Coastal Wetlands Planning, Protection and Restoration Act

9th Priority Project List Report

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Coastal Wetlands Planning, Protection, and Restoration Act

9th 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 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 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 the 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 MR&T to increase flows and sediment to the Atchafalaya River for land building wetland nourishment.
    - 25% if the state has dedicated trust fund from which principal is not spent.
    - 15% when Louisiana's Conservation Plan is approved.

TITLE III--WETLANDS

Sec. 301. SHORT TITLE.

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

Sec. 302. 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, individual 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. 303. PRIORITY LOUISIANA COASTAL WETLANDS RESTORATION PROJECTS.

(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, 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 creating, 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.

(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 waters has been attained;

(5) satisfactory assurance 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.

(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 Wetlands 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.

SEC. 306. 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 wetlands 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.

(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.

(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.".

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. 26, 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.

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Appendix B

Wetland Value Assessment Methodology and Community Models

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Wetland Value Assessment Methodology and Community Models

I. 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) of 1990. 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 (AAHUs), can be combined with economic data to provide a measure of the effectiveness of a proposed project in terms of annualized cost per AAHU gained.

The WVA was developed by the Environmental Work Group (EWG) assembled under the Planning and Evaluation Subcommittee of the CWPPRA Technical Committee; the EWG includes members from each agency represented on the CWPPRA Task Force and members of the Academic Advisory Group. 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/or 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 wetland types: fresh marsh (including intermediate marsh), brackish marsh, and saline marsh. Future reference in this document to "wetland" or "wetland type" refers to one or more of those three communities. For projects impacting bottomland hardwood forest or cypress-tupelo swamp, community models developed for those habitat types by the Louisiana Department of Natural Resources are used.

II. 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 mathematical models 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 1-3) 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/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.

III. 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, 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 CWPPRA.

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 6). 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/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/or 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 marsh type (Attachments 1-3).

IV. SUITABILITY INDEX GRAPHS

Suitability Index (SI) graphs were constructed for each variable selected within a wetland type. A suitability index 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 numerically describe, through a Suitability Index, the habitat quality of a wetland area for any variable value. Each Suitability Index ranges from 0.1 to 1.0, with 1.0 representing the optimum condition for the variable in question.

A variety of resources were utilized to construct each SI graph, including personal knowledge of EWG members, the HSI models from which the final list of variables was partially derived, consultation with other professionals and researchers outside the EWG, 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 V_1 under each marsh model (see discussion below).

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

V. SUITABILITY INDEX GRAPH ASSUMPTIONS

Suitability Index graphs were developed according to the following assumptions:

1. Fresh/Intermediate Marsh Model

Variable V_1- Percent of wetland covered by persistent emergent vegetation (≥ 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 vegetated wetlands. The EWG 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 EWG decided that, all other factors being equal, the WVA should favor projects that maximize emergent marsh creation, maintenance, and protection. Therefore, the EWG agreed to deviate from a strictly biologically-based habitat suitability graph for V_1 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 contribute to oxygen depletion spurred by warm-season decay of large quantities of aquatic vegetation. The EWG recognized, however, that those effects were highly dependent on the dominant aquatic plant species, their growth forms, and their arrangement in the water column. 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 EWG 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 4) 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, interspersion <u>can</u> be indicative of marsh degradation, a factor taken into consideration in assigning suitability indices to the various Interspersion Types.

A relatively high degree of interspersion in the form of stream courses and tidal channels (Interspersion Type 1, Attachment 4) is assumed to be optimal

(SI=1.0); streams and channels offer interspersion, yet are not indicative of active marsh deterioration. Areas exhibiting a high degree of marsh cover are also ranked as optimum, even though interspersion 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 interspersion. Numerous small marsh ponds (Interspersion Type 2) offer a high degree of interspersion, 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 interspersion 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 interspersion, Type 5 (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-dependent 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_6 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/egress (bayous, canals, etc.). Standardized procedures for calculating the Access Value have been established (Attachment 5). It should be noted that access ratings for man-made structures were determined by consensus among Environmental Work Group members and that scientific research has not been conducted to determine the actual access value for each of those structures. 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 marsh with no access is assigned a SI=0.3, reflecting the assumption that, while fresh marshes are important to some species of estuarine-dependent 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. An intermediate marsh with no access is assigned a SI=0.2, reflecting that intermediate marshes are somewhat more important to estuarine organisms than fresh marshes.

2. 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 several species of fish and wildlife. Although brackish marshes generally do not support the amounts and kinds of aquatic plants that occur in fresh/intermediate marshes, certain species, such as widgeon-grass, and coontail and milfoil in lower salinity brackish marshes, can occur abundantly under certain conditions. Those species, particularly widgeon-grass, provide important food and cover for many species of fish and wildlife. Therefore, the V_2 Suitability Index graph in the brackish marsh model is identical to that in the fresh/intermediate model. A brackish marsh entirely lacking aquatic plants is assigned an SI=0.1. 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 EWG 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 is identical to that established for the fresh/intermediate model. However, brackish marshes are assumed to be more important as habitat for estuarine fish and shellfish than fresh/intermediate marshes. Therefore, a brackish marsh providing no access is assigned an SI of 0.1.

3. **Saline Marsh Model**

Variable V_1- Percent of wetland covered by persistent emergent vegetation (≥ 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. Some low-salinity saline marshes may contain beds of widgeon-grass and open water areas behind some barrier islands may contain dense stands of seagrasses (e.g., *Halodule wrightii* and *Thalassia*

testudinum). However, saline marshes typically do not contain an abundance of aquatic vegetation as often found in fresh/intermediate marshes and brackish marshes. Open water areas in saline marshes typically contain sparse aquatic vegetation and are primarily important as nursery areas for marine organisms. Therefore, in order to reflect the importance of those open water areas to marine organisms, a saline marsh lacking aquatic vegetation is assigned a SI=0.3. It is assumed that optimum coverage of aquatic plants occurs at 100 percent aquatic cover.

Variable V_3- 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_4- 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_5- 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_6- 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.

4. Cypress-Tupelo Swamp Model

Variable V_1- 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.

VI. 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 0.1 to 1.0, the HSI also ranges in value from 0.1 to 1.0, and is a numerical representation of the overall or "composite" habitat quality of the particular wetland 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 developing the HSI formulas, the EWG 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 EWG made an *a priori* decision to emphasize variables V_1, V_2, and V_6 by grouping them together, when possible, and weighting them greater than the remaining variables. 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_1, V_2, and V_6 differ by marsh model to reflect differing levels of importance for those variables between 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 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 EWG members.

For several years, 1991 through 1996, the EWG utilized one HSI formula specific to each wetland type (i.e., fresh/intermediate, brackish, and saline) to characterize habitat quality. However, it was noted that Variables V_2 and V_4, which characterize open water areas only, often resulted in an "artificially inflated" HSI when those variable values were optimum (i.e., SI = 1.0) and open water comprised a very small portion of the project area. For example, Project Area A contains 90 percent emergent marsh and 10 percent open water. Project Area B contains 10 percent emergent marsh and 90 percent open water. Assume the open water in each project area is completely covered by submerged aquatic vegetation and is entirely less than 1.5 feet in depth. Under those conditions, the Suitability Index values for V_2 and V_4 would each equal 1.0 for both project areas even though open water only accounts for 10 percent of Project Area A. The EWG has commonly referred to this as a "scaling" problem; the Suitability Index values for V_2 and V_4 are not "scaled" in respect to the proportion of the project area they describe. This allows those variables to contribute disproportionately to the HSI in instances when open water constitutes a small portion of the project area.

The EWG acknowledged that the scaling problem presented a flaw in the WVA methodology resulting in unrealistic HSI values for certain project areas and eventually resulting in inflated wetland benefits for those projects. During 1996 and 1997, Dr. Gary Shaffer assisted the EWG in developing potential solutions to the scaling problem. After several unsuccessful attempts to develop a single HSI formula for each wetland type which scaled the Suitability Index values for V_2 and V_4 based on the ratio of emergent marsh to open water, the EWG decided to develop a "split" model for each wetland type. The split model concept utilizes two HSI formulas for each wetland type; one HSI formula characterizes the emergent marsh habitat within the project area and another HSI

formula characterizes the open water habitat. The HSI formula for the emergent habitat contains only those variables important in assessing habitat quality for emergent marsh (i.e., V_1, V_3, V_5, and V_6). Likewise, the open water HSI formula contains only those variables important in characterizing the open water habitat (i.e., V_2, V_3, V_4, V_5, and V_6). Individual HSI formulas were developed for emergent marsh and open water habitats for fresh/intermediate, brackish, and saline wetlands.

As with the development of a single HSI model for each marsh type, the split models follow the same conventions for weighting and grouping of variables, to increase their importance, as previously discussed.

VII. BENEFIT ASSESSMENT

The net benefits of a proposed project are estimated by predicting future habitat conditions under two scenarios: with the proposed project 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 for the emergent marsh and open water habitat. Those HSIs are then multiplied by the acreage of emergent marsh and open water present at each target year to arrive at Habitat Units. Habitat Units (HUs) represent a numerical combination of quality (HSI) and quantity (acres) existing at any given point in time. The HUs resulting from the future with- and future without-project scenarios are annualized, averaged over the project life, to determine average annual HUs (AAHUs) for the emergent marsh and open water habitats. The "benefit" of a project can be quantified by comparing AAHUs between the future with- and future without-project scenarios. The difference in AAHUs between the two scenarios represents the net benefit attributable to the project in terms of habitat quantity and quality for the emergent marsh and open water habitats.

As previously stated, the primary focus of the CWPPRA is on **vegetated** wetlands. Therefore, in order to place greater emphasis on wetland benefits to emergent marsh, a weighted average of the net benefits (net AAHUs) for emergent marsh and open water is calculated with the emergent marsh AAHUs weighted proportionately higher than the open water AAHUs. The weighted formulas to determine net benefits or net AAHUs for each wetland type are shown below:

Fresh Marsh: $$\frac{2.1(\text{Emergent Marsh AAHUs}) + \text{Open Water AAHUs}}{3.1}$$

Brackish Marsh: $$\frac{2.6(\text{Emergent Marsh AAHUs}) + \text{Open Water AAHUs}}{3.6}$$

Saline Marsh: $\frac{3.5(\text{Emergent Marsh AAHUs}) + \text{Open Water AAHUs}}{4.5}$

Net gain in AAHUs is then combined with annualized cost data to arrive at a cost per AAHU ($/AAHU) or cost-effectiveness figure for the evaluated project. The cost-effectiveness figure, as well as other criteria, are then compared between projects in order to provide a ranked list of candidate projects.

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WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Fresh/Intermediate Marsh

Vegetation:

Variable V_1 Percent of wetland area covered by emergent vegetation ($\geq$ 10% canopy cover).

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

Interspersion:

Variable V_3 Marsh edge and interspersion.

Water Depth:

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

Water Quality:

Variable V_5 Mean high salinity during the growing season (March through November).

Aquatic Organism Access:

Variable V_6 Aquatic organism access.

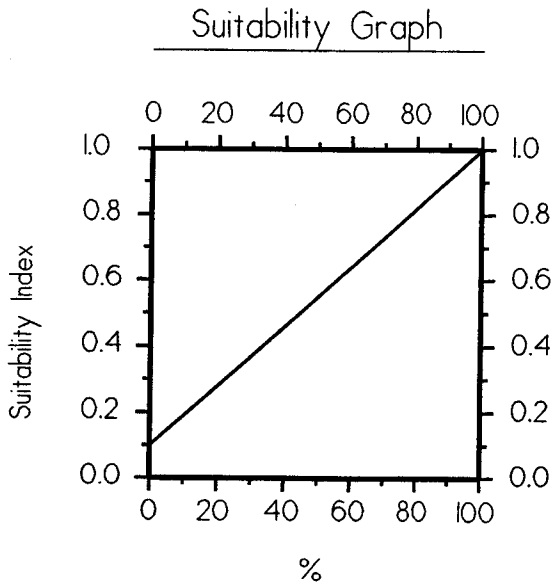
HSI Calculations:

$$Emergent\ Marsh\ HSI = \frac{\left(3.5 \times (SIV_1^{\,5} \times SIV_6^{\,1})^{(1/6)}\right) + \left(\frac{(SIV_3 + SIV_5)}{2}\right)}{4.5}$$

$$Open\ Water\ HSI = \frac{\left(3.5 \times \left(SIV_2^{\,3} \times SIV_6^{\,1}\right)^{(1/4)}\right) + \left(\frac{(SIV_3 + SIV_4 + SIV_5)}{3}\right)}{4.5}$$

FRESH/INTERMEDIATE MARSH

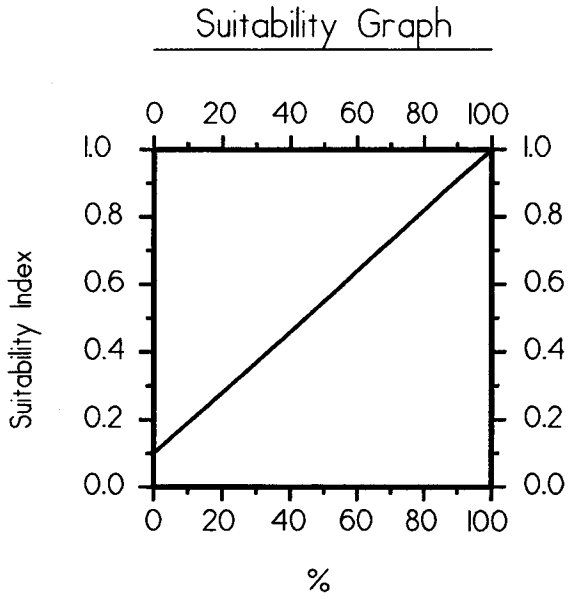
Variable V_1 Percent of wetland area covered by emergent vegetation ($\geq$ 10% canopy cover).



Line Formula

SI = (0.009 * %) + 0.1

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

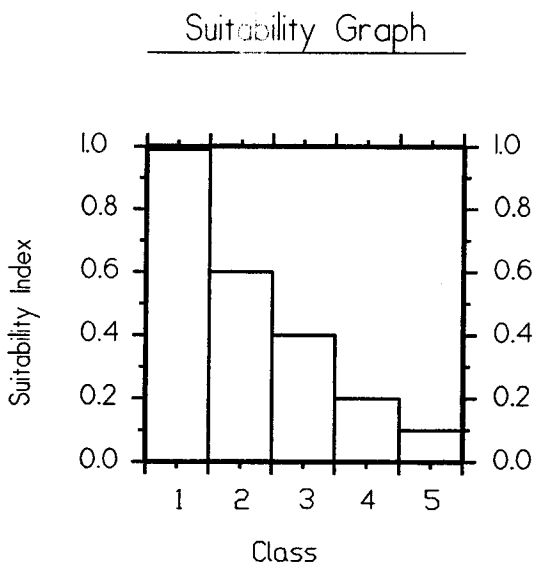


Line Formula

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

FRESH/INTERMEDIATE MARSH

Variable V_3 Marsh edge and interspersion.



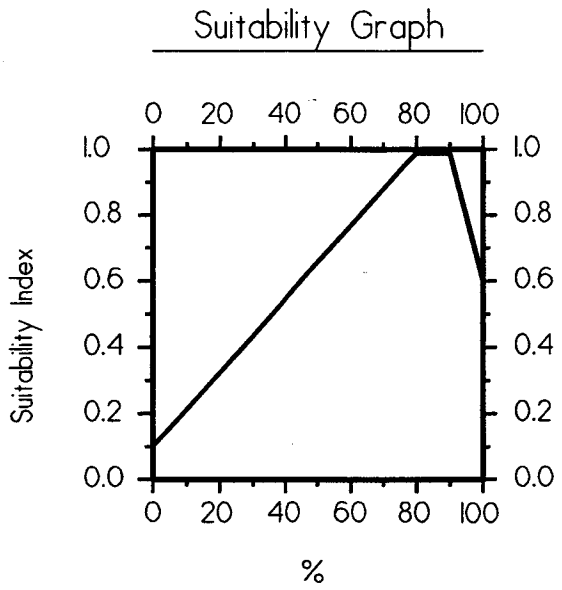
Instructions for Calculating SI for Variable V_3:

1. Refer to Attachment 4 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_4 Percent of open water area ≤ 1.5 feet deep, in relation to marsh surface.



Line Formulas

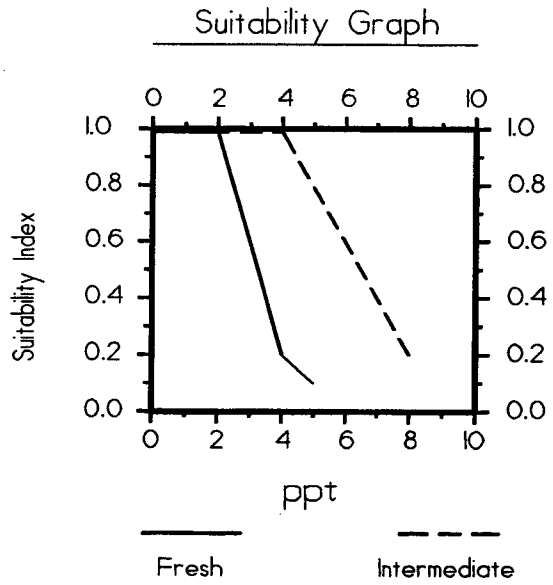
If $0 \leq \% < 80$, then $SI = (0.01125 * \%) + 0.1$

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

If $\% > 90$, then $SI = (-0.04 * \%) + 4.6$

FRESH/INTERMEDIATE MARSH

Variable V_5 Mean high salinity during the growing season (March through November).



