to, and shall remain available until expended by, the Secretary of the Interior for allocation to carry out wetlands conservation projects in any coastal State under section 8 of the North American Wetlands Conservation Act (Public Law 101-233, 103 Stat. 1968, December 13, 1989).

**SEC. 307. GENERAL PROVISIONS.**

16 USC 3956.

(a) **ADDITIONAL AUTHORITY FOR THE CORPS OF ENGINEERS.**—The Secretary is authorized to carry out projects for the protection, restoration, or enhancement of aquatic and associated ecosystems, including projects for the protection, restoration, or creation of wetlands and coastal ecosystems. In carrying out such projects, the Secretary shall give such projects equal consideration with projects relating to irrigation, navigation, or flood control.

Irrigation.  
Navigation.  
Flood control.

(b) **STUDY.**—The Secretary is hereby authorized and directed to study the feasibility of modifying the operation of existing navigation and flood control projects to allow for an increase in the share of the Mississippi River flows and sediment sent down the Atchafalaya River for purposes of land building and wetlands nourishment.

**SEC. 308. CONFORMING AMENDMENT.**

16 U.S.C. 777c is amended by adding the following after the first sentence: "The Secretary shall distribute 18 per centum of each annual appropriation made in accordance with the provisions of

section 777b of this title as provided in the Coastal Wetlands Planning, Protection and Restoration Act: *Provided, That, notwithstanding the provisions of section 777b, such sums shall remain available to carry out such Act through fiscal year 1999.*"

Great Lakes  
Oil Pollution  
Research and  
Development  
Act.

33 USC 2701  
note.

Ante, p. 559.

## "TITLE IV—GREAT LAKES OIL POLLUTION RESEARCH AND DEVELOPMENT

### "SEC. 4001. SHORT TITLE.

"This title may be cited as the "Great Lakes Oil Pollution Research and Development Act".

### "SEC. 4002. GREAT LAKES OIL POLLUTION RESEARCH AND DEVELOPMENT.

"Section 7001 of the Oil Pollution<sup>3</sup> Act of 1990 (Public Law 101-380) is amended as follows:

"(1) GREAT LAKES DEMONSTRATION PROJECT.—In subsection (c)(6), strike "3" and insert "4", strike "and" after "California," and insert "and (D) ports on the Great Lakes," after "Louisiana."

"(2) FUNDING.—In subsection (f) strike "21,250,000" and insert "22,000,000" and in subsection (f)(2) strike "2,250,000" and insert "3,000,000"."

Approved November 29, 1990.

#### LEGISLATIVE HISTORY—H.R. 5390 (S. 2244):

SENATE REPORTS: No. 101-523 accompanying S. 2244 (Comm. on Environment and Public Works).

CONGRESSIONAL RECORD, Vol. 136 (1990):

Oct. 1, considered and passed House.

Oct. 25, considered and passed Senate, amended, in lieu of S. 2244.

Oct. 27, House concurred in Senate amendment.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 26 (1990):

Nov. 29, Presidential statement.



**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix B**

**Wetland Value Assessment Methodology and Community  
Models**



## Appendix B

### Wetland Value Assessment Methodology and Community Models

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WETLAND VALUE ASSESSMENT METHODOLOGY  
AND COMMUNITY MODELS

INTRODUCTION

The Wetland Value Assessment (WVA) methodology is a quantitative, habitat-based assessment methodology developed for use in prioritizing project proposals submitted for funding under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). The WVA quantifies changes in fish and wildlife habitat quality and quantity that are projected to be brought about as a result of a proposed wetland enhancement project. The results of the WVA, measured in Average Annual Habitat Units (AAHU's), can be combined with economic data to provide a measure of the effectiveness of a proposed project in terms of annualized cost per AAHU gained.

The WVA was developed by the Environmental Work Group (Group) assembled under the Planning and Evaluation Subcommittee of the CWPPRA Technical Committee; the Group includes members from each agency represented on the CWPPRA 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 CWPPRA 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 CWPPRA; 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, however, in that HEP generally uses a species-oriented approach, whereas the WVA utilizes a community approach.

The WVA has been 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.

## WVA CONCEPT

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 1) a list of variables that are considered important in characterizing fish and wildlife habitat, 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 (Attachments 1-4) have been developed for determining the suitability of Louisiana coastal wetlands in 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. Earlier attempts to capture other wetland functions and values such as storm-surge protection, flood water storage, water quality functions, and nutrient import and export were abandoned due to the difficulty in defining unified model relationships and meaningful model outputs for such a variety of wetland benefits. However, the ability of a Louisiana coastal wetland to provide those functions and values may be generally assumed to be positively correlated with fish and wildlife habitat quality as predicted through the WVA.

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.

## COMMUNITY MODEL VARIABLE SELECTION

Habitat variables considered appropriate for describing habitat quality in each wetland type were selected according to the following criteria:

- 1) the condition described by the variable had to be important in characterizing fish and wildlife habitat quality in the wetland type under consideration;

- 2) values had to be easily estimated and predicted based on existing data (e.g., aerial photography, LANDSAT, GIS systems, water quality monitoring stations, and interviews with knowledgeable individuals); and

3) the variable had to be sensitive to the types of changes expected to be brought about by typical wetland projects proposed under the CWPRA.

Variables for each model were selected through a two-part procedure. The first involved a listing of environmental variables thought to be important in characterizing fish and wildlife habitat in coastal marsh or swamp systems.

The second part of the selection procedure involved reviewing variables used in species-specific HSI models published by the U.S. Fish and Wildlife Service. Review was limited to models for those fish and wildlife species known to inhabit Louisiana coastal wetlands, and included models for 10 estuarine fish and shellfish, 4 freshwater fish, 12 birds, 3 reptiles and amphibians, and 2 mammals (Attachment 7). The number of models included from each species group was dictated by model availability.

Selected HSI models were then grouped according to the wetland type(s) used by each species. Because most species for which models were considered are not restricted to one wetland type, most models were included in more than one wetland type group. Within each wetland type group, variables from all models were then grouped according to similarity (e.g., water quality, vegetation, etc.). Each variable was evaluated based on 1) whether it met the variable selection criteria; 2) whether another, more easily measured or predicted variable in the same or a different similarity group functioned as a surrogate; and 3) whether it was deemed suitable for the WVA application (e.g., some freshwater fish model variables dealt with riverine or lacustrine environments). Variables that did not satisfy those conditions were eliminated from further consideration. The remaining variables, still in their similarity groups, were then further eliminated or refined by combining similar variables and culling those that were functionally duplicated by variables from other models (i.e., some variables were used frequently in different models in only slightly different format, such as percent marsh coverage, salinity, etc.).

Variables selected from the HSI models were then compared to those identified in the first part of the selection procedure to arrive at a final list of variables to describe wetland habitat quality. That list includes six variables for each of the marsh types and three for the cypress-tupelo swamp (Attachments 1-4).

#### SUITABILITY INDEX GRAPHS

Suitability Index graphs were constructed for each variable selected within a wetland type. A Suitability Index (SI) graph is a graphical representation of how fish and wildlife habitat quality or "suitability" of a given wetland type is predicted to change as values of the given variable change, and allows the model user to describe numerically, through a Suitability Index,

the habitat quality of a wetland area for any variable value. Each Suitability Index ranges from 0.0 to 1.0, with 1.0 representing the optimum condition for the variable in question.

A variety of resources were utilized to construct each Suitability Index (SI) graph, including personal knowledge of Group members, the species HSI models from which the final list of variables was partially derived, consultation with other professionals and researchers outside the Group, and published and unpublished data and studies. An important "non-biological" constraint on SI graph development was the need to insure that graph relationships were not counter to the purpose of the CWPPRA, that is, the long term creation, restoration, protection, or enhancement of coastal vegetated wetlands. That constraint was most operative in defining SI graphs for Variable 1 under each marsh model (see discussion below).

The process of graph development was one of constant evolution, feedback, and refinement; the form of each Suitability Index graph was decided upon through consensus among Group members.

#### SUITABILITY INDEX GRAPH ASSUMPTIONS

Suitability Index graphs were developed according to the assumptions discussed below.

##### Fresh/Intermediate Marsh Model.

Variable V<sub>1</sub>--Percent of wetland covered by persistent emergent vegetation ( $\geq 10$  percent canopy cover).

Persistent emergent vegetation plays an important role in coastal wetlands by providing foraging, resting, and breeding habitat for a variety of fish and wildlife species; and by providing a source of detritus and energy for lower trophic organisms that form the basis for the food chain. An area with no marsh (i.e., shallow open water) is assumed to have minimal habitat suitability in terms of this variable, and is assigned an SI of 0.1.

Optimum vegetation coverage in a fresh/intermediate marsh is assumed to occur at 100 percent persistent emergent vegetation cover (SI=1.0). That assumption is dictated primarily by the constraint of not having graph relationships conflict with the CWPPRA's purpose of long-term creation, restoration, protection, or enhancement of coastal vegetated wetlands. The Group had originally developed a strictly biologically-based graph defining optimum habitat conditions at marsh cover values between 60 and 80 percent, and sub-optimum habitat conditions at 100 percent cover. However, application of that graph, in combination with the time analysis used later in the evaluation process, often reduced project benefits or generated a net loss of habitat quality through time with the project. Those situations arose primarily when: existing (baseline) emergent vegetation cover exceeded the optimum ( $> 80$  percent); the project was predicted to maintain baseline cover values; and without the project the marsh was

predicted to degrade, with a concurrent decline in percent emergent vegetation cover into the optimum range (60-80 percent). The time factor aggravated the situation when the without-project degradation was not rapid enough to reduce marsh cover values significantly below the optimum range, or below the baseline SI, within the 20-year evaluation period. In those cases, the analysis would show net negative benefits for the project, and positive benefits for letting the marsh degrade rather than maintaining the existing marsh. Coupling that situation with the presumption that marsh conditions are not static, and that Louisiana will continue to lose coastal emergent marsh, and taking into account the purpose of the CWPPRA, the Group decided that, all other factors being equal, the WVA should favor projects that maximize emergent marsh creation, maintenance, and protection. Therefore, the Group agreed to deviate from a strict biologically-based habitat suitability graph for  $V_1$  by setting optimum habitat conditions at 100 percent marsh cover.

Variable  $V_2$ --Percent of open water area dominated (> 50 percent canopy cover) by aquatic vegetation.

Fresh and intermediate marshes often support diverse communities of floating-leaved and submerged aquatic plants that provide important food and cover to a wide variety of fish and wildlife species. A fresh/intermediate open water area with no aquatics is assumed to have low suitability ( $SI=0.1$ ). Optimum condition ( $SI=1.0$ ) is assumed to occur when 100 percent of the open water is dominated by aquatic vegetation. Habitat suitability may be assumed to decrease with aquatic plant coverage approaching 100 percent due to the potential for mats of aquatic vegetation to hinder fish and wildlife utilization; to adversely affect water quality by reducing photosynthesis by phytoplankton and other plant forms due to shading; and to contribute to oxygen depletion spurred by warm-season decay of large quantities of aquatic vegetation. The Group recognized, however, that those effects were highly dependent on the dominant aquatic plant species, their growth forms, and their arrangement in the water column; thus, it is possible to have 100 percent cover of a variety of floating and submerged aquatic plants without the above-mentioned problems due to differences in plant growth form and stratification of plants through the water column. Because predictions of which species may dominate at any time in the future would be tenuous at best, the Group decided to simplify the graph and define optimum conditions at 100 percent aquatic cover.

Variable  $V_3$ --Marsh edge and interspersion.

This variable takes into account the relative juxtaposition of marsh and open water for a given marsh:open water ratio, and is measured by comparing the project area to sample illustrations (Attachment 5) depicting different degrees of interspersion. Interspersion is assumed to be especially important when considering the value of an area as foraging and nursery habitat for freshwater and estuarine fish and shellfish; the marsh/open water interface represents an ecotone where prey species often concentrate, and where post-larval and juvenile organisms can find cover. Isolated marsh ponds are often more productive in terms of

aquatic vegetation than are larger ponds due to decreased turbidities, and thus may provide more suitable waterfowl habitat. However, interspersed can be indicative of marsh degradation, a factor taken into consideration in assigning suitability indices to the various Interspersion Types.

A relatively high degree of interspersed in the form of stream courses and tidal channels (Interspersion Type 1, Attachment 5) is assumed to be optimal (SI=1.0); streams and channels offer interspersed, yet are not indicative of active marsh deterioration. Areas exhibiting a high degree of marsh cover are also ranked as optimum, even though interspersed may be low, to avoid conflicts with the premises underlying the SI graph for variable  $V_1$ . Without such an allowance, areas of relatively healthy, solid marsh, or projects designed to create marsh, would be penalized with respect to interspersed. Numerous small marsh ponds (Interspersion Type 2) offer a high degree of interspersed, but are also usually indicative of the beginnings of marsh break-up and degradation, and are therefore assigned a more moderate SI of 0.6. Large open water areas (Interspersion Types 3 and 4) offer lower interspersed values and usually indicate advanced stages of marsh loss, and are thus assigned SI's of 0.4 and 0.2, respectively. The lowest expression of interspersed (i.e., no emergent marsh at all within the project area) is assumed to be least desirable and is assigned an SI=0.1.

Variable  $V_4$ --Percent of open water area  $\leq$  1.5 feet deep in relation to marsh surface.

Shallow water areas are assumed to be more biologically productive than deeper water due to a general reduction in sunlight, oxygen, and temperature as water depth increases. Also, shallower water provides greater bottom accessibility for certain species of waterfowl, better foraging habitat for wading birds, and more favorable conditions for aquatic plant growth. Optimum depth in a fresh/intermediate marsh is assumed to occur when 80 to 90 percent of the open water area is less than or equal to 1.5 feet deep. The value of deeper areas in providing drought refugia for fish, alligators and other marsh life is recognized by assigning an SI=0.6 (i.e., sub-optimal) if all of the open water is less than or equal to 1.5 feet deep.

Variable  $V_5$ --Mean high salinity during the growing season.

It is assumed that periods of high salinity are most detrimental in a fresh/intermediate marsh when they occur during the growing season (defined as March through November, based on dates of first and last frost contained in Soil Conservation Service soil surveys for coastal Louisiana). Mean high salinity is defined as the average of the upper 33 percent of salinity readings taken during a specified period of record. Optimum condition in fresh marsh is assumed to occur when mean high salinity during the growing season is less than 2 parts per thousand (ppt). Optimum condition in intermediate marsh is assumed to occur when mean high salinity during the growing season is less than 4 ppt.

Variable  $V_6$ --Aquatic organism access.

Access by aquatic organisms, particularly estuarine fishes and shellfishes, is considered to be a critical component in assessing the "quality" or suitability of a given marsh system to provide habitat to those species. Additionally, a marsh with a relatively high degree of access by default also exhibits a relatively high degree of hydrologic connectivity with adjacent systems, and therefore may be considered to contribute more to nutrient exchange than would a marsh exhibiting a lesser degree of access. The Suitability Index for  $V_7$  is determined by calculating an "Access Value" based on the interaction between the percentage of the project area wetlands considered accessible by estuarine organisms during normal tidal fluctuations, and the type of man-made structures (if any) across identified points of ingress and egress (bayous, canals, etc.). Standardized procedures for calculating the Access Value have been established (Attachment 6). The optimum condition is assumed to exist when all of the study area is accessible and the access points are entirely open and unobstructed. A fresh/intermediate marsh with no access is assigned an  $SI=0.3$ , reflecting the assumption that, while fresh/intermediate marshes are important to some species of estuarine fishes and shellfish, such a marsh lacking access continues to provide benefits to a wide variety of other wildlife and fish species, and is not without habitat value.

#### Brackish Marsh Model.

Variable  $V_1$ --Percent of wetland covered by persistent emergent vegetation ( $\geq 10$  percent canopy cover).

Refer to the  $V_1$  discussion under the fresh/intermediate marsh model for a discussion of the importance of persistent emergent vegetation in coastal marshes. The  $V_1$  Suitability Index graph in the brackish marsh model is identical to that in the fresh/intermediate model.

Variable  $V_2$ --Percent of open water area dominated ( $> 50$  percent canopy cover) by aquatic vegetation.

Like fresh/intermediate marshes, brackish marshes have the potential to support aquatic plants that serve as important sources of food and cover for a wide variety of wildlife. However, brackish marshes generally do not support the amounts and kinds of aquatic plants that occur in fresh/intermediate marshes (although certain species, such as widgeon-grass, can occur abundantly under certain conditions). Therefore, a brackish marsh entirely lacking aquatic plants is assigned an  $SI=0.3$ . It is assumed that optimum open water coverage of aquatic plants in a brackish marsh occurs at 100 percent aquatic cover.

Variable  $V_3$ --Marsh edge and interspersion.

The Suitability Index graph for edge and interspersion in the brackish marsh model is the same as that in the fresh/intermediate marsh model.

Variable  $V_4$ --Open water depth in relation to marsh surface.

As in the fresh/intermediate model, shallow water areas in brackish marsh habitat are assumed to be important. However, brackish marsh generally exhibits deeper open water areas than fresh marsh due to tidal scouring. Therefore, the SI graph is constructed so that lower percentages of shallow water receive higher SI values relative to fresh/intermediate marsh. Optimum open water depth condition in a brackish marsh is assumed to occur when 70 to 80 percent of the open water area is less than or equal to 1.5 feet deep.

Variable  $V_5$ --Average annual salinity.

The suitability index graph is constructed to represent optimum average annual salinity condition at between 0 ppt and 10 ppt. The Group acknowledges that average annual salinities below 6 ppt will effectively define a marsh as fresh or intermediate, not brackish. However, the suitability index graph makes allowances for lower salinities (i.e., < 6 ppt) to account for occasions when there is a trend of decreasing salinities through time toward a more intermediate condition. Implicit in keeping the graph at optimum for salinities less than 6 ppt is the assumption that lower salinities are not detrimental to a brackish marsh. However, average annual salinities greater than 10 ppt are assumed to be progressively more harmful to brackish marsh vegetation, as illustrated in the downward sloping right leg of the suitability index graph. Average annual salinities greater than 16 ppt are assumed to be representative of those found in a saline marsh, and thus are not considered in the brackish marsh model.

Variable  $V_6$ --Aquatic organism access.

The general rationale and procedure behind the  $V_6$  Suitability Index graph for the brackish marsh model are identical to those established for the fresh/intermediate model. However, brackish marshes are assumed to be more important as providers of habitat to estuarine fish and shellfish than fresh/intermediate marshes. Therefore, a brackish marsh providing no access is assigned an SI of 0.1.

#### Saline Marsh Model.

Variable  $V_1$ --Percent of wetland covered by persistent emergent vegetation ( $\geq 10$  percent canopy cover).

Refer to the  $V_1$  discussion under the fresh/intermediate marsh model for a discussion of the importance of persistent emergent vegetation in coastal marshes. The  $V_1$  Suitability Index graph in the saline marsh model is identical to that in the fresh/intermediate and brackish models.

Variable  $V_2$ --Percent of open water area dominated (> 50 percent canopy cover) by aquatic vegetation.

Refer to the  $V_2$  discussion under the brackish marsh model for a discussion of persistent emergent vegetation in more saline coastal marshes. The  $V_2$  Suitability Index graph in the saline marsh model is identical to that in the brackish model.



Variable V<sub>3</sub>--Marsh edge and interspersion.

The Suitability Index graph for edge and interspersion in the saline marsh model is the same as that in the fresh/intermediate and brackish marsh models.

Variable V<sub>4</sub>--Open water depth in relation to marsh surface.

The Suitability Index graph for open water depth in the saline marsh is similar to that for brackish marsh, where optimum conditions are assumed to occur when 70 to 80 percent of the open water area is less than or equal to 1.5 feet deep. However, at 100 percent shallow water, the saline graph yields an SI= 0.5 rather than 0.6 for the brackish model. That change reflects the increased abundance of tidal channels and generally deeper water conditions prevailing in a saline marsh due to increased tidal influences, and the importance of those tidal channels to estuarine organisms.

Variable V<sub>5</sub>--Average annual salinity.

The Suitability Index graph is constructed to represent optimum salinity conditions at between 9 ppt and 21 ppt. The Group acknowledges that average annual salinities between 9 and 12 ppt will effectively define a marsh as brackish, not saline. However, the suitability index graph makes allowances for lower salinities (i.e., < 12 ppt) to account for occasions when there is a trend of decreasing salinities through time toward a more brackish condition. Implicit in keeping the graph at optimum for salinities less than 12 ppt is the assumption that lower salinities (9-12 ppt) are not detrimental to a saline marsh. Average annual salinities greater than 21 ppt are assumed to be slightly stressful to saline marsh vegetation, as illustrated in the downward sloping right leg of the suitability index graph.

Variable V<sub>6</sub>--Aquatic organism access.

The Suitability Index graph for aquatic organism access in the saline marsh model is the same as that in the brackish marsh model.

#### Cypress-Tupelo Swamp Model.

Variable V<sub>1</sub>--Water regime.

Four water regime categories are described for the cypress-tupelo swamp model. The optimum water regime for a cypress-tupelo swamp is assumed to be seasonal flooding (SI=1.0); seasonal flooding with periodic drying cycles is assumed to contribute to increased nutrient cycling (primarily through oxidation and decomposition of accumulated detritus), increased vertical structure complexity (due to growth of other plants on the swamp floor), and increased recruitment of dominant overstory trees. Semipermanent flooding is also assumed to be desirable, as reflected in the SI=0.8 for that water regime category. Permanent flooding is assumed to be the least desirable (SI=0.2).

Variable  $V_2$ --Water flow/exchange.

This variable attempts to take into consideration the amounts and types of water inputs into a cypress-tupelo swamp. The Suitability Index graph is constructed under the assumption that abundant and consistent riverine input and water flow-through is optimum ( $SI=1.0$ ), because under that regime the full functions and values of a cypress-tupelo swamp in providing fish and wildlife habitat are assumed to be maximized. Habitat suitability is assumed to decrease as water exchange between the swamp and adjacent systems is reduced. A swamp system with no water exchange (e.g., an impounded swamp where the only water input is through rainfall and the only water loss is through evapotranspiration and ground seepage) is assumed to be least desirable, and is assigned an  $SI=0.2$ .

Variable  $V_3$ --Average high salinity.

Average high salinity is defined as the average of the upper 33 percent of salinity measurements taken during a specified period of record. Because baldcypress is salinity-sensitive, optimum conditions for baldcypress survival are assumed to occur at average high salinities less than 1 ppt. Habitat suitability is assumed to decrease rapidly at average high salinities in excess of 1 ppt.

#### HABITAT SUITABILITY INDEX FORMULA

The final step in WVA model development was to construct a mathematical formula that combines all Suitability Indices for each wetland type into a single Habitat Suitability Index (HSI) value. Because the Suitability Indices range in value from 0.0 to 1.0, the HSI also ranges from 0.0 to 1.0, and is a numerical representation of the overall or "composite" habitat quality of the particular wetland study area being evaluated. The HSI formula defines the aggregation of Suitability Indices in a manner unique to each wetland type depending on how the formula is constructed.

Within an HSI formula, any Suitability Index can be weighted by various means to increase the power or "importance" of that variable relative to the other variables in determining the HSI. Additionally, two or more variables can be grouped together into subgroups to further isolate variables for weighting.

In constructing HSI formulas for the marsh models, the Group recognized that the primary focus of the CWPPRA is on vegetated wetlands, and that some marsh protection strategies could have adverse impacts to estuarine organism access. Therefore, the Group made an a priori decision to emphasize variables  $V_1$ ,  $V_2$ , and  $V_6$  by grouping and weighting them together. Weighting was facilitated by treating the grouped variables as a geometric mean. Variables  $V_3$ ,  $V_4$ , and  $V_5$  were grouped to isolate their influence relative to  $V_1$ ,  $V_2$ , and  $V_6$ .

For all marsh models,  $V_1$  receives the strongest weighting. The relative weights of  $V_2$  and  $V_6$  differ by marsh model to reflect differing levels of importance for those variables among the marsh types. For example, the amount of aquatic vegetation was deemed more important in the context of a fresh/intermediate marsh than in a saline marsh, due to the relative contributions of aquatic vegetation between the two marsh types in terms of providing food and cover. Therefore,  $V_2$  receives more weight in the fresh/intermediate HSI formula than in the saline HSI formula. Similarly, the degree of estuarine organism access was considered more important in a saline marsh than in a fresh/intermediate marsh, and  $V_6$  receives more weight in the saline HSI formula than in the fresh/intermediate formula.

As with the Suitability Index graphs, the Habitat Suitability Index formulas were developed by consensus among the Group members.

#### BENEFIT ASSESSMENT

The net benefits of a proposed project are estimated by predicting future habitat conditions under two scenarios: with the proposed project in place and without the proposed project. Specifically, predictions are made as to how the model variables will change through time under the two scenarios. Through that process, HSI's are established for baseline (pre-project) conditions and for future with- and future without-project scenarios for selected "target years" throughout the expected life of the project. Those HSI's are then multiplied by the acreage of wetland type known or expected to be present in the target years to arrive at Habitat Units.

Habitat Units (HU's) represent a numerical combination of quality (HSI) and quantity (acres) existing at any given point in time. The "benefit" of a project can be quantified by comparing HU's between the future with- and future without-project scenarios. The difference in HU's between the two scenarios represents the net benefit attributable to the project in terms of habitat quantity and quality.

The HU's resulting from the future with- and future without-project scenarios are annualized, averaged out over the project life, and compared to determine the net gain in average annual HU's (AAHU's) attributable to the project. The net gain in AAHU's is then combined with annualized cost data to arrive at a cost per AAHU for the evaluated project. That figure is compared to the same figure from other projects in order to rank all proposed projects in order of cost per AAHU.

LITERATURE CITED

U. S. Fish and Wildlife Service. 1980. Habitat evaluation procedures (HEP). Div. Ecol. Serv. ESM 102, U. S. Fish and Wildl. Serv., Washington, DC. 141pp.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Revised June 2, 1993

FRESH/INTERMEDIATE MARSH

Vegetation:

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).

Variable V<sub>2</sub>      Percent of open water area dominated (> 50 percent  
canopy cover) by aquatic vegetation.

Interspersion:

Variable V<sub>3</sub>      Marsh edge and interspersion.

Water Depth:

Variable V<sub>4</sub>      Percent of open water area ≤ 1.5 feet deep, in  
relation to marsh surface.

Water Quality:

Variable V<sub>5</sub>      Mean high salinity during the growing season (March  
through November).

Aquatic Organism Access:

Variable V<sub>6</sub>      Aquatic organism access.

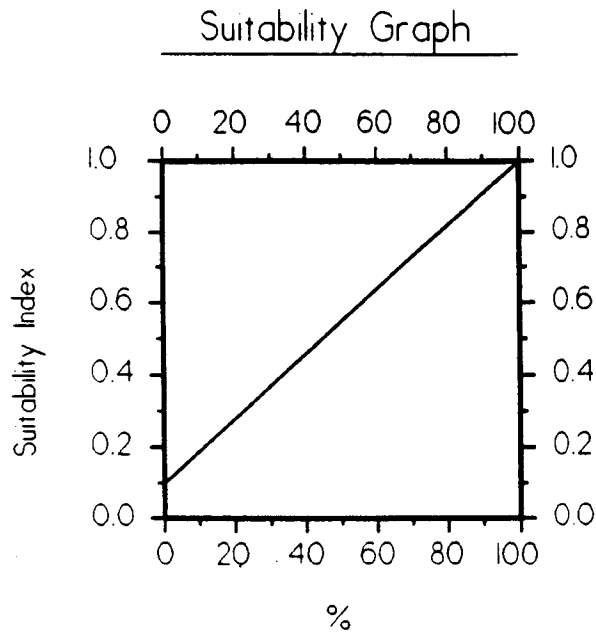
HSI Calculation:

$$\text{HSI} = \frac{[3.5 \times (\text{SIV}_1^3 \times \text{SIV}_2^{1.2} \times \text{SIV}_6^{0.5})^{1/4.7}] + \left[ \frac{(\text{SIV}_3 + \text{SIV}_4 + \text{SIV}_5)}{3} \right]}{4.5}$$

Attachment 1

FRESH/INTERMEDIATE MARSH

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).

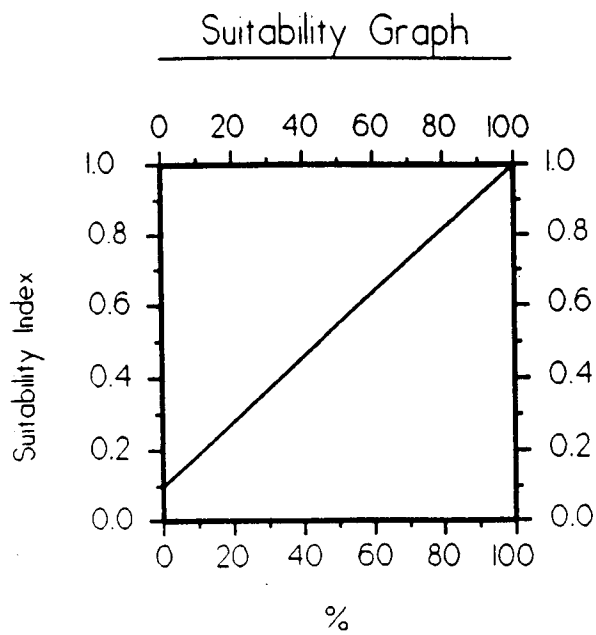


Line Formula

$$SI = (0.009 \times \%) + 0.1$$

FRESH/INTERMEDIATE MARSH

Variable V<sub>2</sub>      Percent of open water area dominated (> 50 percent canopy cover) by aquatic vegetation.

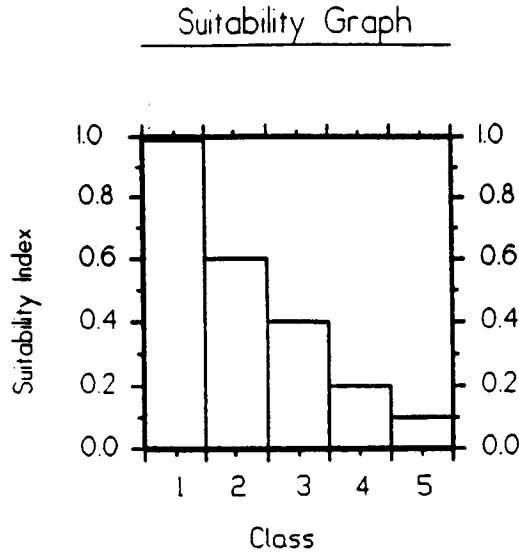


Line Formula

$$SI = (0.009 \times \%) + 0.1$$

FRESH/INTERMEDIATE MARSH

Variable V<sub>3</sub> Marsh edge and interspersion.



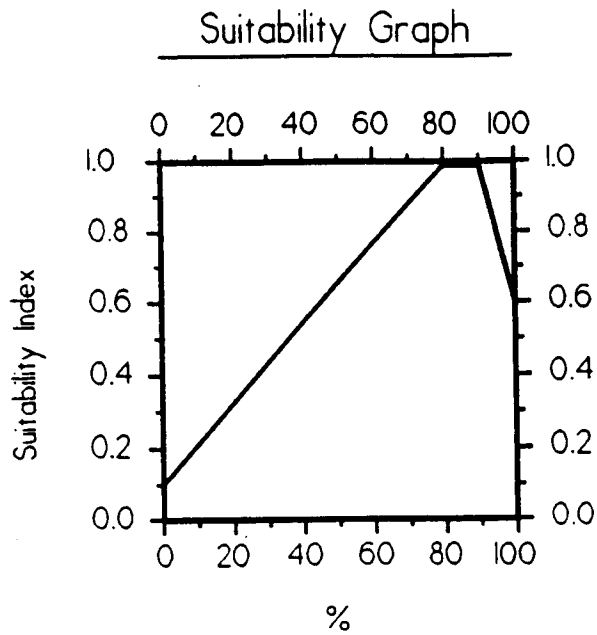
Instructions for Calculating SI for Variable 3:

1. Refer to Attachment 5 for examples of the different interspersion classes (=types).
2. Estimate percent of project area in each class and compute a weighted average to arrive at  $SIV_3$ . If the entire project area is solid marsh, assign an interspersion class #1 (SI=1.0). Conversely, if the entire project area is open water, assign an interspersion class #5 (SI=0.1).



FRESH/INTERMEDIATE MARSH

Variable V<sub>4</sub>      Percent of open water area ≤ 1.5 feet deep, in relation to marsh surface.



Line Formula

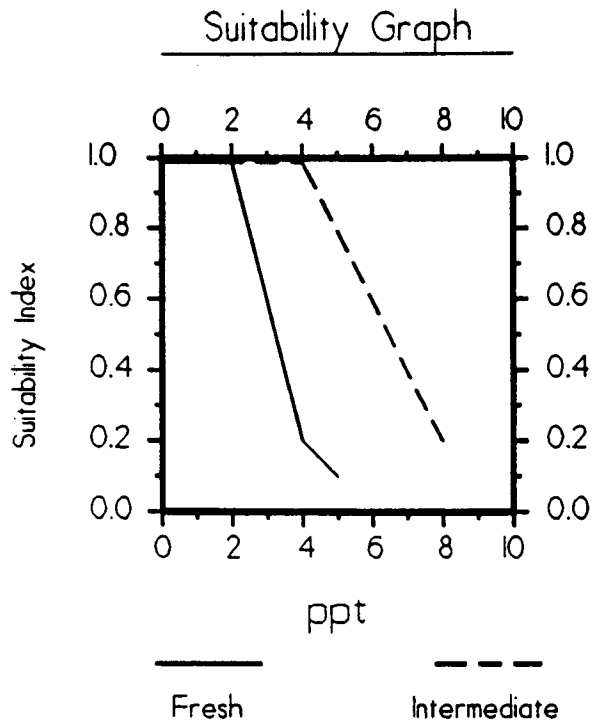
If  $0 \leq \% < 80$ , then  $SI = (0.01125 \times \%) + 0.1$

If  $80 \leq \% < 90$ , then  $SI = 1.0$

If  $\% \geq 90$ , then  $SI = (-0.04 \times \%) + 4.6$

FRESH/INTERMEDIATE MARSH

Variable V<sub>5</sub> Mean high salinity during the growing season (March through November).