Line Formulas

Fresh Marsh:

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

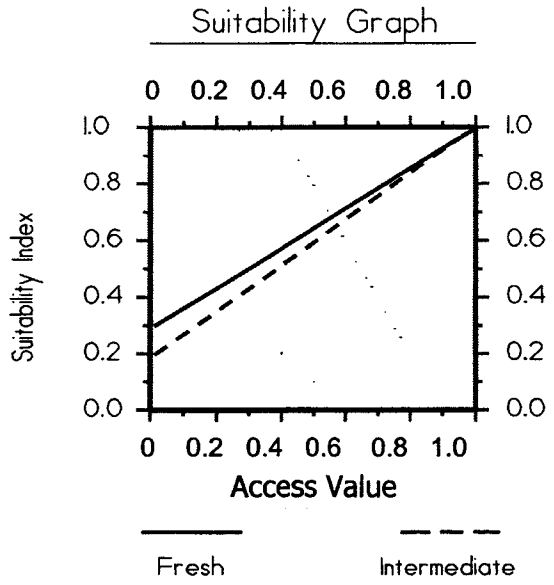
Intermediate Marsh:

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

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_6 Aquatic organism access.



Line Formulas

Fresh Marsh:

SI = (0.7 * Access Value) + 0.3

Intermediate Marsh:

SI = (0.8 * Access Value) + 0.2

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

Refer to Attachment 5 "Procedure For Calculating Access Value" for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Brackish Marsh

Vegetation:

Variable V_1 Percent of wetland area covered by emergent vegetation (≥10% canopy cover).

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

Interspersion:

Variable V_3 Marsh edge and interspersion.

Water Depth:

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

Water Quality:

Variable V_5 Average annual salinity.

Aquatic Organism Access:

Variable V_6 Aquatic organism access.

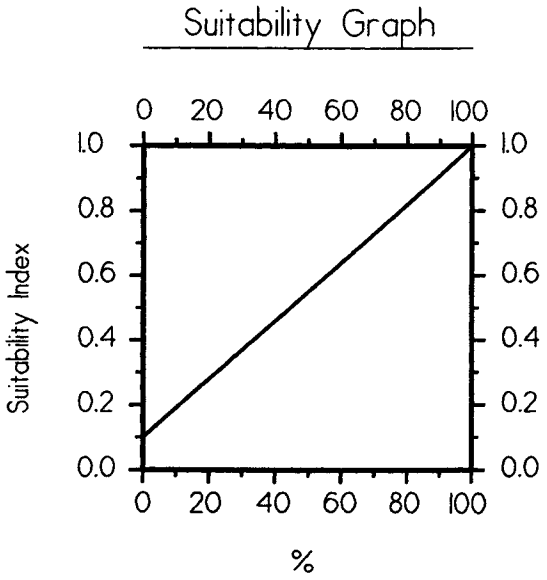
HSI Calculations:

$$Emergent\ Marsh\ HSI = \frac{\left(3.5 \times (SIV_1^{\,5} \times SIV_6^{\,1.5})^{(1/6.5)}\right) + \left(\frac{(SIV_3 + SIV_5)}{2}\right)}{4.5}$$

$$Open\ Water\ HSI = \frac{\left(3.5 \times \left(SIV_2^{\,3} \times SIV_6^{\,2}\right)^{(1/5)}\right) + \left(\frac{(SIV_3 + SIV_4 + SIV_5)}{3}\right)}{4.5}$$

BRACKISH MARSH

Variable V_1 Percent of wetland area covered by emergent vegetation ($\geq$ 10% canopy cover).

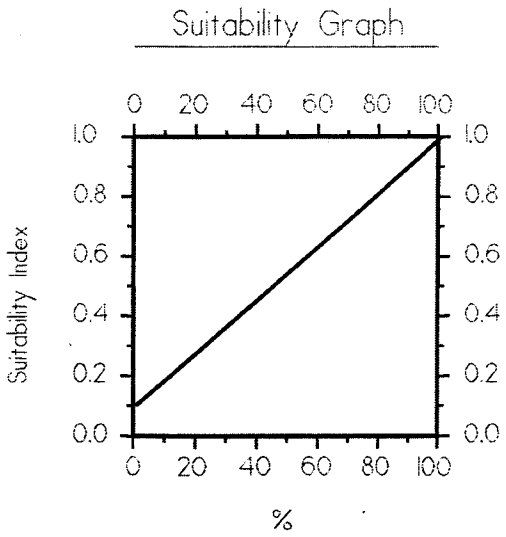


Line Formula

SI = (0.009 * %) + 0.1

BRACKISH MARSH

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

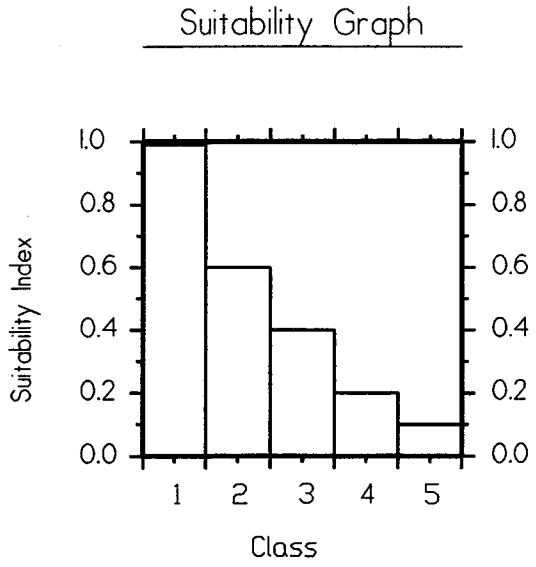


Line Formula

SI = (0.009 * %) + 0.1

BRACKISH MARSH

Variable V_3 Marsh edge and interspersion.



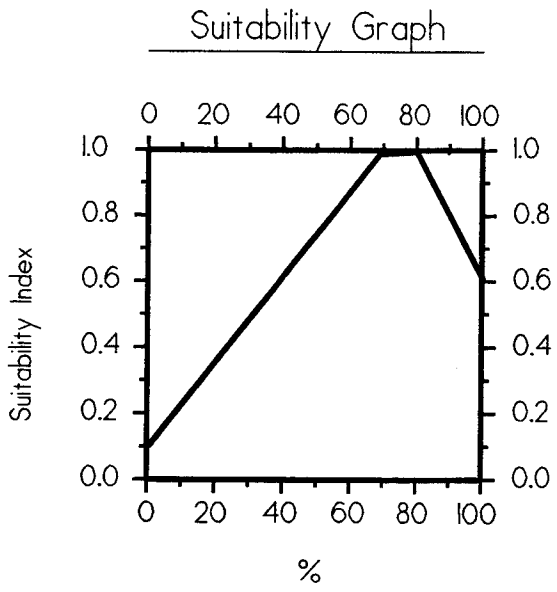
Instructions for Calculating SI for Variable V_3:

1. Refer to Attachment 4 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).

BRACKISH MARSH

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



Line Formulas

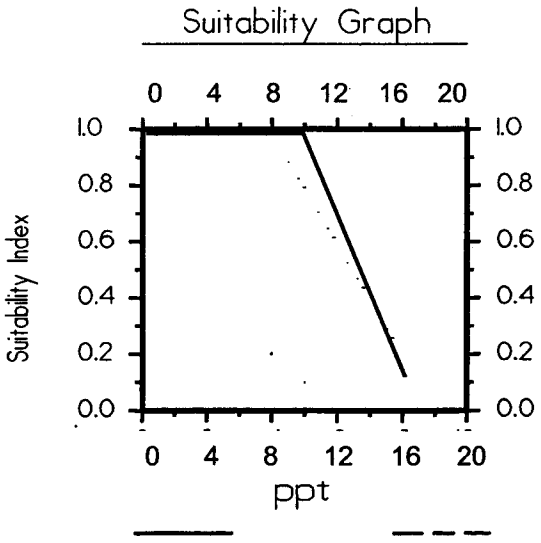
If $0 \leq \% < 70$, then $SI = (0.01286 * \%) + 0.1$

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

If $\% > 80$, then $SI = (-0.02 * \%) + 2.6$

BRACKISH MARSH

Variable V_5 Average annual salinity.



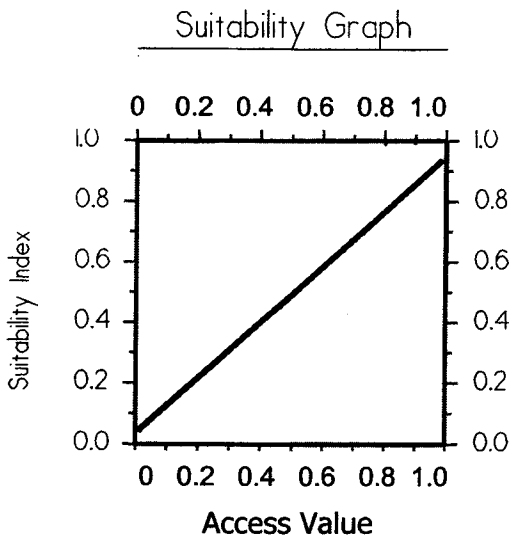
Line Formulas

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

If $ppt > 10$, then $SI = (-0.15 * ppt)+2.5$

BRACKISH MARSH

Variable V_6 Aquatic organism access.



Line Formulas

SI = (0.9 * Access Value) + 0.1

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

Refer to Attachment 5 "Procedure for Calculating Access Value" for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Saline Marsh

Vegetation:

Variable V_1 Percent of wetland area covered by emergent vegetation (≥10% canopy cover).

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

Interspersion:

Variable V_3 Marsh edge and interspersion.

Water Depth:

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

Water Quality:

Variable V_5 Average annual salinity.

Aquatic Organism Access:

Variable V_6 Aquatic organism access.

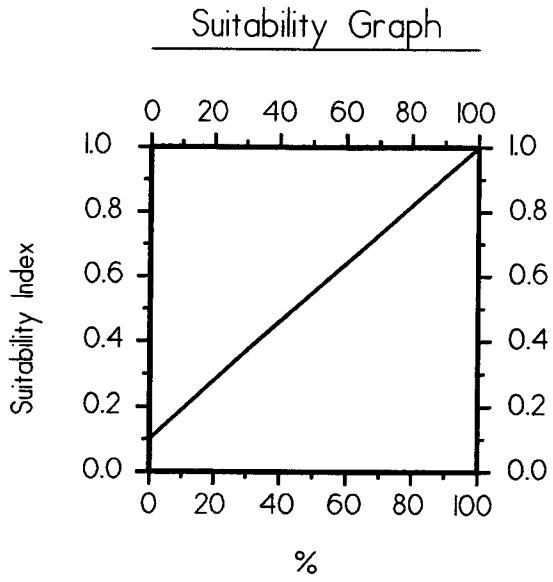
HSI Calculations:

$$\textit{Emergent Marsh HSI} = \frac{\left(3.5 \times (SIV_1{}^3 \times SIV_6{}^1)^{(1/4)}\right) + \left(\frac{(SIV_3 + SIV_5)}{2}\right)}{4.5}$$

$$\textit{Open Water HSI} = \frac{\left(3.5 \times \left(SIV_2{}^1 \times SIV_6{}^{2.5}\right)^{(1/3.5)}\right) + \left(\frac{(SIV_3 + SIV_4 + SIV_5)}{3}\right)}{4.5}$$

SALINE MARSH

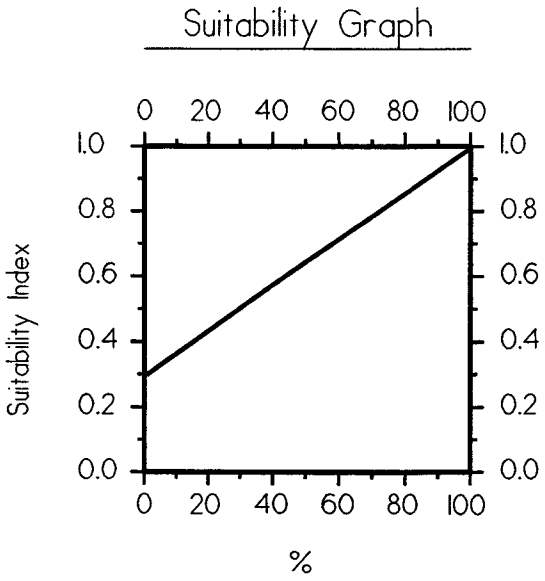
Variable V_1 Percent of wetland area covered by emergent vegetation ($\geq$ 10% canopy cover).



Line Formula

SI = (0.009 * %) + 0.1

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

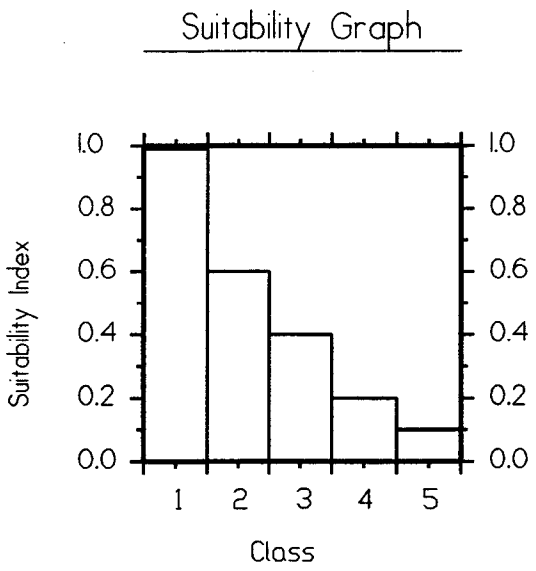


Line Formula

SI = (0.007 * %) + 0.3

SALINE MARSH

Variable V_3 Marsh edge and interspersion.

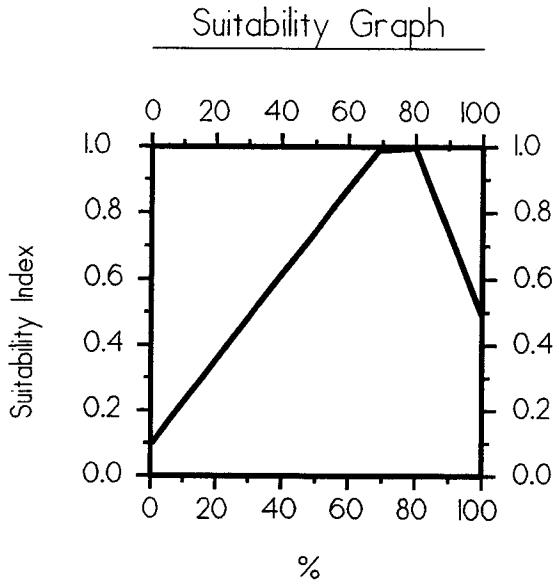


Instructions for Calculating SI for Variable V_3:

1. Refer to Attachment 4 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).

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



Line Formulas

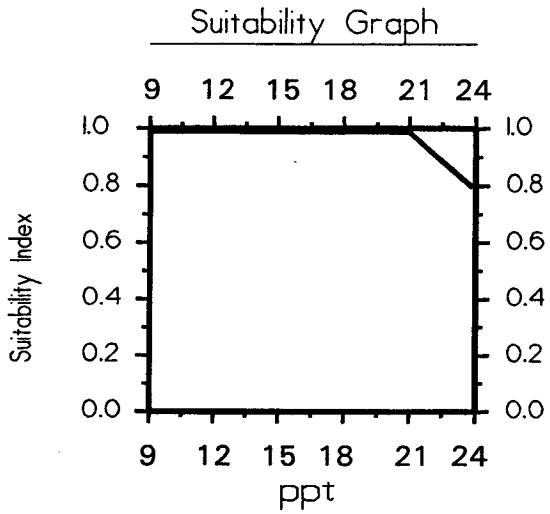
If $0 \leq \% < 70$, then $SI = (0.01286 * \%) + 0.1$

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

If $\% > 80$, then $SI = (-0.025 * \%) + 3.0$

SALINE MARSH

Variable V_5 Average annual salinity.

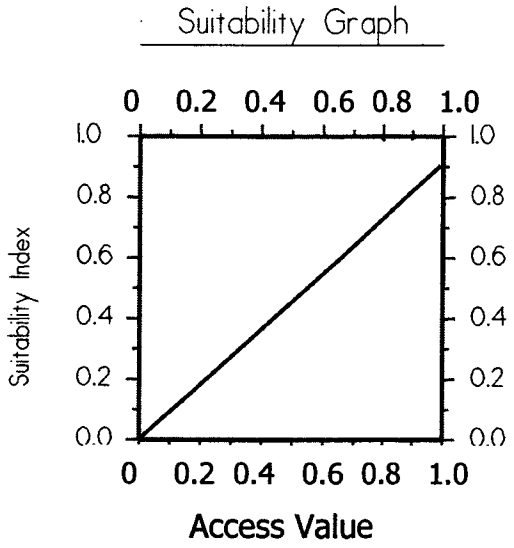


Line Formulas

If $9 \leq ppt \leq 21$, then SI = 1.0

If $ppt > 21$, then SI = (-0.067 * ppt)+ 2.4

Variable V_6 Aquatic organism access.



Line Formulas

SI = (0.9 * Access Value) + 0.1

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

Refer to Attachment 5 "Procedure for Calculating Access Value" for complete information on calculating "P" and "R" values.

WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Cypress-Tupelo Swamp

Water Depth and Duration:

Variable V_1 Water regime.

Water Quality:

Variable V_2 Water flow/exchange.

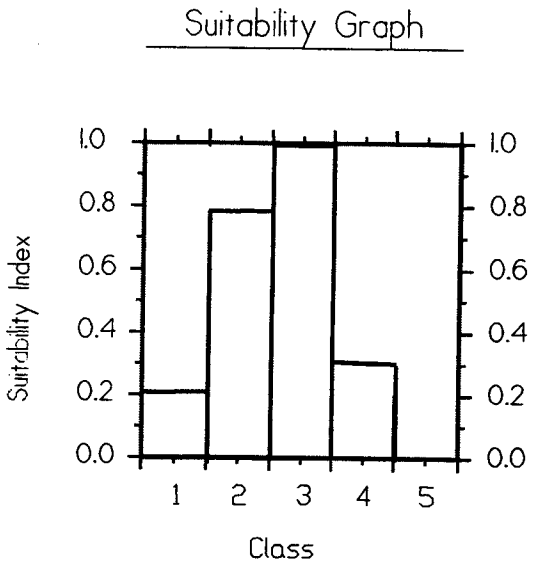
Variable V_3 Average high salinity.

HSI Calculation:

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

CYPRESS-TUPELO SWAMP

Variable V_1 Water regime.