Line Formula

Fresh Marsh:

If  $0 \leq \text{ppt} < 2$ , then  $SI = 1.0$   
If  $2 \leq \text{ppt} < 4$ , then  $SI = (-0.4 \times \text{ppt}) + 1.8$   
If  $4 \leq \text{ppt} \leq 5$  then  $SI = (-0.1 \times \text{ppt}) + 0.6$

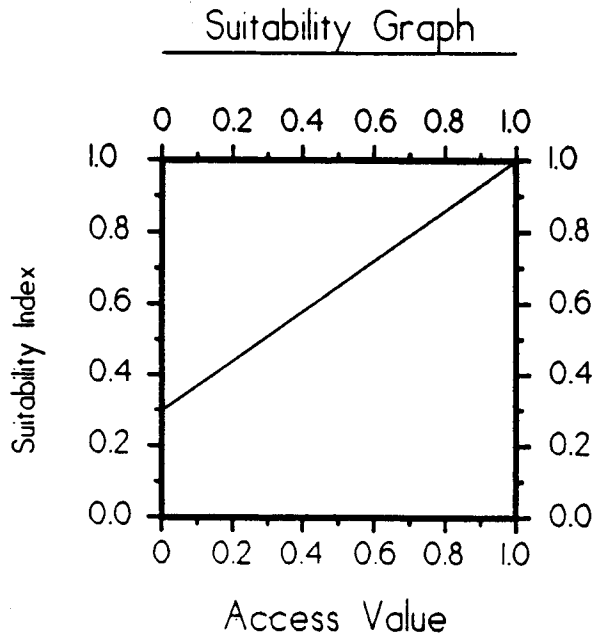
Intermediate Marsh:

If  $0 \leq \text{ppt} < 4$ , then  $SI = 1.0$   
If  $4 \leq \text{ppt} \leq 8$ , then  $SI = (-0.2 \times \text{ppt}) + 1.8$

NOTE: Mean high salinity is defined as the average of the upper 33 percent of salinity readings taken during the period of record.

FRESH/INTERMEDIATE MARSH

Variable V<sub>6</sub> Aquatic organism access.



Line Formula

$$SI = (0.7 \times \text{Access Value}) + 0.3$$

NOTE: Access Value = P x R, where "P" = percentage of wetland area considered accessible by estuarine organisms during normal tidal fluctuations, and "R" = Structure Rating.

Refer to Attachment 6, "Procedure For Calculating Access Value," for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Revised May 2, 1994

BRACKISH MARSH

Vegetation:

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).

Variable V<sub>2</sub>      Percent of open water area dominated (> 50 percent  
canopy cover) by aquatic vegetation.

Interspersion:

Variable V<sub>3</sub>      Marsh edge and interspersion.

Water Depth:

Variable V<sub>4</sub>      Percent of open water area ≤ 1.5 feet deep, in  
relation to marsh surface.

Water Quality:

Variable V<sub>5</sub>      Average annual salinity.

Aquatic Organism Access:

Variable V<sub>6</sub>      Aquatic organism access.

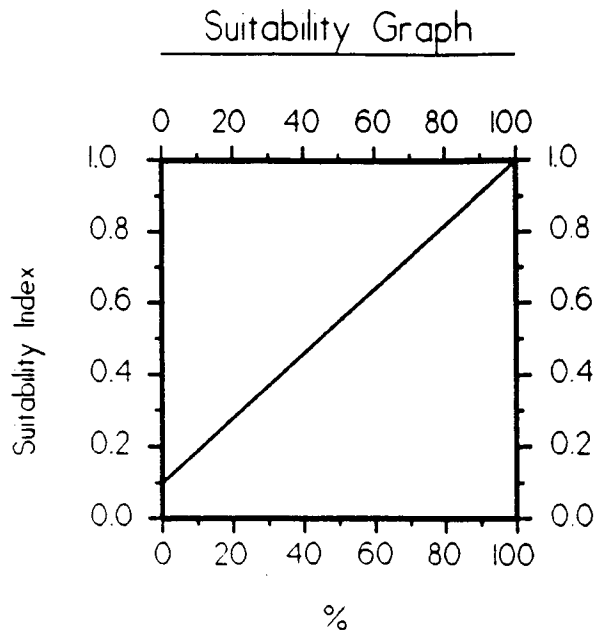
HSI Calculation:

$$\text{HSI} = \frac{[3.5 \times (\text{SIV}_1^3 \times \text{SIV}_2 \times \text{SIV}_6)^{1/5}] + \left[ \frac{(\text{SIV}_3 + \text{SIV}_4 + \text{SIV}_5)}{3} \right]}{4.5}$$

Attachment 2

BRACKISH MARSH

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).

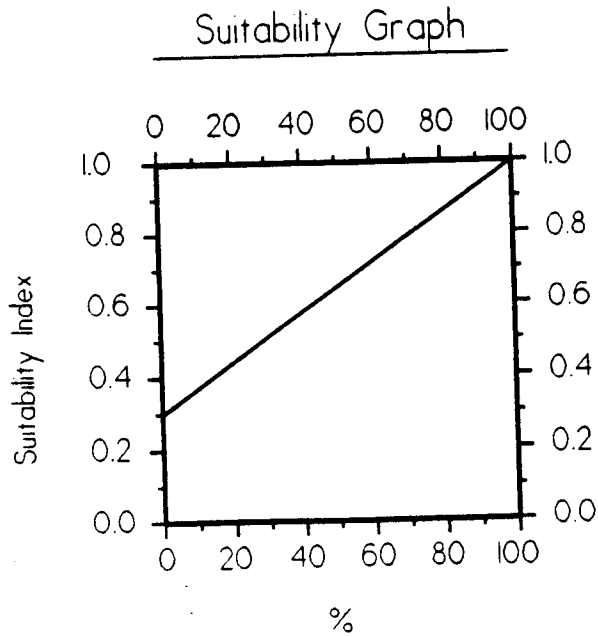


Line Formula

$$SI = (0.009 \times \%) + 0.1$$

BRACKISH MARSH

Variable V<sub>2</sub>      Percent of open water area dominated (> 50 percent canopy cover) by aquatic vegetation.

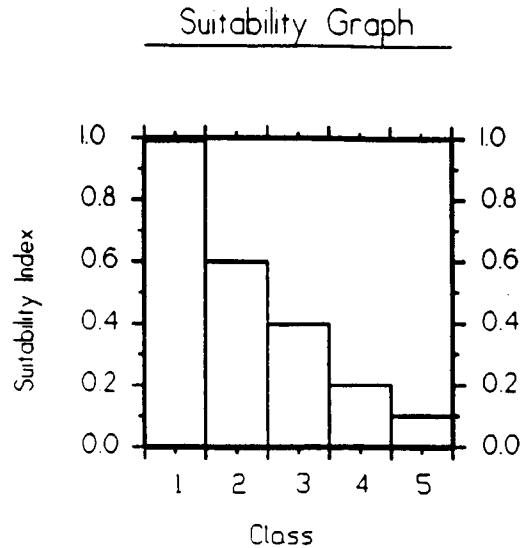


Line Formula

$$SI = (0.007 \times \%) + 0.3$$

BRACKISH MARSH

Variable V<sub>3</sub> Marsh edge and interspersions.

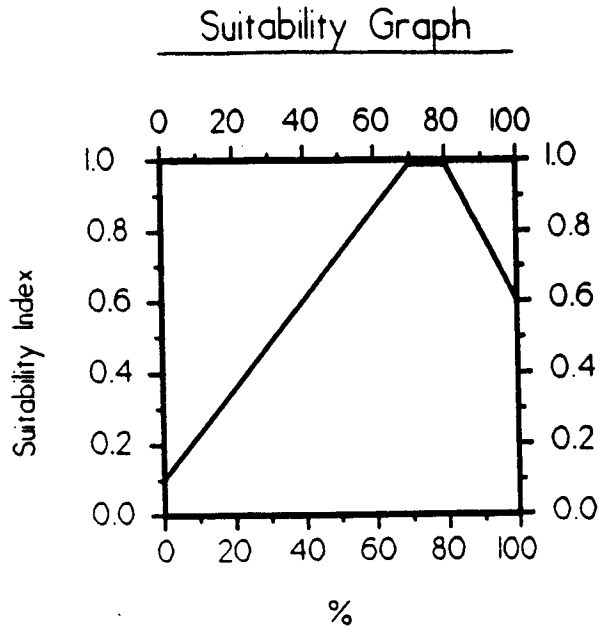


Instructions for Calculating SI for Variable 3:

1. Refer to Attachment 5 for examples of the different interspersions classes (=types).
2. Estimate percent of project area in each class and compute a weighted average to arrive at  $SIV_3$ . If the entire project area is solid marsh, assign an interspersions class #1 (SI=1.0). Conversely, if the entire project area is open water, assign an interspersions class #5 (SI=0.1).

BRACKISH MARSH

Variable V<sub>4</sub>      Percent of open water area ≤ 1.5 feet deep, in relation to marsh surface.



Line Formula

If  $0 \leq \% < 70$ , then  $SI = (0.01286 \times \%) + 0.1$

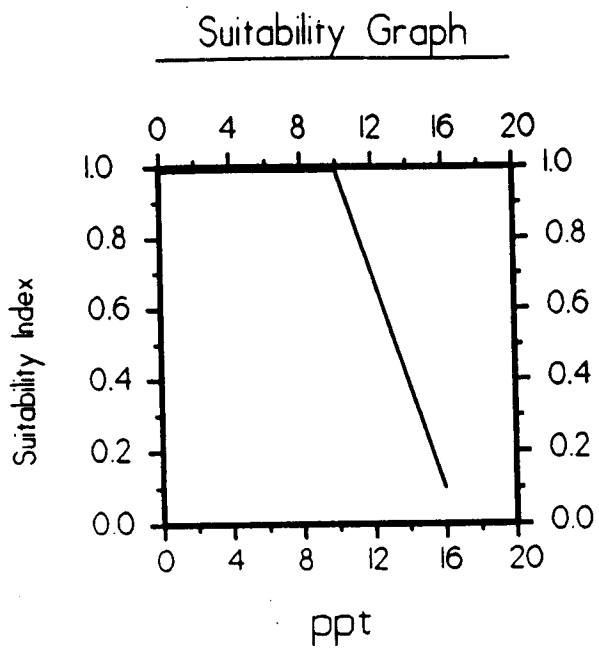
If  $70 \leq \% < 80$ , then  $SI = 1.0$

If  $\% \geq 80$ , then  $SI = (-0.02 \times \%) + 2.6$



BRACKISH MARSH

Variable V<sub>5</sub> Average annual salinity.



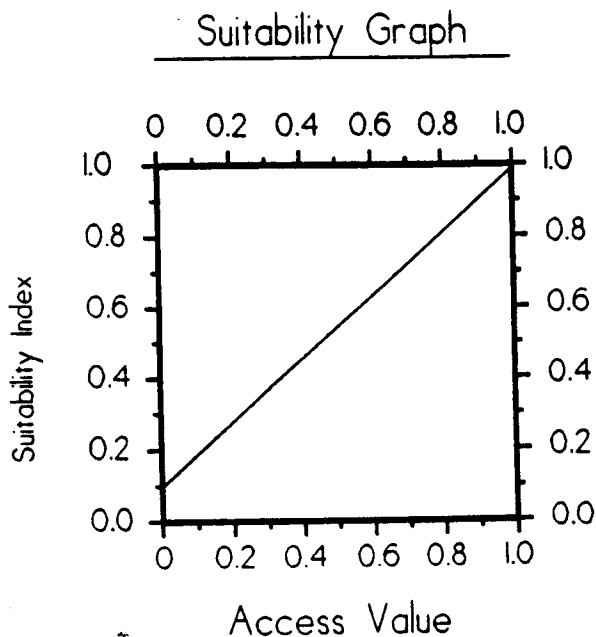
Line Formula

If  $0 \leq \text{ppt} < 10$ , then  $SI = 1.0$

If  $\text{ppt} \geq 10$ , then  $SI = (-0.15 \times \text{ppt}) + 2.5$

BRACKISH MARSH

Variable V<sub>6</sub> Aquatic organism access.



Line Formula

$$SI = (0.9 \times \text{Access Value}) + 0.1$$

Note: Access Value = P x R, where "P" = percentage of wetland area considered accessible by estuarine organisms during normal tidal fluctuations, and "R" = Structure Rating.

Refer to Attachment 6, "Procedure For Calculating Access Value," for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Revised May 2, 1994

SALINE MARSH

Vegetation:

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).

Variable V<sub>2</sub>      Percent of open water area dominated (> 50 percent  
canopy cover) by aquatic vegetation.

Interspersion:

Variable V<sub>3</sub>      Marsh edge and interspersion.

Water Depth:

Variable V<sub>4</sub>      Percent of open water area      1.5 feet deep, in  
relation to marsh surface.

Water Quality:

Variable V<sub>5</sub>      Average annual salinity.

Aquatic Organism Access:

Variable V<sub>6</sub>      Aquatic organism access.

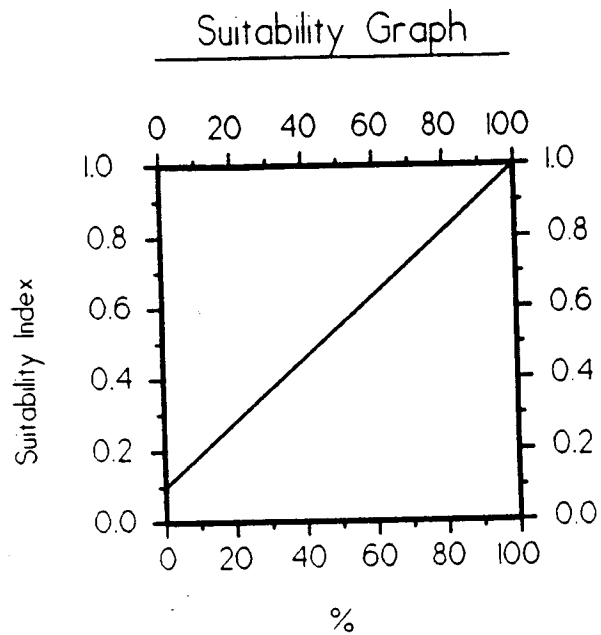
HSI Calculation:

$$\text{HSI} = \frac{[3.5 \times (\text{SIV}_1^3 \times \text{SIV}_2^{0.5} \times \text{SIV}_6^{1.2})^{1/4.7}] + \left[ \frac{(\text{SIV}_3 + \text{SIV}_4 + \text{SIV}_5)}{3} \right]}{4.5}$$

Attachment 3

SALINE MARSH

Variable V<sub>1</sub>      Percent of wetland area covered by emergent  
vegetation (≥ 10 percent canopy cover).



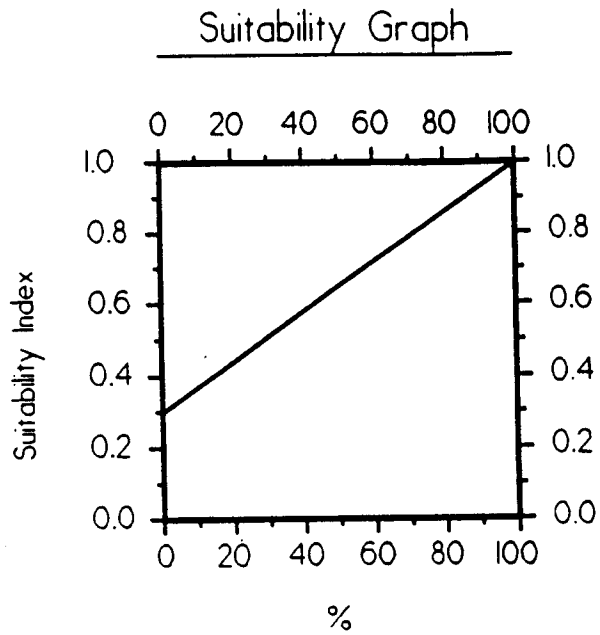
Line Formula

$$SI = (0.009 \times \%) + 0.1$$

SALINE MARSH

Variable V<sub>2</sub>

Percent of open water area dominated (> 50 percent canopy cover) by aquatic vegetation.

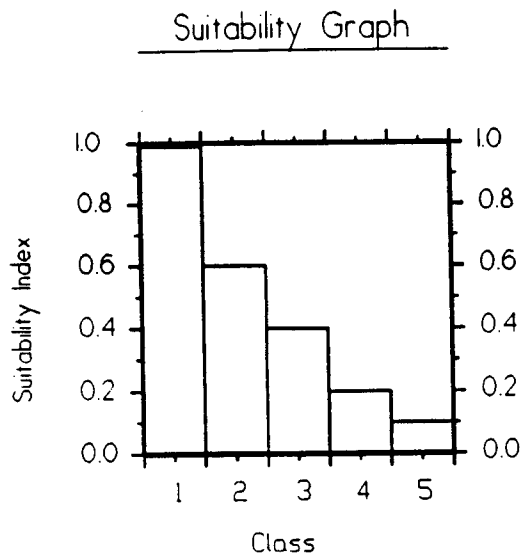


Line Formula

$$SI = (0.007 \times \%) + 0.3$$

SALINE MARSH

Variable V<sub>3</sub> Marsh edge and interspersions.

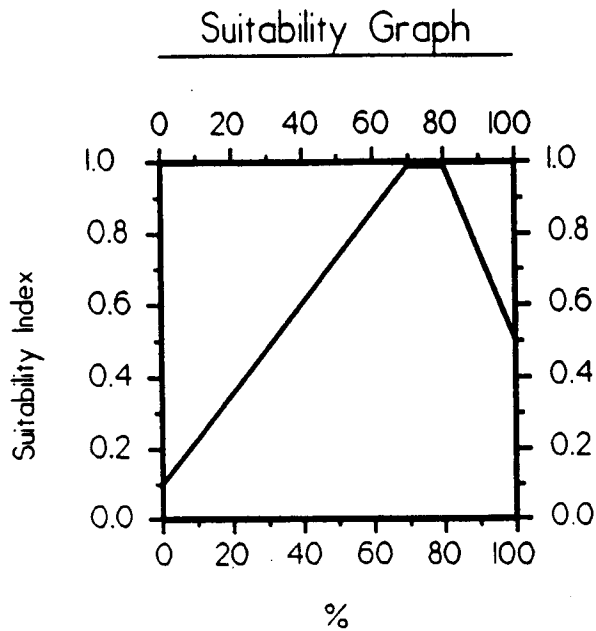


Instructions for Calculating SI for Variable 3:

1. Refer to Attachment 5 for examples of the different interspersions classes (=types).
2. Estimate percent of project area in each class and compute a weighted average to arrive at SIV<sub>3</sub>. If the entire project area is solid marsh, assign an interspersions class #1 (SI=1.0). Conversely, if the entire project area is open water, assign an interspersions class #5 (SI=0.1).

SALINE MARSH

Variable  $V_4$       Percent of open water area  $\leq$  1.5 feet deep, in relation to marsh surface.



Line Formula

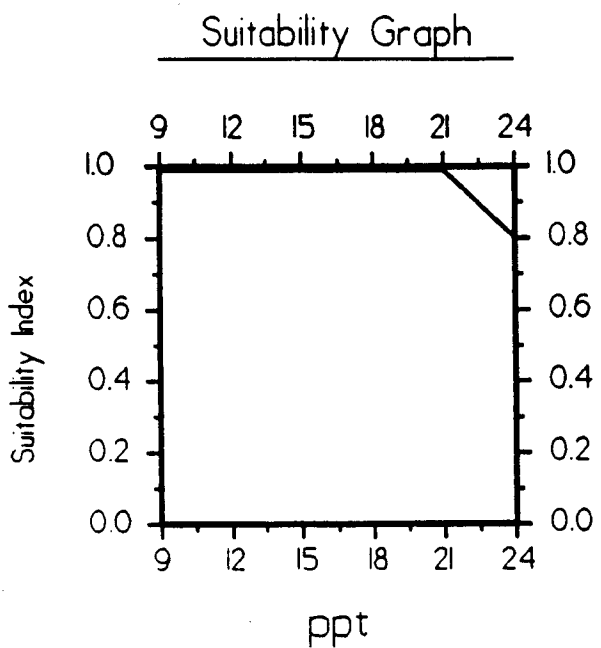
If  $0 \leq \% < 70$ , then  $SI = (0.01286 \times \%) + 0.1$

If  $70 \leq \% < 80$ , then  $SI = 1.0$

If  $\% \geq 80$ , then  $SI = (-0.025 \times \%) + 3.0$

SALINE MARSH

Variable V<sub>5</sub> Average annual salinity.



Line Formula

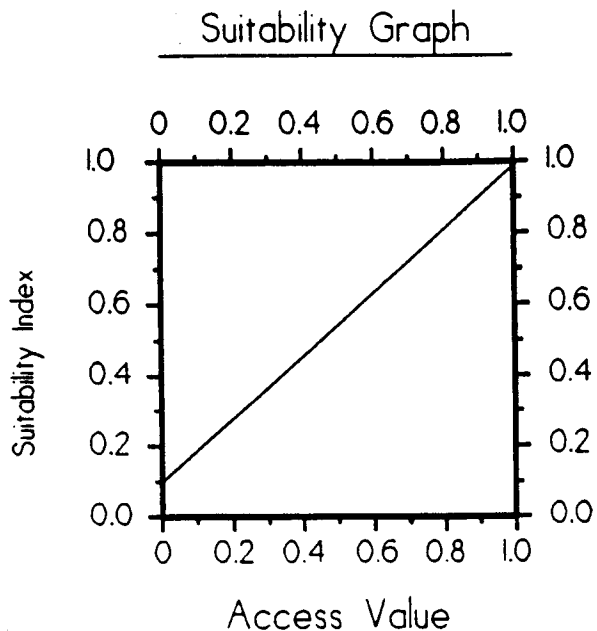
If  $9 \leq \text{ppt} < 21$ , then  $SI = 1.0$

If  $\text{ppt} \geq 21$ , then  $SI = (-0.067 \times \text{ppt}) + 2.4$



SALINE MARSH

Variable V<sub>6</sub> Aquatic organism access.



Line Formula

$$SI = (0.9 \times \text{Access Value}) + 0.1$$

Note: Access Value = P x R, where "P" = percentage of wetland area considered accessible by estuarine organisms during normal tidal fluctuations, and "R" = Structure Rating.

Refer to Attachment 6, "Procedure For Calculating Access Value," for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Revised August 6, 1992

CYPRESS-TUPELO SWAMP

Water Depth and Duration:

Variable V<sub>1</sub>      Water regime.

Water Quality:

Variable V<sub>2</sub>      Water flow/exchange.

Variable V<sub>3</sub>      Average high salinity.

HSI Calculation:

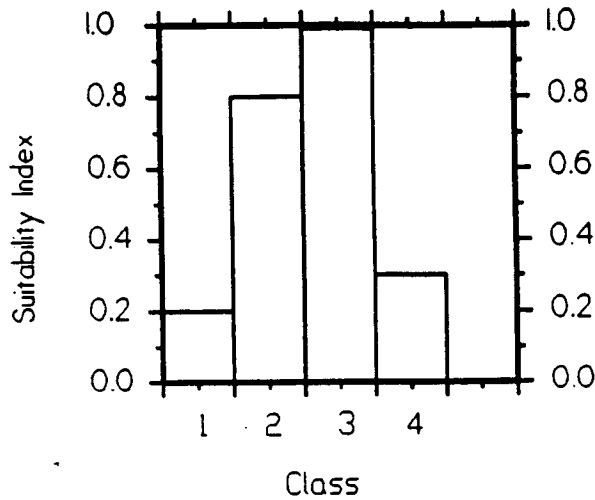
$$HSI = (SIV_1 \times SIV_2 \times SIV_3)^{1/3}$$

Attachment 4

CYPRESS-TUPELO SWAMP

Variable  $V_1$       Water regime.

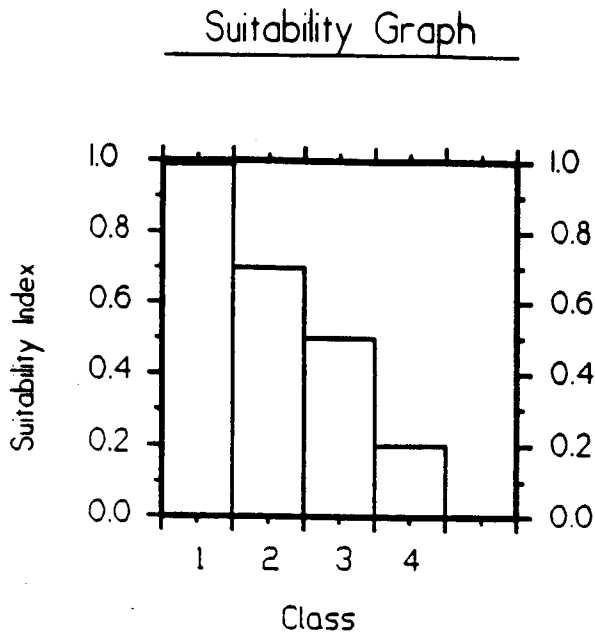
Suitability Graph



1. Permanently Flooded: water covers the substrate throughout the year in all years.
2. Semipermanently Flooded: surface water is present throughout the growing season in most years.
3. Seasonally Flooded: surface water is present for extended periods, especially in the growing season, but is absent by the end of the growing season in most years.
4. Temporarily Flooded: surface water is present for brief periods during the growing season, but the water table usually lies well below the surface for most of the season.

CYPRESS-TUPELO SWAMP

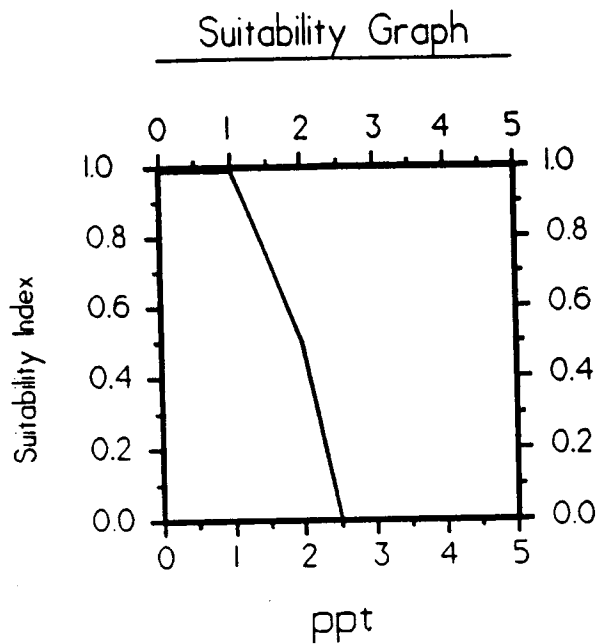
Variable V<sub>2</sub> Water flow/exchange.



1. Receives abundant and consistent riverine input and through-flow.
2. Moderate water exchange, through riverine or tidal input.
3. Limited water exchange, through riverine or tidal input.
4. No water exchange (stagnant, impounded).

CYPRESS-TUPELO SWAMP

Variable V<sub>3</sub> Average high salinity.



Line Formula

If  $0 \leq \text{ppt} < 1$ , then  $SI = 1.0$

If  $1 \leq \text{ppt} < 2$ , then  $SI = (-0.5 \times \text{ppt}) + 1.5$

If  $2 \leq \text{ppt} < 2.5$ , then  $SI = (-1.0 \times \text{ppt}) + 2.5$

If  $\text{ppt} \geq 2.5$ , then  $SI = 0$

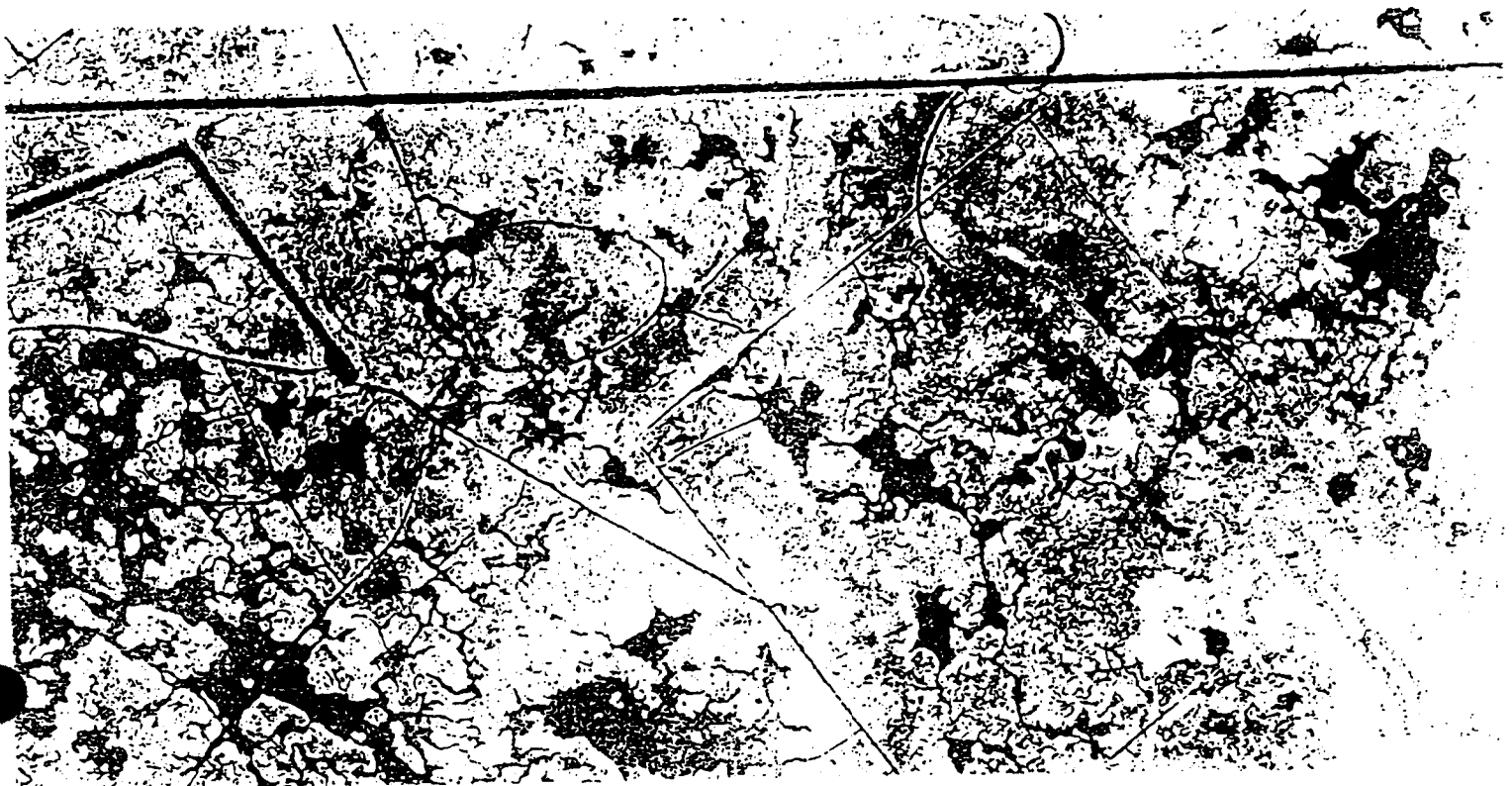
Average high salinity is defined as the average of the upper 33 percent of salinity readings taken during the period of record.