1. Permanently Flooded: water covers the substrate throughout the year in all years.

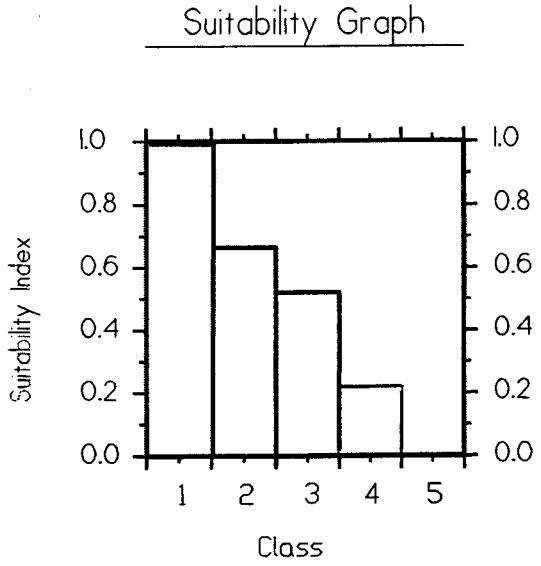
2. Semipermanently Flooded: surface water is present throughout the growing season in most years.

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

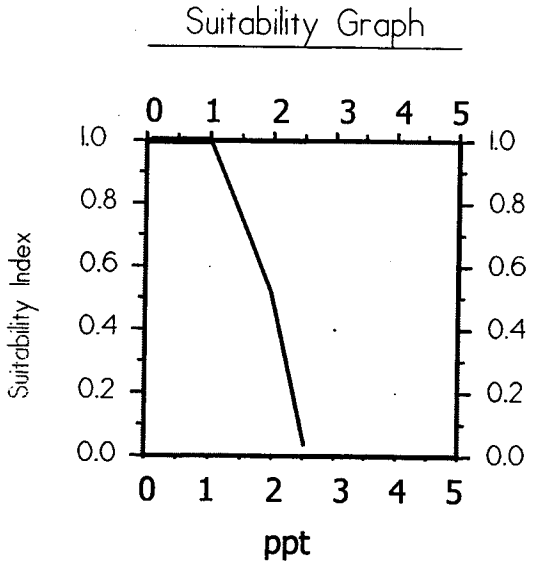
Variable V_2 Water flow/exchange.



1. Receives abundant and consistent riverine input and throughflow.
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_3 Average high salinity.



Line Formulas

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

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

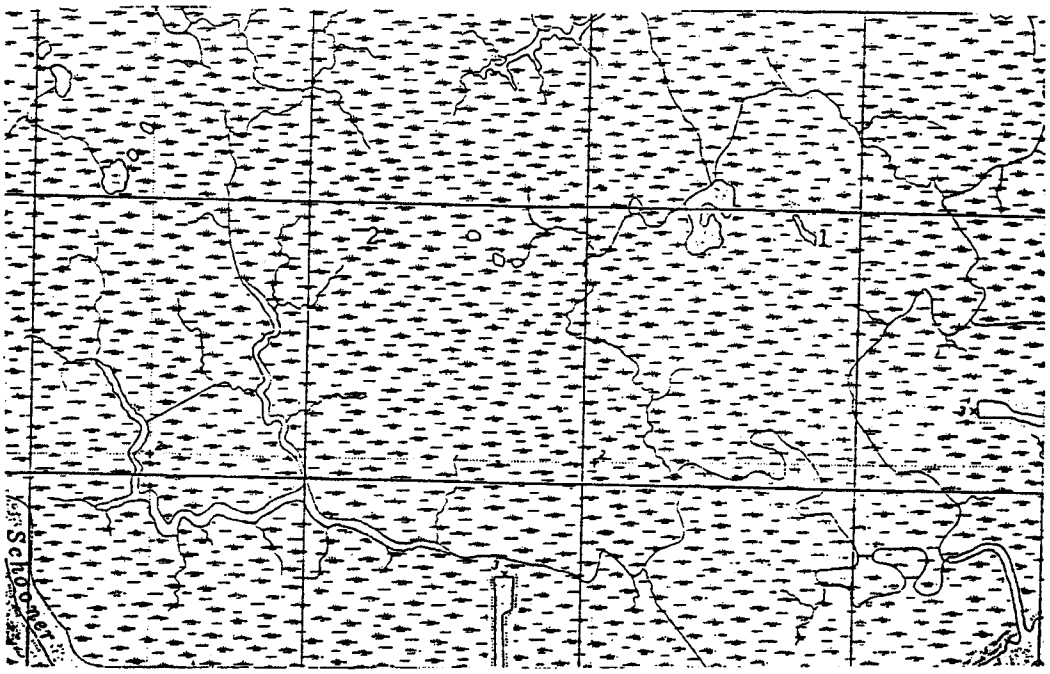
If $2 \leq ppt < 2.5$, then $SI = (-1.0 \times ppt) + 2.5$

If $ppt \geq 2.5$, then $SI = 0$

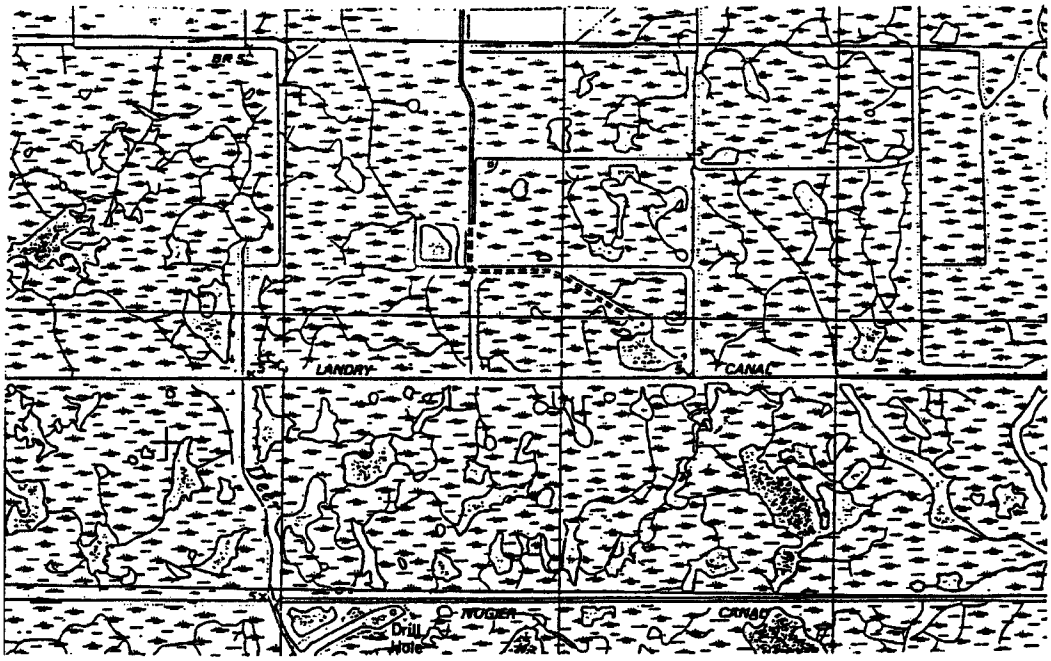
Average high salinity is defined as the average of the upper 33 percent of salinity readings taken during the period of record.

Variable V3 – Marsh Edge and Interspersion

Class 1

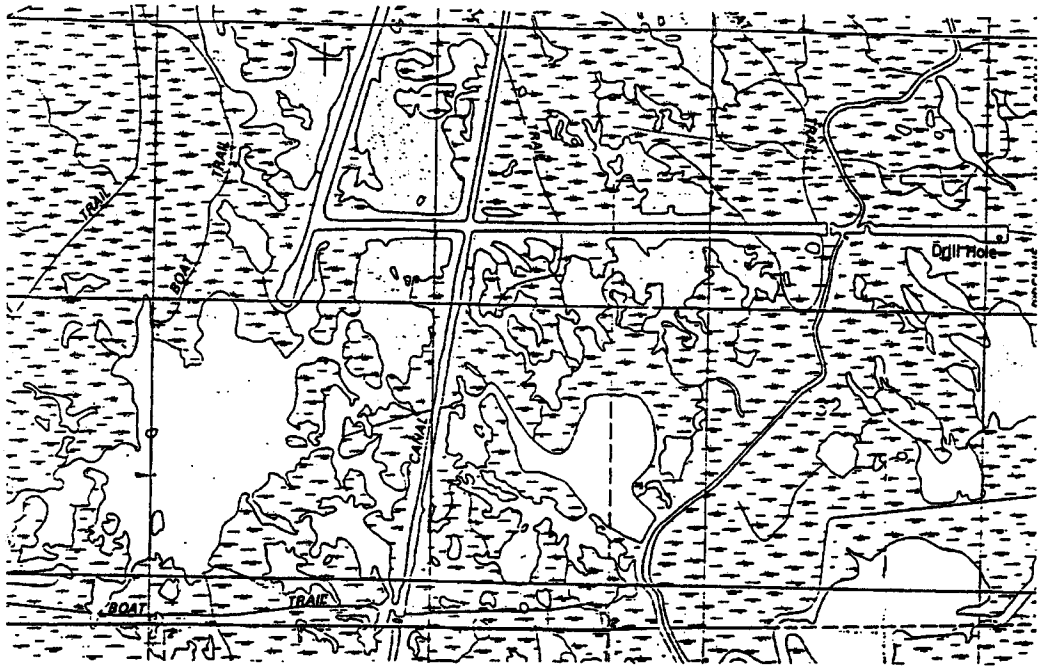


Class 2

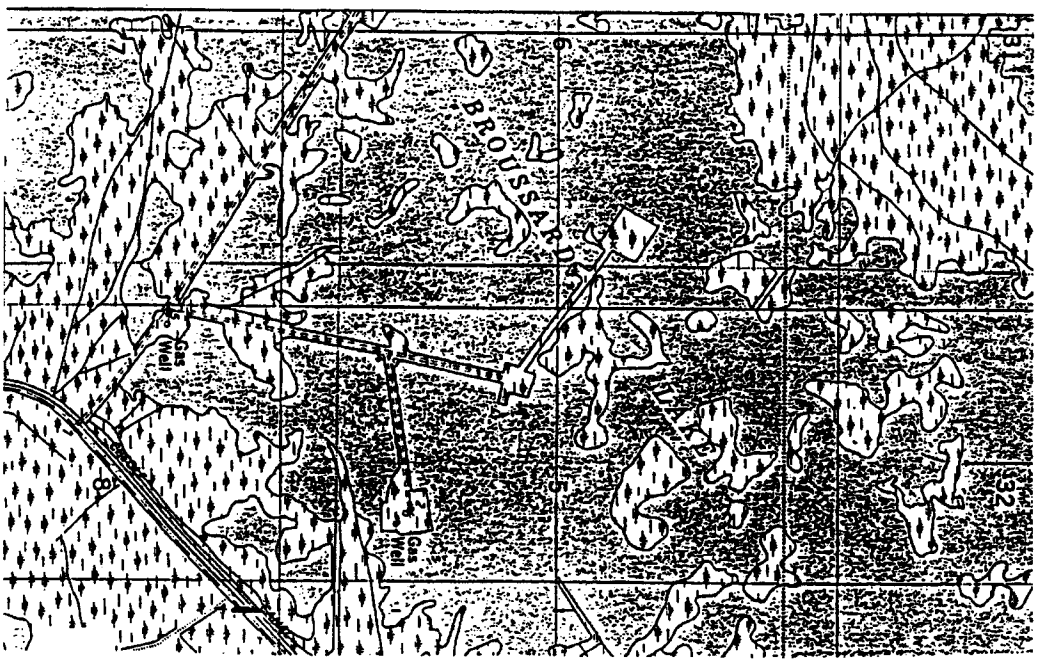


Variable V3 – Marsh Edge and Interspersion

Class 3



Class 4



PROCEDURE FOR CALCULATING ACCESS VALUE

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[1], w/ boat bay	0.8
rock weir with boat bay	0.6
rock weir set at $\geq$ 1ft BML	0.6
slotted weir with boat bay	0.6
open culverts	0.5
weir with boat bay	0.5
weir set at $\leq$ 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

For each structure type, the rating listed above pertains only to the standard 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/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

[1] Below Marsh Level

organisms, such as natural levee ridges, and spoil banks; and dense marsh that lacks channels, trenasses, and similar 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%. That designation is arbitrary and is used only for illustrative purposes; P could be any percentage from 0% to 100%):

a. One opening into area; no structure.

Access Value =P

=.90

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

Access Value =P * R
=.90 * .35
=.32

c. Two openings into area, each capable by itself of providing full access to the 90% 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.

Access Value =P
=.90

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% of the area. Opening #2 provides access to an accessible unit comprising the remaining 60% 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

$= ([P_1*R_1]+[P_2*R_2])/(P_1+P_2)$
$= ([.30*0.35]+[.60*1.0])/(.30+.60)$

= (.11+.60)/.90
= .71/.90
= .79

Note: $P_1+P_2=.90$, 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.

Access Value = P
= .90

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 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.

Access Value = $P * R_2$
= .90*.35
= .32

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% of the area. Opening #2 and #3 provide access to an accessible unit comprising the remaining 70% 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.

Access Value = $([P_1*R_1]+[P_2*R_3])/(P_1+P_2)$
= ([.20*.5]+[.70*.35])/(.20+. 70)
= (.10+.25)/.90
= .35/.90
= .39

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

$$\begin{aligned}\text{Access Value} &= ([P_1*R_1]+[P_2*R_2]+[P_3*R_3])/(P_1+P_2+P_3)\\ &= ([.20*.5]+[.40*.35]+[.30*.1])/(.20+.40+.30)\\ &= (.10+.14+.03)/.90\\ &= .27/.90\\ &= .30\end{aligned}$$

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
Amerian 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

9th Priority Project List Report

Appendix C

Engineering Designs and Cost Estimates For Candidate Projects

Appendix C

Engineering Designs and Cost Estimate For Candidate Projects

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C-22	Timbalier Island Dune and Marsh Creation (XTE-45a)	C-20
C-23	Grand Pierre Island Restoration (XBA-1c)	C-21
C-24	Freshwater Bayou Canal Shoreline Stabilization and Hydrologic Restoration (Schooner Bayou to the GIWW) (West) (XME-28/33)	C-22
C-25	New Cut Dune and Marsh Creation (TE-11a)	C-22
C-26	North Bully Camp Outfall Management (XTE-58)	C-23
C-27	Weeks Bay Marsh Creation and Shore Protection/Commercial Canal Freshwater Re-Direction (PTV-13)	C-24
C-28	Shoreline Protection at Lake Borgne (PPO-b/d/h)	C-25
C-29	Constriction at Lighthouse Bayou (PCS-32)	C-26
C-30	Restore Original Mermentau River Project (PME-17)	C-27
C-31	Lake Athanasio Oyster Reef Demonstration Project (BS-DEMO)	C-28
C-32	Mandalay Bank Protection Demonstration Project (XTE-DEMO)	C-28
C-33	Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites Demonstration Project (MR-DEMO)	C-29
C-34	Grand Temple Shoreline Protection Demonstration Project (BA-DEMO)	C-29
C-35	Terrebonne Bay Shore Protection Demonstration Project (XTE-DEMO)	C-30

Legend

LF = Linear Foot
SF = Square Foot
EA = Each
CY = Cubic Yard
SY = Square Yard
TN = Ton
LS = Lump Sum
LB = Pound
ST = 100 ft station
AC = Acre

Table C-1a
Estimated Construction Cost
Opportunistic Use of Bonnet Carre' Spillway (XPO-55a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
	CONSTRUCTION COST				0
	CONSTRUCTION COST + 25%				0
	CONTINGENCY				

Table C-1b
Breakdown of Phased Costs
Opportunistic Use of Bonnet Carre' Spillway (XPO-55a)

	Description	Amount($)
Phase 1 Costs		
	Engineering and Design	50.000
	Supervision and Administration	35.000
	TOTAL	85.000
Phase 2 Costs		
	Construction + 25% Contingency	0
	TOTAL	0
GRAND TOTAL OF ALL PHASES		85.000

Table C-2a
Estimated Construction Cost
Northern Chandeleur Islands Marsh Restoration (XPO-95)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
	Plant gallon containers around each overwash fan perimeter	62.054	EA	10	620.500
	Plant trade four-inch pots on each overwash fan	36.400	EA	4.5	163.800
	CONSTRUCTION COST				784.300
	CONSTRUCTION COST + 25%				980.300
	CONTINGENCY				

Table C-2b
Breakdown of Phased Costs
Northern Chandeleur Islands Marsh Restoration (XPO-95)

	Description	Amount($)
Phase 1 Costs		
	Engineering and Design	75.000
	Environmental Compliance	10.500
	Land Rights	0
	Supervision and Administration	54.900
	TOTAL	140.400
Phase 2 Costs		
	Construction + 25% Contingency	980.300
	Inspection	45.000
	Insurance and bonds	11.800
	TOTAL	1.037.100
GRAND TOTAL OF ALL PHASES		1.177.500

Table C-2c
Periodic Costs
Northern Chandeleur Islands Marsh Restoration (XPO-95)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4896

Table C-3a
Estimated Construction Cost
Freshwater Introduction South of Hwy 82 to the Eastern Portion of Rockefeller Refuge (PME-7a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Install 6-48" Dia pipes w/flap gates and stop logs	1	LS	195.000	195.000
2	Dredge existing oil access canal	16.600	CY	2	33.200
3	Dredge Grand Volle Canal	47.250	CY	2	94.500
4	Dredge Unit 14 Canal	47.250	CY	2	94.500
5	Install 3-10' x 10' flap gates at Little Constance Str.	1	LS	150.000	150.000
6	Install 3-10' x 10' flap gates at Big Constance Str.	1	LS	150.000	150.000
7-8	Install 4-48" dia. Pipes w/flap gates and stop logs	2	EA	130.800	261.600
9-12	Install 3-48" dia. Pipes w/flap gates and stop logs	4	EA	100.000	400.000
13	Construct 150-200' x 200' Terrace	93.333	CY	2	186.667
14	Smooth cord sprigs planted on crown of terraces	12.000	EA	2.5	30.000
15	Gal. Container of smooth cord grass	48.000	EA	7	336.000
16	Dewatering	1	LS	100.000	100.000
17	Anti-trespassing gates	2	EA	500	1.000
	Mob/Demobilization	1	LS	101.600	101.600
	Insurance & Bonds	1	LS	30.500	30.500
	Supervision & Inspection	1	LS	247.500	247.500
	CONSTRUCTION COST				2.032.500
	CONSTRUCTION COST + 25% CONTINGENCY				3.015.100

Table C-3b
Breakdown of Phased Costs
Freshwater Introduction South of Hwy 82 to the Eastern Portion of Rockefeller Refuge (PME-7a)

	Description	Amount($)
Phase 1 Costs		
	Engineering and Design	248.920
	Environmental Compliance	40.000
	Land Rights	60.000
	Supervision and Administration	211.100
	TOTAL	560.000
Phase 2 Costs		
	Construction + 25% Contingency	3.015.100
	TOTAL	3.015.100
GRAND TOTAL OF ALL PHASES		3.575.100

Table C-3c
Periodic Costs
Freshwater Introduction South of Hwy 82 to the Eastern Portion of Rockefeller Refuge (PME-7a)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	29.291

Table C-4a
Estimated Construction Cost
Southwest Lake Ponchartrain Sediment Trapping (XPO-54a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob & Demob	1	LS	300.000	300.000
2	Concrete sheet piles	29.200	LF	148.81	4.345.252
3	Flotation canal	428	CY	5	2.140
4	Lighting	38	EA	10.000	380.000
5	Terraces	846.333	CY	2	1.692.667
6	Gallon containers of smooth cordgrass	140.400	EA	7	982.800
	CONSTRUCTION COST				7.702.859
	CONSTRUCTION COST + 25% CONTINGENCY				9.628.600

Table C-4b
Breakdown of Phased Costs
Southwest Lake Ponchartrain Sediment Trapping (XPO-54a)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	789,400
	Environmental Compliance	90,000
	Land Rights	50,000
	Supervision and Administration	591,430
	TOTAL	1,520,830
Phase 2 Costs		
	Construction + 25% Contingency	9,628,600
	Inspection	100,000
	TOTAL	9,728,600
GRAND TOTAL OF ALL PHASES		11,249,430

Table C-4c
Periodic Costs
Southwest Lake Ponchartrain Sediment Trapping (XPO-54a)

Description	Frequency	Cost ($)
Inspections	Yrs. 3,8,13,18	2,928
Corps Administration	Per year	500
Monitoring	Per year	4,896

Table C-4d
Operation & Maintenance Costs
Southwest Lake Ponchartrain Sediment Trapping (XPO-54a)

Description	Cost ($)		
	TY4	TY9	TY14
Post-Construction Costs			
Mobilization/Demobilization	10,000	10,000	10,000
Dredging	75,000	50,000	25,000
Replace all lights		380,000	380,000
10% Contingency	8,500	44,000	41,500
Total Post Construction Costs	93,500	484,000	456,500
Engineering, Design, & Administrative Costs			
Engineering and Design	8,000	36,400	34,500
Administrative	4,000	18,200	17,300
Engineering Surveys			
5 days @ $1,250 per day	6,300	6,300	6,300
Inspection			
75 days @ $750 per day	52,500	52,500	52,500
Total E. D. & A Costs	70,800	113,400	110,600
TOTAL OPERATION & MAINTENANCE COSTS	164,300	597,400	567,100

Table C-5a
Estimated Construction Cost
South Lake Decade Atchafalaya Freshwater/Sediment Diversion (PTE-28)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	100,000	100,000
2	Geotextile	15,255	SY	2	31,000
3	Loose Rock Riprap	31,185	TN	35	1,091,000
4	Structure Removal	1	EA	35,000	35,000
5	Vegetative Plantings	1,733	EA	10	17,000
6	Settlement Plates	5	EA	500	3,000
7	Freshwater Introduction Structure	1	EA	165,000	165,000
	CONSTRUCTION COST				1,442,000
	CONSTRUCTION COST + 25% CONTINGENCY				1,803,000

Table C-5b
Breakdown of Phased Costs
South Lake Decade Atchafalaya Freshwater/Sediment Diversion (PTE-28)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	173,000
	Environmental Compliance	40,000
	Land Rights	50,000
	Supervision and Administration	108,000
	TOTAL	371,000
Phase 2 Costs		
	Construction + 25% Contingency	1,803,000
	Inspection	50,000
	TOTAL	1,853,000
GRAND TOTAL OF ALL PHASES		2,224,000

Table C-5c
Periodic Costs
South Lake Decade Atchafalaya Freshwater/Sediment Diversion (PTE-28)

Description	Frequency	Cost ($)
Inspections	Per year	3,000
Corps Administration	Per year	500
Monitoring	Per year	29,291

Table C-5d
Operation & Maintenance Costs
South Lake Decade Atchafalaya Freshwater/Sediment Diversion (PTE-28)

Description	Cost ($)	
	TY4	TY8
Post-Construction Costs		
Mobilization/Demobilization	40,000	40,000
Restore 15% of sheetpile/gated structure	24,750	24,750
Replace 10% of original rock riprap embankment	109,100	109,100
Total Post Construction Costs	173,850	173,850
Total Post Construction Costs + 10% contingency	191,000	191,000
Engineering, Design, & Administrative Costs		
Engineering and Design	15,000	15,000
Administrative	4,000	4,000
Engineering Surveys		
4 days @ $1,250 per day	5,000	5,000
Inspection		
6 days @ $765 per day	5,000	5,000
Total E, D, & A Costs	29,000	29,000
TOTAL OPERATION & MAINTENANCE COSTS	220,000	220,000

Table C-6a
Estimated Construction Cost
Four Mile Canal/Little White Lake Hydrologic Restoration (XTV-30)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	180,000	180,000
2	Onion Lake Terraces	72,462	CY	2	144,924
3	Little White Lake Terraces	116,176	CY	2	232,352
4	Little Vermilion Bay Terraces	355,372	CY	2	710,744
5	Little White Lake Conveyance Channel	38,556	CY	2	77,111
6	Vermilion Bay Conveyance Channel	66,667	CY	2	133,333
7	Vegetation-one gallon pots	66,204	EA	7	463,428
	Insurance & Bonds	1	LS	29,128	29,128
	CONSTRUCTION COST				1,971,020
	CONSTRUCTION COST + 25% CONTINGENCY				2,456,493

Table C-6b
Breakdown of Phased Costs
Four Mile Canal/Little White Lake Hydrologic Restoration (XTV-30)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	272,846
Environmental Compliance	40,000
Land Rights	30,000
Supervision and Administration	171,955
TOTAL	514,801
Phase 2 Costs	
Construction + 25% Contingency	2,456,493
Inspection	116,250
TOTAL	2,572,743
GRAND TOTAL OF ALL PHASES	3,087,544

Table C-6c
Periodic Costs
Four Mile Canal/Little White Lake Hydrologic Restoration (XTV-30)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4,896

Table C-7a
Estimated Construction Cost
Castille Pass Channel Sediment Delivery (XAT-11)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
	Mob/Demobilization	1	LS	275,000	275,000
	Dredging	3,954,815	CY	2	7,909,630
	Pipeline relocation	1	LS	2,500,000	2,500,000
	Insurance & Bonds	1	LS	160,269	160,269
	CONSTRUCTION COST				10,844,899
	CONSTRUCTION COST + 25% CONTINGENCY				13,556,123

Table C-7b
Breakdown of Phased Costs
Castille Pass Channel Sediment Delivery (XAT-11)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	957,212
Environmental Compliance	50,000
Land Rights	30,000
Supervision and Administration	787,806
TOTAL	1,825,018
Phase 2 Costs	
Construction + 25% Contingency	13,556,123
Inspection	112,500
TOTAL	13,668,623
GRAND TOTAL OF ALL PHASES	15,493,641

Table C-7c
Periodic Costs
Castille Pass Channel Sediment Delivery (XAT-11)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	9,764

Table C-7d
Operation & Maintenance Costs
Castille Pass Channel Sediment Delivery (XAT-11)

Description	Cost ($)		
	TY6	TY11	TY16
Post-Construction Costs			
Mob	275.000	275.000	275.000
Maintenance Dredging	2.362.222	2.362.222	2.362.222
Total Post Construction Costs	2.637.222	2.637.222	2.637.222
Engineering, Design, & Administrative Costs			
Engineering Surveys	8.000	8.000	8.000
Total E, D, & A Costs	8.000	8.000	8.000
TOTAL OPERATION & MAINTENANCE COSTS	2.645.222	2.645.222	2.645.222

Table C-8a
Estimated Construction Cost
LaBranche Wetlands Terracing, Planting and Shoreline Protection (PPO-7a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	253.400	253.400
2	Shoreline Protection	1	LS	1.106.200	1.106.200
3	Floatation Canels-One at each end	30.815	CY	5	154.075
4	Hazzard Lights on Shoreline Protection	7	EA	10.000	70.000
5	Terraces in Area D	697.667	CY	2	1.395.333
6	Terraces in Area A	210.519	CY	2	421.037
7	Smooth Cordgrass on Perimeter	116.800	EA	7	817.600
8	Planting 128 acres w/gal containers	154.880	EA	7	1.084.160
9	Herbivore control during construction year	1	LS	20.000	20.000
10	Insurance & Bonds	1	LS	76.000	76.000
	CONSTRUCTION COST				5.397.805
	CONSTRUCTION COST + 25% CONTINGENCY				6.747.300

Table C-8b
Breakdown of Phased Costs
LaBranche Wetlands Terracing, Planting and Shoreline Protection (PPO-7a)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	472.400
	Environmental Compliance	40.000
	Land Rights	50.000
	Supervision and Administration	382.200
	TOTAL	944.600
Phase 2 Costs		
	Construction + 25% Contingency	6.747.300
	Inspection	135.000
	TOTAL	6.882.300
GRAND TOTAL OF ALL PHASES		7.826.900

Table C-8c
Periodic Costs
LaBranche Wetlands Terracing, Planting and Shoreline Protection (PPO-7a)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4.896

Table C-9a
Estimated Construction Cost
Black Bayou Culverts Hydrologic Restoration (CS-16)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	0	0
2	Siphon & Appurtenances	1	LS	4.200.000	4.200.000
	CONSTRUCTION COST				4.200.000
	CONSTRUCTION COST + 25% CONTINGENCY				5.250.000

Table C-9b
Breakdown of Phased Costs
Black Bayou Culverts Hydrologic Restoration (CS-16)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	394.000
	Environmental Compliance	40.000
	Land Rights	100.000
	Supervision and Administration	315.000
	TOTAL	849.000
Phase 2 Costs		
	Construction + 25% Contingency	5.250.000
	Inspection	50.000
	TOTAL	5.300.000
GRAND TOTAL OF ALL PHASES		6.149.000

Table C-9c
Periodic Costs
Black Bayou Culverts Hydrologic Restoration (CS-16)

Description	Frequency	Cost ($)
NRCS/DNR Inspections	Per year	3.000
Corps Administration	Per year	500
Operations	Per year	12.000
Monitoring	Per year	29.291

Table C-9d
Operation & Maintenance Costs
Black Bayou Culverts Hydrologic Restoration (CS-16)

Description	Cost ($)	
	TY7	TY14
Post-Construction Costs		
Mobilization/Demobilization	25.000	5.000
Structure Maintenance	50.000	
Conveyance Channel Maintenance		78.000
Total Post Construction Costs	75.000	83.000
Total Post Construction Costs + 10 % contingency	83.000	91.000
Engineering, Design, & Administrative Costs		
Engineering and Design	7.000	8.000
Administrative	4.000	4.000
Engineering Surveys		
3 days @ $1.250 per day	4.000	4.000
Inspection		
7 days @ $750 per day	5.000	5.000
Total E. D. & A Costs	20.000	21.000
TOTAL OPERATION & MAINTENANCE COSTS	103.000	112.000

Table C-10a
Estimated Construction Cost
Perry Ridge West Bank Stabilization (PCS-26 ii)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	100.000	100.000
2	Shallow Water Terraces	17.000	LF	9	153.000
3	Loose Rock Riprap	67.860	TN	25	1.697.000
4	Settlement Plates	12	EA	500	6.000
5	Signs and Markers	1	LS	40.000	40.000
	CONSTRUCTION COST				1.996.000
	CONSTRUCTION COST + 25% CONTINGENCY				2.495.000

Table C-10b
Breakdown of Phased Costs
Perry Ridge West Bank Stabilization (PCS-26 ii)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	167,000
	Environmental Compliance	15,000
	Land Rights	50,000
	Supervision and Administration	150,000
	TOTAL	382,000
Phase 2 Costs		
	Construction + 25% Contingency	2,495,000
	Inspection	72,000
	TOTAL	2,567,000
GRAND TOTAL OF ALL PHASES		2,949,000

Table C-10c
Periodic Costs
Perry Ridge West Bank Stabilization (PCS-26 ii)

Description	Frequency	Cost ($)
Inspections	Per year	3,000
Corps Administration	Per year	500
Monitoring	Per year	2,434

Table C-10d
Operation & Maintenance Costs
Perry Ridge West Bank Stabilization (PCS-26 ii)

Description	Cost ($)		
	TY7	TY10	TY14
Post-Construction Costs			
Mobilization/Demobilization	1,000	25,000	1,000
Replace Signs	7,000		7,000
Replace 4,000 tons of rock riprap secton		100,000	
Replace 30% of terraces		45,900	
Total Post Construction Costs	8,000	170,900	8,000
Total Post Construction Costs + 10% Contingency	9,000	188,000	9,000
Engineering, Design, & Administrative Costs			
Engineering and Design	1,000	15,000	1,000
Administrative	4,000	9,000	4,000
Engineering Surveys			
2 days @ $1,250 per day	3,000		3,000
3 days @ $1,250 per day		4,000	
Inspection			
3 days @ $765 per day	2,000		2,000
10 days @ $765 per day		8,000	
Total E, D, & A Costs	10,000	36,000	10,000
TOTAL OPERATION & MAINTENANCE COSTS	19,000	224,000	19,000

Table C-11a
Estimated Construction Cost
Freshwater Bayou Bank Stabilization and Hydrologic Restoration (Belle Isle Canal to Lock) (XTV-27)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	60,000	60,000
2	Stone	279,722	TN	23	6,433,606
3	Geotextile	250,000	SY	3	750,000
4	Flotation Channel	1	LS	920,000	920,000
5	Marker Piles	2,700	LF	12	32,400
	CONSTRUCTION COST				8,196,006
	CONSTRUCTION COST + 25% CONTINGENCY				10,245,008

Table C-11b
Breakdown of Phased Costs
Freshwater Bayou Bank Stabilization and Hydrologic Restoration (Belle Isle Canal to Lock) (XTV-27)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	614.700
	Environmental Compliance	104.000
	Land Rights	37.000
	Supervision and Administration	512.250
	TOTAL	1.267.950
Phase 2 Costs		
	Construction + 25% Contingency	10.245.008
	Inspection	512.250
	TOTAL	10.757.258
GRAND TOTAL OF ALL PHASES		12.025.208

Table C-11c
Operation & Maintenance Costs
Freshwater Bayou Bank Stabilization and Hydrologic Restoration (Belle Isle Canal to Lock) (XTV-27)

Description	Cost ($)		
	TY3	TY7	TY14
Post-Construction Costs			
Mobilization/Demobilization	60.000	60.000	60.000
Stone	1.740.381	1.740.381	1.740.381
Contingency	450.095	450.095	450.095
Total Post Construction Costs	2.250.476	2.250.476	2.250.476
Engineering, Design, & Administrative Costs			
Engineering and Design	67.514	67.514	67.514
Administrative	45.010	45.010	45.010
Inspection	112.524	112.524	112.524
Total E, D, & A Costs	225.048	225.048	225.048
TOTAL OPERATION & MAINTENANCE COSTS	2.475.524	2.475.524	2.475.524

Table C-12a
Estimated Construction Cost
North HNC Shore/Salinity Protection Project (TE-8a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
	BANK RAISING & ARMORING COSTS				
1	Mob-demob	1	LS	150.000	150.000
2	Rip-rap	233.982	TN	30	7.019.456
3	Earth	203.587	CY	4	814.349
4	Cloth	229.394	SF	3	688.182
	OTHER FEATURES				
5	Mob-demob				20.000
6	Armored earthen plug across 110' x 4' channel	1.133	CY	4	4.532
	Rip-rap	110	LF	372	
7	Earth bank repair on 264 ft of spoil bank	792	CY	4	3.168
8	Earthen plug on a 25' x 1' channel	75	CY	4	300
9	Earthen plug on a 25' x 1' channel	75	CY	4	300
10	Earthen plug on a 100' x 2' channel	600	CY	4	2.400
11	Three earthen plugs totaling 50' x 3'	300	CY	4	1.200
12	Earthen bank repair on 1800 feet of Bayou Pelton	7.740	CY	4	30.960
	WATER CONTROL STRUCTURE & CULVERET COSTS				
13	Mob-demob				20.000
14	Flapgated structure across 120' x 4' bayou				
	160' wooden sheetpile	160	LF	800	128.000
	4x4 flap/vc units	8	EA	15.000	120.000
	Walkway	160	LF	100	16.000
	Stoplogs: 32LF/unit	256	LF	3	768
15	Flapgated structure across 150' x 5' canal				
	190' wooden sheetpile	190	LF	800	152.000
	4x4 flap/vc units	8	EA	15.000	120.000
	Walkway	190	LF	100	19.000
	Stoplogs: 32LF/unit	256	LF	3	768
16	Flapgated structure across 102' x 4' canal				