Variable 3-Marsh Interspersion Type 1  
Scale 1" = 2000'

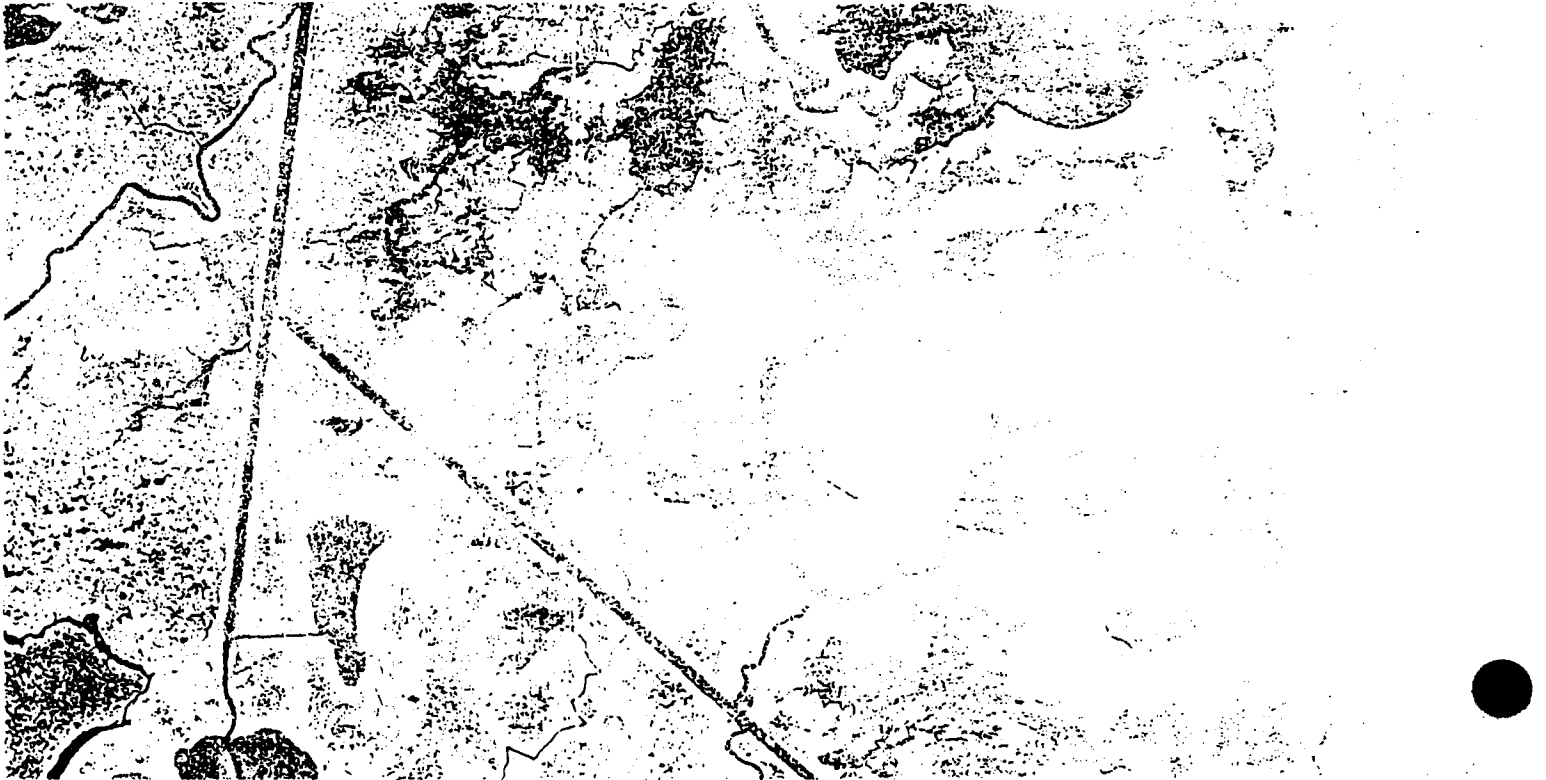


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Variable 3 - Marsh Interspersion Type 2  
Scale 1" = 2000'



Variable 3 - Marsh Interspersion Type 3  
Scale 1" = 2000'





Variable 3 - Marsh Interspersion Type 4  
Scale 1" = 2000'



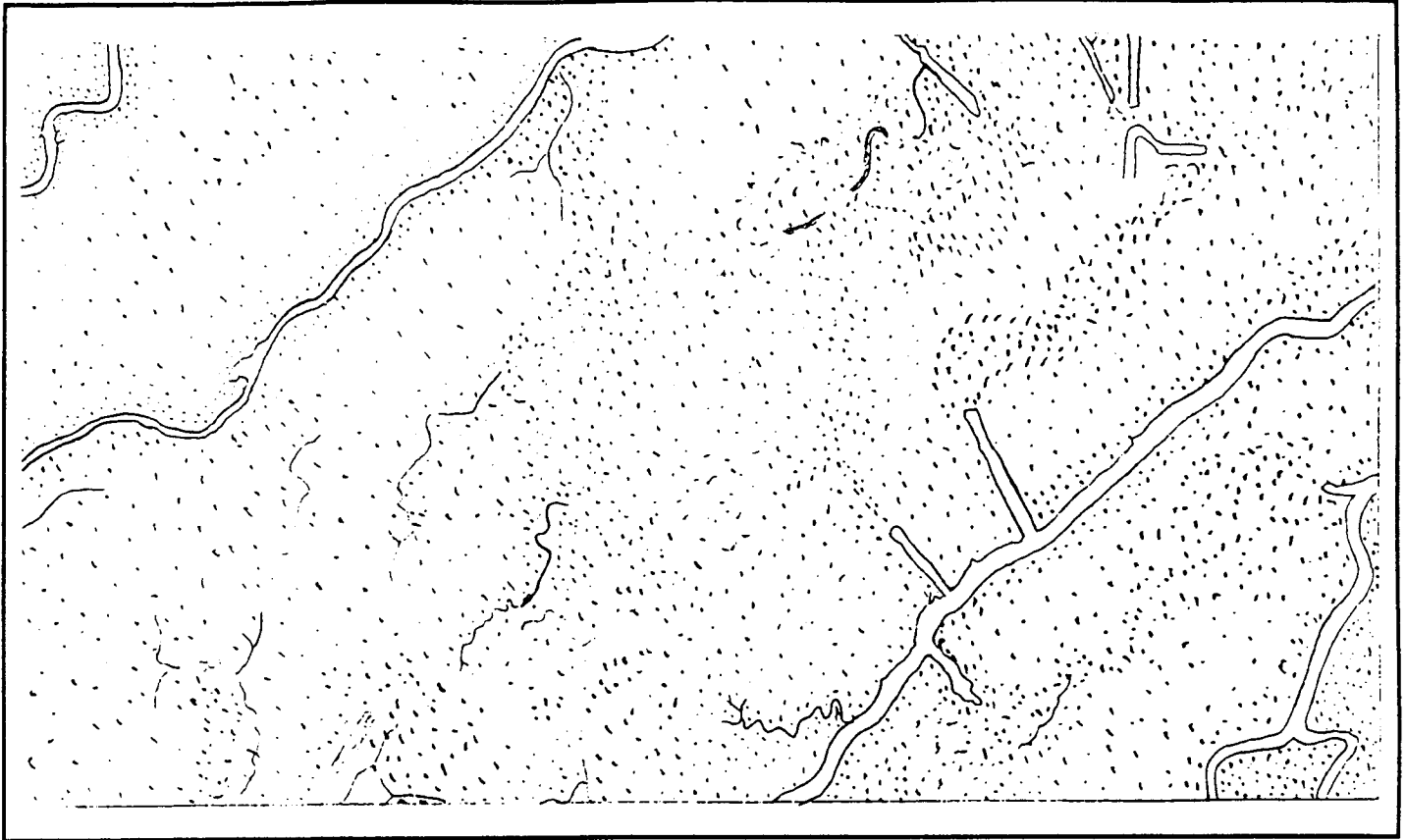
V3 Marsh Interspersion  
Type 1



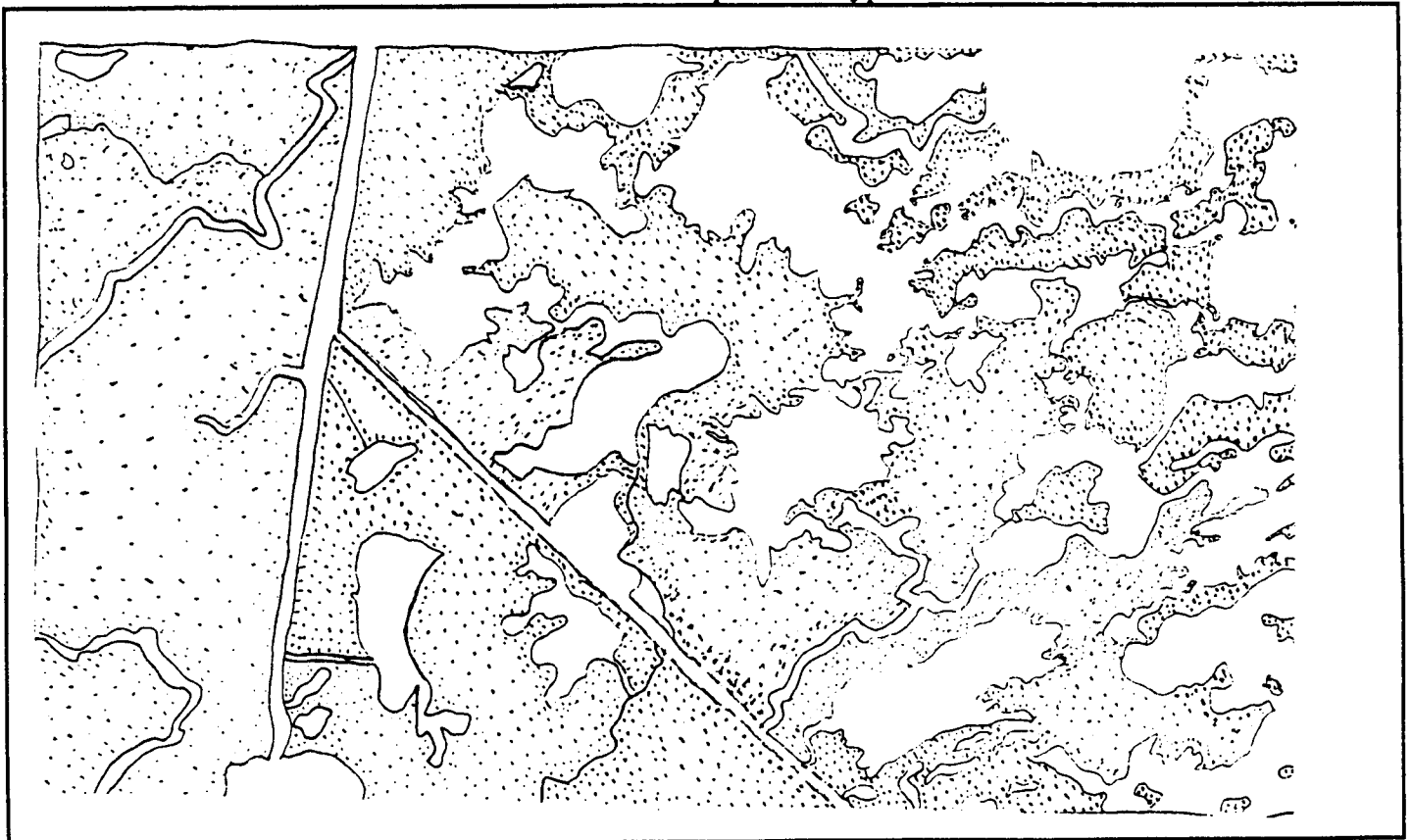
V3 Marsh Interspersion Type 1



V3 Marsh Interspersion  
Type 1



V3 Marsh Interspersion Type 3



PROCEDURE FOR CALCULATING ACCESS VALUE

Revised June 2, 1993

1. Determine the percent of wetland area accessible by estuarine organisms during normal tidal fluctuations (P) for baseline (TY0) conditions. P may be determined by examination of aerial photography, knowledge of field conditions, or other appropriate methods.
2. Determine the Structure Rating (R) for each project structure as follows:

Structure Type	Rating
open system	1.0
rock weir set at 1ft BML <sup>1</sup> , w/boat bay	0.8
rock weir with boat bay	0.6
rock weir set at ≥ 1ft BML	0.6
slotted weir with boat bay	0.6
open culverts	0.5
weir with boat bay	0.5
weir set at ≥ 1ft BML	0.5
slotted weir	0.4
flapgated culvert with slotted weir	0.35
variable crest weir	0.3
flapgated variable crest weir	0.25
flapgated culvert	0.2
rock weir	0.15
fixed crest weir	0.1
solid plug	0.0001

<sup>1</sup> Below Marsh Level

For each structure type, the rating listed above pertains only to the standard structure configuration and assumes that the structure is operated according to common operating schedules consistent with the purpose for which that structure is designed. In the case of a "hybrid" structure or a unique application of one of the above-listed types (including unique or "non-standard" operational schemes), the WVA analyst(s) may assign an appropriate Structure Rating between 0.0001 and 1.0 that most closely approximates the relative degree to which the structure in question would allow ingress and egress of estuarine organisms. In those cases, the rationale used in developing the new Structure Rating shall be documented.

3. Determine the Access Value. Where multiple openings equally affect a common "accessible unit," the Structure Rating (R) of the structure proposed for the "major" access point for the unit will be used to calculate Access Value. The designation

of "major" will be made by the Environmental Work Group. An "accessible unit" is defined as a portion of the total accessible area that is served by one or more access routes (canals, bayous, etc.), yet is isolated in terms of estuarine organism access to or from other units of the project area. Isolation factors include physical barriers that prohibit further movement of estuarine organisms, such as natural levee ridges and spoil banks; and dense marsh that lacks channels, trenasses, and similar small connections that would, if present, provide access and intertidal refugia for estuarine organisms.

Access Value should be calculated according to the following examples (note: for all examples, P for TY0 = 90 percent. That designation is arbitrary and is used only for illustrative purposes; P could be any percentage from 0 percent to 100 percent):

- a. One opening into area; no structure.

$$\begin{aligned}\text{Access Value} &= P \\ &= .90\end{aligned}$$

- b. One opening into area that provides access to the entire 90 percent of the project area deemed accessible. A flapgated culvert with slotted weir is placed across the opening.

$$\begin{aligned}\text{Access Value} &= P \times R \\ &= .90 \times .6 \\ &= .54\end{aligned}$$

- c. Two openings into area, each capable by itself of providing full access to the 90 percent of the project area deemed accessible in TY0. Opening #2 is determined to be the major access route relative to opening #1. A flapgated culvert with slotted weir is placed across opening #1. Opening #2 is left unaltered.

$$\begin{aligned}\text{Access Value} &= P \\ &= .90\end{aligned}$$

Note: Structure #1 had no bearing on the Access Value calculation because its presence did not reduce access (opening #2 was determined to be the major access route, and access through that route was not altered).

- d. Two openings into area. Opening #1 provides access to an accessible unit comprising 30 percent of the area. Opening #2 provides access to an accessible unit comprising the remaining 60 percent of the project area. A flapgated culvert with slotted weir is placed across #1. Opening #2 is left open.

Access Value = weighted avg. of Access Values of the two accessible units

$$\begin{aligned} &= ([P1 \times R1] + [P2 \times R2]) / (P1 + P2) \\ &= ( [.30 \times 0.6] + [.60 \times 1.0] ) / (.30 + .60) \\ &= (.18 + .60) / .90 \\ &= .78 / .90 \\ &= .87 \end{aligned}$$

Note:  $P1 + P2 = .90$ , because only 90 percent of the study area was determined to be accessible at TY0.

- e. Three openings into area, each capable of providing full access to the entire area independent of the others. Opening #3 is determined to be the major access route relative to openings #1 and #2. Opening #1 is blocked with a solid plug. Opening #2 is fitted with a flapgated culvert with slotted weir, and opening #3 is left open.

$$\begin{aligned} \text{Access Value} &= P \\ &= .90 \end{aligned}$$

Note: Structures #1 and #2 had no bearing on the Access Value calculation because their presence did not reduce access (opening #3 was determined to be the major access route, and access through that route was not altered).

- f. Three openings into area, each capable of providing full access to the entire area independent of the others. Opening #2 is determined to be the major access route relative to openings #1 and #3. Opening #1 is blocked with a solid plug. Opening #2 is fitted with a flapgated culvert with slotted weir, and opening #3 is fitted with a fixed crest weir.

$$\begin{aligned} \text{Access Value} &= P \times R2 \\ &= .90 \times .6 \\ &= .54 \end{aligned}$$

Note: Structures #1 and #3 had no bearing on the Access Value calculation because their presence did not reduce access. Opening #2 was determined beforehand to be the major access route; thus, it was the flapgated culvert with slotted weir across that opening that actually served to limit access.

- g. Three openings into area. Opening #1 provides access to an accessible unit comprising 20 percent of the area. Openings #2 and #3 provide access to an accessible unit comprising the remaining 70 percent of the area, and within that area, each is capable by itself of providing full

access. However, opening #3 is determined to be the major access route relative to opening #2. Opening #1 is fitted with an open culvert, #2 with a flapgated culvert with slotted weir, and #3 with a fixed crest weir.

$$\begin{aligned}
 \text{Access Value} &= ([P1 \times R1] + [P2 \times R3]) / (P1 + P2) \\
 &= ([.20 \times .7] + [.70 \times .6]) / (.20 + .70) \\
 &= (.14 + .42) / .90 \\
 &= .56 / .90 \\
 &= .62
 \end{aligned}$$

- h. Three openings into area. Opening #1 provides access to an accessible unit comprising 20 percent of the area. Opening #2 provides access to an accessible unit comprising 40 percent of the area, and opening #3 provides access to the remaining 30 percent of the area. Opening #1 is fitted with an open culvert, #2 a flapgated culvert with slotted weir, and #3 a fixed crest weir.

$$\begin{aligned}
 \text{Access Value} &= \frac{([P1 \times R1] + [P2 \times R2] + [P3 \times R3])}{(P1 + P2 + P3)} \\
 &= \frac{[.20 \times .7] + [.40 \times .6] + [.30 \times .1]}{(.20 + .40 + .30)} \\
 &= \frac{(.14 + .24 + .03)}{.90} \\
 &= .41 / .90 \\
 &= .46
 \end{aligned}$$

PUBLISHED HABITAT SUITABILITY INDEX (HSI) MODELS CONSULTED  
FOR VARIABLES FOR POSSIBLE USE IN THE  
WETLAND VALUE ASSESSMENT MODELS

Estuarine Fish and Shellfish

pink shrimp  
white shrimp  
brown shrimp  
spotted seatrout  
Gulf flounder  
southern flounder  
Gulf menhaden  
juvenile spot  
juvenile Atlantic croaker  
red drum

Reptiles and Amphibians

American alligator  
slider turtle  
bullfrog

Mammals

mink  
muskrat

Freshwater Fish

channel catfish  
largemouth bass  
red ear sunfish  
bluegill

Birds

clapper rail  
great egret  
northern pintail  
mottled duck  
coot  
marsh wren  
great blue heron  
laughing gull  
snow goose  
red-winged blackbird  
roseate spoonbill  
white-fronted goose



**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix C**

**Engineering**



**APPENDIX C**  
**ENGINEERING APPENDIX**  
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Table C-1  
 Estimated Construction Cost  
 Naomi Outfall Management (BA-3c)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	Lump Sum	LS	50,000.00	50,000
2	Rock (Goose Bayou)	5,000	Tons	27.00	135,000
3	Rock (Bayou Dupont)	15,000	Tons	27.00	405,000
<b>Total Construction Cost</b>					<b>590,000</b>

Table C-2  
 Estimated Construction Cost  
 Little Vermilion Bay Sediment Trapping

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	1	LS	20,000.00	20,000
2	Excavation	340,000	CY	1.25	425,000
3	Vegetative Plantings				
3a	Smooth cordgrass (gal)	1	LS	6,000.00	6,000
3b	Smooth cordgrass (sprigs)	1	LS	16,000.00	16,000
3c	Seashore paspalum	1	LS	15,000.00	15,000
<b>Total Construction Cost</b>					<b>482,000</b>

Table C-3  
 Estimated Construction Cost  
 Grand Bayou/GIWW Freshwater Diversion (TE-10/XTE-49)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Excavation	70,000	CY	2.60	182,000
2	Cutoff Canal Structure	Lump Sum	LS	900,000.00	900,000
3	Embankment Fill	38,000	CY	7.90	300,000
4	Rock Armor	18,000	Tons	20.00	360,000
<b>Total Construction Cost</b>					<b>1,742,000</b>

Table C-4  
 Estimated Construction Cost  
 Bayou Lafourche Siphons (PBA-20)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
<b>Siphons</b>					
1	Mob and Demob	1	LS	340,000	340,000
2	Site Prep and Clean-up	1	LS	250,000	250,000
3	Receiving Structure				0
3a	Dolphin, Fender System	1	LS	150,000	150,000
3b	Pipe Supports	1	LS	125,000	125,000
3c	Couplings, Supports	1	LS	125,000	125,000
3d	Excavation, Backfilling	1	LS	125,000	125,000
3e	Rip-Rap	1	LS	15,000	15,000
3f	Pipes	640	LF	274	175,000
4	Pipes (River to Bayou)	9,520	LF	200	1,900,000
5	Highway Crossing (2)	1	LS	300,000	300,000
6	Discharge Pond	1	LS	1,100,000	1,100,000
7	Electrical, Nav Aids, Vacuum System, Painting	1	LS	250,000	250,000
<b>Bayou</b>					
1	LA 3089 Bridge Replace				
1a	Mob and Demob	1	LS	150,000	150,000
1b	Temporary Route	1	LS	250,000	250,000
1c	Excavation, Fill	1	LS	100,000	100,000
1d	2 Lane Bridge	1	LS	1,250,000	1,250,000
1e	Intersections	1	LS	250,000	250,000
2	Railroad Bridge				
2a	Mob and Demob	1	LS	125,000	125,000
2b	Excavation, Removal	1	LS	150,000	150,000
2c	Bridge	1	LS	880,000	880,000
2d	Bank Stabilization	1	LS	150,000	150,000
3	Bank Stabilization				
3a	Rip Rap first 2,500 lf	1	LS	500,000	500,000
3b	Bulkhead	1	LS	1,800,000	1,800,000
4	Dredging (Bayou)	1	LS	3,000,000	3,000,000
<b>Total Construction Cost</b>					<b>13,460,000</b>

Table C-5  
Estimated Construction Cost  
Myrtle Grove Siphons (PBA-48a)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Bond & Insurance	1	LS	95,000	95,000
2	Mob and Demob	1	LS	388,000	388,000
3	Temporary Facilities	1	LS	214,000	214,000
4	Clear and Grubbing	15	Ac	11,050	166,000
5	Pipeline Excavation	37,000	CY	6	217,000
6	Discharge Struct Excavat	38,900	CY	6	227,000
7	Levee Embankment	32,600	CY	3	98,000
8	Sand Bedding & Hauling	26,500	CY	10	267,000
9	Shell	5,550	CY	25	140,000
10	Backfill	70,400	CY	1	70,000
11	Excavation, Outfall Channel	171,100	CY	6	1,001,000
12	Pipe (72")	16,000	LF	205	3,280,000
13	Highway Crossing	960	LF	623	598,000
14	Steel Sheet Pile	330	LF	560	185,000
15	Concrete	165	CY	267	44,000
16	Rip Rap	4,600	Tons	23	106,000
17	Steel Pipe Piles	1	LS	370,000	370,000
18	Structural Steel	1	LS	423,400	423,000
19	72-in Pipe Structure	1	LS	109,000	109,000
20	Misc Metals	1	LS	63,000	63,000
21	Painting	1	LS	50,000	50,000
22	Electrical	1	LS	19,000	19,000
23	Vaccuum System	1	LS	127,000	127,000
24	Access Road	1	LS	83,000	83,000
25	x-Ray Marine Welds	1	LS	1,400	1,000
26	Pump Station	1	LS	500,000	500,000
<b>Total Construction Cost</b>					<b>8,841,000</b>

Table C-6  
Estimated Construction Cost  
Sweet Lake Willow Lake (CS-11b)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	1	LS	50,000.00	50,000
2	Rock	105,560	Tons	21.00	2,217,000
3	Geotextile	61,880	SY	2.00	124,000
4	Vegetative Plantings	46,000	LF	3.00	138,000
5	Earth Terrace	25,500	LF	10.00	255,000
<b>Total Construction Cost for Phases 1 and 2</b>					<b>2,784,000</b>
1	Mob and Demob	1	LS	50,000.00	50,000
2	Rock	55,100	Tons	21.00	1,157,000
3	Geotextile	32,300	SY	2.00	65,000
<b>Total Construction Cost Phase 1 Only</b>					<b>1,272,000</b>

Table C-7  
 Estimated Construction Cost  
 Marsh Creation at Bayou Chevee (XPO-69)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	1	LS	110,000.00	110,000
2	Earth Dike				
2a	Open Water Dike	5,000	LF	88.00	440,000
2b	Shoreline Dikes	7,500	LF	7.20	54,000
3	Dredging (Excavation)	1,950,000	CY	0.55	1,073,000
<b>Total Construction Cost</b>					<b>1,677,000</b>

Note: 150 acres marsh creation

Table C-8  
 Estimated Construction Cost  
 Raccon Island Breakwaters Demonstration

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	1	LS	200,000.00	200,000
2	Rock	24,600	Tons	23.00	566,000
3	Geotextile	12,000	SY	4.00	48,000
4	Surveying	1	LS	35,000.00	35,000
<b>Total Construction Cost</b>					<b>849,000</b>

Table C-9  
 Estimated Construction Cost  
 Freshwater Bayou Bank Stabilization (XME-29)

Item	Description	Quantity	Unit	Unit Cost (\$)	Amount (\$)
1	Mob and Demob	1	LS	50,000.00	50,000
2	Rock	105,075	Tons	21.00	2,207,000
3	Geotextile	60,710	SY	3.00	182,000
4	Excavation	35,025	CY	2.00	70,000
<b>Total Construction Cost</b>					<b>2,509,000</b>



**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix D**

**Economics**



**APPENDIX D**  
**ECONOMIC ANALYSIS**  
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**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Naomi Outfall Management BA-3C**

Project Construction Years:	3	Total Project Years	23
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$966,800	Total Fully Funded Costs	\$1,743,800

	<u>Present Worth</u>	<u>Average Annual</u>
Annual Charges		
Interest & Amortization	\$1,049,200	\$103,900
Monitoring	\$197,600	\$19,600
O & M Costs	\$59,200	\$5,900
Other Costs	\$0	\$0
<b>Total</b>	<b>\$1,306,000</b>	<b>\$129,400</b>

Average Annual Habitat Units

Cost Per Habitat Unit

Average Annual Acres of Emergent Marsh

378  
\$341  
633

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Naomi Outfall Management BA-3C

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal		Contingency	First Cost Construction	Total First Cost
				LDNR Administration	Supervision & Inspection			
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Compound	1997	\$65,556	\$13,333	\$21,875	\$0	\$0	\$0	\$104,326
1 Compound	1998	\$52,444	\$16,667	\$48,125	\$7,838	\$142,500	\$570,000	\$862,574
Base Year								
<b>TOTAL</b>		\$118,000	\$30,000	\$70,000	\$11,400	\$142,500	\$570,000	\$956,900

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Discount	2000	\$19,565	\$25,000	\$0
3 Discount	2001	\$19,565	\$0	\$0
4 Discount	2002	\$19,565	\$0	\$0
5 Discount	2003	\$19,565	\$25,000	\$0
6 Discount	2004	\$19,565	\$0	\$0
7 Discount	2005	\$19,565	\$0	\$0
8 Discount	2006	\$19,565	\$0	\$0
9 Discount	2007	\$19,565	\$0	\$0
10 Discount	2008	\$19,565	\$25,000	\$0
11 Discount	2009	\$19,565	\$0	\$0
12 Discount	2010	\$19,565	\$0	\$0
13 Discount	2011	\$19,565	\$0	\$0
14 Discount	2012	\$19,565	\$0	\$0
15 Discount	2013	\$19,565	\$25,000	\$0
16 Discount	2014	\$19,565	\$0	\$0
17 Discount	2015	\$19,565	\$0	\$0
18 Discount	2016	\$19,565	\$0	\$0
19 Discount	2017	\$19,565	\$0	\$0
20 Discount	2018	\$19,565	\$0	\$0
<b>Total</b>		\$391,300	\$100,000	\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Naomi Outfall Management BA-3C

Present Valued Costs      Total Discounted Costs      Amortized Costs      **\$129,328**

**\$1,305,950**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.158	1997	\$75,934	\$15,444	\$25,338	\$4,126	\$0	\$0	\$0	\$120,843
1	1.076	1998	\$56,443	\$17,938	\$51,795	\$8,435	\$26,906	\$153,366	\$613,463	\$928,345
<b>Total</b>			<b>\$132,377</b>	<b>\$33,382</b>	<b>\$77,133</b>	<b>\$12,562</b>	<b>\$26,906</b>	<b>\$153,366</b>	<b>\$613,463</b>	<b>\$1,049,188</b>

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$18,179	\$0	\$0
-2	0.863	2000	\$16,891	\$21,583	\$0
-3	0.802	2001	\$15,694	\$0	\$0
-4	0.745	2002	\$14,582	\$0	\$0
-5	0.693	2003	\$13,549	\$17,313	\$0
-6	0.643	2004	\$12,589	\$0	\$0
-7	0.598	2005	\$11,697	\$0	\$0
-8	0.556	2006	\$10,869	\$0	\$0
-9	0.516	2007	\$10,099	\$0	\$0
-10	0.480	2008	\$9,383	\$11,990	\$0
-11	0.446	2009	\$8,718	\$0	\$0
-12	0.414	2010	\$8,101	\$0	\$0
-13	0.385	2011	\$7,527	\$0	\$0
-14	0.357	2012	\$6,994	\$0	\$0
-15	0.332	2013	\$6,498	\$8,303	\$0
-16	0.309	2014	\$6,038	\$0	\$0
-17	0.287	2015	\$5,610	\$0	\$0
-18	0.266	2016	\$5,212	\$0	\$0
-19	0.248	2017	\$4,843	\$0	\$0
-20	0.230	2018	\$4,500	\$0	\$0
<b>Total</b>			<b>\$197,573</b>	<b>\$59,189</b>	<b>\$0</b>

Average Annual      **\$19,568**

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Naomi Outfall Management BA-3C

**Fully Funded Costs**      Total Fully Funded Costs      \$1,743,805      Amortized Costs      \$172,689

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.031	1997	\$67,590	\$13,747	\$22,554	\$3,673	\$0	\$0	\$107,564
1	1.063	1998	\$55,748	\$17,717	\$51,156	\$8,331	\$151,476	\$605,905	\$916,909
<b>TOTAL</b>			<b>\$123,338</b>	<b>\$31,464</b>	<b>\$73,710</b>	<b>\$12,004</b>	<b>\$151,476</b>	<b>\$605,905</b>	<b>\$1,024,472</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$21,442	\$0	\$0
-2	1.130	2000	\$22,107	\$28,248	\$0
-3	1.165	2001	\$22,782	\$0	\$0
-4	1.201	2002	\$23,499	\$0	\$0
-5	1.238	2003	\$24,227	\$30,957	\$0
-6	1.277	2004	\$24,978	\$0	\$0
-7	1.316	2005	\$25,753	\$0	\$0
-8	1.357	2006	\$26,551	\$0	\$0
-9	1.399	2007	\$27,374	\$0	\$0
-10	1.443	2008	\$28,223	\$36,063	\$0
-11	1.487	2009	\$29,097	\$0	\$0
-12	1.533	2010	\$29,999	\$0	\$0
-13	1.581	2011	\$30,929	\$0	\$0
-14	1.630	2012	\$31,888	\$0	\$0
-15	1.680	2013	\$32,877	\$42,010	\$0
-16	1.732	2014	\$33,896	\$0	\$0
-17	1.786	2015	\$34,947	\$0	\$0
-18	1.842	2016	\$36,030	\$0	\$0
-19	1.899	2017	\$37,147	\$0	\$0
-20	1.958	2018	\$38,299	\$0	\$0
<b>Total</b>			<b>\$582,055</b>	<b>\$137,278</b>	<b>\$0</b>



**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Little Vermilion Bay Sediment Trapping (PTV-19)**

Project Construction Years:	3	Total Project Years	23
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$752,500	Total Fully Funded Costs	\$940,100

Annual Charges	Present Worth	Average Annual
Interest & Amortization	\$820,500	\$81,300
Monitoring	\$48,600	\$4,800
O & M Costs	\$0	\$0
Other Costs	\$0	\$0
<b>Total</b>	<b>\$869,100</b>	<b>\$86,100</b>

Average Annual Habitat Units

Cost Per Habitat Unit

Average Annual Acres of Emergent Marsh

149  
\$578  
238

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Little Vermilion Bay Sediment Trapping (PTV-19)**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$21,053	\$4,211	\$7,407	\$4,444	\$0	\$0	\$37,115
2 Compound	1997	\$28,947	\$5,789	\$11,111	\$6,667	\$0	\$0	\$52,515
1 Compound	1998	\$0	\$0	\$6,481	\$3,889	\$120,500	\$482,000	\$662,870
Base Year								
<b>TOTAL</b>		\$50,000	\$10,000	\$25,000	\$15,000	\$120,500	\$482,000	\$752,500

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1999	\$4,809	\$0	\$0
2 Discount	2000	\$4,809	\$0	\$0
3 Discount	2001	\$4,809	\$0	\$0
4 Discount	2002	\$4,809	\$0	\$0
5 Discount	2003	\$4,809	\$0	\$0
6 Discount	2004	\$4,809	\$0	\$0
7 Discount	2005	\$4,809	\$0	\$0
8 Discount	2006	\$4,809	\$0	\$0
9 Discount	2007	\$4,809	\$0	\$0
10 Discount	2008	\$4,809	\$0	\$0
11 Discount	2009	\$4,809	\$0	\$0
12 Discount	2010	\$4,809	\$0	\$0
13 Discount	2011	\$4,809	\$0	\$0
14 Discount	2012	\$4,809	\$0	\$0
15 Discount	2013	\$4,809	\$0	\$0
16 Discount	2014	\$4,809	\$0	\$0
17 Discount	2015	\$4,809	\$0	\$0
18 Discount	2016	\$4,809	\$0	\$0
19 Discount	2017	\$4,809	\$0	\$0
20 Discount	2018	\$4,809	\$0	\$0
<b>Total</b>		\$96,180	\$0	\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Little Vermilion Bay Sediment Trapping (PTV-19)**

Present Valued Costs		Total Discounted Costs		Amortized Costs		Total First Cost			
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Inspection	Contingency	Construction	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	1996	\$26,245	\$5,249	\$9,234	\$5,541	\$0	\$0	\$46,269
2	1.158	1997	\$33,530	\$6,706	\$12,870	\$7,722	\$0	\$0	\$60,828
1	1.076	1998	\$0	\$0	\$6,976	\$4,185	\$129,688	\$518,753	\$713,414
<b>Total</b>			\$59,775	\$11,955	\$29,080	\$17,448	\$53,813	\$129,688	\$820,512

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$4,468	\$0	\$0
-2	0.863	2000	\$4,152	\$0	\$0
-3	0.802	2001	\$3,858	\$0	\$0
-4	0.745	2002	\$3,584	\$0	\$0
-5	0.693	2003	\$3,330	\$0	\$0
-6	0.643	2004	\$3,094	\$0	\$0
-7	0.598	2005	\$2,875	\$0	\$0
-8	0.556	2006	\$2,671	\$0	\$0
-9	0.516	2007	\$2,482	\$0	\$0
-10	0.480	2008	\$2,306	\$0	\$0
-11	0.446	2009	\$2,143	\$0	\$0
-12	0.414	2010	\$1,991	\$0	\$0
-13	0.385	2011	\$1,850	\$0	\$0
-14	0.357	2012	\$1,719	\$0	\$0
-15	0.332	2013	\$1,597	\$0	\$0
-16	0.309	2014	\$1,484	\$0	\$0
-17	0.287	2015	\$1,379	\$0	\$0
-18	0.266	2016	\$1,281	\$0	\$0
-19	0.248	2017	\$1,190	\$0	\$0
-20	0.230	2018	\$1,106	\$0	\$0
<b>Total</b>			\$48,563	\$0	\$0

Average Annual

\$4,809

\$0

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan**

**Little Vermilion Bay Sediment Trapping (PTV-19)**

Fully Funded Costs		Total Fully Funded Costs		Federal		LDNR		Amortized Costs		Total First Cost
Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	Supervision & Administration	Supervision & Inspection	Contingency	Construction	Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	1996	\$21,684	\$4,337	\$7,630	\$4,578	\$0	\$0	\$0	\$38,228
2	1.031	1997	\$29,846	\$5,969	\$11,456	\$6,874	\$0	\$0	\$0	\$54,144
1	1.063	1998	\$0	\$0	\$6,890	\$4,134	\$53,150	\$128,091	\$512,362	\$704,626
<b>TOTAL</b>			<b>\$51,530</b>	<b>\$10,306</b>	<b>\$25,975</b>	<b>\$15,585</b>	<b>\$53,150</b>	<b>\$128,091</b>	<b>\$512,362</b>	<b>\$796,998</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$5,270	\$0	\$0
-2	1.130	2000	\$5,434	\$0	\$0
-3	1.165	2001	\$5,602	\$0	\$0
-4	1.201	2002	\$5,776	\$0	\$0
-5	1.238	2003	\$5,955	\$0	\$0
-6	1.277	2004	\$6,140	\$0	\$0
-7	1.316	2005	\$6,330	\$0	\$0
-8	1.357	2006	\$6,526	\$0	\$0
-9	1.399	2007	\$6,728	\$0	\$0
-10	1.443	2008	\$6,937	\$0	\$0
-11	1.487	2009	\$7,152	\$0	\$0
-12	1.533	2010	\$7,374	\$0	\$0
-13	1.581	2011	\$7,602	\$0	\$0
-14	1.630	2012	\$7,838	\$0	\$0
-15	1.680	2013	\$8,081	\$0	\$0
-16	1.732	2014	\$8,332	\$0	\$0
-17	1.786	2015	\$8,590	\$0	\$0
-18	1.842	2016	\$8,856	\$0	\$0
-19	1.899	2017	\$9,131	\$0	\$0
-20	1.958	2018	\$9,414	\$0	\$0
<b>Total</b>			<b>\$143,067</b>	<b>\$0</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Grand Bayou GIWW Freshwater Introduction (TE-10/XTE-49)**

Project Construction Years: 4 Total Project Years 24  
 Interest Rate 7.63% Amortization Factor 0.09903  
 Total First Costs \$2,958,500 Total Fully Funded Costs \$5,135,500

	Present Worth	Average Annual
Annual Charges		
Interest & Amortization	\$3,366,800	\$333,400
Monitoring	\$290,600	\$28,800
O & M Costs	\$353,400	\$35,000
Other Costs	\$0	\$0
<b>Total</b>	<b>\$4,010,800</b>	<b>\$397,200</b>
Average Annual Habitat Units		771
Cost Per Habitat Unit		\$515
Average Annual Acres of Emergent Marsh		1,609