	132' wooden sheetpile	132	LF	800	105,600
	4x4 flap/vc units	5	EA	15,000	75,000
	Walkway	132	LF	100	13,200
	Stoplogs: 32LF/unit	160	LF	3	480
17	Flapgated/vcrest structure on 60' x 3' channel				
	100' wooden sheetpile	100	LF	800	80,000
	4x4 flap/vc units	2	EA	15,000	30,000
	Walkway	100	LF	100	10,000
	Stoplogs: 32LF/unit	64	LF	3	192
18	Install 8 24" dia. open culvert under spoil bank	8	EA	20,000	160,000
19	Two 36" dia. flapgated/vcrest culverts on a 20' x 2' channel	2	EA	35,000	70,000
20	Three 36" dia. flapgated/vcrest culverts on 25' x 2' channel	3	EA	35,000	105,000
21	Three 36" dia. flapgated/vcrest culverts on 30' x 2' channel	3	EA	35,000	105,000
22	Two 48" dia. flapgated/vcrest culverts on 30' x 4' channel	2	EA	40,000	80,000
23	Two 48" dia. flapgated/vcrest culverts on 20' x 4' channel	2	EA	40,000	80,000
24	Install 2 open 48" dia. culvert in St. Louis canal road dump	2	EA	40,000	80,000
	DITCHING COSTS				
25	Reach Number 1	1,200	LF	8	9,600
26	Reach Number 2	1,000	LF	8	8,000
27	Reach Number 3	2,000	LF	8	16,000
28	Reach Number 4	2,200	LF	8	17,600
29	Reach Number 5	3,000	LF	8	24,000
30	Reach Number 6	1,200	LF	8	9,600
31	Reach Number 7	9,800	LF	11	107,800
32	Reach Number 8	4,800	LF	11	52,800
33	Reach Number 9	2,500	LF	8	20,000
34	Reach Number 10	9,200	LF	7	64,400
35	Reach Number 11	4,500	LF	7	31,500
36	Reach Number 12	10,600	LF	0	0
37	Reach Number 13	1,000	LF	7	7,000
38	Reach Number 14	1,000	LF	7	7,000
	CONSTRUCTION COST				10,676,465
	CONSTRUCTION COST + 25% CONTINGENCIES				13,345,581

Table C-12b
Breakdown of Phased Costs
North HNC Shore/Salinity Protection Project (TE-8a)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	1,484,558
Environmental Compliance	50,000
Real Estate & Permitting	105,000
Supervision and Administration	633,823
TOTAL	2,273,381
Phase 2 Costs	
Construction + 25% Contingency	13,345,581
Supervision and Inspection	200,000
TOTAL	13,545,581
GRAND TOTAL OF ALL PHASES	15,818,962

Table C-12c
Periodic Costs
North HNC Shore/Salinity Protection Project (TE-8a)

Description	Frequency	Cost ($)
Operation costs (x 20yrs)	Per year	8,000
Inspections (x 20 years)	Per year	3,870
Corps Administration (x 20yrs)	Per year	500
Monitoring (x 20yrs)	Per year	29,200

Table C-12d
Operation & Maintenance Costs
North HNC Shore/Salinity Protection Project (TE-8a)

Description	Cost ($)		
	TY5	TY10	TY15
Mobilization/Demobilization	70.000	70.000	20.000
Replace 10% of earth- 20.359 CY @ 4.00/CY	81.435	81.435	
Replace 10% of rock – 23.398 tons @ 30/ton	701.946	701.946	
Structure repairs	151.101	226.651	302.202
Engineering and Design	93.448	122.703	151.101
Ditch maint.- 43.400 ft @ 5/ft		217.000	
TOTAL OPERATION & MAINTENANCE COSTS	1.097.930	1.419.735	473.303

Table C-13a
Estimated Construction Cost
Little Pecan Bayou Hydrologic Restoration (XME-42a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	200.000	200.000
2	Little Pecan Bayou Structure	1	LS	2.313.750	2.314.000
3	Earthen Plug @Mermentau	1	LS	35.000	35.000
4	Freshwater Intro Structure (Little Pecan)	1	LS	369.000	369.000
5	Water Control Structure (Little Pecan Interior)	1	LS	219.450	219.000
6	Inlet Control Structure	1	LS	229.150	229.000
7	Outlet Control Structure	1	LS	366.150	366.000
8	Conveyance Channel Excavation	500.000	CY	1.5	750.000
9	Conveyance Channel Armor	11.000	TN	35	385.000
10	Road Crossing Replacement (Bridge)	3	EA	125.000	375.000
11	Internal Drainage Structure	5	EA	25.000	125.000
12	Shallow Water Terrace (Const & Veg)	138.907	LF	9	1.250.000
	CONSTRUCTION COST				6.617.000
	CONSTRUCTION COST + 25% CONTINGENCY				8.271.000

Table C-13b
Breakdown of Phased Costs
Little Pecan Bayou Hydrologic Restoration (XME-42a)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	659.000
	Environmental Compliance	40.000
	Land Rights	170.000
	Supervision and Administration	441.000
	TOTAL	1.310.000
Phase 2 Costs		
	Construction + 25% Contingency	8.271.000
	Inspection	304.000
	TOTAL	8.575.000
GRAND TOTAL OF ALL PHASES		9.885.000

Table C-13c
Periodic Costs
Little Pecan Bayou Hydrologic Restoration (XME-42a)

Description	Frequency	Cost ($)
Inspections	Per year	3.000
Operations	Per year	12.000
Corps Administration	Per year	500
Monitoring	Per year	29.291

Table C-13d
Operation & Maintenance Costs
Little Pecan Bayou Hydrologic Restoration (XME-42a)

Description	Cost ($)		
	TY7	TY10	TY14
Post-Construction Costs			
Mobilization/Demobilization	50.000	35.000	50.000
Little Pecan Structure Maintenance	110.000		110.000
Replace 1.000 cy of earthen plug @Mermentau	5.000		5.000
Interior Water Control Structure maintenance	17.000		17.000
Freshwater Introduction Structure maintenance	26.000		26.000
Inlet Control Structure maintenance	35.000		35.000
Outlet Control Structure maintenance	55.000		55.000
Conveyance Channel & Armor maintenance	75.000		75.000
Internal Drainage maintenance	19.000		19.000
Barge Bay Rehabilitation			75.000
Replace 30% of Shallow Water Terraces		375.000	
Total Post Construction Costs	392.000	410.000	467.000
Total Post Construction Costs + 10% contingency	431.000	451.000	514.000
Engineering, Design, & Administrative Costs			
Engineering and Design	33.000	34.000	38.000
Administrative	15.000	15.000	15.000
Engineering Surveys			
7 days @ $1.250 per day	9.000		9.000
3 days @ $1.250 per day		4.000	
Inspection			
45 days @ $765 per day	34.000		
7 days @ $765 per day		5.000	
48 days @ $765 per day			37.000
Total E. D. & A Costs	91.000	58.000	99.000
TOTAL OPERATION & MAINTENANCE COSTS	522.000	509.000	613.000

Table C-14a
Estimated Construction Cost
Barataria Basin Landbridge Shoreline Protection, Ph. 3 (XBA-63 iii)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	400.000	400.000
2	Rock Bank Stabilization	40,360	LF	240	9,686.000
3	Settlement Plates	41	EA	500	21.000
	CONSTRUCTION COST				10,107.000
	CONSTRUCTION COST + 25% CONTINGENCY				12,634.000

Table C-14b
Breakdown of Phased Costs
Barataria Basin Landbridge Shoreline Protection, Ph. 3 (XBA-63 iii)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	-665.000
Environmental Compliance	0
Land Rights	75.000
Supervision and Administration	479.000
TOTAL	-111.000
Phase 2 Costs	
Construction + 25% Contingency	12,634.000
Inspection	116.000
TOTAL	12,750.000
GRAND TOTAL OF ALL PHASES	12,639.000

Table C-14c
Periodic Costs
Barataria Basin Landbridge Shoreline Protection, Ph. 3 (XBA-63 iii)

Description	Frequency	Cost ($)
Inspections	Per year	3,000
Corps Administration	Per year	500
Monitoring	Per year	2,434

Table C-14d
Operation & Maintenance Costs
Barataria Basin Landbridge Shoreline Protection, Ph. 3 (XBA-63 iii)

Description	Cost ($)	
	TY3	TY14
Post-Construction Costs		
Mobilization/Demobilization	75,000	75,000
Replace 25% of original rockfill/rock riprap section	2,421,500	
Replace 10% of original rockfill/rock riprap section		968,600
Total Post Construction Costs	2,496,500	1,043,600
Total Post Construction Costs + 10% contingency	2,746,000	1,148,000
Engineering, Design, & Administrative Costs		
Engineering and Design	182,000	81,000
Administrative	4,000	4,000
Engineering Surveys		
20 days @ $1,250 per day	25,000	
8 days @ $1,250 per day		10,000
Inspection		
44 days @ $765 per day	34,000	
18 days @ $765 per day		14,000
Total E. D. & A Costs	245,000	109,000
TOTAL OPERATION & MAINTENANCE COSTS	2,991,000	1,257,000

Table C-15a
Estimated Construction Cost
LA Highway 1 Marsh Creation

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	200,000	200,000
2	Hydraulic dredging	2,387,436	CY	1.50	3,581,155
3	Containment dikes	22,081	CY	3.00	66,244
	CONSTRUCTION COST				3,847,399
	CONSTRUCTION COST + 25% CONTINGENCIES				4,809,249

Table C-15b
Breakdown of Phased Costs
LA Highway 1 Marsh Creation

Description	Amount($)
Phase 1 Costs	
Engineering and Design	307,682
Environmental Compliance	30,000
Real Estate & Permitting	528,000
Orphan Oil Wells	104,000
Supervision and Administration	288,555
TOTAL	1,258,237
Phase 2 Costs	
Construction + 25% Contingency	4,809,249
Supervision and Inspection	187,500
TOTAL	4,996,749
GRAND TOTAL OF ALL PHASES	6,254,986

Table C-15c
Periodic Costs
LA Highway 1 Marsh Creation

Description	Frequency	Cost ($)
Operations & Maintenance	@ year 3	50,000
Corps Administration	Per year	500
Monitoring	Per year	4,896

Table C-16a
Estimated Construction Cost
Tangipahoa/Ponchartrain Shoreline Protection (PO-13)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	120,000	120,000
2	Geotextile	62,380	SY	2	125,000
3	Settlement Plates	9	EA	500	5,000
4	Loose Rock Riprap	82,625	TN	30	2,479,000
5	Navigation Warning Signs	19	EA	1,500	29,000
	CONSTRUCTION COST				2,758,000
	CONSTRUCTION COST + 25% CONTINGENCY				3,448,000

Table C-16b
Breakdown of Phased Costs
Tangipahoa/Ponchartrain Shoreline Protection (PO-13)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	225,000
Environmental Compliance	40,000
Land Rights	50,000
Supervision and Administration	207,000
TOTAL	522,000
Phase 2 Costs	
Construction + 25% Contingency	3,448,000
Inspection	33,000
TOTAL	3,481,000
GRAND TOTAL OF ALL PHASES	4,003,000

Table C-16c
Periodic Costs
Tangipahoa/Ponchartrain Shoreline Protection (PO-13)

Description	Frequency	Cost ($)
NRCS/DNR Inspections	Per year	3,000
Corps Administration	Per year	500
Monitoring	Per year	2,434

Table C-16d
Operation & Maintenance Costs
Tangipahoa/Ponchartrain Shoreline Protection (PO-13)

Description	Cost ($)		
	TY7	TY10	TY14
Post-Construction Costs			
Mobilization/Demobilization	1,000	40,000	1,000
Replace Signs	9,500		9,500
Restore 10% of original rockfill/rock riprap secton		247,875	
Total Post Construction Costs	10,500	287,875	10,500
Total Post Construction Costs + 10% contingency	12,000	317,000	12,000
Engineering, Design, & Administrative Costs			
Engineering and Design	1,000	25,000	1,000
Administrative	4,000	4,000	4,000
Engineering Surveys			
2 days @ $1,250 per day	3,000		3,000
5 days @ $1,250 per day		6,000	
Inspection			
3 days @ $765 per day	2,000		2,000
12 days @ $765 per day		9,000	
Total E, D. & A Costs	10,000	44,000	10,000
TOTAL OPERATION & MAINTENANCE COSTS	22,000	361,000	22,000

Table C-17-1a
Estimated Construction Cost
Grand/White Lake Land Bridge Protection Project (PME-18)
A-Jacks Option

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	A-Jacks Break Waters in White Lake	11,000	LF	45.5	500,500
2	Terraces in Callicon Lake (crown=10' H=6')	72,665	CY	2	145,330
3	Terraces in Callicon Lake (crown =10' H=7')	95,833	CY	2	191,666
4	Bullwhip Planting (Gallon Containers)	22,752	EA	7	159,264
5	Seashore Paspalum (Sprigs)	5,688	EA	2.5	14,220
6	Mob & Demob	1	LS	505,500	505,500
7	Insurance & Bonds	1	LS	15,200	15,200
	CONSTRUCTION COST				1,011,000
	CONSTRUCTION COST + 25% CONTINGENCY				1,784,450

Table C-17-1b
Breakdown of Phased Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
A-Jacks Option

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	172,000
	Environmental Compliance	40,000
	Land Rights	50,000
	Supervision and Administration	142,800
	TOTAL	354,800
Phase 2 Costs		
	Construction + 25% Contingency	1,784,450
	Inspection	103,700
	TOTAL	1,888,150
GRAND TOTAL OF ALL PHASES		2,242,950

Table C-17-1c
Periodic Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
A-Jacks Option

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4,896
Engineering Inspection	Yrs. 2,5,9,14	2,928

Table C-17-1d
Operation & Maintenance Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
A-Jacks option

Description	Cost ($)	
	TY10	TY15
Post-Construction Costs		
Mobilization/Demobilization	30,000	30,000
Terrace Const.	292,100	
A-Jack Replacement	125,125	50,050
10% Continence	44,700	8,000
Total Post Construction Costs	491,900	88,100
Engineering, Design, & Administrative Costs		
Engineering and Design	36,900	7,600
Administrative	18,500	3,800
Engineering Surveys		
5 days @ $1,250 per day	6,300	6,300
Inspection		
15 days @ $700 per day	10,500	10,500
Total E, D, & A Costs	72,200	28,200
TOTAL OPERATION & MAINTENANCE COSTS	564,100	116,300

Table C-17-2a
Estimated Construction Cost
Grand/White Lake Land Bridge Protection Project (PME-18)
Segmented Break Waters Option

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Segmented Break Waters in White Lake	66.454	TN	30	1.993.630
2	Geotextile Fabric	46.063	SY	4.5	207.284
3	Terraces in Callicon Lake (crown=10' H=6')	72.665	CY	2	145.330
4	Terraces in Callicon Lake (crown =10' H=7')	95.833	CY	2	191.666
5	Bullwhip Planting (Gallon Containers)	22.752	EA	7	159.264
6	Seashore Paspalum (Sprigs)	5.688	EA	2.5	14.220
7	Mob & Demob	1	LS	135.600	135.600
8	Insurance & Bonds	1	LS	40.700	40.700
	CONSTRUCTION COST				2.711.400
	CONSTRUCTION COST + 25% CONTINGENCY				3.609.600

Table C-17-2b
Breakdown of Phased Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
Segmented Break Waters Option

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	285.300
	Environmental Compliance	40.000
	Land Rights	50.000
	Supervision and Administration	288.800
	TOTAL	664.100
Phase 2 Costs		
	Construction + 25% Contingency	3.609.600
	Inspection	360.960
	TOTAL	3.970.560
GRAND TOTAL OF ALL PHASES		4.634.660

Table C-17-2c
Periodic Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
Segmented Break Waters Option

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4.896
Engineering Inspection	Yrs. 2.5.9.14	2.928

Table C-17-2d
Operation & Maintenance Costs
Grand/White Lake Land Bridge Protection Project (PME-18)
Segmented Break Waters Option

Description	Cost ($)	
	TY10	TY15
Post-Construction Costs		
Mobilization/Demobilization	30.000	30.000
Terrace Const.	292.100	
Rock Replacement	550.225	220.090
10% Continence	87.200	25.000
Total Post Construction Costs	959.500	275.100
Engineering, Design, & Administrative Costs		
Engineering and Design	68.600	21.600
Administrative	34.300	10.800
Engineering Surveys		
5 days @ $1.250 per day	6.300	6.300
Inspection		
15 days @ $700 per day	10.500	10.500
Total E. D. & A Costs	119.700	49.200
TOTAL OPERATION & MAINTENANCE COSTS	1.079.200	324.300

Table C-18a
Estimated Construction Cost
Raccoon Island Restoration (PTE-15-viii)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS		1.000.000
2	Segmented Breakwaters	1	LS	1.900.000	1.900.000
3	Containment dikes	31.000	CY	3.00	93.000
4	Dredge Material	1.000.000	CY	2.15	2.150.000
5	Vegetative Plantings	86	AC	3.000	258.000
	CONSTRUCTION COST				5.401.000
	CONSTRUCTION COST + 25% CONTINGENCIES				6.751.000

Table C-18b
Breakdown of Phased Costs
Raccoon Island Restoration (PTE-15-viii)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	433.000
Environmental Compliance	40.000
Real Estate & Permitting	15.000
Supervision and Administration	338.000
TOTAL	826.000
Phase 2 Costs	
Construction + 25% Contingency	6.751.000
Supervision and Inspection	198.000
TOTAL	6.949.000
GRAND TOTAL OF ALL PHASES	7.775.000

Table C-18c
Periodic Costs
Raccoon Island Restoration (PTE-15-viii)

Description	Frequency	Cost ($)
Operations & Maintenance		0
NRCS/DNR Inspections	Per year	3000
Corps Administration	Per year	500
Monitoring	Per year	4.896

Table C-19a
Estimated Construction Cost
Amoretta Freshwater Diversion (BA-17a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	0	0
2	Siphon & Appurtenances	1	LS	7.002.000	7.002.000
	CONSTRUCTION COST				7.002.000
	CONSTRUCTION COST + 25% CONTINGENCIES				8.753.000

Table C-19b
Breakdown of Phased Costs
Amoretta Freshwater Diversion (BA-17a)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	589.000
Environmental Compliance	40.000
Real Estate & Permitting	800.000
Supervision and Administration	460.000
TOTAL	1.889.000
Phase 2 Costs	
Construction + 25% Contingency	8.753.000
Supervision and Inspection	99.000
TOTAL	8.852.000
GRAND TOTAL OF ALL PHASES	10.741.000

Table C-19c
Periodic Costs
Amoretta Freshwater Diversion (BA-17a)