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Grand Bayou GIWW Freshwater Introduction (TE-10/XTE-49)**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound	1996	\$123,840	\$100,000	\$15,000	\$0	\$0	\$0	\$238,840
3 Compound	1997	\$185,760	\$0	\$22,500	\$0	\$0	\$0	\$208,260
2 Compound	1998	\$77,400	\$0	\$22,500	\$84,231	\$167,500	\$670,000	\$1,021,631
1 Compound	1999	\$0	\$0	\$15,000	\$134,769	\$268,000	\$1,072,000	\$1,489,769
Base Year								
<b>TOTAL</b>		<b>\$387,000</b>	<b>\$100,000</b>	<b>\$75,000</b>	<b>\$219,000</b>	<b>\$435,500</b>	<b>\$1,742,000</b>	<b>\$2,958,500</b>

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	2000	\$28,773	\$35,000	\$0
2 Discount	2001	\$28,773	\$35,000	\$0
3 Discount	2002	\$28,773	\$35,000	\$0
4 Discount	2003	\$28,773	\$35,000	\$0
5 Discount	2004	\$28,773	\$35,000	\$0
6 Discount	2005	\$28,773	\$35,000	\$0
7 Discount	2006	\$28,773	\$35,000	\$0
8 Discount	2007	\$28,773	\$35,000	\$0
9 Discount	2008	\$28,773	\$35,000	\$0
10 Discount	2009	\$28,773	\$35,000	\$0
11 Discount	2010	\$28,773	\$35,000	\$0
12 Discount	2011	\$28,773	\$35,000	\$0
13 Discount	2012	\$28,773	\$35,000	\$0
14 Discount	2013	\$28,773	\$35,000	\$0
15 Discount	2014	\$28,773	\$35,000	\$0
16 Discount	2015	\$28,773	\$35,000	\$0
17 Discount	2016	\$28,773	\$35,000	\$0
18 Discount	2017	\$28,773	\$35,000	\$0
19 Discount	2018	\$28,773	\$35,000	\$0
20 Discount	2019	\$28,773	\$35,000	\$0
<b>Total</b>		<b>\$575,460</b>	<b>\$700,000</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Grand Bayou GIWW Freshwater Introduction (TE-10/XTE-49)**

Present Valued Costs		Total Discounted Costs	\$4,010,806	Amortized Costs	\$397,190				
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	Supervision & Inspection	Contingency	First Construction	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	1996	\$166,155	\$134,169	\$20,125	\$0	\$0	\$0	\$320,450
3	1.247	1997	\$231,575	\$0	\$28,049	\$0	\$0	\$0	\$259,624
2	1.158	1998	\$89,654	\$0	\$26,062	\$97,566	\$194,018	\$776,070	\$1,183,369
1	1.076	1999	\$0	\$0	\$16,144	\$145,045	\$288,435	\$1,153,740	\$1,603,364
Total			\$487,384	\$134,169	\$90,380	\$242,611	\$482,453	\$1,929,810	\$3,366,807

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	2000	\$26,734	\$32,520	\$0
-2	0.863	2001	\$24,840	\$30,216	\$0
-3	0.802	2002	\$23,081	\$28,076	\$0
-4	0.745	2003	\$21,445	\$26,086	\$0
-5	0.693	2004	\$19,926	\$24,238	\$0
-6	0.643	2005	\$18,514	\$22,521	\$0
-7	0.598	2006	\$17,203	\$20,926	\$0
-8	0.556	2007	\$15,984	\$19,443	\$0
-9	0.516	2008	\$14,851	\$18,065	\$0
-10	0.480	2009	\$13,799	\$16,786	\$0
-11	0.446	2010	\$12,822	\$15,596	\$0
-12	0.414	2011	\$11,913	\$14,491	\$0
-13	0.385	2012	\$11,069	\$13,465	\$0
-14	0.357	2013	\$10,285	\$12,511	\$0
-15	0.332	2014	\$9,556	\$11,624	\$0
-16	0.309	2015	\$8,879	\$10,801	\$0
-17	0.287	2016	\$8,250	\$10,036	\$0
-18	0.266	2017	\$7,666	\$9,325	\$0
-19	0.248	2018	\$7,123	\$8,664	\$0
-20	0.230	2019	\$6,618	\$8,050	\$0
Total			\$290,558	\$353,440	\$0
Average Annual			\$28,774	\$35,001	\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Grand Bayou GIWW Freshwater Introduction (TE-10/XTE-49)**

Fully Funded Costs		Total Fully Funded Costs		Amortized Costs		Total First Cost		
Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	Supervision & Inspection	Contingency	Construction	Total First Cost
5	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.030	\$127,555	\$103,000	\$15,450	\$0	\$0	\$0	\$246,005
3	1.031	\$191,524	\$0	\$23,198	\$0	\$0	\$0	\$214,722
2	1.063	\$82,276	\$0	\$23,917	\$89,537	\$178,051	\$712,205	\$1,085,985
1	1.096	\$0	\$0	\$16,439	\$147,700	\$293,713	\$1,174,853	\$1,632,705
<b>TOTAL</b>		<b>\$401,355</b>	<b>\$103,000</b>	<b>\$79,005</b>	<b>\$237,236</b>	<b>\$471,764</b>	<b>\$1,887,057</b>	<b>\$3,179,417</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.130	2000	\$32,511	\$39,547	\$0
-2	1.165	2001	\$33,519	\$40,773	\$0
-3	1.201	2002	\$34,558	\$42,037	\$0
-4	1.238	2003	\$35,629	\$43,340	\$0
-5	1.277	2004	\$36,734	\$44,684	\$0
-6	1.316	2005	\$37,873	\$46,069	\$0
-7	1.357	2006	\$39,047	\$47,497	\$0
-8	1.399	2007	\$40,257	\$48,970	\$0
-9	1.443	2008	\$41,505	\$50,488	\$0
-10	1.487	2009	\$42,792	\$52,053	\$0
-11	1.533	2010	\$44,118	\$53,666	\$0
-12	1.581	2011	\$45,486	\$55,330	\$0
-13	1.630	2012	\$46,896	\$57,045	\$0
-14	1.680	2013	\$48,350	\$58,814	\$0
-15	1.732	2014	\$49,849	\$60,637	\$0
-16	1.786	2015	\$51,394	\$62,517	\$0
-17	1.842	2016	\$52,987	\$64,455	\$0
-18	1.899	2017	\$54,630	\$66,453	\$0
-19	1.958	2018	\$56,323	\$68,513	\$0
-20	2.018	2019	\$58,069	\$70,637	\$0
<b>Total</b>			<b>\$882,528</b>	<b>\$1,073,523</b>	<b>\$0</b>



**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Bayou LaFourche Siphon (w/o TE-10 Structure) P8A-20**

23  
0.09903  
\$24,487,300

Total Project Years  
Amortization Factor  
Total Fully Funded Costs

Project Construction Years: 3  
Interest Rate: 7.63%  
Total First Costs: \$20,411,000

Average Annual
\$2,255,800
\$28,800
\$75,000
\$0
<hr/>
\$2,359,600
499
\$4,729
225

Present Worth
\$22,779,300
\$290,600
\$757,400
\$0
<hr/>
\$23,827,300

Annual Charges  
Interest & Amortization  
Monitoring  
O & M Costs  
Other Costs  
Total  
Average Annual Habitat Units  
Cost Per Habitat Unit  
Average Annual Acres of Emergent Marsh

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Bayou Lafourche Siphon (w/o TE-10 Structure) PBA-20**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	LDNR		Contingency	First Cost Construction	Total First Cost
				Federal Supervision & Administration	Supervision & Inspection			
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$430,720	\$67,200	\$88,548	\$0	\$0	\$0	\$587,468
2 Compound	1987	\$646,080	\$100,800	\$134,323	\$0	\$1,416,842	\$5,667,368	\$8,674,045
1 Compound	1998	\$269,200	\$42,000	\$123,129	\$0	\$1,948,158	\$7,792,632	\$11,149,487
Base Year		\$1,346,000	\$210,000	\$347,000	\$0	\$3,365,000	\$13,460,000	

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1999	\$28,773	\$75,000	\$0
2 Discount	2000	\$28,773	\$75,000	\$0
3 Discount	2001	\$28,773	\$75,000	\$0
4 Discount	2002	\$28,773	\$75,000	\$0
5 Discount	2003	\$28,773	\$75,000	\$0
6 Discount	2004	\$28,773	\$75,000	\$0
7 Discount	2005	\$28,773	\$75,000	\$0
8 Discount	2006	\$28,773	\$75,000	\$0
9 Discount	2007	\$28,773	\$75,000	\$0
10 Discount	2008	\$28,773	\$75,000	\$0
11 Discount	2009	\$28,773	\$75,000	\$0
12 Discount	2010	\$28,773	\$75,000	\$0
13 Discount	2011	\$28,773	\$75,000	\$0
14 Discount	2012	\$28,773	\$75,000	\$0
15 Discount	2013	\$28,773	\$75,000	\$0
16 Discount	2014	\$28,773	\$75,000	\$0
17 Discount	2015	\$28,773	\$75,000	\$0
18 Discount	2016	\$28,773	\$75,000	\$0
19 Discount	2017	\$28,773	\$75,000	\$0
20 Discount	2018	\$28,773	\$75,000	\$0
Total		\$575,460	\$1,500,000	\$0

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Beyou LaFourche Siphon (w/o TE-10 Structure) PBA-20**

Present Valued Costs		Total Discounted Costs					Amortized Costs			Total First Cost
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Inspection	Contingency	First Construction Cost	Total First Cost	
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	1.247	1996	\$536,951	\$83,774	\$111,634	\$0	\$0	\$0	\$732,359	
2	1.158	1997	\$748,364	\$116,758	\$155,588	\$0	\$820,818	\$6,564,593	\$10,047,268	
1	1.076	1998	\$289,727	\$45,203	\$132,518	\$0	\$1,048,664	\$9,386,820	\$11,999,635	
		<b>Total</b>	<b>\$1,575,041</b>	<b>\$245,734</b>	<b>\$399,740</b>	<b>\$0</b>	<b>\$1,869,482</b>	<b>\$14,951,412</b>	<b>\$22,779,262</b>	

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$26,734	\$69,686	\$0
-2	0.863	2000	\$24,840	\$64,749	\$0
-3	0.802	2001	\$23,081	\$60,162	\$0
-4	0.745	2002	\$21,445	\$55,900	\$0
-5	0.693	2003	\$18,928	\$51,839	\$0
-6	0.643	2004	\$18,514	\$48,259	\$0
-7	0.598	2005	\$17,203	\$44,840	\$0
-8	0.556	2006	\$15,984	\$41,664	\$0
-9	0.516	2007	\$14,851	\$38,712	\$0
-10	0.480	2008	\$13,799	\$35,969	\$0
-11	0.446	2009	\$12,822	\$33,421	\$0
-12	0.414	2010	\$11,913	\$31,053	\$0
-13	0.385	2011	\$11,069	\$28,853	\$0
-14	0.357	2012	\$10,285	\$26,809	\$0
-15	0.332	2013	\$9,556	\$24,909	\$0
-16	0.309	2014	\$8,879	\$23,145	\$0
-17	0.287	2015	\$8,250	\$21,506	\$0
-18	0.266	2016	\$7,668	\$19,981	\$0
-19	0.248	2017	\$7,123	\$18,588	\$0
-20	0.230	2018	\$6,618	\$17,250	\$0
		<b>Total</b>	<b>\$290,556</b>	<b>\$757,372</b>	<b>\$0</b>

Average Annual

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan**

**Bayou LaFouche Siphon (w/o TE-10 Structure) PBA-20**

Fully Funded Costs		Total Fully Funded Costs				Amortized Costs			
Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	\$443,842	\$68,216	\$92,235	\$0	\$0	\$0	\$0	\$605,092
2	1.031	\$686,128	\$103,928	\$138,491	\$0	\$730,620	\$1,460,807	\$5,843,227	\$8,943,200
1	1.063	\$286,157	\$44,646	\$130,885	\$0	\$1,035,746	\$2,070,876	\$8,283,504	\$11,851,815
<b>TOTAL</b>		<b>\$1,395,927</b>	<b>\$217,789</b>	<b>\$361,611</b>	<b>\$0</b>	<b>\$1,766,366</b>	<b>\$3,531,683</b>	<b>\$14,126,731</b>	<b>\$21,400,107</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$31,534	\$82,196	\$0
-2	1.130	2000	\$32,511	\$84,744	\$0
-3	1.165	2001	\$33,519	\$87,371	\$0
-4	1.201	2002	\$34,558	\$90,079	\$0
-5	1.238	2003	\$35,629	\$92,872	\$0
-6	1.277	2004	\$36,734	\$95,751	\$0
-7	1.316	2005	\$37,873	\$98,719	\$0
-8	1.357	2006	\$39,047	\$101,780	\$0
-9	1.399	2007	\$40,257	\$104,935	\$0
-10	1.443	2008	\$41,506	\$108,188	\$0
-11	1.487	2009	\$42,792	\$111,542	\$0
-12	1.533	2010	\$44,118	\$114,999	\$0
-13	1.581	2011	\$45,486	\$118,564	\$0
-14	1.630	2012	\$46,896	\$122,240	\$0
-15	1.680	2013	\$48,350	\$126,029	\$0
-16	1.732	2014	\$49,849	\$129,936	\$0
-17	1.786	2015	\$51,394	\$133,964	\$0
-18	1.842	2016	\$52,987	\$138,117	\$0
-19	1.899	2017	\$54,630	\$142,399	\$0
-20	1.958	2018	\$56,323	\$146,813	\$0
<b>Total</b>			<b>\$855,992</b>	<b>\$2,231,237</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

Siphon at Myrtle Grove PBA-48A

Project Construction Years:	3	Total Project Years	23
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$13,120,300	Total Fully Funded Costs	\$15,526,000

	<u>Present Worth</u>	<u>Average Annual</u>
Annual Charges		
Interest & Amortization	\$14,269,900	\$1,413,100
Monitoring	\$290,600	\$28,800
O & M Costs	\$262,600	\$26,000
Other Costs	\$0	\$0
<b>Total</b>	<b>\$14,823,100</b>	<b>\$1,467,900</b>

Average Annual Habitat Units

Cost Per Habitat Unit

Average Annual Acres of Emergent Marsh

527  
\$2,785  
588

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Siphon at Myrtle Grove PBA-48A**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$189,167	\$25,000	\$21,524	\$0	\$0	\$0	\$0	\$235,690
2 Compound	1997	\$945,833	\$125,000	\$258,286	\$0	\$0	\$0	\$0	\$1,329,119
1 Compound	1998			\$172,190	\$0	\$332,000	\$2,210,250	\$8,841,000	\$11,555,440
Base Year									
<b>TOTAL</b>		<b>\$1,135,000</b>	<b>\$150,000</b>	<b>\$452,000</b>	<b>\$0</b>	<b>\$332,000</b>	<b>\$2,210,250</b>	<b>\$8,841,000</b>	<b>\$13,209,250</b>

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1999	\$28,773	\$26,000	\$0
2 Discount	2000	\$28,773	\$26,000	\$0
3 Discount	2001	\$28,773	\$26,000	\$0
4 Discount	2002	\$28,773	\$26,000	\$0
5 Discount	2003	\$28,773	\$26,000	\$0
6 Discount	2004	\$28,773	\$26,000	\$0
7 Discount	2005	\$28,773	\$26,000	\$0
8 Discount	2006	\$28,773	\$26,000	\$0
9 Discount	2007	\$28,773	\$26,000	\$0
10 Discount	2008	\$28,773	\$26,000	\$0
11 Discount	2009	\$28,773	\$26,000	\$0
12 Discount	2010	\$28,773	\$26,000	\$0
13 Discount	2011	\$28,773	\$26,000	\$0
14 Discount	2012	\$28,773	\$26,000	\$0
15 Discount	2013	\$28,773	\$26,000	\$0
16 Discount	2014	\$28,773	\$26,000	\$0
17 Discount	2015	\$28,773	\$26,000	\$0
18 Discount	2016	\$28,773	\$26,000	\$0
19 Discount	2017	\$28,773	\$26,000	\$0
20 Discount	2018	\$28,773	\$26,000	\$0
<b>Total</b>		<b>\$575,460</b>	<b>\$520,000</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Siphon at Myrtle Grove PBA-48A

Present Valued Costs		Total Discounted Costs	Amortized Costs		Total First Cost					
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	1996	\$235,822	\$31,166	\$26,832	\$0	\$0	\$0	\$0	\$293,820
2	1.158	1997	\$1,095,572	\$144,789	\$299,176	\$0	\$0	\$0	\$0	\$1,539,537
1	1.076	1998	\$0	\$0	\$185,320	\$0	\$357,315	\$2,378,782	\$9,515,126	\$12,436,543
<b>Total</b>			<b>\$1,331,394</b>	<b>\$175,955</b>	<b>\$511,328</b>	<b>\$0</b>	<b>\$357,315</b>	<b>\$2,378,782</b>	<b>\$9,515,126</b>	<b>\$14,269,900</b>

\$14,823,014

\$1,467,923

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$26,734	\$24,158	\$0
-2	0.863	2000	\$24,840	\$22,446	\$0
-3	0.802	2001	\$23,081	\$20,856	\$0
-4	0.745	2002	\$21,445	\$19,379	\$0
-5	0.693	2003	\$19,926	\$18,006	\$0
-6	0.643	2004	\$18,514	\$16,730	\$0
-7	0.598	2005	\$17,203	\$15,545	\$0
-8	0.556	2006	\$15,984	\$14,443	\$0
-9	0.516	2007	\$14,851	\$13,420	\$0
-10	0.480	2008	\$13,799	\$12,469	\$0
-11	0.446	2009	\$12,822	\$11,586	\$0
-12	0.414	2010	\$11,913	\$10,765	\$0
-13	0.385	2011	\$11,069	\$10,002	\$0
-14	0.357	2012	\$10,285	\$9,294	\$0
-15	0.332	2013	\$9,556	\$8,635	\$0
-16	0.309	2014	\$8,879	\$8,023	\$0
-17	0.287	2015	\$8,250	\$7,455	\$0
-18	0.266	2016	\$7,666	\$6,927	\$0
-19	0.248	2017	\$7,123	\$6,436	\$0
-20	0.230	2018	\$6,618	\$5,980	\$0
<b>Total</b>			<b>\$290,558</b>	<b>\$262,556</b>	<b>\$0</b>

\$28,774

\$26,001

Average Annual

4/9/1996

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan**

**Siphon at Myrtle Grove PBA-48A**

Fully Funded Costs		Total Fully Funded Costs				Amortized Costs				Total First Cost	
Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	Construction	First Cost	Total First Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	1996	\$194,842	\$25,750	\$22,170	\$0	\$0	\$0	\$0	\$0	\$242,761
2	1.031	1997	\$975,183	\$128,879	\$266,300	\$0	\$0	\$0	\$0	\$0	\$1,370,362
1	1.063	1998	\$0	\$0	\$183,037	\$0	\$352,913	\$2,349,478	\$9,397,912	\$9,397,912	\$12,283,340
<b>TOTAL</b>			<b>\$1,170,024</b>	<b>\$154,629</b>	<b>\$471,507</b>	<b>\$0</b>	<b>\$352,913</b>	<b>\$2,349,478</b>	<b>\$9,397,912</b>	<b>\$9,397,912</b>	<b>\$13,896,463</b>

\$1,537,535

\$15,525,950

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$31,534	\$28,495	\$0
-2	1.130	2000	\$32,511	\$29,378	\$0
-3	1.165	2001	\$33,519	\$30,289	\$0
-4	1.201	2002	\$34,558	\$31,228	\$0
-5	1.238	2003	\$35,629	\$32,196	\$0
-6	1.277	2004	\$36,734	\$33,194	\$0
-7	1.316	2005	\$37,873	\$34,223	\$0
-8	1.357	2006	\$39,047	\$35,284	\$0
-9	1.399	2007	\$40,257	\$36,377	\$0
-10	1.443	2008	\$41,505	\$37,505	\$0
-11	1.487	2009	\$42,792	\$38,668	\$0
-12	1.533	2010	\$44,118	\$39,866	\$0
-13	1.581	2011	\$45,486	\$41,102	\$0
-14	1.630	2012	\$46,896	\$42,376	\$0
-15	1.680	2013	\$48,350	\$43,690	\$0
-16	1.732	2014	\$49,849	\$45,045	\$0
-17	1.786	2015	\$51,394	\$46,441	\$0
-18	1.842	2016	\$52,987	\$47,881	\$0
-19	1.899	2017	\$54,630	\$49,365	\$0
-20	1.958	2018	\$56,323	\$50,895	\$0
<b>Total</b>			<b>\$855,992</b>	<b>\$773,496</b>	<b>\$0</b>



**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Sweet/Willow Lake (CS-11b)**

Project Construction Years:	3	Total Project Years	23
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$4,123,500	Total Fully Funded Costs	\$4,762,700

	<u>Present Worth</u>	<u>Average Annual</u>
Annual Charges		
Interest & Amortization	\$4,469,300	\$442,600
Monitoring	\$48,600	\$4,800
O & M Costs	\$85,700	\$8,500
Other Costs	\$0	\$0
<b>Total</b>	<b>\$4,603,600</b>	<b>\$455,900</b>

Average Annual Habitat Units

Cost Per Habitat Unit

Average Annual Acres of Emergent Marsh

261

\$1,747

126

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Sweet/Willow Lake (CS-11b)

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Compound	1997	\$243,000	\$50,000	\$60,429	\$29,571	\$0	\$0	\$383,000
1 Compound	1998	\$0	\$0	\$80,571	\$39,429	\$693,500	\$2,774,000	\$3,740,500
Base Year								
<b>TOTAL</b>		<b>\$243,000</b>	<b>\$50,000</b>	<b>\$141,000</b>	<b>\$69,000</b>	<b>\$693,500</b>	<b>\$2,774,000</b>	<b>\$4,123,500</b>

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1999	\$4,809	\$0	\$0
2 Discount	2000	\$4,809	\$0	\$0
3 Discount	2001	\$4,809	\$0	\$0
4 Discount	2002	\$4,809	\$0	\$0
5 Discount	2003	\$4,809	\$57,000	\$0
6 Discount	2004	\$4,809	\$0	\$0
7 Discount	2005	\$4,809	\$0	\$0
8 Discount	2006	\$4,809	\$0	\$0
9 Discount	2007	\$4,809	\$0	\$0
10 Discount	2008	\$4,809	\$57,000	\$0
11 Discount	2009	\$4,809	\$0	\$0
12 Discount	2010	\$4,809	\$0	\$0
13 Discount	2011	\$4,809	\$0	\$0
14 Discount	2012	\$4,809	\$0	\$0
15 Discount	2013	\$4,809	\$57,000	\$0
16 Discount	2014	\$4,809	\$0	\$0
17 Discount	2015	\$4,809	\$0	\$0
18 Discount	2016	\$4,809	\$0	\$0
19 Discount	2017	\$4,809	\$0	\$0
20 Discount	2018	\$4,809	\$0	\$0
<b>Total</b>		<b>\$96,180</b>	<b>\$171,000</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Sweet/Willow Lake (CS-11b)

Present Valued Costs		Total Discounted Costs	Amortized Costs		Total First Cost				
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.158	1997	\$281,470	\$57,916	\$69,995	\$34,253	\$0	\$0	\$443,634
1	1.076	1998	\$0	\$0	\$86,715	\$42,435	\$746,379	\$2,985,518	\$4,025,713
<b>Total</b>			\$281,470	\$57,916	\$156,710	\$76,688	\$746,379	\$2,985,518	\$4,469,347

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$4,468	\$0	\$0
-2	0.863	2000	\$4,152	\$0	\$0
-3	0.802	2001	\$3,658	\$0	\$0
-4	0.745	2002	\$3,584	\$0	\$0
-5	0.693	2003	\$3,330	\$39,474	\$0
-6	0.643	2004	\$3,094	\$0	\$0
-7	0.598	2005	\$2,875	\$0	\$0
-8	0.556	2006	\$2,671	\$0	\$0
-9	0.516	2007	\$2,482	\$0	\$0
-10	0.480	2008	\$2,306	\$27,337	\$0
-11	0.446	2009	\$2,143	\$0	\$0
-12	0.414	2010	\$1,991	\$0	\$0
-13	0.385	2011	\$1,850	\$0	\$0
-14	0.357	2012	\$1,719	\$0	\$0
-15	0.332	2013	\$1,597	\$18,931	\$0
-16	0.309	2014	\$1,484	\$0	\$0
-17	0.287	2015	\$1,379	\$0	\$0
-18	0.266	2016	\$1,281	\$0	\$0
-19	0.248	2017	\$1,190	\$0	\$0
-20	0.230	2018	\$1,106	\$0	\$0
<b>Total</b>			\$48,563	\$85,741	\$0

Average Annual

\$4,809

\$8,491

\$0

12/05/95

Costs amortized over 20 year operation life

**Coastal Wetlands Conservation and Restoration Plan**

**Sweet/Willow Lake (CS-11b)**

Fully Funded Costs		Total Fully Funded Costs	Amortized Costs				Total First Cost		
Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Inspection	Contingency	Construction	Total First Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	1996	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.031	1997	\$250,540	\$51,552	\$62,304	\$30,489	\$0	\$0	\$394,884
1	1.063	1998	\$0	\$0	\$85,647	\$41,912	\$162,638	\$2,948,740	\$3,976,121
<b>TOTAL</b>			\$250,540	\$51,552	\$147,950	\$72,401	\$162,638	\$737,185	\$2,948,740

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$5,270	\$0	\$0
-2	1.130	2000	\$5,434	\$0	\$0
-3	1.165	2001	\$5,602	\$0	\$0
-4	1.201	2002	\$5,776	\$0	\$0
-5	1.238	2003	\$5,955	\$70,583	\$0
-6	1.277	2004	\$6,140	\$0	\$0
-7	1.316	2005	\$6,330	\$0	\$0
-8	1.357	2006	\$6,526	\$0	\$0
-9	1.399	2007	\$6,728	\$0	\$0
-10	1.443	2008	\$6,937	\$82,223	\$0
-11	1.487	2009	\$7,152	\$0	\$0
-12	1.533	2010	\$7,374	\$0	\$0
-13	1.581	2011	\$7,602	\$0	\$0
-14	1.630	2012	\$7,838	\$0	\$0
-15	1.680	2013	\$8,081	\$95,782	\$0
-16	1.732	2014	\$8,332	\$0	\$0
-17	1.786	2015	\$8,590	\$0	\$0
-18	1.842	2016	\$8,856	\$0	\$0
-19	1.899	2017	\$9,131	\$0	\$0
-20	1.958	2018	\$9,414	\$0	\$0
<b>Total</b>			\$143,067	\$248,588	\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Marsh Creation with Dedicated Dedging - Bayou Chevee (XPO-69)**

Project Construction Years:	3	Total Project Years	23
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$2,595,700	Total Fully Funded Costs	\$2,890,800

	<u>Present Worth</u>	<u>Average Annual</u>
Annual Charges		
Interest & Amortization	\$2,835,300	\$280,800
Monitoring	\$48,600	\$4,800
O & M Costs	\$0	\$0
Other Costs	\$0	\$0
<b>Total</b>	<b>\$2,883,900</b>	<b>\$285,600</b>

Average Annual Habitat Units

Cost Per Habitat Unit

Average Annual Acres of Emergent Marsh

121  
\$2,360  
165

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

Marsh Creation with Dedicated Dedging - Bayou Chevee (XPO-69)

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal		Contingency	First Cost Construction	Total First Cost
				Supervision & Administration	LDNR Supervision & Inspection			
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound	1996	\$89,389	\$14,358	\$24,640	\$17,600	\$0	\$0	\$145,987
2 Compound	1997	\$122,911	\$19,742	\$36,960	\$26,400	\$0	\$0	\$206,013
1 Compound	1998	\$0	\$0	\$15,400	\$11,000	\$419,250	\$1,677,000	\$2,243,650
Base Year								
<b>TOTAL</b>		\$212,300	\$34,100	\$77,000	\$55,000	\$419,250	\$1,677,000	\$2,595,650

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1999	\$4,809	\$0	\$0
2 Discount	2000	\$4,809	\$0	\$0
3 Discount	2001	\$4,809	\$0	\$0
4 Discount	2002	\$4,809	\$0	\$0
5 Discount	2003	\$4,809	\$0	\$0
6 Discount	2004	\$4,809	\$0	\$0
7 Discount	2005	\$4,809	\$0	\$0
8 Discount	2006	\$4,809	\$0	\$0
9 Discount	2007	\$4,809	\$0	\$0
10 Discount	2008	\$4,809	\$0	\$0
11 Discount	2009	\$4,809	\$0	\$0
12 Discount	2010	\$4,809	\$0	\$0
13 Discount	2011	\$4,809	\$0	\$0
14 Discount	2012	\$4,809	\$0	\$0
15 Discount	2013	\$4,809	\$0	\$0
16 Discount	2014	\$4,809	\$0	\$0
17 Discount	2015	\$4,809	\$0	\$0
18 Discount	2016	\$4,809	\$0	\$0
19 Discount	2017	\$4,809	\$0	\$0
20 Discount	2018	\$4,809	\$0	\$0
<b>Total</b>		\$96,180	\$0	\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Marsh Creation with Dedicated Dedging - Bayou Chevee (XPO-69)**

Present Valued Costs		Total Discounted Costs	\$2,883,911	Amortized Costs			\$285,594
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	LDNR Administration & Supervision	Contingency	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0
3	1.247	1996	\$111,436	\$17,899	\$21,941	\$0	\$181,993
2	1.158	1997	\$142,369	\$22,868	\$30,579	\$0	\$238,627
1	1.076	1998	\$0	\$0	\$11,839	\$451,218	\$1,804,871
<b>Total</b>			\$253,805	\$40,767	\$90,103	\$130,226	\$1,804,871

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1999	\$4,468	\$0	\$0
-2	0.863	2000	\$4,152	\$0	\$0
-3	0.802	2001	\$3,858	\$0	\$0
-4	0.745	2002	\$3,584	\$0	\$0
-5	0.693	2003	\$3,330	\$0	\$0
-6	0.643	2004	\$3,094	\$0	\$0
-7	0.598	2005	\$2,875	\$0	\$0
-8	0.556	2006	\$2,671	\$0	\$0
-9	0.516	2007	\$2,482	\$0	\$0
-10	0.480	2008	\$2,306	\$0	\$0
-11	0.446	2009	\$2,143	\$0	\$0
-12	0.414	2010	\$1,991	\$0	\$0
-13	0.385	2011	\$1,850	\$0	\$0
-14	0.357	2012	\$1,719	\$0	\$0
-15	0.332	2013	\$1,597	\$0	\$0
-16	0.309	2014	\$1,484	\$0	\$0
-17	0.287	2015	\$1,379	\$0	\$0
-18	0.266	2016	\$1,281	\$0	\$0
-19	0.248	2017	\$1,190	\$0	\$0
-20	0.230	2018	\$1,106	\$0	\$0
<b>Total</b>			\$48,563	\$0	\$0

Average Annual

\$4,809

\$0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Marsh Creation with Dedicated Dedging - Bayou Chevee (XPO-69)**

Fully Funded Costs		Total Fully Funded Costs	\$2,890,821	Amortized Costs			\$286,278		
Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	1996	\$92,071	\$14,789	\$25,379	\$18,128	\$0	\$0	\$150,367
2	1.031	1997	\$126,724	\$20,355	\$38,107	\$27,219	\$0	\$0	\$212,405
1	1.063	1998	\$0	\$0	\$16,370	\$11,693	\$445,659	\$1,782,637	\$2,384,982
<b>TOTAL</b>			\$218,796	\$35,143	\$79,856	\$57,040	\$128,622	\$445,659	\$1,782,637

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1999	\$5,270	\$0	\$0
-2	1.130	2000	\$5,434	\$0	\$0
-3	1.165	2001	\$5,602	\$0	\$0
-4	1.201	2002	\$5,776	\$0	\$0
-5	1.238	2003	\$5,955	\$0	\$0
-6	1.277	2004	\$6,140	\$0	\$0
-7	1.316	2005	\$6,330	\$0	\$0
-8	1.357	2006	\$6,526	\$0	\$0
-9	1.399	2007	\$6,728	\$0	\$0
-10	1.443	2008	\$6,937	\$0	\$0
-11	1.487	2009	\$7,152	\$0	\$0
-12	1.533	2010	\$7,374	\$0	\$0
-13	1.581	2011	\$7,602	\$0	\$0
-14	1.630	2012	\$7,838	\$0	\$0
-15	1.680	2013	\$8,081	\$0	\$0
-16	1.732	2014	\$8,332	\$0	\$0
-17	1.786	2015	\$8,590	\$0	\$0
-18	1.842	2016	\$8,856	\$0	\$0
-19	1.899	2017	\$9,131	\$0	\$0
-20	1.958	2018	\$9,414	\$0	\$0
<b>Total</b>			\$143,067	\$0	\$0



**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Freshwater Bayou Bank Stabilization (XME-29)**

Project Construction Years:	2	Total Project Years	22
Interest Rate	7.63%	Amortization Factor	0.09903
Total First Costs	\$3,545,300	Total Fully Funded Costs	\$3,998,900

	Present Worth	Average Annual
Annual Charges		
Interest & Amortization	\$3,838,400	\$380,100
Monitoring	\$24,100	\$2,400
O & M Costs	\$97,800	\$9,700
Other Costs	\$0	\$0
<b>Total</b>	<b>\$3,960,300</b>	<b>\$392,200</b>
Average Annual Habitat Units		248
Cost Per Habitat Unit		<b>\$1,581</b>
Average Annual Acres of Emergent Marsh		262

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Freshwater Bayou Bank Stabilization (XME-29)**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Compound	1996	\$180,000	\$30,000	\$39,059	\$29,176	\$0	\$0	\$278,235
1 Compound	1997	\$0	\$0	\$43,941	\$32,824	\$627,250	\$2,509,000	\$3,267,015
Base Year								
<b>TOTAL</b>		<b>\$180,000</b>	<b>\$30,000</b>	<b>\$83,000</b>	<b>\$62,000</b>	<b>\$627,250</b>	<b>\$2,509,000</b>	<b>\$3,545,250</b>

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1998	\$2,391	\$0	\$0
2 Discount	1999	\$2,391	\$0	\$0
3 Discount	2000	\$2,391	\$0	\$0
4 Discount	2001	\$2,391	\$0	\$0
5 Discount	2002	\$2,391	\$65,000	\$0
6 Discount	2003	\$2,391	\$0	\$0
7 Discount	2004	\$2,391	\$0	\$0
8 Discount	2005	\$2,391	\$0	\$0
9 Discount	2006	\$2,391	\$0	\$0
10 Discount	2007	\$2,391	\$65,000	\$0
11 Discount	2008	\$2,391	\$0	\$0
12 Discount	2009	\$2,391	\$0	\$0
13 Discount	2010	\$2,391	\$0	\$0
14 Discount	2011	\$2,391	\$0	\$0
15 Discount	2012	\$2,391	\$65,000	\$0
16 Discount	2013	\$2,391	\$0	\$0
17 Discount	2014	\$2,391	\$0	\$0
18 Discount	2015	\$2,391	\$0	\$0
19 Discount	2016	\$2,391	\$0	\$0
20 Discount	2017	\$2,391	\$0	\$0
<b>Total</b>		<b>\$47,820</b>	<b>\$195,000</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Freshwater Bayou Bank Stabilization (XME-29)**