Description	Frequency	Cost ($)
NRCS/DNR Inspections	Per year	3000
Corps Administration	Per year	500
Monitoring	Per year	29,291
Operation	Per year	30,000
Maintenance	Per year	5,000

Table C-19d
Operation & Maintenance Costs
Amoretta Freshwater Diversion (BA-17a)

Description	Cost ($)		
	TY5	TY10	TY15
Post-Construction Costs			
Mobilization/Demobilization	5,000	5,000	5,000
Conveyance Channel			
Remove 50 % -19,500 C.Y. @ $4.00/C.Y.	78,000	78,000	78,000
10 % Contingency	8,000	8,000	8,000
Total Post Construction Costs	91,000	91,000	91,000
Engineering, Design, & Administrative Costs			
Engineering and Design	8,000	8,000	8,000
Administrative	4,000	4,000	4,000
Engineering Surveys			
3 days @ $1,250 per day	4,000	4,000	4,000
Inspection			
7 days @ $750 per day	5,250	5,250	5,250
Total E, D, & A Costs	21,000	21,000	21,000
TOTAL OPERATION & MAINTENANCE COSTS	112,000	112,000	112,000

Table C-20a
Estimated Construction Cost
East/West Grand Terre Restoration Project (XBA-1)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	1,000,000	1,000,000
2	Sand Fill	3,571,484	CY	2.30	8,214,413
3	Gulf Side Containment Levee	24,700	LF	15	370,500
4	Plantings	334	AC	3,000	1,002,000
5	Grading and Shaping	247	ST	1,000	247,000
6	Tidal Channels	7,407	CY	3	22,222
7	Internal Ponds	19,360	CY	3	58,080
8	Insurance & Bonds	1	LS	148,700	148,700
	CONSTRUCTION COST				11,062,915
	CONSTRUCTION COST + 25% CONTINGENCY				13,828,600

Table C-20b
Breakdown of Phased Costs
East/West Grand Terre Restoration Project (XBA-1)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	852,883
	Environmental Compliance	40,000
	Land Rights	100,000
	Supervision and Administration	801,400
	TOTAL	1,794,283
Phase 2 Costs		
	Construction + 25% Contingency	13,828,600
	Inspection	240,000
	TOTAL	14,068,600
GRAND TOTAL OF ALL PHASES		15,862,883

Table C-20c
Periodic Costs
East/West Grand Terre Restoration Project (XBA-1)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	4,896

Table C-21a
Estimated Construction Cost
East Golden Meadow Terracing Project (XBA-77)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	65,000	65,000
2	Dredging	1,852,400	CY	3.2	5,927,680
3	Plantings	137,400	EA	8	1,099,200
	CONSTRUCTION COST				7,091,880
	CONSTRUCTION COST + 25% CONTINGENCY				8,864,850

Table C-21b
Breakdown of Phased Costs
East Golden Meadow Terracing Project (XBA-77)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	531,900
Environmental Compliance	50,100
Land Rights	144,000
Supervision and Administration	620,000
TOTAL	1,346,000
Phase 2 Costs	
Construction + 25% Contingency	8,864,850
Inspection	443,000
TOTAL	9,307,850
GRAND TOTAL OF ALL PHASES	10,653,850

Table C-21c
Periodic Costs
East Golden Meadow Terracing Project (XBA-77)

Description	Frequency	Cost ($)
Monitoring	Per year	5,000

Table C-22a
Estimated Construction Cost
Timbalier Island Dune and Marsh Creation (XTE-45a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	1,000,000	1,000,000
2	Hydraulic dredging	3,809,556	CY	2.15	8,190,544
3	Containment dikes	68,444	CY	3.00	205,333
4	Grade and Shape	140	ST	1,000	140,000
5	Vegetation	321	AC	3,000	964,187
6	Snow Fence	14,000	LF	6.60	92,400
	CONSTRUCTION COST				10,592,465
	CONSTRUCTION COST + 25% CONTINGENCIES				12,710,958

Table C-22b
Breakdown of Phased Costs
Timbalier Island Dune and Marsh Creation (XTE-45a)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	764.893
Environmental Compliance	30.000
Real Estate & Permitting	100.000
Supervision and Administration	762.657
TOTAL	1.657.550
Phase 2 Costs	
Construction + 25% Contingency	12,710.958
Supervision and Inspection	225.000
TOTAL	12.935.958
GRAND TOTAL OF ALL PHASES	14.593.508

Table C-22c
Periodic Costs
Timbalier Island Dune and Marsh Creation (XTE-45a)

Description	Frequency	Cost ($)
Operations & Maintenance		0
Corps Administration	Per year	500
Monitoring	Per year	4.896

Table C-23a
Estimated Construction Cost
Grand Pierre Island Restoration (XBA-1c)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	1.000.000	1.000.000
2	Hydraulic dredging	1.097.492	CY	2.30	2.524.231
3	Containment dikes	38.867	CY	3.00	116.600
4	Grade and Shape	80	ST	1.000	80.000
5	Vegetation	89	AC	3.000	268.285
6	Snow Fence	7.950	LF	6.60	52.470
	CONSTRUCTION COST				4.041.586
	CONSTRUCTION COST + 25% CONTINGENCIES				4.849.903

Table C-23b
Breakdown of Phased Costs
Grand Pierre Island Restoration (XBA-1c)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	390.113
Environmental Compliance	30.000
Real Estate & Permitting	100.000
Supervision and Administration	290.994
TOTAL	811.107
Phase 2 Costs	
Construction + 25% Contingency	4.849.903
Supervision and Inspection	90.000
TOTAL	4.939.903
GRAND TOTAL OF ALL PHASES	5.751.010

Table C-23c
Periodic Costs
Grand Pierre Island Restoration (XBA-1c)

Description	Frequency	Cost ($)
Operations & Maintenance		0
Corps Administration	Per year	500
Monitoring	Per year	4.896

Table C-24a
Estimated Construction Cost
Freshwater Bayou Canal Shoreline Stabilization and Hydrologic Restoration (Schooner Bayou to the GIWW) (XME-28/33)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	60.000	60.000
2	Stone	171.226	TN	23	3.938.200
3	Geotextile	130.000	SY	3	390.000
4	2 Canal Closures	2.800	CY	6	16.800
5	Flotation Channel	1	LS	480.000	480.000
6	Marker Piles	1.500	LF	12	18.000
	CONSTRUCTION COST				4.903.000
	CONSTRUCTION COST + 25% CONTINGENCY				6.128.750

Table C-24b
Breakdown of Phased Costs
Freshwater Bayou Canal Shoreline Stabilization and Hydrologic Restoration (Schooner Bayou to the GIWW) (XME-28/33)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	367.725
	Environmental Compliance	103.000
	Land Rights	37.000
	Supervision and Administration	306.438
	TOTAL	814.163
Phase 2 Costs		
	Construction + 25% Contingency	6.128.750
	Inspection	306.438
	TOTAL	6.435.188
GRAND TOTAL OF ALL PHASES		7.249.351

Table C-24c
Operation & Maintenance Costs
Freshwater Bayou Canal Shoreline Stabilization and Hydrologic Restoration (Schooner Bayou to the GIWW) (XME-28/33)

Description	Cost ($)		
	TY3	TY7	TY14
Post-Construction Costs			
Mobilization/Demobilization	60.000	60.000	60.000
Canal closures	8.400	8.400	8.400
Stone	1.012.233	1.012.233	1.012.233
Contingency	270.158	270.158	270.158
Total Post Construction Costs	1.350.791	1.350.791	1.350.791
Engineering, Design, & Administrative Costs			
Engineering and Design	40.523	40.523	40.523
Administrative	27.016	27.016	27.016
Inspection	67.540	67.540	67.540
Total E, D. & A Costs	135.079	135.079	135.079
TOTAL OPERATION & MAINTENANCE COSTS	1.485.870	1.485.870	1.485.870

Table C-25a
Estimated Construction Cost
New Cut Dune and Marsh Creation (TE-11a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	1.000.000	1.000.000
2	Hydraulic dredging	1.517.475	CY	2.15	3.262.571
3	Containment dikes	12.956	CY	3.00	38.867
4	Grade and Shape	26	ST	1.000	26.000
5	Vegetation	61	AC	3.000	183.000
6	Rock Plug	2.628	TN	35	91.967
7	Snow Fence	3.000	LF	6.60	19.800
	CONSTRUCTION COST				4.622.204
	CONSTRUCTION COST + 25% CONTINGENCIES				5.777.755

Table C-25b
Breakdown of Phased Costs
New Cut Dune and Marsh Creation (TE-11a)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	365.288
Environmental Compliance	30.000
Real Estate & Permitting	50.000
Supervision and Administration	346.665
TOTAL	791.953
Phase 2 Costs	
Construction + 25% Contingency	5.777.755
Supervision and Inspection	90.000
TOTAL	5.867.755
GRAND TOTAL OF ALL PHASES	6.659.708

Table C-25c
Periodic Costs
New Cut Dune and Marsh Creation (TE-11a)

Description	Frequency	Cost ($)
Operations & Maintenance	@ year 20	3.000
Corps Administration	Per year	500
Monitoring	Per year	4.896

Table C-26a
Estimated Construction Cost
North Bully Camp Outfall Management (XTE-58a)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Fixed crested weir w/ boat bay	1	LS	220.000	220.000
2	Sheet piling plug	1	LS	410.000	410.000
3	Fixed crested weir w/barge bay	1	LS	623.000	623.000
4	Fixed crested weir (replacement)		LS	66.000	66.000
5	Fixed crested weir w/barge bay	1	LS	700.000	700.000
6	Sheet piling plug	1	LS	295.000	295.000
7	Embankment Restoration <Intermittent Spoil Placement>				
	Earthfill	15.334	CY	3.00	46.000
	Geotextile	13.804	SY	3.00	42.000
	Vegetative planting	1	LS		55.000
8	Embankment Restoration II <Catfish Lake Levee>				
	Earthfill	34.316	CY	4.00	138.000
	Geotextile	25.173	SY	3.00	76.000
	Vegetative planting	1	LS		83.000
9	Mob/Demobilization	1	LS		150.000
	CONSTRUCTION COST				2.904.000
	CONSTRUCTION COST + 25% CONTINGENCY				3.630.000

Table C-26b
Breakdown of Phased Costs
North Bully Camp Outfall Management (XTE-58a)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	342.000
Environmental Compliance	40.000
Land Rights	100.000
Supervision and Administration	218.000
TOTAL	700.000
Phase 2 Costs	
Construction + 25% Contingency	3.630.000
Inspection	104.000
TOTAL	3.734.000
GRAND TOTAL OF ALL PHASES	4.434.000

Table C-26c
Periodic Costs
North Bully Camp Outfall Management (XTE-58a)

Description	Frequency	Cost ($)
NRCS/DNR Inspections	Per year	3000
Corps Administration	Per year	500
Monitoring	Per year	29,291

Table C-26d
Operation & Maintenance Costs
North Bully Camp Outfall Management (XTE-58a)

Description	Cost ($)			
	TY4	TY8	TY12	TY16
Post-Construction Costs				
Mobilization/Demobilization	15,000	15,000	15,000	15,000
Embankment Restoration I				
Restore 10% - 860 ft @ $30.00/ft	25,800	25,800	25,800	25,800
Replace 25% - 3,900 C.Y. @ $3.00/C.Y.	11,700	11,700	11,700	11,700
Embankment Restoration II				
Replace 25% - 8,600 C.Y. @ $4.00/C.Y.	34,400	34,400	34,400	34,400
Replace NavAids, Restore Wingwalls	10,100	10,100	10,100	10,100
Total Post Construction Costs	97,000	97,000	97,000	97,000
Engineering, Design, & Administrative Costs				
Engineering and Design	8,300	8,300	8,300	8,300
Administrative	4,450	4,450	4,450	4,450
Engineering Surveys				
4 days @ $1,250 per day	5,000	5,000	5,000	5,000
Inspection				
7 days @ $750 per day	5,250	5,250	5,250	5,250
Total E, D, & A Costs	23,000	23,000	23,000	23,000
TOTAL OPERATION & MAINTENANCE COSTS	120,000	120,000	120,000	120,000

Table C-27a
Estimated Construction Cost
Weeks Bay Marsh Creation and Shore Protection/Commercial Canal Freshwater Re-direction (PTV-13)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mobilization and Demobilization	1	LS	60,000	60,000
2	Fixed Crest Weir w/Barge Bay	1	LS	532,300	532,300
3	Shore Protection <N Bay Shoreline> Vegetative Plantings	26,600	LF	3.50	93,100
4	Shore Protection <Isthmus> Steel Sheetpiling	12,600	LF	690	8,694,000
	CONSTRUCTION COST				9,379,400
	CONSTRUCTION COST + 25% CONTINGENCIES				11,725,000

Table C-27b
Breakdown of Phased Costs
Weeks Bay Marsh Creation and Shore Protection/Commercial Canal Freshwater Re-direction (PTV-13)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	759,000
Environmental Compliance	40,000
Real Estate & Permitting	50,000
Supervision and Administration	704,000
TOTAL	1,553,000
Phase 2 Costs	
Construction + 25% Contingency	11,725,000
Supervision and Inspection	70,000
TOTAL	11,795,000
GRAND TOTAL OF ALL PHASES	13,348,000

Table C-27c
Periodic Costs
Weeks Bay Marsh Creation and Shore Protection/Commercial Canal Freshwater Re-direction (PTV-13)

Description	Frequency	Cost ($)
NRCS/DNR Inspections	Per year	3000
Corps Administration	Per year	500
Monitoring	Per year	2,434

Table C-27d
Operation & Maintenance Costs
Weeks Bay Marsh Creation and Shore Protection/Commercial Canal Freshwater Re-direction (PTV-13)

Description	Cost ($)		
	TY5	TY10	TY15
Post-Construction Costs			
Mobilization/Demobilization	10.000	10.000	10.000
Shore Protection (Sheetpiling)			
Repair Cap, Repair NavAids	10.000	10.000	10.000
Commercial Canal Str			
Repair NavAids, Wingwall Reinforce	15.000	15.000	15.000
Total Post Construction Costs	35.000	35.000	35.000
Engineering, Design, & Administrative Costs			
Engineering and Design	3.000	3.000	3.000
Administrative	3.000	3.000	3.000
Engineering Surveys			
1 days @ $1.250 per day	1.250	1.250	1.250
Inspection			
3 days @ $750 per day	2.250	2.250	2.250
Total E, D, & A Costs	9.500	9.500	9.500
TOTAL OPERATION & MAINTENANCE COSTS	45.000	45.000	45.000

Table C-28a
Estimated Construction Cost
Shoreline Protection at Lake Borgne (PPO-b/d/h)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	60,000	60,000
2	Stone	110,000	TN	24	2,640,000
3	Core Material	40,000	CY	35	1,400,000
4	Geotextile	120,000	SY	5	600,000
5	Marker Plates	30	EA	500	10,500
6	Flotation Channel	1	LS	567,000	567,000
	CONSTRUCTION COST				5,277,500
	CONSTRUCTION COST + 25% CONTINGENCY				6,596,875

Table C-28b
Breakdown of Phased Costs
Shoreline Protection at Lake Borgne (PPO-b/d/h)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	396,000
Environmental Compliance	125,000
Land Rights	
Supervision and Administration	198,000
TOTAL	719,000
Phase 2 Costs	
Construction + 25% Contingency	6,597,000
Inspection	330,000
TOTAL	6,927,000
GRAND TOTAL OF ALL PHASES	7,646,000

Table C-28c
Operation & Maintenance Costs
Shoreline Protection at Lake Borgne (PPO-b/d/h)

Description	Cost ($)			
	TY2	TY4	TY7	TY15
Post-Construction Costs				
Mobilization/Demobilization	60.000	60.000	60.000	60.000
Stone	840.000	1.080.000	1.080.000	1.080.000
Raise Marker Plates	3.000	3.000	3.000	3.000
Flotation Channel	567.000	567.000	567.000	567.000
Contingency	367.500	427.500	427.500	427.500
Total Post Construction Costs	1.837.500	2.137.500	2.137.500	2.137.500
Engineering, Design, & Administrative Costs				
Engineering and Design	128.000	128.000	128.000	128.000
Administrative	64.000	64.000	64.000	64.000
Inspection	107.000	107.000	107.000	107.000
Total E, D, & A Costs	299.000	299.000	299.000	299.000
TOTAL OPERATION & MAINTENANCE COSTS	2.136.500	2.436.500	2.436.500	2.436.500

Table C-29a
Estimated Construction Cost
Constriction at Lighthouse Bayou (PCS-32)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	50.000	50.000
2	Geotextile	5.600	SY	3	17.000
3	Loose Rock Riprap	3.600	TN	50	180.000
4	Embankment	3.500	CY	20	70.000
5	Vegetative Plantings	1	LS	53.000	53.000
6	Trenasse Closure	6	EA	13.000	78.000
7	Signs and Markers	2	EA	2.000	4.000
	CONSTRUCTION COST				452.000
	CONSTRUCTION COST + 25% CONTINGENCY				565.000

Table C-29b
Breakdown of Phased Costs
Constriction at Lighthouse Bayou (PCS-32)

Description	Amount($)
Phase I Costs	
Engineering and Design	92.000
Environmental Compliance	55.000
Land Rights	60.000
Supervision and Administration	45.000
TOTAL	252.000
Phase 2 Costs	
Construction + 25% Contingency	565.000
Inspection	68.000
TOTAL	633.000
GRAND TOTAL OF ALL PHASES	885.000

Table C-29c
Periodic Costs
Constriction at Lighthouse Bayou (PCS-32)

Description	Frequency	Cost ($)
Inspections	Per year	3.000
Corps Administration	Per year	500
Monitoring	Per year	29.291

Table C-29d
Operation & Maintenance Costs
Constriction at Lighthouse Bayou (PCS-32)

Description	Cost ($)	
	TY7	TY14
Post-Construction Costs		
Mobilization/Demobilization	10.000	10.000
Replace 500 tons of rock riprap section	25.000	25.000
Replace 1.000 cy of earthen embankment	20.000	20.000
Trenasse maintenance	10.000	10.000
Replace signs	4.000	4.000
Total Post Construction Costs	69.000	69.000
Total Post Construction Costs + 10% contingency	76.000	76.000
Engineering, Design, & Administrative Costs		
Engineering and Design	7.000	7.000
Administrative	9.000	9.000
Engineering Surveys		
4 days @ $1.250 per day	5.000	5.000
Inspection		
14 days @ $765 per day	11.000	11.000
Total E. D. & A Costs	32.000	32.000
TOTAL OPERATION & MAINTENANCE COSTS	108.000	108.000

Table C-30a
Estimated Construction Cost
Restore Original Mermentau River Project (PME-17)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Mob/Demobilization	1	LS	350.000	350.000
2	Dredging	305.000	CY	3.2	976.000
3	Geobags	3.600	EA	75	270.000
	CONSTRUCTION COST				1.596.000
	CONSTRUCTION COST + 25% CONTINGENCY				1.995.000

Table C-30b
Breakdown of Phased Costs
Restore Original Mermentau River Project (PME-17)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	119.700
Land Rights	40.000
Supervision and Administration	159.600
TOTAL	319.300
Phase 2 Costs	
Construction + 25% Contingency	1.995.000
Inspection	150.000
TOTAL	2.145.000
GRAND TOTAL OF ALL PHASES	2.464.300

Table C-31a
Estimated Construction Cost
Lake Athanasio Oyster Reef Demonstration Project (BS-DEMO)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	CONSTRUCTION COST	1	LS	376,000	376,000
	CONSTRUCTION COST + 25% CONTINGENCY				470,000

Table C-31b
Breakdown of Phased Costs
Lake Athanasio Oyster Reef Demonstration Project (BS-DEMO)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	44,000
	Environmental Compliance	20,000
	Land Rights	20,000
	Supervision and Administration	16,000
	TOTAL	100,000
Phase 2 Costs		
	Construction + 25% Contingency	376,000
	Inspection	8,000
	Monitoring-Post Construction	100,000
	TOTAL	484,000
GRAND TOTAL OF ALL PHASES		584,000

Table C-31c
Periodic Costs
Lake Athanasio Oyster Reef Demonstration Project (BS-DEMO)

Description	Frequency	Cost ($)
Corps Administration	Per year	500

Table C-32a
Estimated Construction Cost
Mandalay Bank Protection Demo Project (XTE-DEMO)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Planting mob-demob				10,000
2	Earth/mat work mob-demob				30,000
3	Fenced cutgrass plantings (Site H)	850	LF	65	55,250
4	Submarine armored levee(Site C)	903	LF	100	90,300
5	Unfenced cutgrass plantings (Site I)	705	LF	15	10,575
6	Willow stakes (site J)	376	LF	28	10,528
7	Armored earth levee (Site M)	567	LF	143	81,081
8	Fenced cutgrass plantings w protect (Site N)	382	LF	150	57,300
9	Undetermined (Site P)	553	LF	150	82,950
10	Fenced cutgrass plantings (on bank)	600	LF	65	39,000
11	Concr. Mats on bank w PVC berm (on bank)	600	LF	80	48,000
12	Fenced cutgrass plantings w protect (on bank)	600	LF	150	90,000
	CONSTRUCTION COST				604,984
	CONSTRUCTION COST + 25% CONTINGENCIES				756,230

Table C-32b
Breakdown of Phased Costs
Mandalay Bank Protection Demo Project (XTE-DEMO)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	125,374
	Environmental Compliance	35,000
	Real Estate & Permitting	85,000
	Supervision and Administration	83,186
	TOTAL	328,560
Phase 2 Costs		
	Construction + 25% Contingency	756,230
	Supervision and Inspection	18,750
	TOTAL	774,980
GRAND TOTAL OF ALL PHASES		1,103,540

Table C-32c
Periodic Costs
Mandalay Bank Protection Demo Project (XTE-DEMO)

Description	Frequency	Cost ($)
Engineering Inspections (x 3yrs)	Per year	4000
Corps Administration (x 5 yrs)	Per year	500
Monitoring	Per year	10,000

Table C-32d
Operation & Maintenance Costs
Mandalay Bank Protection Demo Project (XTE-DEMO)

Description	Cost ($)		
	TY1	TY3	TY5
Monitoring Plan	25.000	25.000	25.000
TOTAL OPERATION & MAINTENANCE COSTS	25.000	25.000	25.000

Table C-33a
Estimated Construction Cost
Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites (MR-DEMO)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Four week diversion demonstrations	3	EA	336.587	1.009.760
	CONSTRUCTION COST				1.009.760
	CONSTRUCTION COST + 25% CONTINGENCY				1.262.200

Table C-33b
Breakdown of Phased Costs
Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites (MR-DEMO)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	37.270
	Land Rights	10.640
	Supervision and Administration	41.480
	TOTAL	89.390
Phase 2 Costs		
	Construction + 25% Contingency	1.262.200
	Inspection	78.530
	TOTAL	1.340.730
GRAND TOTAL OF ALL PHASES		1.430.120

Table C-34a
Estimated Construction Cost
Grand Temple Shoreline Protection Demonstration Project (BA-DEMO)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Shoreline Protection	2.500	LF	200	500.000
	CONSTRUCTION COST				500.000
	CONSTRUCTION COST + 25% CONTINGENCY				625.000

Table C-34b
Breakdown of Phased Costs
Grand Temple Shoreline Protection Demonstration Project (BA-DEMO)

Description		Amount($)
Phase 1 Costs		
	Engineering and Design	66.000
	Environmental Compliance	40.000
	Land Rights	25.000
	Supervision and Administration	57.000
	TOTAL	188.000
Phase 2 Costs		
	Construction + 25% Contingency	625.000
	Inspection	5.000
	TOTAL	630.000
GRAND TOTAL OF ALL PHASES		818.000

Table C-34c
Periodic Costs
Grand Temple Shoreline Protection Demonstration Project (BA-DEMO)

Description	Frequency	Cost ($)
Corps Administration	Per year	500
Monitoring	Per year	15.000

Table C-34d
Operation & Maintenance Costs
Grand Temple Shoreline Protection Demonstration Project (BA-DEMO)

Description	Cost ($)		
	TY1	TY3	TY5
Engineering, Design, & Administrative Costs			
Monitoring	15.000	15.000	15.000
Total E. D. & A Costs	15.000	15.000	15.000
TOTAL OPERATION & MAINTENANCE COSTS	15.000	15.000	15.000

Table C-35a
Estimated Construction Cost
Terrebonne Bay Shore Protection Demonstration Project (XTE-DEMO)

Item	Description	Quantity	Unit	Unit Cost($)	Amount($)
1	Foreshore concr mat with PVC levee (Site A)	400	LF	67	26.800
2	Onbank concr matt (Site B)	400	LF	57	22.800
3	Single row 2' Ajacks (Site C)	400	LF	30	12.000
4	Side by side row 2' Ajacks (Site D)	400	LF	50	20.000
5	Concrete matt over PVC & earthen levee (Site E)	400	LF	143	57.200
6	Grating reef (Site F)	400	LF	70	28.000
7	Onbank concr matt (Site G)	400	LF	57	22.800
8	Single row 4' Ajacks (Site H)	400	LF	150	60.000
9	Three row 2' Ajacks (Site I)	400	LF	80	32.000
10	CEI Reefblock (Site J)	400	LF	192	76.800
	CONSTRUCTION COST				358.400
	CONSTRUCTION COST + 25% CONTINGENCIES				448.000

Table C-35b
Breakdown of Phased Costs
Terrebonne Bay Shore Protection Demonstration Project (XTE-DEMO)

Description	Amount($)
Phase 1 Costs	
Engineering and Design	65.840
Environmental Compliance	25.000
Real Estate & Permitting	50.000
Supervision and Administration	21.504
TOTAL	162.344
Phase 2 Costs	
Construction + 25% Contingency	448.000
Supervision and Inspection	50.000
TOTAL	498.000
GRAND TOTAL OF ALL PHASES	660.344

Table C-35c
Periodic Costs
Terrebonne Bay Shore Protection Demonstration Project (XTE-DEMO)

Description	Frequency	Cost ($)
Engineering Inspections (x 8yrs)	Per year	4.000
Corps Administration (x 8yrs)	Per year	500
Monitoring	Per year	10.000

Table C-35d
Operation & Maintenance Costs
Terrebonne Bay Shore Protection Demonstration Project (XTE-DEMO)

Description	Cost ($)			
	TY1	TY3	TY5	TY8
Monitoring	40.000	40.000	40.000	40.000
TOTAL OPERATION & MAINTENANCE COSTS	40.000	40.000	40.000	40.000

Coastal Wetlands Planning, Protection, and Restoration Act

9th Priority Project List Report

Appendix D

Economics Computational Summary For Candidate Projects

Appendix D

Economics Computational Summary For Candidate Projects

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Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Opportunistic Use of Bonnet Carre Spillway (XPO-55a)

Project Construction Years:	2	Total Project Years	22
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$86,854	Total Fully Funded Costs	$1,084,080

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$96,783	$8,871
Monitoring	$435,517	$39,919
O & M Costs	$0	$0
Other Costs	$6,851	$628
Total	$539,200	$49,418
Average Annual Habitat Units		121
Cost Per Habitat Unit		$408
Average Annual Acres of Emergent Marsh		NA

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All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Opportunistic Use of Bonnet Carre Spillway (XPO-55a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
2 Compound	2000	$50,000	$0	$12,500	$5,000	$628	$0	$0	$0	$68,128
1 Compound	2001	$0	$0	$12,500	$5,000	$628	$0	$0	$0	$18,128
TOTAL		$50,000	$0	$25,000	$10,000	$1,256	$0	$0	$0	$86,256

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2000	$48,714	$0	$0
1 Compound	2001	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2002	$32,493	$0	$628
2 Discount	2003	$32,493	$0	$628
3 Discount	2004	$32,493	$0	$628
4 Discount	2005	$32,493	$0	$628
5 Discount	2006	$32,493	$0	$628
6 Discount	2007	$32,493	$0	$628
7 Discount	2008	$32,493	$0	$628
8 Discount	2009	$32,493	$0	$628
9 Discount	2010	$32,493	$0	$628
10 Discount	2011	$32,493	$0	$628
11 Discount	2012	$32,493	$0	$628
12 Discount	2013	$32,493	$0	$628
13 Discount	2014	$32,493	$0	$628
14 Discount	2015	$32,493	$0	$628
15 Discount	2016	$32,493	$0	$628
16 Discount	2017	$32,493	$0	$628
17 Discount	2018	$32,493	$0	$628
18 Discount	2019	$32,493	$0	$628
19 Discount	2020	$32,493	$0	$628
20 Discount	2021	$0	$0	$628
Total		$698,574	$0	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Opportunistic Use of Bonnet Carre Spillway (XPO-55a)

Present Valued Costs Total Discounted Costs **$539,152** Amortized Costs **$49,418**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212		$60,610	$0	$0	$0	$0	$0	$0	$0	$0
2	1.137	2000	$0	$0	$14,211	$5,684	$714	$0	$0	$0	$77,454
1	1.066	2001	$0	$0	$13,328	$5,331	$670	$0	$0	$0	$19,329
		Total	$60,610	$0	$27,539	$11,016	$1,384	$0	$0	$0	$96,783

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2000	$55,382	$0	$0
1	1.066	2001	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$30,474	$0	$589
-2	0.880	2003	$28,581	$0	$552
-3	0.825	2004	$26,805	$0	$518
-4	0.774	2005	$25,139	$0	$486
-5	0.726	2006	$23,577	$0	$456
-6	0.681	2007	$22,112	$0	$427
-7	0.638	2008	$20,738	$0	$401
-8	0.599	2009	$19,450	$0	$376
-9	0.561	2010	$18,241	$0	$353
-10	0.527	2011	$17,108	$0	$331
-11	0.494	2012	$16,045	$0	$310
-12	0.463	2013	$15,048	$0	$291
-13	0.434	2014	$14,113	$0	$273
-14	0.407	2015	$13,236	$0	$256
-15	0.382	2016	$12,414	$0	$240
-16	0.358	2017	$11,642	$0	$225
-17	0.336	2018	$10,919	$0	$211
-18	0.315	2019	$10,241	$0	$198
-19	0.296	2020	$9,604	$0	$186
-20	0.277	2021	$0	$0	$174
		Total	$435,517	$0	$6,851

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All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Opportunistic Use of Bonnet Carre Spillway (XPO-55a)

Fully Funded Costs Total Fully Funded Costs $1,084,080 Amortized Costs $99,366

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	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		0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.000	2000	$50,000	$0	$12,500	$5,000	$628	$0	$0	$0	$68,128
1	1.033	2001	$0	$0	$12,913	$5,165	$649	$0	$0	$0	$18,726
		TOTAL	$50,000	$0	$25,413	$10,165	$1,277	$0	$0	$0	$86,854

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.000	2000	$48,714	$0	$0
1	1.033	2001	$33,565	$0	$0
0	Base Year		$0	$0	$0
-1	1.067	2002	$34,673	$0	$670
-2	1.102	2003	$35,817	$0	$692
-3	1.139	2004	$36,999	$0	$715
-4	1.176	2005	$38,220	$0	$739
-5	1.215	2006	$39,481	$0	$763
-6	1.255	2007	$40,784	$0	$788
-7	1.297	2008	$42,130	$0	$814
-8	1.339	2009	$43,520	$0	$841
-9	1.384	2010	$44,957	$0	$869
-10	1.429	2011	$46,440	$0	$898
-11	1.476	2012	$47,973	$0	$927
-12	1.525	2013	$49,556	$0	$958
-13	1.575	2014	$51,191	$0	$989
-14	1.627	2015	$52,880	$0	$1,022
-15	1.681	2016	$54,625	$0	$1,056
-16	1.737	2017	$56,428	$0	$1,091
-17	1.794	2018	$58,290	$0	$1,127
-18	1.853	2019	$60,214	$0	$1,164
-19	1.914	2020	$62,201	$0	$1,202
-20	1.977	2021	$0	$0	$1,242
		Total	$978,659	$0	$18,566

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Chandeleur Island Vegetation Planting - (XPO-95)

Project Construction Years:	2	Total Project Years	22
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$1,242,237	Total Fully Funded Costs	$1,435,066

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$1,295,290	$118,726
Monitoring	$84,942	$7,786
O & M Costs	$0	$0
Other Costs	$6,851	$628
Total	$1,387,100	$127,139
Average Annual Habitat Units		194
Cost Per Habitat Unit		655
Average Annual Acres of Emergent Marsh		NA

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Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Chandeleur Island Vegetation Planting - (XPO-95)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
2 Compound	2000	$85,500	$10,000	$20,488	$8,195	$628	$0	$0	$0	$124,811
1 Compound	2001	$0	$0	$29,268	$11,708	$628	$45,000	$199,025	$796,100	$1,081,729
TOTAL		$85,500	$10,000	$49,756	$19,903	$1,256	$45,000	$199,025	$796,100	$1,206,540

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2000	$18,828	$0	$0
1 Compound	2001	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2002	$5,431	$0	$628
2 Discount	2003	$5,431	$0	$628
3 Discount	2004	$5,431	$0	$628
4 Discount	2005	$5,431	$0	$628
5 Discount	2006	$5,431	$0	$628
6 Discount	2007	$5,431	$0	$628
7 Discount	2008	$5,431	$0	$628
8 Discount	2009	$5,431	$0	$628
9 Discount	2010	$5,431	$0	$628
10 Discount	2011	$5,431	$0	$628
11 Discount	2012	$5,431	$0	$628
12 Discount	2013	$5,431	$0	$628
13 Discount	2014	$5,431	$0	$628
14 Discount	2015	$5,431	$0	$628
15 Discount	2016	$5,431	$0	$628
16 Discount	2017	$5,431	$0	$628
17 Discount	2018	$5,431	$0	$628
18 Discount	2019	$5,431	$0	$628
19 Discount	2020	$5,431	$0	$628
20 Discount	2021	$0	$0	$628
Total		$127,448	$0	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Chandeleur Island Vegetation Planting - (XPO-95)

Present Valued Costs Total Discounted Costs **$1,387,084** Amortized Costs **$127,139**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212		$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.137	2000	$97,204	$11,369	$23,292	$9,317	$714	$0	$0	$0	$141,896
1	1.066	2001	$0	$0	$31,207	$12,483	$670	$47,981	$212,210	$848,842	$1,153,393
		Total	$97,204	$11,369	$54,500	$21,800	$1,384	$47,981	$212,210	$848,842	$1,295,290

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2000	$21,405	$0	$0
1	1.066	2001	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$5,094	$0	$589
-2	0.880	2003	$4,777	$0	$552
-3	0.825	2004	$4,480	$0	$518
-4	0.774	2005	$4,202	$0	$486
-5	0.726	2006	$3,941	$0	$456
-6	0.681	2007	$3,696	$0	$427
-7	0.638	2008	$3,466	$0	$401
-8	0.599	2009	$3,251	$0	$376
-9	0.561	2010	$3,049	$0	$353
-10	0.527	2011	$2,859	$0	$331
-11	0.494	2012	$2,682	$0	$310
-12	0.463	2013	$2,515	$0	$291
-13	0.434	2014	$2,359	$0	$273
-14	0.407	2015	$2,212	$0	$256
-15	0.382	2016	$2,075	$0	$240
-16	0.358	2017	$1,946	$0	$225
-17	0.336	2018	$1,825	$0	$211
-18	0.315	2019	$1,712	$0	$198
-19	0.296	2020	$1,605	$0	$186
-20	0.277	2021	$0	$0	$174
		Total	$84,942	$0	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Chandeleur Island Vegetation Planting - (XPO-95)

Fully Funded Costs Total Fully Funded Costs $1,435,066 Amortized Costs $131,537

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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			$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.000	2000	$85,500	$10,000	$20,488	$8,195	$628	$0	$0	$0	$124,811
1	1.033	2001	$0	$0	$30,234	$12,094	$649	$46,485	$205,593	$822,371	$1,117,426
		TOTAL	$85,500	$10,000	$50,722	$20,289	$1,277	$46,485	$205,593	$822,371	$1,242,237