Present Valued Costs		Total Discounted Costs	Federal	LDNR	Amortized Costs			Total First Cost
Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Supervision & Administration	Supervision & Inspection	Contingency	Construction	Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.158	1996	\$208,497	\$34,749	\$45,242	\$33,796	\$0	\$322,284
1	1.076	1997	\$0	\$0	\$47,292	\$35,326	\$58,118	\$3,516,125
<b>Total</b>			\$208,497	\$34,749	\$92,534	\$69,122	\$675,078	\$2,700,311
								\$3,838,408

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1998	\$2,222	\$0	\$0
-2	0.863	1999	\$2,064	\$0	\$0
-3	0.802	2000	\$1,918	\$0	\$0
-4	0.745	2001	\$1,782	\$0	\$0
-5	0.693	2002	\$1,656	\$45,014	\$0
-6	0.643	2003	\$1,539	\$0	\$0
-7	0.598	2004	\$1,430	\$0	\$0
-8	0.556	2005	\$1,328	\$0	\$0
-9	0.516	2006	\$1,234	\$0	\$0
-10	0.480	2007	\$1,147	\$31,173	\$0
-11	0.446	2008	\$1,065	\$0	\$0
-12	0.414	2009	\$990	\$0	\$0
-13	0.385	2010	\$920	\$0	\$0
-14	0.357	2011	\$855	\$0	\$0
-15	0.332	2012	\$794	\$21,588	\$0
-16	0.309	2013	\$738	\$0	\$0
-17	0.287	2014	\$686	\$0	\$0
-18	0.266	2015	\$637	\$0	\$0
-19	0.248	2016	\$592	\$0	\$0
-20	0.230	2017	\$550	\$0	\$0
<b>Total</b>			\$24,145	\$97,775	\$0

Average Annual

\$2,391

\$9,683

\$0

### Coastal Wetlands Conservation and Restoration Plan

#### Freshwater Bayou Bank Stabilization (XME-29)

Fully Funded Costs		Total Fully Funded Costs		Amortized Costs		Total First Cost			
Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Administration	LDNR Administration & Supervision	Contingency	First Cost Construction	Total First Cost
5		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3		0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.030	1996	\$185,400	\$30,900	\$40,231	\$30,052	\$0	\$0	\$286,582
1	1.031	1997	\$0	\$0	\$45,305	\$33,842	\$55,676	\$646,714	\$3,368,390
		<b>TOTAL</b>	<b>\$185,400</b>	<b>\$30,900</b>	<b>\$85,535</b>	<b>\$63,894</b>	<b>\$55,676</b>	<b>\$646,714</b>	<b>\$3,654,973</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.063	1998	\$2,542	\$0	\$0
-2	1.096	1999	\$2,620	\$0	\$0
-3	1.130	2000	\$2,702	\$0	\$0
-4	1.165	2001	\$2,785	\$0	\$0
-5	1.201	2002	\$2,872	\$78,069	\$0
-6	1.238	2003	\$2,961	\$0	\$0
-7	1.277	2004	\$3,053	\$0	\$0
-8	1.316	2005	\$3,147	\$0	\$0
-9	1.357	2006	\$3,245	\$0	\$0
-10	1.399	2007	\$3,345	\$90,943	\$0
-11	1.443	2008	\$3,449	\$0	\$0
-12	1.487	2009	\$3,556	\$0	\$0
-13	1.533	2010	\$3,666	\$0	\$0
-14	1.581	2011	\$3,780	\$0	\$0
-15	1.630	2012	\$3,897	\$105,941	\$0
-16	1.680	2013	\$4,018	\$0	\$0
-17	1.732	2014	\$4,142	\$0	\$0
-18	1.786	2015	\$4,271	\$0	\$0
-19	1.842	2016	\$4,403	\$0	\$0
-20	1.899	2017	\$4,540	\$0	\$0
<b>Total</b>			<b>\$68,993</b>	<b>\$274,953</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List V**

**Raccoon Island Breakwater Demonstration Project (NRCS-5)**

Project Construction Years: 2 Total Project Years 22  
 Interest Rate 7.63% Amortization Factor 0.09903  
 Total First Costs \$1,345,300 Total Fully Funded Costs \$1,497,500

	<u>Present Worth</u>	<u>Average Annual</u>
Annual Charges		
Interest & Amortization	\$1,464,200	\$145,000
Monitoring	\$33,000	\$3,300
O & M Costs	\$16,800	\$1,700
Other Costs	<u>\$0</u>	<u>\$0</u>
Total	\$1,514,000	\$150,000
Average Annual Habitat Units		0
Cost Per Habitat Unit		#DIV/0!
Average Annual Acres of Emergent Marsh		0

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Raccoon Island Vegetation Demonstration Project (NRCS-4)**

**First Costs and Annual Charges**

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Administration & Supervision	Contingency	First Cost Construction	Total First Cost
5 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
3 Compound		\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 Compound	1996	\$103,000	\$50,000	\$36,706	\$9,882	\$0	\$0	\$199,588
1 Compound	1997	\$0	\$0	\$41,294	\$11,118	\$212,250	\$849,000	\$1,145,662
Base Year								
<b>TOTAL</b>		<b>\$103,000</b>	<b>\$50,000</b>	<b>\$78,000</b>	<b>\$21,000</b>	<b>\$212,250</b>	<b>\$849,000</b>	<b>\$1,345,250</b>

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1 Discount	1998	\$2,391	\$0	\$0
2 Discount	1999	\$17,391	\$0	\$0
3 Discount	2000	\$2,391	\$21,000	\$0
4 Discount	2001	\$2,391	\$0	\$0
5 Discount	2002	\$17,391	\$0	\$0
6 Discount	2003	\$0	\$0	\$0
7 Discount	2004	\$0	\$0	\$0
8 Discount	2005	\$0	\$0	\$0
9 Discount	2006	\$0	\$0	\$0
10 Discount	2007	\$0	\$0	\$0
11 Discount	2008	\$0	\$0	\$0
12 Discount	2009	\$0	\$0	\$0
13 Discount	2010	\$0	\$0	\$0
14 Discount	2011	\$0	\$0	\$0
15 Discount	2012	\$0	\$0	\$0
16 Discount	2013	\$0	\$0	\$0
17 Discount	2014	\$0	\$0	\$0
18 Discount	2015	\$0	\$0	\$0
19 Discount	2016	\$0	\$0	\$0
20 Discount	2017	\$0	\$0	\$0
<b>Total</b>		<b>\$41,955</b>	<b>\$21,000</b>	<b>\$0</b>

**Coastal Wetlands Conservation and Restoration Plan  
Priority Project List**

**Raccoon Island Vegetation Demonstration Project (NRCS-4)**

Present Valued Costs		Total Discounted Costs				Amortized Costs				Total First Cost
Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Supervision & Inspection	Contingency	First Construction Cost	Total First Cost
5	1.444	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	1.342	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.247	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	1.158	1996	\$119,306	\$57,916	\$42,517	\$11,447	\$0	\$0	\$0	\$231,186
1	1.076	1997	\$0	\$0	\$44,443	\$11,965	\$34,440	\$228,434	\$913,736	\$1,233,018
<b>Total</b>			\$119,306	\$57,916	\$86,960	\$23,412	\$34,440	\$228,434	\$913,736	\$1,464,204

\$1,514,029

\$149,934

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	0.929	1998	\$2,222	\$0	\$0
-2	0.863	1999	\$15,014	\$0	\$0
-3	0.802	2000	\$1,918	\$16,845	\$0
-4	0.745	2001	\$1,782	\$0	\$0
-5	0.693	2002	\$12,044	\$0	\$0
-6	0.643	2003	\$0	\$0	\$0
-7	0.598	2004	\$0	\$0	\$0
-8	0.556	2005	\$0	\$0	\$0
-9	0.516	2006	\$0	\$0	\$0
-10	0.480	2007	\$0	\$0	\$0
-11	0.446	2008	\$0	\$0	\$0
-12	0.414	2009	\$0	\$0	\$0
-13	0.385	2010	\$0	\$0	\$0
-14	0.357	2011	\$0	\$0	\$0
-15	0.332	2012	\$0	\$0	\$0
-16	0.309	2013	\$0	\$0	\$0
-17	0.287	2014	\$0	\$0	\$0
-18	0.266	2015	\$0	\$0	\$0
-19	0.248	2016	\$0	\$0	\$0
-20	0.230	2017	\$0	\$0	\$0
<b>Total</b>			\$32,979	\$16,845	\$0

\$3,266

\$1,668

Average Annual

**Coastal Wetlands Conservation and Restoration Plan**

**Raccoon Island Vegetation Demonstration Project (NRCS-4)**

Fully Funded Costs		Total Fully Funded Costs	Amortized Costs		\$148,301			
Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	1.030	0	0	0	0	0	0	0
2	1.031	\$106,196	\$51,552	\$37,845	\$10,189	0	0	\$205,781
1	1.063	0	0	\$43,895	\$11,818	\$225,620	\$902,480	\$1,217,829
<b>TOTAL</b>		<b>\$106,196</b>	<b>\$51,552</b>	<b>\$81,740</b>	<b>\$22,007</b>	<b>\$225,620</b>	<b>\$902,480</b>	<b>\$1,423,611</b>

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
-1	1.096	1998	\$2,620	\$0	\$0
-2	1.130	1999	\$19,650	\$0	\$0
-3	1.165	2000	\$2,785	\$24,464	\$0
-4	1.201	2001	\$2,872	\$0	\$0
-5	1.238	2002	\$21,535	\$0	\$0
-6	1.277	2003	\$0	\$0	\$0
-7	1.316	2004	\$0	\$0	\$0
-8	1.357	2005	\$0	\$0	\$0
-9	1.399	2006	\$0	\$0	\$0
-10	1.443	2007	\$0	\$0	\$0
-11	1.487	2008	\$0	\$0	\$0
-12	1.533	2009	\$0	\$0	\$0
-13	1.581	2010	\$0	\$0	\$0
-14	1.630	2011	\$0	\$0	\$0
-15	1.680	2012	\$0	\$0	\$0
-16	1.732	2013	\$0	\$0	\$0
-17	1.786	2014	\$0	\$0	\$0
-18	1.842	2015	\$0	\$0	\$0
-19	1.899	2016	\$0	\$0	\$0
-20	1.958	2017	\$0	\$0	\$0
<b>Total</b>			<b>\$49,463</b>	<b>\$24,464</b>	<b>\$0</b>

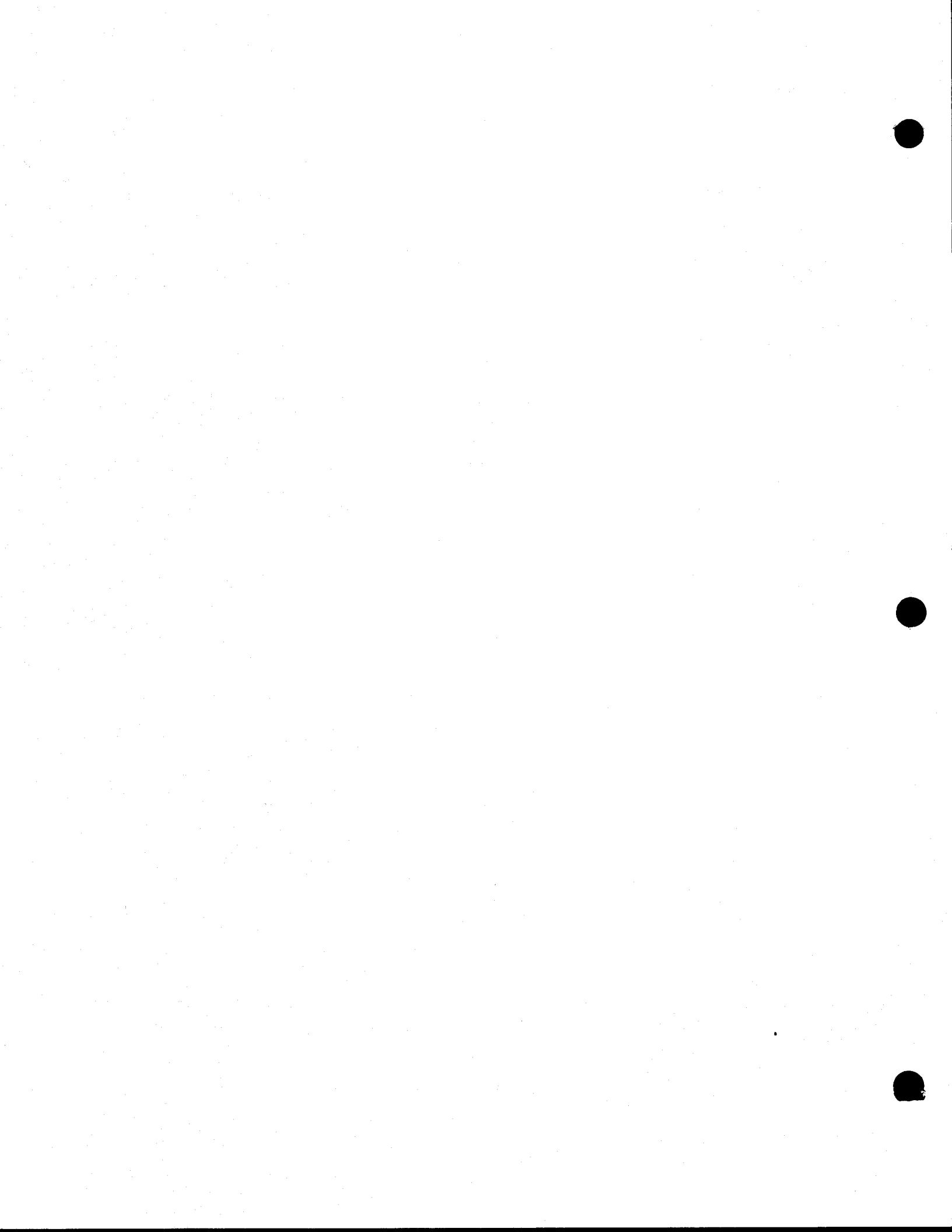


**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix E**

**Wetland Value Assessments**



**APPENDIX E**  
**Wetland Value Assessment**

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## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....Naomi Siphon Outfall Management (BA-3c)

Marsh type acres:

Area 1

Fresh.....

Condition: Future Without Project

Intermediate.. 7747

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	74	0.77	73	0.76	69	0.72
V2	% Aquatic	80	0.82	80	0.82	80	0.82
V3	Interspersion	%		%		%	
	Class 1	75	0.88	75	0.88	85	0.94
	Class 2	15		15		15	
	Class 3	10		10			
	Class 4						
V4	%OW <= 1.5ft	80	1.00	80	1.00	85	1.00
V5	Salinity (ppt)						
	fresh intermediate	1	1.00	1	1.00	1	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.84		HSI = 0.83		HSI = 0.82	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....Naomi Siphon Outfall Management (BA-3c)

Marsh type acres:

Area 1

Fresh.....

Condition: Future With Project

Intermediate.. 7747

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	74	0.77	74	0.77	72	0.75
V2	% Aquatic	80	0.82	81	0.83	85	0.87
V3	Interspersion	%		%		%	
	Class 1	75	0.88	75	0.88	90	0.96
	Class 2	15		15		10	
	Class 3	10		10			
	Class 4						
V4	%OW <= 1.5ft	80	1.00	80	1.00	90	1.00
V5	Salinity (ppt)						
	fresh intermediate	1	1.00	1	1.00	1	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.84		HSI = 0.84		HSI = 0.84	

# AAHU CALCULATION

Project: Naomi Siphon Outfall Management (BA-3c)  
Area 1

Future Without Project			Total HU's	Cumulative HU's
TY	Acres	x HSI		
0	7747	0.84	6484.26	
1	7747	0.83	6447.94	6466.10
20	7747	0.82	6335.54	121443.05
			<b>AAHU's =</b>	<b>6395.46</b>

Future With Project			Total HU's	Cumulative HU's
TY	Acres	x HSI		
0	7747	0.84	6484.26	
1	7747	0.84	6497.74	6491.00
20	7747	0.84	6522.74	123694.56
			<b>AAHU's</b>	<b>6509.28</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	6509.28
B. Future Without Project AAHU's =	6395.46
Net Change (FWP - FWOP) =	113.82

# Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: *Naomi Siphon outfall mst. - BA-3c*  
Area 1

Date: *6/28/94*

Marsh Acreage: *5,699 ac*

Wetland Type: *Intermediate*

Water Acreage: *2,048 ac*

Land Loss Rate: *1.17%/yr, reduced FWP to  
0.293%/yr*

Total Acreage: *7,747 ac*

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	<i>5,699 ac 74%</i>	<i>80%</i>	<i>Class 1 - 75% Class 2 - 15% Class 3 - 10%</i>	<i>80%</i>	<i>1 ppt</i>	<i>1.0</i>
<b>FWOP</b> 1	<i>5,682 ac 73%</i>	<i>80%</i>	↓	↓	↓	↓
20	<i>5,366 ac 69%</i>	<i>80%</i>	<i>1 - 85% 2 - 15%</i>	<i>85%</i>	↓	↓
<b>FWP</b> 1	<i>5,695 ac 74%</i>	<i>81%</i>	<i>1 - 75% 2 - 15% 3 - 10%</i>	<i>80%</i>	<i>1 ppt</i>	<i>1.0</i>
20	<i>5,616 ac 72%</i>	<i>85%</i>	<i>1 - 90% 2 - 10%</i>	<i>90%</i>	↓	↓

Remarks:

Loss rate reduced  
FWP by 75%  
to 0.073%/yr.

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project..... Naomi Siphon Outfall Management (BA-3c)      Marsh type acres..... 10611  
Area 2

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	44	0.50	44	0.50	38	0.44
V2	% Aquatic	50	0.65	50	0.65	60	0.72
V3	Interspersion	%		%		%	
	Class 1	35	0.51	35	0.51	30	0.48
	Class 2						
	Class 3	15		15		20	
	Class 4	50		50		50	
	Class 5						
V4	%OW <= 1.5ft	25	0.42	25	0.42	25	0.42
V5	Salinity (ppt)	3	1.00	3	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.61		HSI = 0.61		HSI = 0.59	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project..... Naomi Siphon Outfall Management (BA-3c)      Marsh type acres..... 10611  
Area 2

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	44	0.50	44	0.50	39	0.45
V2	% Aquatic	50	0.65	55	0.69	75	0.83
V3	Interspersion	%		%		%	
	Class 1	35	0.51	35	0.51	31	0.49
	Class 2						
	Class 3	15		15		19	
	Class 4	50		50		50	
	Class 5						
V4	%OW <= 1.5ft	25	0.42	25	0.42	30	0.49
V5	Salinity (ppt)	3	1.00	3	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.61		HSI = 0.62		HSI = 0.61	





## Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: Naomi Siphon outfall Mgt. - BA-3c  
Area 2

Date: 6/28/94

Marsh Acreage: 4670 ac

Wetland Type: Brackish

Water Acreage: 5941 ac

Land Loss Rate: 0.725%/yr.

Total Acreage: 10,611 ac

**FWOP**

**FWP**

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	4670 ac 44%	50%	Class 1 - 35% Class 3 - 15% Class 4 - 50%	25%	3 ppt	1.0
1	4636 ac 44%	↓	↓	↓	↓	↓
20	3993 ac 38%	60%	1 - 30% 3 - 20% 4 - 50%	↓	↓	↓
1	4615 ac 44%	55%	1 - 35% 3 - 15% 4 - 50%	25%	3 ppt	1.0
20	4163 ac 39%	75%	1 - 31% 3 - 19% 4 - 50%	30%	↓	↓

Remarks: Historic loss rate was 0.967%/yr. For baseline & FWOP, we estimated that the siphon alone had reduced that rate by 25% to 0.725%/yr. For FWP, we estimated the outfall mgt project would further reduce loss rates another 25% to 0.543%/yr.

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project.....Naomi Siphon Outfall Management (BA-3c)      Marsh type acres..... 8245  
Area 3

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	31	0.38	30	0.37	10	0.19
V2	% Aquatic	50	0.65	50	0.65	50	0.65
V3	Interspersion	%	0.38	%	0.38	%	0.24
	Class 1	10		10			
	Class 2	10		10			
	Class 3	30		30		20	
	Class 4	50		50		80	
V4	%OW <= 1.5ft	30	0.49	29	0.47	10	0.23
V5	Salinity (ppt)	4	1.00	4	1.00	4	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.54		HSI = 0.53		HSI = 0.37	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project.....Naomi Siphon Outfall Management (BA-3c)      Marsh type acres..... 8245  
Area 3

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	31	0.38	30	0.37	13	0.22
V2	% Aquatic	50	0.65	51	0.66	55	0.69
V3	Interspersion	%	0.38	%	0.38	%	0.25
	Class 1	10		10			
	Class 2	10		10			
	Class 3	30		30		25	
	Class 4	50		50		75	
V4	%OW <= 1.5ft	30	0.49	29	0.47	15	0.29
V5	Salinity (ppt)	4	1.00	3	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.54		HSI = 0.53		HSI = 0.40	

# AAHU CALCULATION

Project: Naomi Siphon Outfall Management (BA-3c)  
Area 3

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	8245	0.54	4426.62	
1	8245	0.53	4371.70	4399.16
20	8245	0.37	3069.04	70687.05
			<b>AAHU's =</b>	<b>3754.31</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	8245	0.54	4426.62	
1	8245	0.53	4378.65	4402.63
20	8245	0.40	3319.48	73132.26
			<b>AAHU's</b>	<b>3876.74</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	3876.74
B. Future Without Project AAHU's =	3754.31
Net Change (FWP - FWOP) =	122.43

## Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: Naomi Siphon Outfall Mgt. BA-3c  
Area III

Date: 6/28/94

Marsh Acreage: 2,584 ac

Wetland Type: Brackish

Water Acreage: 5,661 ac

Land Loss Rate: 3.353%/yr.

Total Acreage: 8,245 ac

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	2584 ac 31%	50%	Class 1 - 10% Class 2 - 10% Class 3 - 30% Class 4 - 50%	30%	4 ppt	1.0
1	2497 ac 30%	↓	↓	29%	↓	↓
20	851 ac 10%	↓	3 - 20% 4 - 80%	10%	↓	↓
1	2508 ac 30%	51%	1 - 10% 2 - 10% 3 - 30% 4 - 50%	29%	3 ppt	1.0
20	1064 ac 13%	55%	3 - 25% 4 - 75%	15%	3 ppt	↓

**FWOP**

**FWP**

Remarks: Historic (pre-siphon) loss rate = 3.53%/yr. For baseline and FWOP scenario, estimated siphon alone reduces that rate 5% to 3.353%/yr. For FWP, estimate baseline loss rate reduced by 13% to 2.912%/yr.

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: BA-3c Naomi Siphon Outfall Management  
Area 1

Wetland Type: Intermediate

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	7,747	5,699	74	5,699	74	--
1	7,747	5,682	73	5,695	74	13
2	7,747	5,665	73	5,691	73	25
3	7,747	5,649	73	5,687	73	38
4	7,747	5,632	73	5,683	73	50
5	7,747	5,615	72	5,678	73	63
6	7,747	5,599	72	5,674	73	75
7	7,747	5,582	72	5,670	73	88
8	7,747	5,566	72	5,666	73	100
9	7,747	5,549	72	5,662	73	113
10	7,747	5,532	71	5,658	73	125
11	7,747	5,516	71	5,653	73	138
12	7,747	5,499	71	5,649	73	150
13	7,747	5,482	71	5,645	73	163
14	7,747	5,466	71	5,641	73	175
15	7,747	5,449	70	5,637	73	188
16	7,747	5,433	70	5,633	73	200
17	7,747	5,416	70	5,628	73	213
18	7,747	5,399	70	5,624	73	225
19	7,747	5,383	69	5,620	73	238
20	7,747	5,366	69	5,616	72	250
Total Years 1-20		110,480		113,110		
<b>Average Annual Acres</b>		<b>5,524</b>		<b>5,656</b>		<b>132</b>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: BA-3c Naomi Siphon Outfall Management  
Area 2

Wetland Type: Brackish

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	10,611	4,670	44	4,670	44	--
1	10,611	4,636	44	4,645	44	9
2	10,611	4,602	43	4,620	44	17
3	10,611	4,568	43	4,594	43	26
4	10,611	4,534	43	4,569	43	34
5	10,611	4,501	42	4,544	43	43
6	10,611	4,467	42	4,518	43	51
7	10,611	4,433	42	4,493	42	60
8	10,611	4,399	41	4,467	42	68
9	10,611	4,365	41	4,442	42	77
10	10,611	4,331	41	4,417	42	85
11	10,611	4,298	41	4,391	41	94
12	10,611	4,264	40	4,366	41	102
13	10,611	4,230	40	4,341	41	111
14	10,611	4,196	40	4,315	41	119
15	10,611	4,162	39	4,290	40	128
16	10,611	4,128	39	4,264	40	136
17	10,611	4,095	39	4,239	40	145
18	10,611	4,061	38	4,214	40	153
19	10,611	4,027	38	4,188	39	162
20	10,611	3,993	38	4,163	39	170
Total Years 1-20		86,290		88,080		
<u>Average Annual Acres</u>		<u>4,315</u>		<u>4,404</u>		<u>90</u>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: BA-3c Naomi Siphon Outfall Management  
Area 3

Wetland Type: Brackish

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	8,245	2,584	31	2,584	31	--
1	8,245	2,497	30	2,508	30	11
2	8,245	2,410	29	2,432	29	22
3	8,245	2,324	28	2,356	29	32
4	8,245	2,237	27	2,280	28	43
5	8,245	2,150	26	2,204	27	54
6	8,245	2,064	25	2,128	26	64
7	8,245	1,977	24	2,052	25	75
8	8,245	1,891	23	1,976	24	85
9	8,245	1,804	22	1,900	23	96
10	8,245	1,717	21	1,824	22	107
11	8,245	1,631	20	1,748	21	117
12	8,245	1,544	19	1,672	20	128
13	8,245	1,457	18	1,596	19	139
14	8,245	1,371	17	1,520	18	149
15	8,245	1,284	16	1,444	18	160
16	8,245	1,198	15	1,368	17	170
17	8,245	1,111	13	1,292	16	181
18	8,245	1,024	12	1,216	15	192
19	8,245	938	11	1,140	14	202
20	8,245	851	10	1,064	13	213
Total Years 1-20		33,480		35,720		
Average Annual Acres		1,674		1,786		112



## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project..... Little Vermilion Bay Sediment Trapping  
(PTV-19)  
Condition: Future Without Project

Marsh type acres:  
Fresh.....  
Intermediate.. 964

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	7	0.16	2	0.12
V2	% Aquatic	1	0.11	1	0.11	1	0.11
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.20
	Class 2						
	Class 3						
	Class 4	100		100		100	
V4	%OW <= 1.5ft	85	1.00	85	1.00	90	1.00
V5	Salinity (ppt)						
	fresh intermediate	5	0.80	5	0.80	4	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.29		HSI = 0.29		HSI = 0.28	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project..... Little Vermilion Bay Sediment Trapping  
(PTV-19)  
Condition: Future With Project

Marsh type acres:  
Fresh.....  
Intermediate.. 964

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	10	0.19	47	0.52
V2	% Aquatic	1	0.11	5	0.15	25	0.33
V3	Interspersion	%		%		%	
	Class 1		0.20		0.24		0.50
	Class 2					50	
	Class 3			20		50	
	Class 4	100		80			
V4	%OW <= 1.5ft	85	1.00	81	1.00	90	1.00
V5	Salinity (ppt)						
	fresh intermediate	5	0.80	5	0.80	4	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.29		HSI = 0.32		HSI = 0.57	

# AAHU CALCULATION

Project: Little Vermilion Bay Sediment Trapping  
(PTV-19)

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	964	0.29	276.57	
1	964	0.29	276.57	276.57
20	964	0.28	265.93	5153.72
			<b>AAHU's =</b>	<b>271.51</b>

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	964	0.29	276.57	
1	964	0.32	304.32	290.45
20	964	0.57	550.59	8121.68
			<b>AAHU's</b>	<b>420.61</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	420.61
B. Future Without Project AAHU's =	271.51
Net Change (FWP - FWOP) =	<b>149.09</b>

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

Wetland Value Assessment Worksheet

2.5 ac 100

Project: PTV-19

Date: 5-4-94

Condition:

Project A = 964

Marsh = 67

Water = 897

FWOP

FWP

TY	V <sub>1</sub>	V <sub>2</sub>	V <sub>3</sub>	V <sub>4</sub>	V <sub>5</sub>	V <sub>6</sub>
0	67ac 790	10%	100% - 4	85%	5 pp <sup>+</sup>	1.0
1	<del>130</del> 64ac 790	10%	100% - 4	85%	5 pp <sup>+</sup>	1.0
20	160ac 2570 0	10%	100% - 4	90%	4 pp <sup>+</sup>	1.0
1	99ac 1090	5%	3-20 4-80	81%	5 pp <sup>+</sup>	1.0
20	457ac 4710	25%	2/3 - 50 4/3 - 50	90%	4 pp <sup>+</sup>	1.0

Coastal Wetlands Planning, Protection, and Restoration Act  
Fourth Priority Project List

Average Annual Acres of Emergent Marsh

Project: Little Vermilion Bay Sediment Trapping (PTV-19)

Wetland Type: Intermediate

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	964	67	7	67	7	--
1	964	64	7	99	10	35
2	964	61	6	118	12	56
3	964	59	6	137	14	78
4	964	56	6	156	16	99
5	964	54	6	174	18	120
6	964	51	5	193	20	142
7	964	49	5	212	22	163
8	964	46	5	231	24	185
9	964	44	5	250	26	206
10	964	41	4	269	28	227
11	964	39	4	287	30	249
12	964	36	4	306	32	270
13	964	34	3	325	34	291
14	964	31	3	344	36	313
15	964	29	3	363	38	334
16	964	26	3	382	40	356
17	964	24	2	400	42	377
18	964	21	2	419	43	398
19	964	19	2	438	45	420
20	964	16	2	457	47	441
Total Years 1-20		800		5,560		
Average Annual Acres		40		278		238

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project..... Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres:  
 Area 1 Fresh.....  
 Condition: Future Without Project Intermediate.. 8969

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	83	0.85	83	0.85	72	0.75
V2	% Aquatic	75	0.78	74	0.77	60	0.64
V3	Interspersion	%		%		%	
	Class 1	30	0.63	30	0.63	20	0.57
	Class 2	40		40		40	
	Class 3	15		15		25	
	Class 4	15		15		15	
V4	%OW <= 1.5ft	80	1.00	80	1.00	75	0.94
V5	Salinity (ppt)						
	fresh intermediate	2	1.00	2	1.00	4	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.85		HSI = 0.85		HSI = 0.76	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project..... Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres:  
 Area 1 Fresh.....  
 Condition: Future With Project Intermediate.. 8969

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	83	0.85	83	0.85	80	0.82
V2	% Aquatic	75	0.78	75	0.78	80	0.82
V3	Interspersion	%		%		%	
	Class 1	30	0.63	30	0.63	28	0.62
	Class 2	40		40		40	
	Class 3	15		15		17	
	Class 4	15		15		15	
V4	%OW <= 1.5ft	80	1.00	80	1.00	80	1.00
V5	Salinity (ppt)						
	fresh intermediate	2	1.00	1	1.00	1	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.85		HSI = 0.85		HSI = 0.85	

# AAHU CALCULATION

Project: Grand Bayou/GIWW Diversion (TE-10/XTE-49)  
 Area 1

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	8969	0.85	7626.31	
1	8969	0.85	7608.80	7617.55
20	8969	0.76	6841.66	137279.40
			<b>AAHU's =</b>	<b>7244.85</b>

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	8969	0.85	7626.31	
1	8969	0.85	7626.31	7626.31
20	8969	0.85	7581.60	144475.09
			<b>AAHU's</b>	<b>7605.07</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	7605.07
B. Future Without Project AAHU's =	7244.85
Net Change (FWP - FWOP) =	360.22

# Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: TE-10/XTE-49 Grand Bayou Gully Diversion  
AREA 1:

Date: 21 June 1993

Marsh Acreage: 7468 ac

Wetland Type: Intermediate

Water Acreage: 6.2 ac

Land Loss Rate: 1.89%/yr

Total Acreage: 8269 ac

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	7468 ac 83%	75%	1-30% 2-40% 3-50% 4-5%	80%	2 ppt	1.0
1	7416 ac 80%	74%	1-30% 2-40% 3-50% 4-5%	70%	2 ppt	↓
20	6424 ac 72%	60%	1-20% 2-30% 3-25% 4-15%	75%	4 ppt	
	<del>7468 ac</del> 7468 ac 83%	<del>75%</del> 75%	<del>1-30% 2-40% 3-50% 4-5%</del> 1-30% 2-40% 3-50% 4-5%	80%	2	1
	-16 7452 ac 83%	75%	1-30% 2-40% 3-50% 4-5%	80%	1 ppt	1.0
20	7155 ac 80%	70%	1-20% 2-30% 3-25% 4-15%	80%	1 ppt	↓

**FWOP**

**FWP**

Loss rate: 2.09%  
→ .2090% yr

Remarks:

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project..... Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres..... 15,605  
Area 2

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	63	0.67	62	0.66	47	0.52
V2	% Aquatic	50	0.65	50	0.65	40	0.58
V3	Interspersion	%	0.38	%	0.38	%	0.32
	Class 1						
	Class 2	20		20		5	
	Class 3	50		50		50	
	Class 4	30		30		45	
V4	%OW <= 1.5ft	65	0.94	65	0.94	50	0.74
V5	Salinity (ppt)	7	1.00	7	1.00	8	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.73		HSI = 0.73		HSI = 0.63	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project..... Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres..... 15,605  
Area 2

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	63	0.67	63	0.67	52	0.57
V2	% Aquatic	50	0.65	50	0.65	55	0.69
V3	Interspersion	%	0.38	%	0.38	%	0.34
	Class 1						
	Class 2	20		20		10	
	Class 3	50		50		50	
	Class 4	30		30		40	
V4	%OW <= 1.5ft	65	0.94	65	0.94	55	0.81
V5	Salinity (ppt)	7	1.00	6	1.00	6	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.73		HSI = 0.73		HSI = 0.67	



# AAHU CALCULATION

Project: Grand Bayou/GIWW Diversion (TE - 10/XTE - 49)  
Area 2

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	15605	0.73	11410.29	
1	15605	0.73	11339.39	11374.84
20	15605	0.63	9762.12	200464.38
			<b>AAHU's =</b>	<b>10591.96</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	15605	0.73	11410.29	
1	15605	0.73	11410.29	11410.29
20	15605	0.67	10496.43	208113.89
			<b>AAHU's</b>	<b>10976.21</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	10976.21
B. Future Without Project AAHU's =	10591.96
Net Change (FWP - FWOP) =	<b>384.25</b>

# Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: TE-10/TE-49 Grand Bayou GWW Diversion  
AREA 2:

Date: 21 June 1993

Marsh Acreage: 9,846 ac.

Wetland Type: Brackish

Water Acreage: 5,759 ac.

Land Loss Rate: 1.28%<sup>2</sup>/yr

Total Acreage: 15,605 ac.

**FWOP**

**FWP**

loss reduced 30% to  
→ 0.8974%<sup>2</sup>/yr

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	9846 ac 63%	50%	1-20% 2-50% 3-30%	65%	7 ppt	1.0
1	9720 ac 62%	50%	1-20% 2-50% 3-30%	65%	7 ppt	↓
20	7321 ac 47%	70%	2-5 3-50 4-45	50%	8 ppt	
	<del>9846 ac 63%</del>	<del>50%</del>	<del>1-20% 2-50% 3-30%</del>	<del>65%</del>	<del>7 ppt</del>	<del>1.0</del>
1	9758 ac 63%	50%	1-20% 2-50% 3-30%	65%	6 ppt	1.0
20	8079 ac 52%	55%	1-10% 2-50% 3-40%	55%	6 ppt	↓

Remarks:

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Brackish Marsh

Project.....Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres..... 1956

Area 3- brackish converting to intermediate after TY1, FWP

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	48	0.53	47	0.52	36	0.42
V2	% Aquatic	50	0.65	50	0.65	45	0.62
V3	Interspersion	%	0.36	%	0.36	%	0.32
	Class 1						
	Class 2	30		30		20	
	Class 3	20		20		20	
	Class 4	50		50		60	
V4	%OW <= 1.5ft	65	0.94	65	0.94	55	0.81
V5	Salinity (ppt)	6	1.00	6	1.00	7	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.66		HSI = 0.65		HSI = 0.58	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project.....Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres..... 1956  
 Area 3- brackish converting to intermediate after TY1, FWP  
 Condition: Future With Project

Variable		TY 0		TY 1		(from Intermediate model)	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	48	0.53	48	0.53		
V2	% Aquatic	50	0.65	55	0.69		
V3	Interspersion	%		%		%	
	Class 1		0.36		0.36		
	Class 2	30		30			
	Class 3	20		20			
	Class 4	50		50			
	Class 5						
V4	%OW <= 1.5ft	65	0.94	65	0.94		
V5	Salinity (ppt)	6	1.00	4	1.00		
V6	Access Value	1.00	1.00	1.00	1.00		
		HSI = 0.66		HSI = 0.66		HSI =	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....Grand Bayou/GIWW Diversion (TE-10/XTE-49) Marsh type acres:  
 Area 3- brackish converting to intermediate after TY1, FWP Fresh.....  
 Condition: Future With Project Intermediate.. 1956

Variable		(from Brackish model)		(from Brackish model)		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent					42	0.48
V2	% Aquatic					65	0.69
V3	Interspersion	%		%		%	
	Class 1						0.34
	Class 2					25	
	Class 3					20	
	Class 4					55	
	Class 5						
V4	%OW <= 1.5ft					60	0.78
V5	Salinity (ppt) fresh intermediate					4	1.00
V6	Access Value					1.00	1.00
		HSI =		HSI =		HSI = 0.60	

# AAHU CALCULATION

**Project:** Grand Bayou/GIWW Diversion (TE-10/XTE-49)  
 Area 3- brackish converting to intermediate after TY1, FWP

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	1956	0.66	1288.42	
1	1956	0.65	1278.69	1283.55
20	1956	0.58	1133.16	22912.51
			AAHU's =	1209.80

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	1956	0.66	1288.42	
1	1956	0.66	1298.50	1293.46
20	1956	0.60	1168.73	23438.67 *
			AAHU's	1236.61

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	1236.61
B. Future Without Project AAHU's =	1209.80
Net Change (FWP - FWOP) =	26.80

\* HSI calculated using the Intermediate Marsh model

# Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: TE-10/YTE-49 Grand Bayou Diversion  
Area 3:

Date: 21 June 1993

Marsh Acreage: 93600

Wetland Type: Brookish to revert to  
intermediate FWSF after 7 Y1

Water Acreage: 10800

Land Loss Rate: 1.28% / yr

Total Acreage: 195000

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	93600 48%	55%	2-30 3-50 4-50	65%	6 ppt	1.0
	92400 20%	55%	2-30 3-20 4-50	65%	6 ppt	↓
20	89200 36%	55%	2-20 3-20 4-50	65%	7 ppt	
	93000 48%	55%	2-30 3-20 4-50	65%	6 ppt	
	93000 48%	55%	2-30 3-20 4-50	65%	6 ppt	1.0
50	81600 43%	55%	2-25 3-20 4-55	65%	4 ppt	↓

**FWOP**

**FWP**

Loss fish retained 50%  
to → 0.64% / yr

Remarks:

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: TE-10/XTE-49 Grand Bayou/GIWW Diversion  
Area 1

Wetland Type: Intermediate

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	8,969	7,468	83	7,468	83	--
1	8,969	7,416	83	7,452	83	36
2	8,969	7,364	82	7,436	83	73
3	8,969	7,312	82	7,421	83	109
4	8,969	7,259	81	7,405	83	146
5	8,969	7,207	80	7,389	82	182
6	8,969	7,155	80	7,374	82	219
7	8,969	7,103	79	7,358	82	255
8	8,969	7,051	79	7,343	82	292
9	8,969	6,998	78	7,327	82	329
10	8,969	6,946	77	7,311	82	365
11	8,969	6,894	77	7,296	81	402
12	8,969	6,842	76	7,280	81	438
13	8,969	6,789	76	7,264	81	475
14	8,969	6,737	75	7,249	81	512
15	8,969	6,685	75	7,233	81	548
16	8,969	6,633	74	7,218	80	585
17	8,969	6,581	73	7,202	80	621
18	8,969	6,528	73	7,186	80	658
19	8,969	6,476	72	7,171	80	694
20	8,969	6,424	72	7,155	80	731
Total Years 1-20		138,400		146,070		
Average Annual Acres		6,920		7,303		<b>383</b>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: TE-10/XTE-49 Grand Bayou/GIWW Diversion  
Area 2

Wetland Type: Brackish

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	15,605	9,846	63	9,846	63	--
1	15,605	9,720	62	9,758	63	38
2	15,605	9,594	61	9,670	62	76
3	15,605	9,467	61	9,581	61	114
4	15,605	9,341	60	9,493	61	152
5	15,605	9,215	59	9,405	60	190
6	15,605	9,089	58	9,316	60	227
7	15,605	8,962	57	9,228	59	265
8	15,605	8,836	57	9,139	59	303
9	15,605	8,710	56	9,051	58	341
10	15,605	8,584	55	8,963	57	379
11	15,605	8,457	54	8,874	57	417
12	15,605	8,331	53	8,786	56	455
13	15,605	8,205	53	8,698	56	493
14	15,605	8,079	52	8,609	55	531
15	15,605	7,952	51	8,521	55	569
16	15,605	7,826	50	8,432	54	606
17	15,605	7,700	49	8,344	53	644
18	15,605	7,574	49	8,256	53	682
19	15,605	7,447	48	8,167	52	720
20	15,605	7,321	47	8,079	52	758
Total Years 1-20		170,410		178,370		
Average Annual Acres		8,521		8,919		398



Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: TE-10/XTE-49 Grand Bayou/GIWW Diversion  
Area 3

Wetland Type: Brackish, converting to intermediate after TY1, FWP

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	1,956	936	48	936	48	--
1	1,956	924	47	930	48	6
2	1,956	912	47	924	47	12
3	1,956	900	46	918	47	18
4	1,956	888	45	912	47	24
5	1,956	876	45	906	46	30
6	1,956	864	44	900	46	36
7	1,956	852	44	894	46	42
8	1,956	840	43	888	45	48
9	1,956	828	42	882	45	54
10	1,956	816	42	876	45	60
11	1,956	804	41	870	44	66
12	1,956	792	40	864	44	72
13	1,956	780	40	858	44	78
14	1,956	768	39	852	44	84
15	1,956	756	39	846	43	90
16	1,956	744	38	840	43	96
17	1,956	732	37	834	43	102
18	1,956	720	37	828	42	108
19	1,956	708	36	822	42	114
20	1,956	696	36	816	42	120
Total Years 1-20		16,200		17,460		
Average Annual Acres		810		873		<b>63</b>

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Brackish Marsh

Project..... PBA-48b Myrtle Grove Siphon  
 Area I (Switch to Intermediate Model, TY10, FWP)  
 Condition: Future Without Project

Marsh type acres..... 12017

Variable		TY 0		TY 1		TY 10	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	28	0.35	27	0.34	24	0.32
V2	% Aquatic	30	0.51	30	0.51	25	0.48
V3	Interspersion	%		%		%	
	Class 1	15	0.39	15	0.39	10	0.35
	Class 2						
	Class 3	35		35		35	
	Class 4	50		50		55	
V4	%OW <= 1.5ft	60	0.87	60	0.87	55	0.81
V5	Salinity (ppt)	4	1.00	4	1.00	5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.53		HSI = 0.53		HSI = 0.50	

Project..... PBA-48b Myrtle Grove Siphon  
 FWOP

Variable		TY 20		Value	SI	Value	SI
		Value	SI				
V1	% Emergent	21	0.29				
V2	% Aquatic	22	0.45				
V3	Interspersion	%		%		%	
	Class 1	10	0.34				
	Class 2						
	Class 3	30					
	Class 4	60					
V4	%OW <= 1.5ft	50	0.74				
V5	Salinity (ppt)	5	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.47		HSI =		HSI =	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project..... PBA-48b Myrtle Grove Siphon                      Marsh type acres..... 12017  
 Area I (Switch to Intermediate Model, TY10, FWP)  
 Condition: Future With Project

Variable		TY 0		TY 1		Switch to Int. Model	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	28	0.35	28	0.35		
V2	% Aquatic	30	0.51	40	0.58		
V3	Interspersion	%		%			%
	Class 1	15	0.39	15	0.39		
	Class 2						
	Class 3	35		35			
	Class 4	50		50			
V4	%OW <= 1.5ft	60	0.87	60	0.87		
V5	Salinity (ppt)	4	1.00	2	1.00		
V6	Access Value	1.00	1.00	1.00	1.00		
		HSI =	0.53	HSI =	0.54	HSI =	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project..... PBA-48b Myrtle Grove Siphon  
 FWP

Variable		TY 10		TY 20		Value	SI
		Value	SI	Value	SI		
V1	% Emergent	27	0.34	27	0.34		
V2	% Aquatic	60	0.64	70	0.73		
V3	Interspersion	%		%			%
	Class 1	15	0.41	15	0.41		
	Class 2						
	Class 3	35		35			
	Class 4	50		50			
V4	%OW <= 1.5ft	65	0.83	70	0.89		
V5	Salinity (ppt)						
	fresh intermediate	2	1.00	2	1.00		
V6	Access Value	1.00	1.00	1.00	1.00		
		HSI =	0.52	HSI =	0.53	HSI =	

# AAHU CALCULATION

**Project:** PBA-48b Myrtle Grove Siphon  
**Area I (Switch to Intermediate Model, TY10, FWP)**

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	12017	0.53	6379.23	
1	12017	0.53	6311.91	6345.57
10	12017	0.50	5954.94	55200.80
20	12017	0.47	5643.85	57993.93
			<b>AAHU's =</b>	<b>5977.01</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	12017	0.53	6379.23	
1	12017	0.54	6493.00	6436.12
10	12017	0.52	6189.79	57072.56
20	12017	0.53	6383.78	62867.85
			<b>AAHU's</b>	<b>6318.83</b>

NET CHANGE IN AAHU'S DUE TO PROJECT		
A. Future With Project AAHU's	=	6318.83
B. Future Without Project AAHU's	=	5977.01
Net Change (FWP - FWOP)	=	<b>341.81</b>

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project.....PBA-48b Myrtle Grove Siphon  
Area II

Marsh type acres..... 3877

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	84	0.86	83	0.85	64	0.68
V2	% Aquatic	15	0.41	15	0.41	10	0.37
V3	Interspersion	%	0.40	%	0.40	%	0.37
	Class 1						
	Class 2	25		25		15	
	Class 3	50		50		55	
	Class 4	25		25		30	
V4	%OW <= 1.5ft	60	0.87	60	0.87	50	0.74
V5	Salinity (ppt)	5	1.00	5	1.00	6	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.76		HSI = 0.76		HSI = 0.66	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Brackish Marsh

Project.....PBA-48b Myrtle Grove Siphon  
Area II

Marsh type acres..... 3877

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	84	0.86	84	0.86	74	0.77
V2	% Aquatic	15	0.41	20	0.44	30	0.51
V3	Interspersion	%	0.40	%	0.40	%	0.39
	Class 1						
	Class 2	25		25		20	
	Class 3	50		50		55	
	Class 4	25		25		25	
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
V5	Salinity (ppt)	5	1.00	4	1.00	4	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.76		HSI = 0.77		HSI = 0.75	



Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: PBA-48b Myrtle Grove Siphon

Wetland Type: Brackish - Area 1 - Changes to Intermediate FWP-TY10

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	12,017	3,318	28	3,318	28	--
1	12,017	3,277	27	3,313	28	36
2	12,017	3,236	27	3,308	28	72
3	12,017	3,196	27	3,304	27	108
4	12,017	3,155	26	3,299	27	144
5	12,017	3,115	26	3,294	27	180
6	12,017	3,074	26	3,290	27	215
7	12,017	3,034	25	3,285	27	251
8	12,017	2,993	25	3,280	27	287
9	12,017	2,953	25	3,276	27	323
10	12,017	2,912	24	3,271	27	359
11	12,017	2,871	24	3,266	27	395
12	12,017	2,831	24	3,262	27	431
13	12,017	2,790	23	3,257	27	467
14	12,017	2,749	23	3,253	27	503
15	12,017	2,709	23	3,248	27	539
16	12,017	2,668	22	3,243	27	576
17	12,017	2,627	22	3,239	27	612
18	12,017	2,586	22	3,234	27	648
19	12,017	2,546	21	3,230	27	684
20	12,017	2,505	21	3,225	27	720
Total Years 1-20		57,827		65,377		
Average Annual Acres		2,891		3,269		378





Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: PBA-48b Myrtle Grove Siphon

Wetland Type: Brackish - Area II

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	3,877	3,267	84	3,267	84	--
1	3,877	3,227	83	3,247	84	20
2	3,877	3,187	82	3,227	83	40
3	3,877	3,147	81	3,207	83	60
4	3,877	3,107	80	3,187	82	80
5	3,877	3,067	79	3,167	82	100
6	3,877	3,027	78	3,147	81	120
7	3,877	2,987	77	3,127	81	140
8	3,877	2,947	76	3,107	80	160
9	3,877	2,907	75	3,087	80	180
10	3,877	2,867	74	3,067	79	200
11	3,877	2,828	73	3,047	79	219
12	3,877	2,788	72	3,027	78	239
13	3,877	2,748	71	3,007	78	259
14	3,877	2,708	70	2,987	77	279
15	3,877	2,668	69	2,967	77	299
16	3,877	2,628	68	2,947	76	319
17	3,877	2,588	67	2,927	75	339
18	3,877	2,548	66	2,907	75	359
19	3,877	2,508	65	2,887	74	379
20	3,877	2,468	64	2,867	74	399
Total Years 1-20		56,950		61,140		
Average Annual Acres		2,848		3,057		210

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA-20 Bayou Lafourche Siphon  
Area I  
Condition: Future Without Project

Marsh type acres:  
Fresh..... 13446  
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	68	0.71	68	0.71	66.6	0.70
V2	% Aquatic	5	0.15	5	0.15	5	0.15
V3	Interspersion	%		%		%	
	Class 1	25	0.52	25	0.52	25	0.52
	Class 2	25		25		25	
	Class 3	10		10		10	
	Class 4	40		40		40	
V4	%OW <= 1.5ft	5	0.16	5	0.16	5	0.16
V5	Salinity (ppt)						
	fresh intermediate	0.5	1.00	0.5	1.00	0.5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.51		HSI = 0.51		HSI = 0.50	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA-20 Bayou Lafourche Siphon  
Area I  
Condition: Future With Project

Marsh type acres:  
Fresh..... 13446  
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	68	0.71	68	0.71	67.1	0.70
V2	% Aquatic	5	0.15	6	0.15	10	0.19
V3	Interspersion	%		%		%	
	Class 1	25	0.52	25	0.52	25	0.52
	Class 2	25		25		25	
	Class 3	10		10		10	
	Class 4	40		40		40	
V4	%OW <= 1.5ft	5	0.16	5	0.16	10	0.21
V5	Salinity (ppt)						
	fresh intermediate	0.5	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.51		HSI = 0.51		HSI = 0.54	



## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA-20 Bayou Lafourche Siphon  
Area II

Marsh type acres:  
Fresh.....  
Intermediate.. 9422

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	78	0.80	77	0.79	66	0.69
V2	% Aquatic	60	0.64	60	0.64	50	0.55
V3	Interspersion	%	0.52	%	0.52	%	0.50
	Class 1						
	Class 2	60		60		50	
	Class 3	40		40		50	
	Class 4						
V4	%OW <= 1.5ft	85	1.00	85	1.00	80	1.00
V5	Salinity (ppt)		1.00		1.00		1.00
	fresh						
	intermediate	2		2		4	
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.79		HSI = 0.79		HSI = 0.71	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA-20 Bayou Lafourche Siphon  
Area II

Marsh type acres:  
Fresh.....  
Intermediate.. 9422

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	78	0.80	77	0.79	69	0.72
V2	% Aquatic	60	0.64	60	0.64	65	0.69
V3	Interspersion	%	0.52	%	0.52	%	0.51
	Class 1						
	Class 2	60		60		55	
	Class 3	40		40		45	
	Class 4						
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt)		1.00		1.00		1.00
	fresh						
	intermediate	2		1.5		1.5	
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.79		HSI = 0.79		HSI = 0.76	

# AAHU CALCULATION

Project: PBA-20 Bayou Lafourche Siphon  
Area II

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	9422	0.79	7438.76	
1	9422	0.79	7397.99	7418.38
20	9422	0.71	6727.33	134190.53
			<b>AAHU's =</b>	<b>7080.45</b>

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	9422	0.79	7438.76	
1	9422	0.79	7397.99	7418.38
20	9422	0.76	7151.47	138219.89
			<b>AAHU's</b>	<b>7281.91</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	7281.91
B. Future Without Project AAHU's =	7080.45
Net Change (FWP - FWOP) =	201.47

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA – 20 Bayou Lafourche Siphon  
Area III  
Condition: Future Without Project

Marsh type acres:  
Fresh..... 5975  
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	6	0.15	2	0.12
V2	% Aquatic	50	0.55	50	0.55	50	0.55
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%   100	0.20	%   100	0.20
V4	%OW <= 1.5ft	5	0.16	5	0.16	5	0.16
V5	Salinity (ppt) fresh intermediate	0.5	1.00	0.5	1.00	0.5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.31		HSI = 0.30		HSI = 0.27	

## WETLAND VALUE ASSESSMENT COMMUNITY MODEL Fresh/Intermediate Marsh

Project.....PBA – 20 Bayou Lafourche Siphon  
Area III  
Condition: Future With Project

Marsh type acres:  
Fresh..... 5975  
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	6	0.15	3	0.13
V2	% Aquatic	50	0.55	52	0.57	60	0.64
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%   100	0.20	%   100	0.20
V4	%OW <= 1.5ft	5	0.16	5	0.16	5	0.16
V5	Salinity (ppt) fresh intermediate	0.5	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.31		HSI = 0.30		HSI = 0.29	

# AAHU CALCULATION

Project: PBA - 20 Bayou Lafourche Siphon  
Area III

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	5975	0.31	1853.53	
1	5975	0.30	1808.91	1831.22
20	5975	0.27	1620.00	32574.68
			<b>AAHU's =</b>	<b>1720.30</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	5975	0.31	1853.53	
1	5975	0.30	1818.89	1836.21
20	5975	0.29	1711.15	33535.36
			<b>AAHU's</b>	<b>1768.58</b>

NET CHANGE IN AAHU'S DUE TO PROJECT		
A. Future With Project AAHU's =		1768.58
B. Future Without Project AAHU's =		1720.30
Net Change (FWP - FWOP) =		<b>48.28</b>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: PBA-20 Bayou Lafourche Siphon

Wetland Type: Fresh - Area I

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	13,446	9,104	68	9,104	68	--
1	13,446	9,097	68	9,100	68	3
2	13,446	9,090	68	9,096	68	7
3	13,446	9,082	68	9,093	68	10
4	13,446	9,075	67	9,089	68	14
5	13,446	9,067	67	9,085	68	18
6	13,446	9,060	67	9,081	68	22
7	13,446	9,052	67	9,078	68	25
8	13,446	9,045	67	9,074	67	29
9	13,446	9,037	67	9,070	67	33
10	13,446	9,030	67	9,066	67	37
11	13,446	9,022	67	9,063	67	40
12	13,446	9,015	67	9,059	67	44
13	13,446	9,007	67	9,055	67	48
14	13,446	9,000	67	9,051	67	52
15	13,446	8,992	67	9,048	67	55
16	13,446	8,985	67	9,044	67	59
17	13,446	8,977	67	9,040	67	63
18	13,446	8,970	67	9,036	67	67
19	13,446	8,962	67	9,033	67	70
20	13,446	8,955	67	9,029	67	74
Total Years 1-20		180,520		181,290		
Average Annual Acres		9,026		9,065		39



Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: PBA-20 Bayou Lafourche Siphon

Wetland Type: Intermediate - Area II

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	9,422	7,314	78	7,314	78	--
1	9,422	7,259	77	7,273	77	14
2	9,422	7,204	76	7,232	77	28
3	9,422	7,149	76	7,191	76	41
4	9,422	7,095	75	7,150	76	55
5	9,422	7,040	75	7,109	75	69
6	9,422	6,985	74	7,067	75	82
7	9,422	6,930	74	7,026	75	96
8	9,422	6,875	73	6,985	74	110
9	9,422	6,821	72	6,944	74	123
10	9,422	6,766	72	6,903	73	137
11	9,422	6,711	71	6,862	73	151
12	9,422	6,656	71	6,821	72	165
13	9,422	6,602	70	6,780	72	178
14	9,422	6,547	69	6,739	72	192
15	9,422	6,492	69	6,698	71	206
16	9,422	6,437	68	6,656	71	219
17	9,422	6,382	68	6,615	70	233
18	9,422	6,328	67	6,574	70	247
19	9,422	6,273	67	6,533	69	260
20	9,422	6,218	66	6,492	69	274
Total Years 1-20		134,770		137,650		
Average Annual Acres		6,739		6,883		<b>144</b>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: PBA-20 Bayou Lafourche Siphon

Wetland Type: Fresh - Area III

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	5,975	392	7	392	7	--
1	5,975	379	6	383	6	4
2	5,975	366	6	374	6	8
3	5,975	353	6	365	6	12
4	5,975	339	6	355	6	16
5	5,975	326	5	346	6	20
6	5,975	313	5	337	6	24
7	5,975	300	5	328	5	28
8	5,975	287	5	319	5	32
9	5,975	273	5	309	5	36
10	5,975	260	4	300	5	40
11	5,975	247	4	291	5	44
12	5,975	234	4	282	5	48
13	5,975	220	4	272	5	52
14	5,975	207	3	263	4	56
15	5,975	194	3	254	4	60
16	5,975	181	3	245	4	64
17	5,975	168	3	236	4	68
18	5,975	154	3	226	4	72
19	5,975	141	2	217	4	76
20	5,975	128	2	208	3	80
Total Years 1-20		5,070		5,910		
Average Annual Acres		254		296		42

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project.....CS-11b Sweet/Willow Lake Shore Protection  
 Area I  
 Condition: Future Without Project

Marsh type acres:  
 Fresh..... 4196  
 Intermediate..

Variable		TY 0		TY 1		TY 10	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	22	0.30	21	0.29	18	0.26
V2	% Aquatic	15	0.24	15	0.24	10	0.19
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	  0.20	%   100	  0.20	%   100	  0.20
V4	%OW <= 1.5ft	10	0.21	10	0.21	9	0.20
V5	Salinity (ppt) fresh intermediate	0	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.35		HSI = 0.35		HSI = 0.32	

Project.....CS-11b Sweet/Willow Lake Shore Protection  
 FWOP

Variable		TY 20		Value	SI	Value	SI
		Value	SI				
V1	% Emergent	13	0.22				
V2	% Aquatic	7	0.16				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	  0.20	%		%	
V4	%OW <= 1.5ft	5	0.16				
V5	Salinity (ppt) fresh intermediate	0	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.29		HSI =		HSI =	

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project.....CS-11b Sweet/Willow Lake Shore Protection

Marsh type acres:

Area I

Fresh..... 4196

Condition: Future With Project

Intermediate..

Variable		TY 0		TY 1		TY 10	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	22	0.30	22	0.30	19	0.27
V2	% Aquatic	15	0.24	18	0.26	30	0.37
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	  0.20	%   100	  0.20	%   100	  0.20
V4	%OW <= 1.5ft	10	0.21	10	0.21	10	0.21
V5	Salinity (ppt) fresh intermediate	0	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.35		HSI = 0.36		HSI = 0.37	

Project.....CS-11b Sweet/Willow Lake Shore Protection

FWP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	18	0.26				
V2	% Aquatic	34	0.41				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	  0.20	%		%	
V4	%OW <= 1.5ft	11	0.22				
V5	Salinity (ppt) fresh intermediate	0	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.37		HSI =		HSI =	

# AAHU CALCULATION

Project: CS-11b Sweet/Willow Lake Shore Protection  
Area I

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	4196	0.35	1480.16	
1	4196	0.35	1459.98	1470.07
10	4196	0.32	1343.86	12617.28
20	4196	0.29	1196.02	12699.44
			<b>AAHU's =</b>	<b>1339.34</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	4196	0.35	1480.16	
1	4196	0.36	1509.47	1494.82
10	4196	0.37	1539.32	13719.59
20	4196	0.37	1545.19	15422.55
			<b>AAHU's</b>	<b>1531.85</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	1531.85
B. Future Without Project AAHU's =	1339.34
Net Change (FWP - FWOP) =	<b>192.51</b>

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project..... CS-11b Sweet/Willow Lake Shore Protection

Marsh type acres:

Area II - Terraces Only

Fresh..... 1600

Condition: Future Without Project

Intermediate..

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	5	0.15	5	0.15	5	0.15
V2	% Aquatic	60	0.64	60	0.64	60	0.64
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%   100	0.20	%   100	0.20
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt) fresh intermediate	0	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.37		HSI = 0.37		HSI = 0.37	

Project..... CS-11b Sweet/Willow Lake Shore Protection

FWOP

Variable		TY 20		Value	SI	Value	SI
		Value	SI				
V1	% Emergent	4	0.14				
V2	% Aquatic	40	0.46				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%		%	
V4	%OW <= 1.5ft	85	1.00				
V5	Salinity (ppt) fresh intermediate	0	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.34		HSI =		HSI =	

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project..... CS-11b Sweet/Willow Lake Shore Protection  
 Area II - Terraces Only  
 Condition: Future With Project

Marsh type acres:  
 Fresh..... 1600  
 Intermediate..

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	5	0.15	5	0.15	6	0.15
V2	% Aquatic	60	0.64	70	0.73	75	0.78
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%   100	0.20	%   100	0.20
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt) fresh intermediate	0	1.00	0	1.00	0	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.37		HSI = 0.37		HSI = 0.38	

Project..... CS-11b Sweet/Willow Lake Shore Protection  
 FWP

Variable		TY 20		Value	SI	Value	SI
		Value	SI				
V1	% Emergent	9	0.18				
V2	% Aquatic	90	0.91				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   20 80	0.24	%		%	
V4	%OW <= 1.5ft	85	1.00				
V5	Salinity (ppt) fresh intermediate	0	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.42		HSI =		HSI =	

# AAHU CALCULATION

Project: CS-11b Sweet/Willow Lake Shore Protection  
Area II - Terraces Only

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	1600	0.37	584.48	
1	1600	0.37	584.48	584.48
3	1600	0.37	584.48	1168.96
20	1600	0.34	546.38	9612.25
			<b>AAHU's =</b>	<b>568.28</b>

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	1600	0.37	584.48	
1	1600	0.37	595.54	590.01
3	1600	0.38	614.01	1209.55
20	1600	0.42	673.51	10943.98
			<b>AAHU's</b>	<b>637.18</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	637.18
B. Future Without Project AAHU's =	568.28
Net Change (FWP - FWOP) =	<b>68.89</b>



Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: CS-11b Sweet Lake/Willow Lake Shore Protection

Wetland Type: Fresh - Area I

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	4,196	916	22	916	22	--
1	4,196	899	21	905	22	6
2	4,196	881	21	895	21	14
3	4,196	864	21	885	21	21
4	4,196	846	20	875	21	29
5	4,196	829	20	865	21	37
6	4,196	811	19	856	20	44
7	4,196	794	19	846	20	52
8	4,196	776	18	836	20	60
9	4,196	759	18	826	20	67
10	4,196	741	18	816	19	75
11	4,196	724	17	808	19	85
12	4,196	706	17	800	19	94
13	4,196	689	16	792	19	104
14	4,196	671	16	784	19	113
15	4,196	654	16	777	19	123
16	4,196	636	15	769	18	133
17	4,196	619	15	761	18	142
18	4,196	601	14	753	18	152
19	4,196	584	14	745	18	161
20	4,196	566	13	737	18	171
Total Years 1-20		14,648		16,331		
Average Annual Acres		732		817		<b>84</b>

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: CS-11b Sweet Lake/Willow Lake Shore Protection

Wetland Type: Fresh - Area II (Terraces)

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	1,600	80	5	80	5	--
1	1,600	79	5	80	5	1
2	1,600	78	5	87	5	9
3	1,600	77	5	93	6	16
4	1,600	76	5	96	6	20
5	1,600	75	5	98	6	23
6	1,600	74	5	101	6	27
7	1,600	73	5	104	6	30
8	1,600	73	5	106	7	34
9	1,600	72	4	109	7	37
10	1,600	71	4	112	7	41
11	1,600	70	4	114	7	44
12	1,600	69	4	117	7	48
13	1,600	68	4	119	7	51
14	1,600	67	4	122	8	55
15	1,600	66	4	125	8	58
16	1,600	66	4	127	8	62
17	1,600	65	4	130	8	65
18	1,600	64	4	133	8	69
19	1,600	63	4	135	8	72
20	1,600	62	4	138	9	76
Total Years 1-20		1,408		2,246		
Average Annual Acres		70		112		42

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Brackish Marsh

Project.....XPO-69 Bayou Chevee Marsh Creation

Marsh type acres..... 231

Condition: Future Without Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	31	0.38	31	0.38	26	0.33
V2	% Aquatic	6	0.34	6	0.34	5	0.34
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	%   100	0.20	%   100	0.20
V4	%OW <= 1.5ft	10	0.23	10	0.23	9	0.22
V5	Salinity (ppt)	8	1.00	8	1.00	8	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.46		HSI = 0.46		HSI = 0.43	

Project.....XPO-69 Bayou Chevee Marsh Creation

FWOP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10				
V2	% Aquatic	0	0.30				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.10	%		%	
V4	%OW <= 1.5ft	1	0.11				
V5	Salinity (ppt)	8	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.24		HSI =		HSI =	

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Brackish Marsh

Project.....XPO-69 Bayou Chevee Marsh Creation

Marsh type acres..... 231

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	31	0.38	47	0.52	92	0.93
V2	% Aquatic	6	0.34	77	0.84	83	0.88
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	%   100	0.20	% 100	1.00	% 100	1.00
V4	%OW <= 1.5ft	10	0.23	100	0.60	100	0.60
V5	Salinity (ppt)	8	1.00	8	1.00	8	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		HSI = 0.46		HSI = 0.70		HSI = 0.92	

Project.....XPO-69 Bayou Chevee Marsh Creation  
FWP

Variable		TY 20		Value	SI	Value	SI
		Value	SI				
V1	% Emergent	86	0.87				
V2	% Aquatic	56	0.69				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	% 100	1.00	%		%	
V4	%OW <= 1.5ft	78	1.00				
V5	Salinity (ppt)	8	1.00				
V6	Access Value	1.00	1.00				
		HSI = 0.89		HSI =		HSI =	

# AAHU CALCULATION

Project: XPO-69 Bayou Chevee Marsh Creation

Future Without Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	231	0.46	105.44	
1	231	0.46	105.44	105.44
3	231	0.43	98.99	204.43
20	231	0.24	56.23	1319.37

AAHU's = 81.46

Future With Project			Total HU's	Cummulative HU's
TY	Acres	x HSI		
0	231	0.46	105.44	
1	231	0.70	162.07	133.75
3	231	0.92	211.98	374.05
20	231	0.89	205.29	3546.79

AAHU's 202.73

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	202.73
B. Future Without Project AAHU's =	81.46
Net Change (FWP - FWOP) =	121.27

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: XPO-69 Bayou Chevee Marsh Creation

Wetland Type: Brackish

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	231	71	31	71	31	--
1	231	67	29	108	47	41
2	231	64	27	161	69	97
3	231	60	26	213	92	153
4	231	56	24	212	92	156
5	231	53	23	211	91	158
6	231	49	21	211	91	161
7	231	46	20	210	91	164
8	231	42	18	209	90	167
9	231	39	17	208	90	169
10	231	35	15	207	90	172
11	231	32	14	206	89	175
12	231	28	12	206	89	177
13	231	25	11	205	89	180
14	231	21	9	204	88	183
15	231	18	8	203	88	185
16	231	14	6	202	88	188
17	231	11	5	201	87	191
18	231	7	3	201	87	194
19	231	4	2	200	87	196
20	231	0	0	199	86	199
Total Years 1-20		671		3,977		
Average Annual Acres		34		199		165

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project..... Freshwater Bayou Bank Stabilization (XME-29) Marsh type acres:

Fresh.....

Condition: Future Without Project

Intermediate.. 1724

Variable		TY 0		TY 1		TY 5	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	90	0.91	88	0.89	82	0.84
V2	% Aquatic	70	0.73	65	0.69	40	0.46
V3	Interspersion	%		%		%	
	Class 1	90	0.94	90	0.94	80	0.88
	Class 2						
	Class 3	10		10		20	
	Class 4						
V4	%OW <= 1.5ft	70	0.89	70	0.89	65	0.83
V5	Salinity (ppt)						
	fresh intermediate	4	1.00	4	1.00	5	0.80
V6	Access Value	0.30	0.51	0.30	0.51	0.50	0.65
		HSI = 0.84		HSI = 0.82		HSI = 0.73	

Project..... Freshwater Bayou Bank Stabilization (XME-29)

FWOP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	58	0.62				
V2	% Aquatic	30	0.37				
V3	Interspersion	%		%		%	
	Class 1	60	0.78				
	Class 2	10					
	Class 3	30					
	Class 4						
V4	%OW <= 1.5ft	40	0.55				
V5	Salinity (ppt)						
	fresh intermediate	5	0.80				
V6	Access Value	1.00	1.00				
		HSI = 0.60		HSI =		HSI =	

# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Fresh/Intermediate Marsh

Project.....Freshwater Bayou Bank Stabilization (XME-29) Marsh type acres:

Fresh.....  
Intermediate.. 1724

Condition: Future With Project

Variable		TY 0		TY 1		TY 5	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	90	0.91	90	0.91	89	0.90
V2	% Aquatic	70	0.73	70	0.73	70	0.73
V3	Interspersion	%		%		%	
	Class 1	90	0.94	90	0.94	90	0.94
	Class 2						
	Class 3	10		10		10	
	Class 4						
V4	%OW <= 1.5ft	70	0.89	70	0.89	72	0.91
V5	Salinity (ppt)						
	fresh intermediate	4	1.00	2	1.00	2	1.00
V6	Access Value	0.30	0.51	0.30	0.51	0.30	0.51
		HSI = 0.84		HSI = 0.84		HSI = 0.84	

Project.....Freshwater Bayou Bank Stabilization (XME-29)

FWP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	88	0.89				
V2	% Aquatic	75	0.78				
V3	Interspersion	%		%		%	
	Class 1	87	0.93				
	Class 2	3					
	Class 3	10					
	Class 4						
V4	%OW <= 1.5ft	80	1.00				
V5	Salinity (ppt)						
	fresh intermediate	2	1.00				
V6	Access Value	0.30	0.51				
		HSI = 0.85		HSI =		HSI =	



# AAHU CALCULATION

Project: Freshwater Bayou Bank Stabilization (XME-29)

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	1724	0.84	1445.62	
1	1724	0.82	1414.62	1430.12
5	1724	0.73	1259.11	5347.45
20	1724	0.60	1040.30	17245.51
			<b>AAHU's =</b>	<b>1201.15</b>

Future With Project			Total	Cummulative
TY	Acres	x HSI	HU's	HU's
0	1724	0.84	1445.62	
1	1724	0.84	1445.62	1445.62
5	1724	0.84	1441.63	5774.49
20	1724	0.85	1461.19	21771.14
			<b>AAHU's</b>	<b>1449.56</b>

NET CHANGE IN AAHU'S DUE TO PROJECT	
A. Future With Project AAHU's =	1449.56
B. Future Without Project AAHU's =	1201.15
Net Change (FWP - FWOP) =	<b>248.41</b>

## Coastal Wetland Planning, Protection and Restoration Act Wetland Value Assessment Worksheet

Project: Freshwater Bayou Bank Stabilization (XME-29)

Date: May 3, 1994

Marsh Acreage: 1,547ac

Wetland Type: Intermediate

Water Acreage: 177ac

Land Loss Rate:

Total Acreage: 1,724ac

Target Year	V1 % Marsh	V2 % SAV	V3 Marsh Edge	V4 Water <= 1.5'	V5 Salinity	V6 Fish Access
TY0	1,547ac 90%	70%	Class 1 - 90% Class 3 - 10%	70%	4 ppt	0.3
<b>FWOP</b> 1	1,522ac 88%	65%	↓	↓	↓	0.3
5	1,422ac 82%	40%	Class 1 - 80% Class 3 - 20%	65%	5 ppt	0.5
20	999ac 58%	30%	Class 1 - 60% Class 2 - 10% Class 3 - 30%	40%	↓	1.0
<b>FWP</b> 1	1,545ac 90%	70%	Class 1 - 90% Class 3 - 10%	70%	2 ppt	0.3
5	1,537ac 89%	↓	↓	72%	↓	0.3
20	1,510ac 88%	↓	Class 1 - 87% Class 2 - 3% Class 3 - 10%	80%	↓	0.3

Remarks:

Coastal Wetlands Planning, Protection, and Restoration Act  
Fifth Priority Project List

Average Annual Acres of Emergent Marsh

Project: XME-29 Freshwater Bayou Bank Stabilization

Wetland Type: Intermediate

Project Year	Project Area (acres)	Emergent Marsh				Net Acres
		Without Project		With Project		
		Acres	%	Acres	%	
0	1,724	1,547	90	1,547	90	--
1	1,724	1,522	88	1,545	90	23
2	1,724	1,497	87	1,543	90	46
3	1,724	1,472	85	1,541	89	69
4	1,724	1,447	84	1,539	89	92
5	1,724	1,422	82	1,537	89	115
6	1,724	1,394	81	1,535	89	141
7	1,724	1,366	79	1,533	89	168
8	1,724	1,337	78	1,532	89	194
9	1,724	1,309	76	1,530	89	221
10	1,724	1,281	74	1,528	89	247
11	1,724	1,253	73	1,526	89	273
12	1,724	1,225	71	1,524	88	300
13	1,724	1,196	69	1,523	88	326
14	1,724	1,168	68	1,521	88	353
15	1,724	1,140	66	1,519	88	379
16	1,724	1,112	64	1,517	88	405
17	1,724	1,084	63	1,515	88	432
18	1,724	1,055	61	1,514	88	458
19	1,724	1,027	60	1,512	88	485
20	1,724	999	58	1,510	88	511
Total Years 1-20		25,306		30,544		
Average Annual Acres		1,265		1,527		262

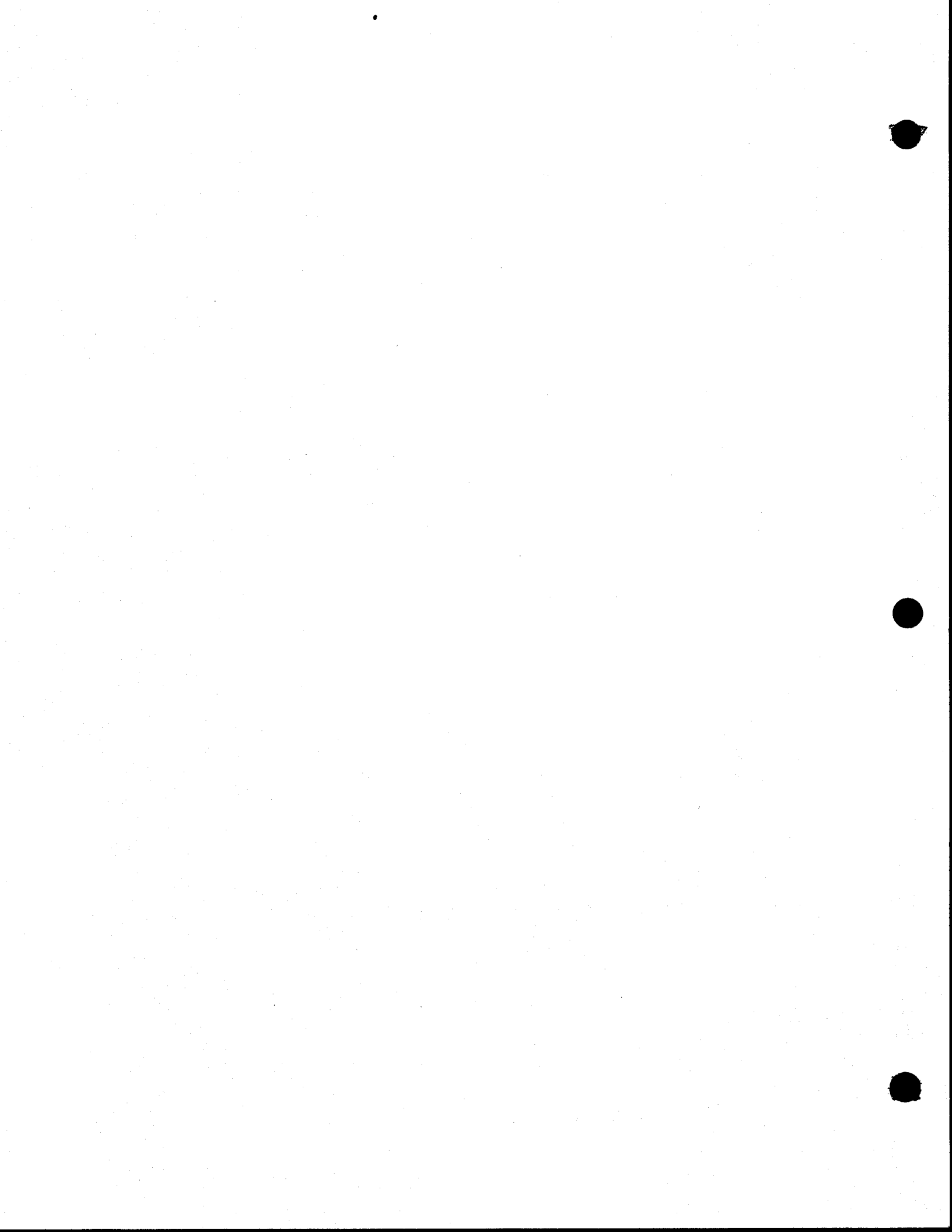


**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix F**

**Public Support for Candidate Projects**



Public Support for Candidate Projects  
for the  
5th Priority Project List

PPO-2a/g

Lake Borgne Shore Protection

Resolution St. Tammany Levee District,  
8No95  
Resolution St. John the Baptist Council,  
28No95  
Alan Cartier, Mngr, St. Tammany Parish,  
1De95  
L Catherine Lnd Co Inc, 4De95  
Jerry Fabacher (CSX RR), 65 names, 30No95  
Vietnamese Community of Estrn NO, De95  
Marc Morial, 28No95

Resolution NO City Council, 2No95  
Resolution NO City Plng Comm, 10Oc95  
L Catherine petition (50 signatures),  
1Jun95  
Resolution Tangipahoa Parish Council,  
13No95  
J Ron Brinson (Port of NO), 16No95

Resolution Livingston Par Police Jury,  
15No95

1 mile "Peppi" Bruneau (State Rep Dist  
94), 6De95

Mark Hilzim, Sec La DCRT, 20No95  
Salvatore Caruso, Mayor, Slidell, 6De95

30 Nov public meeting:

Harvey Stern (NO Plng Comm)  
Hans van Beek (NO City Plng Comm)  
Cong. William Jefferson, 4Ja96

PBA-20i

Bayou Lafourche Siphon (w/Cutoff structure)

Mitchell Theriot (Representative District  
54), 19Se95  
Billy Tauzin (US Rep), 18Oc95  
Steve Wilson (Pres Lafourche Par ), 18Oc95  
Hugh Caffery (Valentine Sugars, Inc), 21No95  
JB Townsend (Mayor, Lockport), 28No95  
Ron Landry (Senate Dist 19), 13Oc95  
Resolution, Lafrche and Bayou Rgn Chmbr of  
Com, 15No95

27 Nov pub mtng:

Ted Falgout (Grtr Lfrch Prt Cmmsn)  
Kirk Cheramie (Lafourche Wtr Dist) (27 & 30  
Nov mtngs)  
Clyde Harris (Nicholas Paper)

Bruce DeLeo, Jr. opposes higher wtr levels  
Donaldsonville  
Castagnos opposes higher wtr levels  
Donaldsonville

30 Nov public meeting:

Roy Francis (Lafourche CZM admin)  
Hugh Caffery (Valentine Sugars, Inc)  
Thomas Bingham (Nicholas Paper)

PBA-48a

Siphon at Myrtle Grove

Clyde Giordano (Plaquemines Par), 11Oc95  
Tim Coulon (Jeff Par), 27No95  
Bill and Abbe' Fernau, 5De95  
Samuel Nunez, State Senate, Dist.1,  
20De95

30 Nov public meeting:

Marnie Winter (Jeff Par)  
Oneil Malbrough  
Edwin Blair  
Henry Haller

Woody Crews, Jeff Par Mar Fish Adv Brd,  
12De95

BA3c/PBA-12b

Naomi Outfall Mgmt and BBWW East Bank Prot

Tim Coulon (Jeff Par), 27No95  
J. Chris Ullo, State senate, 24Jan96  
John J. Hainkel, Jr., State senate dist. 6,  
19Jan96  
Joseph F. Toomy, State Representative, 6Feb96

30 Nov public meeting:

Marnie Winter (Jeff Par)  
Oneil Malbrough  
Henry Haller  
Woody Crews, Jeff Par Mar Fish Adv Brd,  
12De95  
Bill and Abbe' Fernau, 5De95

Public Support for Candidate Projects  
for the  
5th Priority Project List  
(Continued)

<p>PBA-12b <u>Barateria Bay WW East Bank Prot.</u> Tim Coulon (Jeff Par), 27No95 30 Nov public meeting: Marnie Winter (Jeff Par) Oneil Malbrough Henry Haller</p>	<p>BA-3c <u>Naomi Outfall Management</u> Tim Coulon (Jeff Par), 27No95 30 Nov public meeting: Marnie Winter (Jeff Par) Oneil Malbrough (note: project was broken out following public meetings; assume Haller would not support Naomi alone)</p>
<p>TE-10/XTE-49 <u>Grand Bayou/GIWW Freshwater Diversion</u> Ron Landry (Senate Dist 19), 13Oc95 Mitchell Theriot (Representative District 54), 19Se95 Windell Curole (South Lafourche Levee Dist), 26Se94 Billy Tausin (US Rep), 18Oc95 Steve Wilson (Pres Lafourche Par ), 18Oc95 JB Townsend (Mayor, Lockport), 28No95  27 Nov public meeting:  Ted Falgout (Grtr Lfrch Prt Cmmsn) Kirk Cheramie Roy Francis (CZM Adminstrator, Lafourche Par)</p>	<p>PTE-15b(iv) <u>New Cut/East Trinity Island Rst</u> 27 Nov public meeting: Ted Falgout (Grtr Lfrch Prt Cmmsn) Donald Lirette (pres Terrebonne Fshrmn's Org)  Reggie P. Dupre, Rep Dist 53, 6Fe96  Daniel D. Henry, Sr., Terrebonne Parish Council, 6Fe96 Barry Bonvillain, President, Terr Par Cnsltd Gov, 5Fe96 Billy Tausin, U.S. Representative, 6Fe96</p>
<p>PTE-26a <u>Bayou DeCade Hydrologic Restoration</u> 27 Nov pub mtng: John Aston (pres B. DeCade Hntng Clu) Donald Lirette (pres Terrebonne Fshrmn's Org)*</p>	<p>XTE-45 <u>Timbalier Barrier Island Restoration</u> 27 Nov public meeting: Ted Falgout (Grtr Lfrch Prt Cmmsn) Donald Lirette (pres Terrebonne Fshrmn's Org)</p>

\*Lirette noted that oil companies, not  
CWPPRA, should plug canals



Public Support for Candidate Projects  
for the  
5th Priority Project List  
(Continued)

XTE-69

Marsh Creation near Falgout Canal

Ted Falgout (Grtr Lfrch Prt Cmmsn)  
Donald Lirette, 11De95 oppose  
27 Nov public meeting:  
Donald Lirette (pres Terrebonne Fshrmn's  
Org) oppose

XAT-3

Point Chevreuil Shore Protection

27 Nov public meeting:  
Donald Lirette (pres Terrebonne Fshrmn's Org)

XTV-30

Vegetative Plantings in the Chenier Plain

27 Nov 95 Pub Mtng:  
Don Sagrera (Verm Par Pol Jur)

PTV-10/XTV-25

Oaks /Avery Canal Hydrologic Restoration

Will Langlinois (Iberia Par President),  
17No95  
Gene Jefferies (McIlhenny Co), 27No95  
J.V. Delcambre (Isadore Delcambre Estate,  
petition > 250 signatures), 8De95  
Pub Mtng 27 Nov 95:  
Sam Theriot (delivered by Len Bahr)  
Don Sagrera (Verm Par Pol Jur)  
Cleve Thibodeaux  
J.V. Delcambre  
Brad Broussard (Iberia Par Coun)

PTV-19

Little Vermilion Bay Sediment Trapping

Don Sagrera (Verm Par Pol Jury), 12Oc95

XME-22

Pecan Island Terracing

28 Nov public meeting:  
Tina Horn (Cameron Par Pol Jur)  
Michael Bertrand (Verm Par Pol Jur)

XME-29

Freshwater Bayou Bank Stabilization

Pub Mtng 27 Nov 95:  
Don Sagrera (Verm Par Pol Jur)  
28 Nov public meeting:  
Charles Broussard  
Michael Bertrand (Verm Par Pol Jur)  
Tina Horn (Cameron Par Pol Jur)  
Judge Edwards

CS-16

Black Bayou Diversion

A. Brent Nunez, pres Cam Par Pol Jur, 21Feb96  
28 Nov public meeting:  
Tina Horn (Cameron Par Pol Jur)  
Michael Bertrand (Verm Par Pol Jur)  
Dave Richard (Gray Estate)  
Judge Edwards (Verm Corp)

Public Support for Candidate Projects  
for the  
5th Priority Project List  
(Continued)

CS-11b

Sweet Lake/Willow Lake Hydrologic  
Restoration

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Dave Richard (Gray Estate)\*

Dan Flavin, State Rep, dist 36, 22Ja96

A. Brent Nunez, pres Cam Par Pol Jur,  
21Feb96

28 Nov public meeting:

Tina Horn (Cameron Par Pol Jur)

Michael Bertrand (Verm Par Pol Jur)

Ted Joannen (Sweet Lake Land)

Dave Richard (Gray Estate)

Jimmy Hayes, US rep, 2Fe96

Siphon at Home Place/ City Price  
(dropped: not feasible)

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Clyde Giordano (Plaquemines Par), 11Oc95

XCS-46

North Line Canal Structure (dropped by lead  
agency)

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28 Nov public meeting:

Tina Horn (Cameron Par Pol Jur)

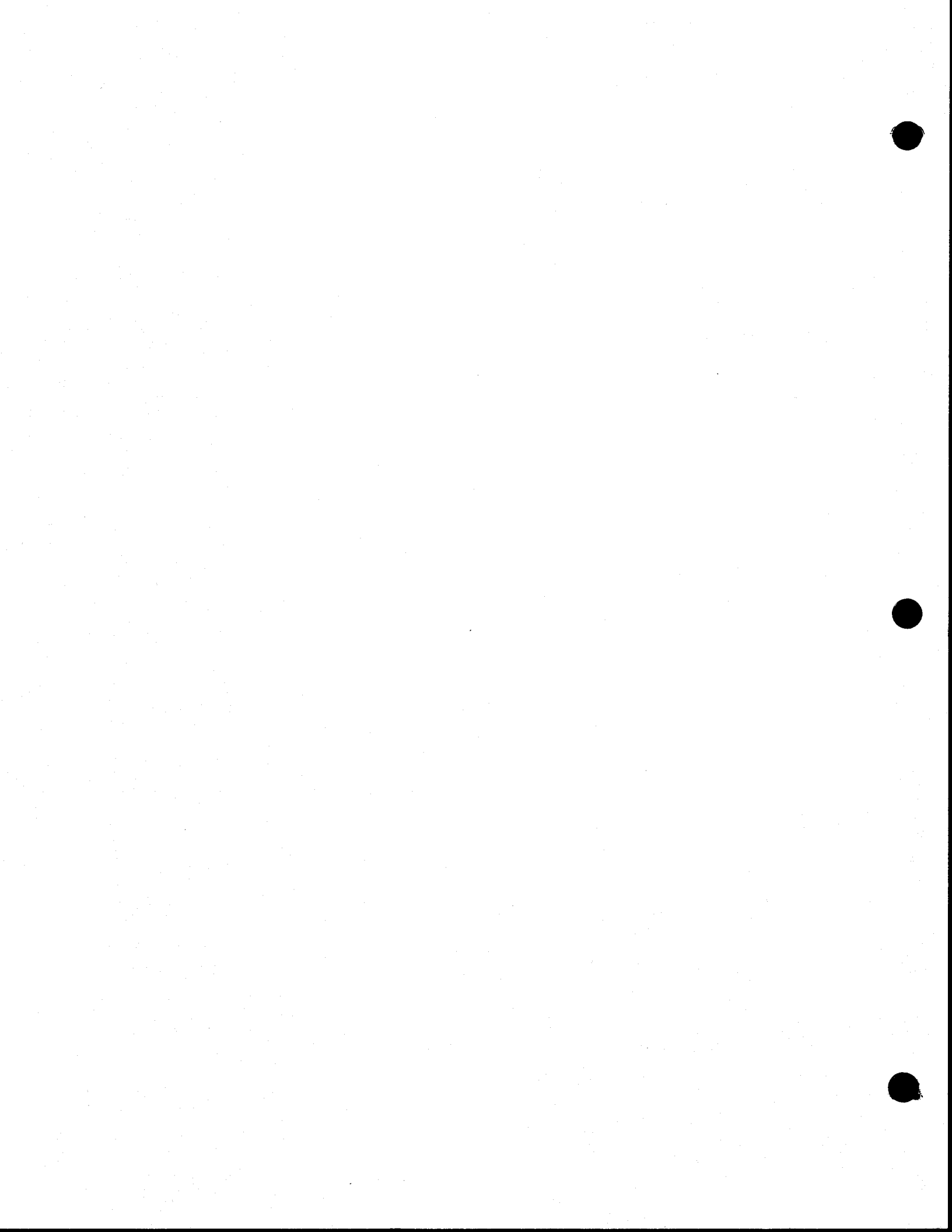
Michael Bertrand (Verm Par Pol Jur)

**Coastal Wetlands Planning, Protection and  
Restoration Act**

**5th Priority Project List Report**

**Appendix G**

**Status of Projects from Previous Priority Project  
Lists**



**APPENDIX G**

**Status of Projects from Previous Priority Project Lists**

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APPENDIX G

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PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES *****	Cont Award	End Const	***** ESTIMATES *****	Baseline	Current	Pct	Actual Expenditures
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**Lead Agency: DEPT. OF THE ARMY, CORPS OF ENGINEERS**

**Priority List 1**

Barataria Bay Marsh Creation	BARA	JEFF	445	04/24/1995A	07/22/1996A	12/31/1996		\$1,759,258	\$1,639,537		93.1	\$336,552
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**Remarks/Status:** The Barataria Bay Marsh Creation construction contract was awarded to Mike Hooks, Inc. Construction began July 22, 1996.

G T

Bayou Labranche Wetlands Restoration	PONT	STCHA	203	04/17/1993A	01/06/1994A	04/07/1994A		\$4,461,300	\$3,560,000		79.8	\$3,346,331
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**Remarks/Status:** Contract awarded to T. L. James Co. (Dredge "Tom James") for dredging approximately 2,500,000 cy of Lake Pontchartrain sediments and placing in marsh creation area. Contract final inspection was performed on 04/07/94. Site visit by Task Force took place on 04/13/94. The area was seeded by L A DNR on 06/25/94.

The project site is being monitored. No further work is planned at this time except to address the problem of impaired access for the lease holders in the project area.

Lake Salvador Shoreline Protection at Jean Lafitte NHP&P	BARA	JEFF	77	12/31/1996	09/28/1996	01/31/1997		\$60,000	\$60,000		100.0	\$53,598
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**Remarks/Status:** This project was added to the Priority Lists at the March 1995 Task Force meeting. The Task Force approved the expenditures of up to \$45,000 in Federal funds for design of the project. A design review meeting was held with Jean Lafitte Park personnel in May 1996 to resolve design comments prior to advertisement for the construction contract. Advertisement was in mid-July 1996 and award of contract is scheduled for September 1996.

HQ USACE is presently reviewing the CSA.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** ESTIMATES ***** Baseline	Current	Pent	Actual Expenditures
Vermilion River Cutoff Bank Protection	TECHE	VERMI	65	04/17/1993A	01/10/1996A	02/11/1996A	\$1,525,783	\$2,204,084	144.4!	\$1,666,590

**Remarks/Status:** The project was modified by moving the dike from the west to the east bank of the Cutoff to better protect the wetlands. The need for the sediment retention fence on the west bank is still undetermined.

The Task Force approved a revised project estimate of \$2,500,000, however current estimate is less.

Condemnation of real estate easements was required because of unclear ownership titles and significantly lengthened the project schedule. Construction was completed in February 1996.

West Bay Sediment Diversion	DELTA	PLAQ	9,831	/ #	/ #	/ #	\$8,517,066	\$20,253,942	237.8!	\$435,324
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**Remarks/Status:** The major portion of the cost increase is for dredging the anchorage as a result of induced shoaling caused by the diversion of flow from the river. A model study of the river and diversion point was completed, providing a basis for estimating the amount of material to be dredged. However, the State of Louisiana was looking into the issue of State-owned waterbottom vs. private ownership, both before and after project construction, and they requested that we not proceed with easement acquisition through condemnation until that issue was resolved.

The revised cost estimate includes \$25,000 for environmental clearance, \$65,000 for WES model study, \$2,500,000 for pipeline relocations, \$9,000,000 for dredging of induced shoaling in the anchorage area, and costs for Project Management and Local Sponsor activities, all of which were not included in the original estimate.

In a letter dated March 1, 1995, the Local Sponsor, LA DNR, requested de-authorization of the project citing cost overruns and its location on the "bird's foot" delta, which the CWPPRA Restoration Plan calls for a phased-abandonment. A letter requesting de-authorization of the project was issued to the Chairman of the Technical Committee on August 25, 1995.

However, at the February 28, 1996 Task Force meeting, the State withdrew its request for de-authorization and work on the project will proceed.

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	ESTIMATES ***** Baseline	Current	Pent	Actual Expenditures
Total Priority List 1 10,621 \$16,323,407 \$27,717,563 169.8 \$5,838,395										
5	Project(s)									
3	Cost Sharing Agreements Executed									
3	Construction Started									
2	Construction Completed									
0	Project(s) Deferred									
0	Project(s) Inactive									
0	Project(s) Deauthorized									

G 3

**Priority List 2**

Clear Marais Bank Protection	CALC	CALCA	1,067	04/29/1996A	08/29/1996A	02/25/1997	\$1,741,311	\$2,000,000	114.8	\$509,864
<b>Remarks/Status:</b>										
The original construction estimate was low, based on the proposed plan in that the rock quantity estimate was less than half of the quantity needed (based on the original design), and the estimate did not include a floatation channel needed for construction. This accounts for most of the cost increase shown. The current estimate is based on the original rock dike design and costs about \$89/foot.										
The Cost Sharing Agreement was executed and approved and the construction contract awarded on August 1, 1996 to Luhr Bros., Inc. for \$2,694,000.										

There is an opportunity to create marsh behind the rock dike between Brannon Canal and Alkalie Ditch using material from GIWW maintenance dredging.

West Belle Pass Headland Restoration	TERRE	LAFOU	472	/ *	/ *	/ *	\$4,854,102	\$5,027,848	103.5	\$399,970
<b>Remarks/Status:</b>										
Full implementation of the project depends upon the State of Louisiana not renewing, or otherwise clearing oyster leases in the project area. LA DNR requested modification to the CSA indicating that all oyster costs, including litigation and awards, would be cost-shared. That request is with COE Division and HQ for approval. LA DNR executed a contract to inventory the oyster leases. The oyster inventory has been received and summarizes that, in general, leases presently										

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES *****	Cont Award	End Const	***** ESTIMATES *****	Baseline	Current	Pent	Actual Expenditures
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**Lead Agency: DEPT. OF THE ARMY, CORPS OF ENGINEERS (CONTINUED)**

**Priority List 2**

cannot support a viable commercial fishery. A project shedule will be developed when a viable plan for addressing the oyster issue is approved.

The Port Fourchon Commission has said it will assume responsibility for the oyster leases.

Total Priority List	2	1,539	\$6,595,413	\$7,027,848	106.5	\$909,834
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- 2 Project(s)
- 1 Cost Sharing Agreements Executed
- 1 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

Channel Armor Gap Crevasse	DELTA	PLAQ	936	10/30/1996	01/27/1997	04/11/1997	\$808,397	\$842,546	104.2	\$185,683
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**Remarks/Status:** Execution of the CSA has been delayed because HQ USACE has rescinded the DE's authority to sign CSA's.

Cost increase is due to additional project management costs, by both Federal and Local Sponsor.

Surveys identified a pipeline in the crevasse area which would be negatively impacted by the project. US Fish & Wildlife reviewed their permit for the pipeline and determined that Shell Pipeline is required to lower it at their own cost. US FWS requested a modification to the alignment and only US FWS- owned lands should be involved.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** ESTIMATES ***** Baseline	Current	Pct	Actual Expenditures
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MRGO Back Dike Marsh Protection	PONT	STBER	755	11/30/1996	08/29/1997	10/31/1997	\$512,199	\$589,871	115.1	\$137,764
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**Remarks/Status:** Cost increase is due to additional project management costs, by both Federal and Local Sponsor. Delays in obtaining Right-of-Entry for surveys impacted the project design and permitting schedule. Further, title research indicates that private ownership titles are unclear, requiring condemnation. This accounts for the long period between CSA execution and project construction.

Pass-a-Loutre Crevasse	DELTA	PLAQ	1,043	/ *	/ *	/ *	\$2,857,790	\$2,870,937	100.4	\$87,845
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**Remarks/Status:** It has been determined that two pipelines and a major utility line are in the area of the crevasse and will negatively impact the project. LA DNR asked that the Corps investigate alternative locations to avoid or minimize impacts to the pipelines, but there are no more suitable locations for the cut. We are now reviewing the design to determine whether cost-savings can be effected by reconfiguring the design, and will report a new cost to LA DNR and the Task Force to see if the project is still feasible. A new schedule will be developed if the project proceeds.

Total Priority List	3	2,734	\$4,178,386	\$4,303,354	102.9	\$411,292
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- 3 Project(s)
- 0 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES	Cont Award	End Const	***** ESTIMATES *****	Baseline	Current	Pcnt	Actual Expenditures
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Priority List 4

Beneficial Use of Hopper Dredge Material Demo	DELTA	PLAQ	380	/	/	/	/	***** ESTIMATES *****	\$300,000	\$300,000	100.0	\$7,600
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**Remarks/Status:** The estimate to execute this project as proposed (pumping out of hopper), indicates that it is not a viable project - even as a demo. LA DNR requested that the hoppers dump the material in crevasses, but there are concerns that the hopper dredges cannot get close enough to the crevasses to avoid dropping the material in the navigation channel. We are continuing to work on an implementation plan.

Black Bayou Culverts (Project inactive)	CALC	CALCA	837	/	/	/	/	***** ESTIMATES *****	\$8,295,976	\$0	100.0	\$0
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**Remarks/Status:** Project inactive at the request of the State of Louisiana due to lack of funds to cost share on the project.

Grand Bay Crevasse	DELTA	PLAQ	634	/	/	/	/	***** ESTIMATES *****	\$2,468,908	\$2,468,908	100.0	\$43,593
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**Remarks/Status:** The major landowner has withheld ROE because of concern about sedimentation negatively impacting oil and gas interests within the deposition area. We are working with the landowner to see if those impacts can be avoided. A new schedule will be developed when and if ROE is obtained.

Marsh Island Marsh Creation & Hydrologic Restoration (Project inactive)	TECHE	IBERI	408	/	/	/	/	***** ESTIMATES *****	\$3,906,853	\$0	100.0	\$0
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**Remarks/Status:** Project inactive at the request of the State of Louisiana due to lack of funds to cost share on the project.

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	***** End Const	***** Baseline	***** Current	***** Pent	***** Actual Expenditures
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Pass-a-Loutre Sediment Mining (Project inactive)	DELTA	PLAQ	120	/ *	/ *		\$1,632,691	\$0	100.0	\$0
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Remarks/Status: Project inactive at the request of the State of Louisiana due to lack of funds to cost share on the project.

Total Priority List	4	2,379					\$16,604,428	\$2,768,908	100.0	\$51,193
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- 5 Project(s)
- 0 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 3 Project(s) Inactive
- 3 Project(s) Deauthorized

**Priority List 5**

Bayou Chevee	PONT	ORL	199	/ *	06/26/1998	/ *	\$2,890,821	\$2,890,821	100.0	\$1,518
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Remarks/Status:

Total Priority List	5	199					\$2,890,821	\$2,890,821	100.0	\$1,518
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- 1 Project(s)
- 0 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	Cont Award	End Const	***** ESTIMATES *****	Current	Pcnt Expenditures	Actual Expenditures
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Total Dept. Of The Army, Corps Of Engineers				17,472			\$46,592,455	\$44,708,494	125.6	\$7,212,232
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- 16 Project(s)
- 4 Cost Sharing Agreements Executed
- 4 Construction Started
- 2 Construction Completed
- 0 Project(s) Deferred
- 3 Project(s) Inactive
- 3 Project(s) Deauthorized

Notes:

1. Expenditures based on Corps of Engineers financial data.
2. Date codes: A = Actual date \* = Behind scheduled
3. Percent codes: ! = 125% of baseline estimate exceeded



COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT BASIN PARISH ACRES CSA \*\*\*\*\* SCHEDULES \*\*\*\*\* Cont Award End Const \*\*\*\*\* ESTIMATES \*\*\*\*\* Current Baseline Pcnt Expenditures Actual

Lead Agency: ENVIRONMENTAL PROTECTION AGENCY, REGION 6

Priority List 0

State of Louisiana Wetlands Conservation Plan	ALL	COAST	0	06/13/1995A	/ *	\$238,171	\$238,171	100.0	\$179,153
<b>Remarks/Status:</b>									
Total Priority List 0 0									

- 1 Project(s)
- 1 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

Priority List 1

Isles Dernieres (Phase 0)	TERRE	TERRE	9	04/17/1993A	/ *	\$6,345,468	\$6,350,163	100.0	\$351,890
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**Remarks/Status:** This phase of the Isles Dernieres restoration project is being combined with Isles Dernieres, Phase 1 (Trinity Island), a priority list 2 project.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES *****	ESTIMATES *****	Current	Percent	Actual Expenditures
				Cont Award	End Const	Baseline			
Total Priority List 1 9									
1							\$6,345,468	100.0	\$351,890

- 1 Project(s)
- 1 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

Priority List 2

Isles Dernieres (Phase 1)	TERRE	TERRE	109	04/17/1993A	/ *	\$6,907,897	\$6,917,897	100.1	\$231,964
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Remarks/Status: Includes actual expenditures for the Isles Dernieres (Phase 1) project. Project on hold pending resolution of servitude impasse between LL&E and DNR; project start estimated.

Total Priority List 2 109

- 1 Project(s)
- 1 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

\$6,907,897	\$6,917,897	100.1	\$231,964
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**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Baseline	Current	Pcnt Expenditures	Actual Expenditures
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**Priority List 3**

Red Mud Demo	Ponte	STJON	3	11/03/1994A	07/08/1996A	09/30/1996	\$350,000	\$505,606	144.4	\$11,356
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**Remarks/Status:** The Cost Sharing Agreement (CSA) has been amended to reflect total Federal and State costs of \$410,000 plus Kaiser contribution of \$318,435 toward monitoring costs. Total project cost is estimated to be \$788,935.

Bids for construction were opened on January 31, 1996. Project construction started July 8, 1996, and estimated construction completion is September 30, 1996.

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Whiskey Island Restoration	TERRE	TERRE	1,239	04/06/1995A	/ *	/ *	\$4,844,274	\$4,857,766	100.2	\$51,620
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**Remarks/Status:** Construction pending on LL&E and LA DNR resolution regarding servitude and ownership.

Total Priority List	3	1,242					\$5,194,274	\$5,363,372	103.2	\$62,976
---------------------	---	-------	--	--	--	--	-------------	-------------	-------	----------

- 2 Project(s)
- 2 Cost Sharing Agreements Executed
- 1 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

**Priority List 4**

Compost Demo	CALC	CAMER	7	03/14/1996A	04/01/1997	06/01/1997	\$370,594	\$368,594	99.4	\$0
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**Remarks/Status:** Request for proposals for engineering/design has been issued with closing date of September 6, 1996.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
 Project Status Summary Report - Lead Agency

CELMN-PP  
 Report LDAGNCI

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES	Cont Award	End Const	ESTIMATES	Current	Baseline	Pent	Actual
					*****			*****				Expenditures
Total Priority List	4		7						\$368,594	\$370,594	99.4	\$0
1 Project(s)												
1 Cost Sharing Agreements Executed												
0 Construction Started												
0 Construction Completed												
0 Project(s) Deferred												
0 Project(s) Inactive												
0 Project(s) Deauthorized												

Priority List 5

Bayou Lafourche Siphon - Phase 1	TERRE	ASCEN	428						\$1,000,000	\$1,000,000	100.0	\$0
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Remarks/Status: The 5th Priority List authorized funding in the amount of \$1,000,000 for the FY 96 Phase 1 of this project. The other phases of this project will require an additional \$23,487,337 from future priority lists if implemented.

The public has been involved in development of the scope of the first phase in carrying out this project by presenting statements at the four public meetings or submitting written comments. A Responsiveness Summary and Revised Plan of Work has been provided to the project mailing list of 600. Work has begun gathering stream flow data and drainage surveys.

Total Priority List	5		428						\$1,000,000	\$1,000,000	100.0	\$0
1 Project(s)												
0 Cost Sharing Agreements Executed												
0 Construction Started												
0 Construction Completed												
0 Project(s) Deferred												
0 Project(s) Inactive												
0 Project(s) Deauthorized												

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	ESTIMATES ***** Current	Baseline	Pent Expenditures	Actual Expenditures
Total Environmental Protection Agency, Region 6										
			1,795				\$20,238,197	\$20,056,404	100.9	\$825,983
7										
6										
1										
0										
0										
0										
0										
0										

- 7 Project(s)
- 6 Cost Sharing Agreements Executed
- 1 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

Notes:

1. Expenditures based on Corps of Engineers financial data.
2. Date codes: A = Actual date \* = Behind scheduled
3. Percent codes: ! = 125% of baseline estimate exceeded

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
 Project Status Summary Report - Lead Agency

CELMN-PP  
 Report LDAGNC1

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES	Cont Award	End Const	ESTIMATES	Current	Baseline	Pct	Actual Expenditures
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Lead Agency: DEPT. OF THE INTERIOR, FISH & WILDLIFE SERVICE

Priority List 1

Bayou Sauvage #1	PONT	ORL	1,550	04/17/1993A	06/01/1995A	05/30/1996A		\$1,657,708	\$1,499,548		90.4	\$915,556
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Remarks/Status: Project completed May 30, 1996. A dedication ceremony was held in mid-summer 1996.

Cameron Prairie Refuge Shoreline Protection	MERM	CAMER	247	04/17/1993A	05/19/1994A	08/09/1994A		\$1,177,668	\$1,465,666		124.4	\$898,584
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Remarks/Status: Project complete 9 August 1994.

An initial monitoring plan has been approved.

Cameron-Creole Watershed Hydrologic Restoration	CALC	CAMER	600	04/17/1993A	10/01/1996	01/01/1997		\$660,460	\$754,646		114.2	\$82,426
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Remarks/Status: On April 9, 1996 a bid opening was held. Rimroch Enterprises of Justin, Tx, is the apparent low bidder. A preconstruction conference was held on May 31, 1996. Materials have been ordered, but delays in delivery of sheet piling have delayed actual construction start.

Sabine Wildlife Refuge Erosion Protection	CALC	CAMER	5,542	04/17/1993A	10/24/1994A	03/01/1995A		\$4,895,780	\$1,847,666		37.7	\$1,193,054
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Remarks/Status: Project complete as of March 1, 1995.

CELMN-PP

Report LDAGNC1

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

Project Status Summary Report - Lead Agency

Date: 09/14/1996

Page: 2

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES *****	Cont Award	End Const	***** ESTIMATES *****	Baseline	Current	Pcnt	Actual Expenditures
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Total Priority List	1		7,939						\$8,391,616	\$5,567,526	66.3	\$3,089,620
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- 4 Project(s)
- 4 Cost Sharing Agreements Executed
- 3 Construction Started
- 3 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

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Priority List 2

Bayou Sauvage #2	PONT	ORL	1,280	06/30/1994A	04/15/1996A	12/01/1996			\$1,452,035	\$1,462,000	100.6	\$185,632
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Remarks/Status: Design is complete. A Cost Sharing Agreement was executed June 30, 1994.

Project construction began on April 15, 1996. Constructin has been delayed by heavy rain; however, it is on schedule.

Total Priority List	2		1,280						\$1,452,035	\$1,462,000	100.6	\$185,632
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- 1 Project(s)
- 1 Cost Sharing Agreements Executed
- 1 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Baseline	Current	Pent	Actual Expenditures
<b>Priority List 3</b>										
Sabine Refuge Structures (Hog Island)	CALC	CAMER	953	/ *	06/30/1997	12/31/1998	\$4,581,454	\$4,605,297	100.5	\$10,896

Remarks/Status: A Cost Sharing Agreement (CSA) was signed by LA DNR in August 1996. This agreement is being reviewed and is awaiting signature by FWS Regional Director.

Total Priority List 3 953 \$4,581,454 \$4,605,297 100.5 \$10,896

- 1 Project(s)
- 0 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Baseline	Current	Pent	Actual Expenditures
<b>Priority List 5</b>										
Grand Bayou / GIWW Freshwater Introduction	TERRE	LAFOU	1,575	/ *			\$5,135,468	\$5,135,468	100.0	\$0

Remarks/Status: Project was approved on Priority List 5. Ron Paille is the contact person for the FWS on this project.



COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Current	ESTIMATES Baseline	Pent	Actual Expenditures
Total Priority List				5	1,575		\$5,135,468	\$5,135,468	100.0	\$0
1	Project(s)									
0	Cost Sharing Agreements Executed									
0	Construction Started									
0	Construction Completed									
0	Project(s) Deferred									
0	Project(s) Inactive									
0	Project(s) Deauthorized									
<hr/>										
Total Dept. Of The Interior, Fish & Wildlife Service				11,747			\$19,560,573	\$16,770,291	85.7	\$3,286,148
7	Project(s)									
5	Cost Sharing Agreements Executed									
4	Construction Started									
3	Construction Completed									
0	Project(s) Deferred									
0	Project(s) Inactive									
0	Project(s) Deauthorized									

Notes:  
 1. Expenditures based on Corps of Engineers financial data.  
 2. Date codes: A = Actual date \* = Behind scheduled  
 3. Percent codes: ! = 125% of baseline estimate exceeded

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES *****	Cont Award	End Const	***** ESTIMATES *****	Baseline	Current	Pent	Actual Expenditures
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**Lead Agency: DEPT. OF COMMERCE, NATIONAL MARINE FISHERIES SERVICE**

**Priority List 1**

Fourchon Hydrologic Restoration (Project deferred)	TERRE	LAFOU	160	/ *	/ *	/ *		\$252,036	\$6,999	2.7		\$6,999
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**Remarks/Status:** In a meeting on October 7, 1993, Port Fourchon conveyed to NMFS personnel that any additional work in the project area could be conducted by the Port and they did not wish to see the project pursued because they question its benefits and are concerned that undesired Government / general public involvement would result after implementation.

NMFS has recommended to the Task Force that the project be deauthorized and the Task Force concurred at the July 14, 1994 meeting.

Lower Bayou LaCache Hydrologic Restoration (Project deferred)	TERRE	TERRE	85	04/17/1993 A	/ *	/ *		\$1,694,801	\$788,097	46.5		\$788,097
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**Remarks/Status:** In a public hearing on September 22, 1993, with landowners in the project area, users strenuously objected to the proposed closure of the two east-west connections between Bayou Petit Caillou and Bayou Terrebonne. The integrity of the project with these openings must be determined before proceeding with project implementation. As a design response, a boat bay has been proposed for one of the two east-west connections.

NMFS has received a letter from LA DNR, dated February 6, 1995, recommending de-authorization of the project. NMFS has forwarded letter to COE for Task Force approval.

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	***** ESTIMATES ***** Baseline	Current	Pct	Actual Expenditures
Total Priority List 1 245 \$1,946,837 \$795,096 57.8 \$795,096									
2 Project(s)									
1 Cost Sharing Agreements Executed									
0 Construction Started									
0 Construction Completed									
2 Project(s) Deferred									
0 Project(s) Inactive									
2 Project(s) Deauthorized									

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Priority List 2

Atchafalaya Sediment Delivery	ATCH	STMRY	2,232	08/01/1994A	11/30/1997	10/29/1998	\$907,810	\$924,599	101.8	\$662,765
<b>Remarks/Status:</b>										
Big Island Mining (Increment 1)	ATCH	STMRY	1,560	08/01/1994A	11/30/1997	10/29/1998	\$4,136,057	\$4,153,617	100.4	\$2,951,691
<b>Remarks/Status:</b>										
Point Au Fer	TERRE	TERRE	375	01/01/1994A	10/01/1995A	09/30/1996	\$1,069,589	\$1,355,115	126.6	\$801,665
<b>Remarks/Status:</b> Construction for the project will be accomplished in two phases. Phase I construction on the wooden plugs in the oil and gas access canals in Area 1 was completed December 22, 1995. Phase II construction is Area 2 has been delayed until suitable materials can be found to backfill the canal fronting the Gulf of Mexico. Phase II construction is slated for completion by September 30, 1996.										

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES	ESTIMATES	Actual
				Cont Award	End Const	Baseline	Pent Expenditures
Total Priority List	2		4,167			\$6,113,456	\$4,416,121
3 Project(s)							
3 Cost Sharing Agreements Executed							
1 Construction Started							
0 Construction Completed							
0 Project(s) Deferred							
0 Project(s) Inactive							
0 Project(s) Deauthorized							

Priority List 3

Bayou Perot / Bayou Rigolettes Marsh	BARA	JEFF	1,065	03/01/1995A	/	\$1,835,047	\$1,848,037	100.7	\$1,290,382
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**Remarks/Status:** A feasibility study conducted by LA DNR indicated that possible wetlands benefits from construction of this project are questionable. LA DNR has indicated a willingness to deauthorize the project. In April 1996, LA DNR had asked to reconsider the project with potential of combining this with two other projects in the watershed. Discussions are on-going at this time on the proposal.

East Timbalier Island Restoration #1	TERRE	LAFOU	1,913	02/01/1995A	08/01/1997	\$2,046,971	\$2,060,766	100.6	\$1,443,167
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**Remarks/Status:**

Lake Chapeau Sediment Input & Hydrologic Restoration	TERRE	TERRE	509	03/01/1995A	03/31/1997	\$4,149,182	\$4,166,527	100.4	\$2,946,439
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**Remarks/Status:** Preliminary engineering and design plans will be reviewed in July 1996. Field surveying and geotechnical data collection completed in May 1996.

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** ESTIMATES ***** Baseline	Current	Pcnt	Actual Expenditures
Lake Salvador Shore Protection Demonstration	BARA	STCHA	0	03/01/1995A	01/31/1997	03/31/1997	\$1,444,628	\$1,457,637	100.9	\$1,058,083
<b>Remarks/Status:</b>										
Total Priority List 3 3,487										
4 Project(s)										
4 Cost Sharing Agreements Executed										
0 Construction Started										
0 Construction Completed										
0 Project(s) Deferred										
0 Project(s) Inactive										
0 Project(s) Deauthorized										

**Priority List 4**

East Timbalier Barrier Island Restoration #2	TERRE	LAFOU	215	05/15/1995A	08/01/1997	12/31/1997	\$5,752,404	\$5,752,404	100.0	\$23,372
<b>Remarks/Status:</b>										
Eden Isles East Marsh Restoration	PONT	STTAM	1,453	/ *	/ *	/ *	\$5,018,968	\$5,018,968	100.0	\$0
<b>Remarks/Status:</b> Representatives of the CWPPRA Task Force are discussing with present landowner on the donation or acquisition of a large amount of the tract for restoration.										

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
Project Status Summary Report - Lead Agency

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Baseline	Current	Pent	Actual Expenditures
Total Priority List				4	1,668		\$10,771,372	\$10,771,372	100.0	\$23,372
2 Project(s)										
1 Cost Sharing Agreements Executed										
0 Construction Started										
0 Construction Completed										
0 Project(s) Deferred										
0 Project(s) Inactive										
0 Project(s) Deauthorized										

**Priority List 5**

Project	TECHE	VERMI	441	/ *	/ *	/ *	\$940,065	\$940,065	100.0	\$0
Little Vermilion Bay Sediment Trapping										

**Remarks/Status:**

Project	BARA	PLAQ	1,117	/ *	12/01/1998	/ *	\$4,500,000	\$4,500,000	100.0	\$0
Myrtle Grove Siphon, Ph 1										

**Remarks/Status:** The 5th Priority List authorized funding in the amount of \$4,500,000 for the FY 96 Phase 1 of this project. The other phases of this project will require an additional \$11,026,000 from future priority lists if implemented.

Early site investigations have been initiated. A cooperative agreement with LA DNR should be approved by September 1, 1996.

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
**Project Status Summary Report - Lead Agency**

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Current	Baseline	Pcnt	Actual Expenditures
*****										
Total Priority List				5	1,558		\$5,440,065	\$5,440,065	100.0	\$0
*****										
2 Project(s)										
0 Cost Sharing Agreements Executed										
0 Construction Started										
0 Construction Completed										
0 Project(s) Deferred										
0 Project(s) Inactive										
0 Project(s) Deauthorized										
*****										
Total Dept. Of Commerce, National Marine Fisheries Service					11,125		\$33,747,558	\$32,972,831	98.6	\$11,972,660
*****										
13 Project(s)										
9 Cost Sharing Agreements Executed										
1 Construction Started										
0 Construction Completed										
2 Project(s) Deferred										
0 Project(s) Inactive										
2 Project(s) Deauthorized										

Notes:  
 1. Expenditures based on Corps of Engineers financial data.  
 2. Date codes: A = Actual date \* = Behind scheduled  
 3. Percent codes: ! = 125% of baseline estimate exceeded

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
 Project Status Summary Report - Lead Agency

CELMN-PP  
 Report LDAGNCI

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** ESTIMATES ***** Baseline	Current	Pcnt Expenditures
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Lead Agency: DEPT. OF AGRICULTURE, NATURAL RESOURCES CONSERVATION  
 SERVICE

Priority List 1

BA-2 GIWW to Clovelly Wetland Restoration	BARA	LAFOU	6,144	04/17/1993A	11/15/1996	12/01/1997	\$8,141,512	\$8,174,525	100.4
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Remarks/Status: The project has been divided into a number of smaller contracts in order to expedite implementation.

Vegetative Plantings - West Hackberry	CALC	CAMER	96	04/17/1993A	04/15/1993A	03/30/1994A	\$213,947	\$222,008	103.7
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Remarks/Status: Sub-project of the Vegetative Plantings project.

Vegetative Plantings - Dewitt-Rollover (Project deferred)	CALC	VERMI	310	04/17/1993A	07/11/1994A	08/26/1994A	\$191,003	\$78,178	40.9
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Remarks/Status: Sub-project of the Vegetative Plantings project.

Dewitt-Rollover has been de-authorized.

Vegetative Plantings - Timbalier Island	TERRE	TERRE	167	04/17/1993A	03/15/1995A	07/30/1996A	\$372,589	\$416,365	111.7
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Remarks/Status: Sub-project of the Vegetative Plantings project.

The contract to install the sand fences has been completed and the vegetation was planted during the summer of 1996.

Vegetative Plantings - Falgout Canal	TERRE	TERRE	50	04/17/1993A	08/30/1996A	11/30/1996	\$144,561	\$149,715	103.5
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Remarks/Status: Sub-project of the Vegetative Plantings project.

Total Vegetative Plantings							\$922,100	\$866,266	
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\$349,005



PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	***** ESTIMATES ***** End Const	***** ESTIMATES ***** Current	***** ESTIMATES ***** Pent Expenditures	Actual
Total Priority List 1 6,767 \$9,063,612 \$9,040,791 100.5 \$915,988									
5 Project(s)									
5 Cost Sharing Agreements Executed									
4 Construction Started									
3 Construction Completed									
1 Project(s) Deferred									
0 Project(s) Inactive									
1 Project(s) Deauthorized									

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**Priority List 2**

Boston Canal / Vermilion Bay	TERRE	VERMI	378	03/24/1994A	09/13/1994A	11/30/1995A	\$1,008,634	\$1,032,383	102.3	\$666,502
<b>Remarks/Status:</b> The structural portion of the project - shoreline protection - is complete.										
The vegetative portion of the project is complete.										
Brown Lake	CALC	CAMER	282	03/28/1994A	11/01/1997	10/01/1998	\$3,222,800	\$3,236,971	100.4	\$126,296
<b>Remarks/Status:</b>										
Caernarvon Outfall Management	BRET	PLAQ	812	10/13/1994A	11/01/1997	10/01/1998	\$2,522,199	\$2,637,390	104.5	\$148,450
<b>Remarks/Status:</b>										

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
**Project Status Summary Report - Lead Agency**

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** ESTIMATES ***** Baseline	Current	Pct	Actual Expenditures
Freshwater Bayou	MERM	VERMI	1,593	08/17/1994A	08/29/1994A	09/01/1997	\$2,770,093	\$2,774,182	100.1	\$1,069,762
<p><b>Remarks/Status:</b> The project has been expedited in order to allow the use of stone removed from the Wax Lake Outlet Weir at a substantial cost savings. Construction is included as an option in the Corps of Engineers contract for the Wax Lake Outlet Weir removal. Option was exercised on September 2, 1994.</p> <p>The rock bank protection was Phase I of this project and was completed on January 26, 1995. Phase II will consist of installing water control structures to benefit the interior marsh area.</p>										
Fritchie Marsh	PONT	S TTAM	1,040	02/21/1995A	08/01/1997	06/01/1998	\$3,048,389	\$3,062,571	100.4	\$82,796
<p><b>Remarks/Status:</b></p>										
Hwy 384	CALC	CAMER	150	10/13/1994A	02/01/1997	02/28/1998	\$700,715	\$714,891	102.0	\$28,796
<p><b>Remarks/Status:</b></p>										
Jonathan Davis Wetland	BARA	JEFF	510	01/05/1995A	01/31/1997	01/31/1998	\$3,398,867	\$3,418,802	100.5	\$222,226
<p><b>Remarks/Status:</b></p>										
Mud Lake	CALC	CAMER	1,520	03/24/1994A	10/01/1995A	06/15/1996A	\$2,903,635	\$2,925,580	100.7	\$1,346,206
<p><b>Remarks/Status:</b> Bid opening was August 8, 1995 and contract awarded to Crain Bros. Construction started in early October 1995. Water control structures are installed and the vegetation installed in the summer of 1996.</p>										

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES Cont Award	End Const	ESTIMATES Current	Percent Expenditures	Actual Expenditures
Total Priority List	2		6,285				\$19,802,770	101.1	\$3,691,034
8 Project(s)									
8 Cost Sharing Agreements Executed									
3 Construction Started									
2 Construction Completed									
0 Project(s) Deferred									
0 Project(s) Inactive									
0 Project(s) Deauthorized									

**Priority List 3**

TERRE	TERRE	TERRE	TERRE	TERRE	TERRE	TERRE	TERRE	TERRE	TERRE
Brady Canal			297	10/13/1994A	08/01/1997	08/30/1998	\$4,717,928	100.3	\$7,597
Cameron-Creole Maintenance	CALC	CAMER	2,602	01/02/1997	06/15/1997	03/31/2017	\$3,719,926	100.2	\$5,101

**Remarks/Status:** This project provides for maintenance on an as-needed basis, therefore, a definite design completion start date cannot be set.

TERRE	TECHE	STMRY	TECHE	STMRY	TECHE	STMRY	TECHE	STMRY	TECHE
Cote Blanche Hydrologic Restoration			2,233	01/30/1997	08/01/1997	09/01/1998	\$5,173,062	100.2	\$46,060

**Remarks/Status:**

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
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PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES	Cont Award	End Const	ESTIMATES	Current	Baseline	Pct	Actual
												Expenditures
SW Shore White Lake Demo	MERM	VERMI	16	01/11/1995A	04/30/1996A	07/31/1996A		\$126,062	\$145,142	\$126,062	115.1	\$11,287
Remarks/Status:												
Violet Freshwater Distribution	PONT	STBER	247	10/13/1994A	03/30/1998	05/01/1999		\$1,821,438	\$1,834,477	\$1,821,438	100.7	\$5,804
Remarks/Status:												
West Pointe-a-la-Hache Outfall Management	BARA	PLAQ	1,087	01/05/1995A	11/30/1997	07/30/1998		\$881,148	\$894,137	\$881,148	101.4	\$5,697
Remarks/Status:												
White's Ditch Outfall Management	BRET	PLAQ	37	10/13/1994A	08/30/1998	11/30/1998		\$756,134	\$770,331	\$756,134	101.8	\$6,043
Remarks/Status:												
Total Priority List			3	6,519				\$17,195,698	\$17,292,041	\$17,195,698	100.5	\$87,589

- 7 Project(s)
- 5 Cost Sharing Agreements Executed
- 1 Construction Started
- 1 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
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PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	***** End Const	***** Baseline	***** ESTIMATES ***** Current	***** Pent Expenditures
<b>Priority List 4</b>									
Barataria Bay Waterway Bank Protection (West)	BARA	JEFF	232	01/30/1997	03/01/1998	11/01/1998	\$2,192,418	\$2,192,418	100.0 \$0
<b>Remarks/Status:</b>									
Barataria Bay Waterway Bank Protection (East) (Project inactive)	BARA	JEFF	217	/ *	/ *	/ *	\$2,360,589	\$0	100.0 \$0
<b>Remarks/Status:</b> Project inactive at the request of the State of Louisiana due to lack of funds to cost share on the project.									
Bayou L'Ours Ridge Hydrologic Restoration	BARA	LAFOU	737	01/30/1997	04/30/1998	06/01/1999	\$2,418,676	\$2,418,676	100.0 \$0
<b>Remarks/Status:</b>									
Flotant Marsh Fencing Demo	TERRE	TERRE	0	01/30/1997	06/01/1997	03/31/1998	\$367,066	\$367,066	100.0 \$0
<b>Remarks/Status:</b>									
Perry Ridge Bank Protection	CALC	CALCA	1,203	01/30/1997	08/01/1997	09/30/1998	\$2,223,518	\$2,223,518	100.0 \$0
<b>Remarks/Status:</b>									

PROJECT	BASIN	PARISH	ACRES	CSA	***** SCHEDULES *****	***** ESTIMATES *****	Actual Expenditures
				Cont Award	End Const	Baseline	Pent
Plowed Terraces Demo	CALC	CAMER	90	01/30/1997	05/01/1997	\$299,690	\$0
<b>Remarks/Status:</b>							
Total Priority List	4		2,479			\$9,861,957	\$0
6 Project(s)							
0 Cost Sharing Agreements Executed							
0 Construction Started							
0 Construction Completed							
0 Project(s) Deferred							
1 Project(s) Inactive							
1 Project(s) Deauthorized							

**Priority List 5**

Freshwater Bayou Bank Stabilization	MERM	VERMI	511	01/30/1997	01/30/1997	\$3,998,919	\$0
<b>Remarks/Status:</b>							
Naomi Outfall Management	TERRE	PLAQ	636	01/01/1997	10/01/1998	\$1,686,865	\$0
<b>Remarks/Status:</b>							
Raccoon Island Breakwaters	TERRE	TERRE	0	01/30/1997	04/01/1997	\$1,497,538	\$0
<b>Remarks/Status:</b>							

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
**Project Status Summary Report - Lead Agency**

PROJECT	BASIN	PARISH	ACRES	CSA	SCHEDULES ***** Cont Award	End Const	***** Baseline	ESTIMATES ***** Current	Pcnt Expenditures	Actual Expenditures
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Sweet Lake/Willow Lake, Ph	Calca	CAMER	320	01/01/1997	06/01/1998	06/01/1999	\$2,299,769	\$2,299,769	100.0	\$0
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**Remarks/Status:** The 5th Priority List authorized funding in the amount of \$2,300,000 for the FY 96 Phase 1 of this project. The other phases of this project will require an additional \$2,463,000 from future priority lists if implemented.

Total Priority List	5		1,467				\$9,483,091	\$9,483,091	100.0	\$0
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- 4 Project(s)
- 0 Cost Sharing Agreements Executed
- 0 Construction Started
- 0 Construction Completed
- 0 Project(s) Deferred
- 0 Project(s) Inactive
- 0 Project(s) Deauthorized

Total Dept. Of Agriculture, Natural Resources Conservation Service	23,517						\$65,179,690	\$63,120,061	100.5	\$4,694,611
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- 30 Project(s)
- 18 Cost Sharing Agreements Executed
- 8 Construction Started
- 6 Construction Completed
- 1 Project(s) Deferred
- 1 Project(s) Inactive
- 2 Project(s) Deauthorized

**Notes:**  
 1. Expenditures based on Corps of Engineers financial data.  
 2. Date codes: A = Actual date \* = Behind scheduled  
 3. Percent codes: ! = 125% of baseline estimate exceeded

**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
**Project Status Summary Report - Total All Priority Lists**

Date: 09/14/1996  
 Page: 1

CELMN-PP  
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PROJECT	BASIN	PARISH	ACRES	CSA	***** SCHEDULES *****	***** ESTIMATES *****	Current	Pcnt	Actual Expenditures
					Cont Award	Baseline			
SUMMARY	Total All Projects		65,656			\$185,136,680	177,809,874	105.0	\$27,991,634

Project(s)	Total Available Funds
73 Project(s)	
42 Cost Sharing Agreements Executed	Federal Funds
18 Construction Started	N/F Funds
11 Construction Completed	Total Funds
3 Project(s) Deferred	\$149,526,268.00
4 Project(s) Inactive	\$ 38,719,913.00
7 Project(s) Deauthorized	\$188,246,181.00



**1st Priority Project List****ENVIRONMENTAL PROTECTION AGENCY**

TE-20 Isles Dernieres - Barrier Island Restoration

**U. S. DEPARTMENT OF THE ARMY**

PMR-3 West Bay - Sediment Diversion for Marsh Creation

PP0-10 Bayou La Branche - Marsh Creation

BA-19 Barataria Bay Waterway - Marsh Creation

TV-3 Vermillion River Cutoff - Wetland Creation

**U. S. DEPARTMENT OF COMMERCE**

TE-19 Lower Bayou La Cache Wetland - Hydrologic Restoration

**U. S. DEPARTMENT OF AGRICULTURE**

BA-2 G.I.W.W. to Clovelly - Hydrologic Restoration

Coastal Vegetative Program:

TE-18 Timbalier Island

TE-17 Falgout Canal

ME-8 West Hackberry

ME-8 Dewitt-Rollover Shore

**U. S. DEPARTMENT OF THE INTERIOR**

XP0-52a Bayou Sauvage NWR - Hydrologic Restoration

ME-9 Cameron Prairie NWR - Erosion Prevention

IN-C Sabine NWR - Erosion Prevention

IN-D Cameron-Creole Watershed Project - Borrow Canal Plug

**2nd Priority Project List****U. S. DEPARTMENT OF AGRICULTURE**

CS-9 Brown Lake Hydrologic Restoration

ME-4/XME-21 Freshwater Bayou Wetlands and Shoreline Protection

PBA-35 Jonathan Davis Hydrologic Restoration

PCS-24 East Mud Lake Hydrologic Restoration

PCS-25 Hwy. 384 Hydrologic Restoration

PO-6 Fritchie Marsh Restoration

PTV-18/TV-9 Vermillion Bay / Boston Canal Shoreline Stabilization

BS-3a Caernarvon Outfall Management

**U. S. DEPARTMENT OF COMMERCE**

PAT-2 Crevasses in Atchafalaya Bay East Delta

PTE-22/24 Point Au Fer Island Plugs

XAT-7 Big Island

**U. S. DEPARTMENT OF THE INTERIOR**

PP0-52b Bayou Sauvage Hydrologic Restoration

**U. S. DEPARTMENT OF THE ARMY**

PTE-27 West Belle Pass Headland Restoration

PCS-27 Clear Marais Shore Protection

**ENVIRONMENTAL PROTECTION AGENCY**

XTE-41 Isles Dernieres Restoration

**3rd Priority Project List****U. S. DEPARTMENT OF THE ARMY**

XP0-71 M.R.G.O. Disposal Area Marsh Protection

XMR-10 Channel Armor Gap Crevasse

PMR-8/9a Pass-a-Loutre Crevasse

**U. S. DEPARTMENT OF AGRICULTURE**

BA-4c West Point-a-la-Hache Outfall Management

TV-4 Cote Blanche Hydrologic Restoration

CS-4a Cameron-Creole Maintenance

BS-4a White's Ditch Outfall Management

PTE-26b Brady Canal Hydrologic Restoration

PO-9a Violet Freshwater Distribution

PME-6 SW Shore White Lake Demonstration

**U. S. DEPARTMENT OF COMMERCE**

XBA-65a Restoration of Bayou Perot / Bayou Rigolettes Marsh

XTE-67 East Timbalier Restoration

PTE-23/26a/33 Lake Chapeau Marsh Creation and Hydrologic Restoration

BA-15 Lake Salvador Shoreline Protection Demonstration

**ENVIRONMENTAL PROTECTION AGENCY**

PTE-15bl Whiskey Island Restoration

XTE-43 Modified Red Mud Demonstration

**U. S. DEPARTMENT OF THE INTERIOR**

XCS-47/48I/48J/48p Replace Hog Island, West Cove, and Headquarters Water Control Structures

**4th Priority Project List****U. S. DEPARTMENT OF THE ARMY**

PBS-6 Grand Bay Crevasse

XMR-12 Beneficial Use of Hopper Dredged Material Demo

**NATIONAL MARINE FISHERIES SERVICE**

PP0-4 Eden Isles East Marsh Restoration

XTE-45/67b East Timbalier Barrier Island Restoration

**ENVIRONMENTAL PROTECTION AGENCY**

XCS-36 Compost Demo

**NATURAL RESOURCES CONSERVATION SERVICE (Formerly S. C. S.)**

PCS-26 Perry Ridge Bank Protection

PBA-34 Bayou L'Ours Ridge Hydrologic Restoration

PBA-12a Barataria Bay Waterway Bank Protection (West)

XCS-56 Plowed Terraces Demo

XTE-54b Flotant Marsh Fencing Demo

**5th Priority Project List****U. S. DEPARTMENT OF COMMERCE**

PTV-19 Little Vermillion Bay Sediment Trapping

PBA-48a Siphon at Myrtle Grove

**ENVIRONMENTAL PROTECTION AGENCY**

PBA-20 Bayou Lafourche Siphon Inc. (w/o Cutoff Structure)

**U. S. DEPARTMENT OF THE ARMY**

XP0-69 Marsh Creation at Bayou Chevee

**U. S. DEPARTMENT OF AGRICULTURE**

BA-3c Naomi Outfall Mgmt.

CS-11b Sweet Lake / Willow Lake Hydrologic Rst.

PTE-15bil Raccoon Island Breakwaters Demonstration

XME-29 Freshwater Bayou Bank Stabilization

**U. S. DEPARTMENT OF THE INTERIOR**

TE-10/XTE-49 Grand Bayou / GIWW Freshwater Diversion



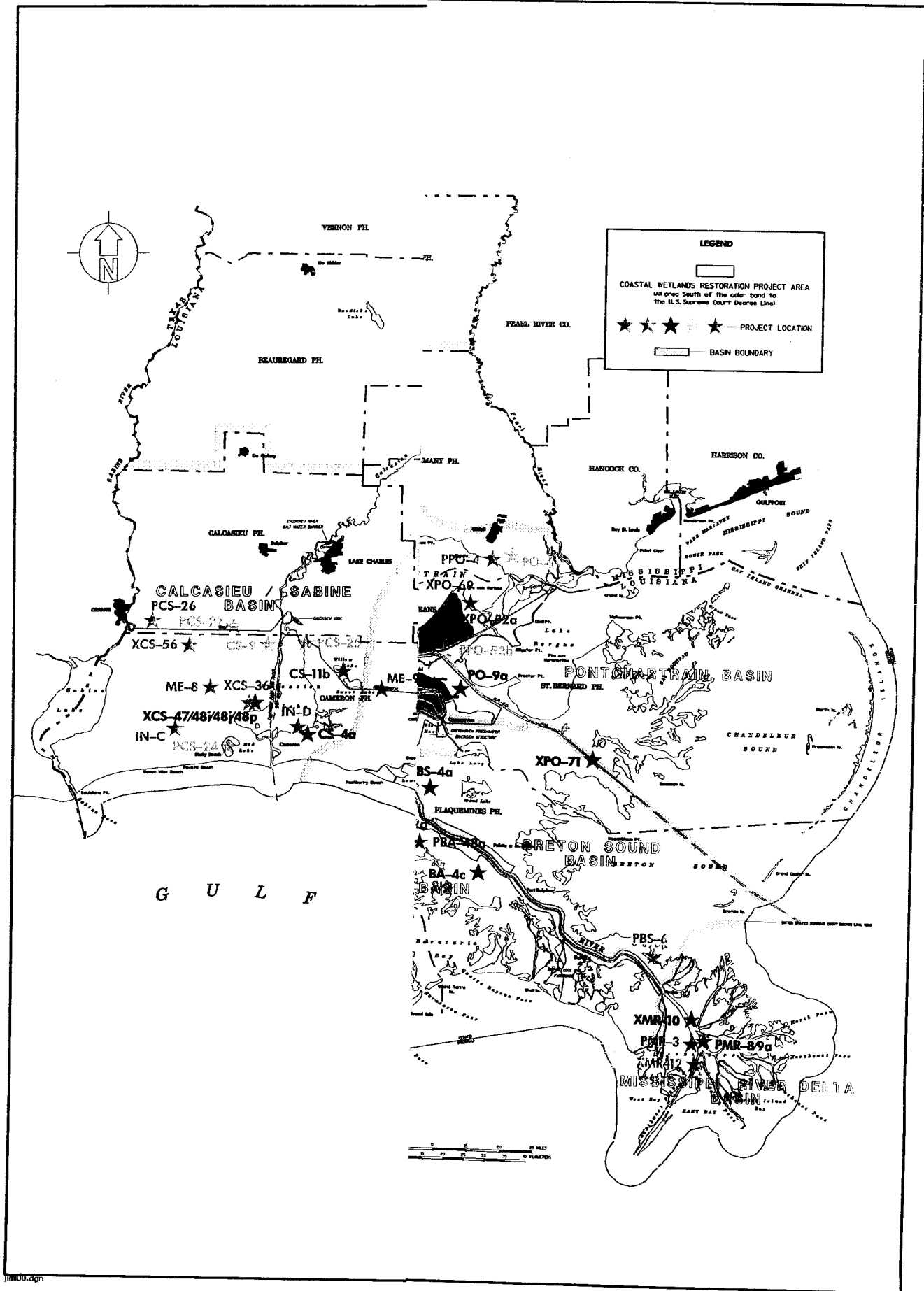


PLATE 1