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.000	2000	$18,828	$0	$0
1	1.033	2001	$5,610	$0	$0
0	Base Year		$0	$0	$0
-1	1.067	2002	$5,795	$0	$670
-2	1.102	2003	$5,987	$0	$692
-3	1.139	2004	$6,184	$0	$715
-4	1.176	2005	$6,388	$0	$739
-5	1.215	2006	$6,599	$0	$763
-6	1.255	2007	$6,817	$0	$788
-7	1.297	2008	$7,042	$0	$814
-8	1.339	2009	$7,274	$0	$841
-9	1.384	2010	$7,514	$0	$869
-10	1.429	2011	$7,762	$0	$898
-11	1.476	2012	$8,018	$0	$927
-12	1.525	2013	$8,283	$0	$958
-13	1.575	2014	$8,556	$0	$989
-14	1.627	2015	$8,839	$0	$1,022
-15	1.681	2016	$9,130	$0	$1,056
-16	1.737	2017	$9,432	$0	$1,091
-17	1.794	2018	$9,743	$0	$1,127
-18	1.853	2019	$10,064	$0	$1,164
-19	1.914	2020	$10,396	$0	$1,202
-20	1.977	2021	$0	$0	$1,242
		Total	$174,263	$0	$18,566

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Highway 82 Freshwater Introduction (PME-7a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$3,897,222	Total Fully Funded Costs	$5,887,199

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$3,966,259	$363,545
Monitoring	$471,438	$43,212
O & M Costs	$307,625	$28,197
Other Costs	$6,851	$628
Total	$4,752,200	$435,582
Average Annual Habitat Units		553
Cost Per Habitat Unit		$788
Average Annual Acres of Emergent Marsh		NA

Highway 82 Freshwater Introduction (PME-7a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$61,282	$12,727	$21,543	$8,614	$628	$0	$0	$0	$104,794
4 Compound	2001	$105,055	$21,818	$36,931	$14,767	$628	$0	$0	$0	$179,199
3 Compound	2002	$105,055	$21,818	$36,931	$14,767	$628	$0	$0	$0	$179,199
2 Compound	2003	$17,509	$3,636	$36,931	$14,767	$628	$133,269	$291,388	$1,165,554	$1,663,683
1 Compound	2004	$0	$0	$18,465	$7,384	$628	$114,231	$249,762	$999,046	$1,389,515
TOTAL		$288,900	$60,000	$150,800	$60,300	$3,140	$247,500	$541,150	$2,164,600	$3,516,390

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$52,769	$0	$0
2 Compound	2003	$32,493	$0	$0
1 Compound	2004	$32,493	$0	$0
0 Base Year			$0	$0
1 Discount	2005	$32,493	$1,950	$628
2 Discount	2006	$32,493	$1,950	$628
3 Discount	2007	$32,493	$1,950	$628
4 Discount	2008	$32,493	$1,950	$628
5 Discount	2009	$32,493	$5,595	$628
6 Discount	2010	$32,493	$1,950	$628
7 Discount	2011	$32,493	$1,950	$628
8 Discount	2012	$32,493	$1,950	$628
9 Discount	2013	$32,493	$5,595	$628
10 Discount	2014	$32,493	$531,156	$628
11 Discount	2015	$32,493	$5,595	$628
12 Discount	2016	$32,493	$1,950	$628
13 Discount	2017	$32,493	$1,950	$628
14 Discount	2018	$32,493	$1,950	$628
15 Discount	2019	$32,493	$1,950	$628
16 Discount	2020	$32,493	$1,950	$628
17 Discount	2021	$32,493	$5,595	$628
18 Discount	2022	$32,493	$1,950	$628
19 Discount	2023	$0	$1,950	$628
20 Discount	2024	$0	$1,950	$628
Total		$702,629	$582,786	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Highway 82 Freshwater Introduction (PME-7a)

Present Valued Costs Total Discounted Costs $4,752,173 Amortized Costs $435,582

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$84,455	$17,540	$29,689	$11,872	$865	$0	$0	$0	$144,422
4	1.293	2001	$135,785	$28,200	$47,733	$19,087	$812	$0	$0	$0	$231,617
3	1.212	2002	$127,348	$26,448	$44,768	$17,901	$761	$0	$0	$0	$217,226
2	1.137	2003	$19,906	$4,134	$41,986	$16,789	$714	$151,512	$331,276	$1,325,105	$1,891,423
1	1.066	2004	$0	$0	$19,689	$7,873	$670	$121,799	$266,308	$1,065,233	$1,481,571
		Total	$367,494	$76,323	$183,865	$73,522	$3,822	$273,311	$597,585	$2,390,338	$3,966,259

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$63,967	$0	$0
2	1.137	2003	$36,941	$0	$0
1	1.066	2004	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$30,474	$1,829	$589
-2	0.880	2006	$28,581	$1,715	$552
-3	0.825	2007	$26,805	$1,609	$518
-4	0.774	2008	$25,139	$1,509	$486
-5	0.726	2009	$23,577	$4,060	$456
-6	0.681	2010	$22,112	$1,327	$427
-7	0.638	2011	$20,738	$1,245	$401
-8	0.599	2012	$19,450	$1,167	$376
-9	0.561	2013	$18,241	$3,141	$353
-10	0.527	2014	$17,108	$279,661	$331
-11	0.494	2015	$16,045	$2,763	$310
-12	0.463	2016	$15,048	$903	$291
-13	0.434	2017	$14,113	$847	$273
-14	0.407	2018	$13,236	$794	$256
-15	0.382	2019	$12,414	$745	$240
-16	0.358	2020	$11,642	$699	$225
-17	0.336	2021	$10,919	$1,880	$211
-18	0.315	2022	$10,241	$615	$198
-19	0.296	2023	$0	$576	$186
-20	0.277	2024	$0	$541	$174
		Total	$471,438	$307,625	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Highway 82 Freshwater Introduction (PME-7a)

Fully Funded Costs Total Fully Funded Costs $5,887,199 Amortized Costs $539,618

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$61,282	$12,727	$21,543	$8,614	$628	$0	$0	$0	$104,794
4	1.033	2001	$108,521	$22,538	$38,149	$15,255	$649	$0	$0	$0	$185,112
3	1.067	2002	$112,103	$23,282	$39,408	$15,758	$670	$0	$0	$0	$191,221
2	1.102	2003	$19,300	$4,008	$40,709	$16,278	$692	$146,903	$321,198	$1,284,793	$1,833,883
1	1.139	2004	$0	$0	$21,026	$8,408	$715	$130,072	$284,398	$1,137,593	$1,582,212
		TOTAL	$301,206	$62,556	$160,835	$64,313	$3,354	$276,975	$605,597	$2,422,386	$3,897,222

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$56,309	$0	$0
2	1.102	2003	$35,817	$0	$0
1	1.139	2004	$36,999	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$38,220	$2,294	$739
-2	1.215	2006	$39,481	$2,369	$763
-3	1.255	2007	$40,784	$2,448	$788
-4	1.297	2008	$42,130	$2,528	$814
-5	1.339	2009	$43,520	$7,494	$841
-6	1.384	2010	$44,957	$2,698	$869
-7	1.429	2011	$46,440	$2,787	$898
-8	1.476	2012	$47,973	$2,879	$927
-9	1.525	2013	$49,556	$8,533	$958
-10	1.575	2014	$51,191	$836,810	$989
-11	1.627	2015	$52,880	$9,106	$1,022
-12	1.681	2016	$54,625	$3,278	$1,056
-13	1.737	2017	$56,428	$3,386	$1,091
-14	1.794	2018	$58,290	$3,498	$1,127
-15	1.853	2019	$60,214	$3,614	$1,164
-16	1.914	2020	$62,201	$3,733	$1,202
-17	1.977	2021	$64,253	$11,064	$1,242
-18	2.043	2022	$66,374	$3,983	$1,283
-19	2.110	2023	$0	$4,115	$1,325
-20	2.180	2024	$0	$4,251	$1,369
		Total	$1,048,644	$920,867	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Sediment Trapping at the Mouth of the Bonnet Carre' (XPO-54a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$12,459,078	Total Fully Funded Costs	$14,640,729

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$12,612,197	$1,156,028
Monitoring	$90,930	$8,335
O & M Costs	$637,409	$58,425
Other Costs	$6,851	$628
Total	$13,347,400	$1,223,415
Average Annual Habitat Units		694
Cost Per Habitat Unit		$1,763
Average Annual Acres of Emergent Marsh		NA

Sediment Trapping at the Mouth of the Bonnet Carre' (XPO-54a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$186,539	$4,242	$68,776	$15,714	$628	$0	$0	$0	$275,900
4 Compound	2001	$319,782	$7,273	$117,901	$26,939	$628	$0	$0	$0	$472,523
3 Compound	2002	$319,782	$7,273	$117,901	$26,939	$628	$0	$0	$0	$472,523
2 Compound	2003	$53,297	$1,212	$117,901	$26,939	$628	$53,846	$1,036,929	$4,147,715	$5,438,467
1 Compound	2004	$0	$0	$58,951	$13,469	$628	$46,154	$888,796	$3,555,185	$4,563,183
TOTAL		$879,400	$20,000	$481,430	$110,000	$3,140	$100,000	$1,925,725	$7,702,900	$11,222,595

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$18,828	$0	$0
2 Compound	2003	$5,431	$0	$0
1 Compound	2004	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$5,431	$0	$628
2 Discount	2006	$5,431	$0	$628
3 Discount	2007	$5,431	$3,645	$628
4 Discount	2008	$5,431	$135,362	$628
5 Discount	2009	$5,431	$0	$628
6 Discount	2010	$5,431	$0	$628
7 Discount	2011	$5,431	$0	$628
8 Discount	2012	$5,431	$3,645	$628
9 Discount	2013	$5,431	$553,252	$628
10 Discount	2014	$5,431	$0	$628
11 Discount	2015	$5,431	$0	$628
12 Discount	2016	$5,431	$0	$628
13 Discount	2017	$5,431	$3,645	$628
14 Discount	2018	$5,431	$525,752	$628
15 Discount	2019	$5,431	$0	$628
16 Discount	2020	$5,431	$0	$628
17 Discount	2021	$5,431	$0	$628
18 Discount	2022	$5,431	$3,645	$628
19 Discount	2023	$0	$0	$628
20 Discount	2024	$0	$0	$628
Total		$127,448	$1,228,947	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Sediment Trapping at the Mouth of the Bonnet Carre' (XPO-54a)

Present Valued Costs Total Discounted Costs $13,347,387 Amortized Costs $1,223,415

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$257,079	$5,847	$94,783	$21,657	$865	$0	$0	$0	$380,230
4	1.293	2001	$413,323	$9,400	$152,389	$34,819	$812	$0	$0	$0	$610,743
3	1.212	2002	$387,642	$8,816	$142,921	$32,655	$761	$0	$0	$0	$572,796
2	1.137	2003	$60,593	$1,378	$134,041	$30,626	$714	$61,217	$1,178,873	$4,715,492	$6,182,934
1	1.066	2004	$0	$0	$62,856	$14,362	$670	$49,212	$947,679	$3,790,716	$4,865,493
		Total	$1,118,637	$25,441	$586,990	$134,119	$3,822	$110,429	$2,126,552	$8,506,208	$12,612,197

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$22,823	$0	$0
2	1.137	2003	$6,174	$0	$0
1	1.066	2004	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$5,094	$0	$589
-2	0.880	2006	$4,777	$0	$552
-3	0.825	2007	$4,480	$3,007	$518
-4	0.774	2008	$4,202	$104,728	$486
-5	0.726	2009	$3,941	$0	$456
-6	0.681	2010	$3,696	$0	$427
-7	0.638	2011	$3,466	$0	$401
-8	0.599	2012	$3,251	$2,182	$376
-9	0.561	2013	$3,049	$310,593	$353
-10	0.527	2014	$2,859	$0	$331
-11	0.494	2015	$2,682	$0	$310
-12	0.463	2016	$2,515	$0	$291
-13	0.434	2017	$2,359	$1,583	$273
-14	0.407	2018	$2,212	$214,168	$256
-15	0.382	2019	$2,075	$0	$240
-16	0.358	2020	$1,946	$0	$225
-17	0.336	2021	$1,825	$0	$211
-18	0.315	2022	$1,712	$1,149	$198
-19	0.296	2023	$0	$0	$186
-20	0.277	2024	$0	$0	$174
		Total	$90,930	$637,409	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Sediment Trapping at the Mouth of the Bonnet Carre' (XPO-54a)

Fully Funded Costs Total Fully Funded Costs $14,640,729 Amortized Costs $1,341,962

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$186,539	$4,242	$68,776	$15,714	$628	$0	$0	$0	$275,900
4	1.033	2001	$330,335	$7,513	$121,792	$27,828	$649	$0	$0	$0	$488,116
3	1.067	2002	$341,236	$7,761	$125,811	$28,746	$670	$0	$0	$0	$504,224
2	1.102	2003	$58,749	$1,336	$129,963	$29,695	$692	$59,355	$1,143,010	$4,572,039	$5,994,839
1	1.139	2004	$0	$0	$67,126	$15,337	$715	$52,554	$1,012,053	$4,048,214	$5,196,000
		TOTAL	$916,859	$20,852	$513,467	$117,320	$3,354	$111,909	$2,155,063	$8,620,253	$12,459,078

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$20,091	$0	$0
2	1.102	2003	$5,987	$0	$0
1	1.139	2004	$6,184	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2005	$5,987	$0	$692
-2	1.139	2006	$6,184	$0	$715
-3	1.176	2007	$6,388	$4,575	$739
-4	1.215	2008	$6,599	$175,509	$763
-5	1.255	2009	$6,817	$0	$788
-6	1.297	2010	$7,042	$0	$814
-7	1.339	2011	$7,274	$0	$841
-8	1.384	2012	$7,514	$5,381	$869
-9	1.429	2013	$7,762	$843,776	$898
-10	1.476	2014	$8,018	$0	$927
-11	1.525	2015	$8,283	$0	$958
-12	1.575	2016	$8,556	$0	$989
-13	1.627	2017	$8,839	$6,330	$1,022
-14	1.681	2018	$9,130	$943,163	$1,056
-15	1.737	2019	$9,432	$0	$1,091
-16	1.794	2020	$9,743	$0	$1,127
-17	1.853	2021	$10,064	$0	$1,164
-18	1.914	2022	$10,396	$7,446	$1,202
-19	1.977	2023	$0	$0	$1,242
-20	2.043	2024	$0	$0	$1,283
		Total	$176,291	$1,986,181	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

South Lake Decade Freshwater Introduction (PTE-28)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$2,358,764	Total Fully Funded Costs	$3,968,577

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$2,406,711	$220,598
Monitoring	$352,097	$32,273
O & M Costs	$270,732	$24,815
Other Costs	$6,851	$628
Total	$3,036,400	$278,314
Average Annual Habitat Units		107
Cost Per Habitat Unit		$2,601
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

South Lake Decade Freshwater Introduction (PTE-28)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$82,833	$19,444	$18,667	$9,333	$628	$0	$0	$0	$130,906
2 Compound	2001	$130,167	$30,556	$32,000	$16,000	$628	$0	$0	$0	$209,350
1 Compound	2002	$0	$0	$21,333	$10,667	$628	$50,000	$360,500	$1,442,000	$1,885,128
TOTAL		$213,000	$50,000	$72,000	$36,000	$1,884	$50,000	$360,500	$1,442,000	$2,225,384

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$42,215	$0	$0
1 Compound	2002	$25,994	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$25,994	$3,645	$628
2 Discount	2004	$25,994	$3,645	$628
3 Discount	2005	$25,994	$3,645	$628
4 Discount	2006	$25,994	$3,645	$628
5 Discount	2007	$25,994	$3,645	$628
6 Discount	2008	$25,994	$3,645	$628
7 Discount	2009	$25,994	$224,538	$628
8 Discount	2010	$25,994	$3,645	$628
9 Discount	2011	$25,994	$3,645	$628
10 Discount	2012	$25,994	$3,645	$628
11 Discount	2013	$25,994	$3,645	$628
12 Discount	2014	$25,994	$3,645	$628
13 Discount	2015	$25,994	$3,645	$628
14 Discount	2016	$25,994	$224,538	$628
15 Discount	2017	$25,994	$3,645	$628
16 Discount	2018	$25,994	$3,645	$628
17 Discount	2019	$25,994	$3,645	$628
18 Discount	2020	$25,994	$3,645	$628
19 Discount	2021	$25,994	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$562,095	$514,686	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

South Lake Decade Freshwater Introduction (PTE-28)

Present Valued Costs Total Discounted Costs $3,036,391 Amortized Costs $278,314

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$100,411	$23,571	$22,628	$11,314	$761	$0	$0	$0	$158,685
2	1.137	2001	$147,985	$34,738	$36,380	$18,190	$714	$0	$0	$0	$238,008
1	1.066	2002	$0	$0	$22,747	$11,373	$670	$53,313	$384,383	$1,537,533	$2,010,018
		Total	$248,396	$58,309	$81,755	$40,877	$2,145	$53,313	$384,383	$1,537,533	$2,406,711

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$47,994	$0	$0
1	1.066	2002	$27,716	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$24,379	$3,419	$589
-2	0.880	2004	$22,864	$3,206	$552
-3	0.825	2005	$21,444	$3,007	$518
-4	0.774	2006	$20,111	$2,820	$486
-5	0.726	2007	$18,862	$2,645	$456
-6	0.681	2008	$17,690	$2,481	$427
-7	0.638	2009	$16,591	$143,310	$401
-8	0.599	2010	$15,560	$2,182	$376
-9	0.561	2011	$14,593	$2,046	$353
-10	0.527	2012	$13,686	$1,919	$331
-11	0.494	2013	$12,836	$1,800	$310
-12	0.463	2014	$12,038	$1,688	$291
-13	0.434	2015	$11,290	$1,583	$273
-14	0.407	2016	$10,589	$91,467	$256
-15	0.382	2017	$9,931	$1,393	$240
-16	0.358	2018	$9,314	$1,306	$225
-17	0.336	2019	$8,735	$1,225	$211
-18	0.315	2020	$8,192	$1,149	$198
-19	0.296	2021	$7,683	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$352,097	$270,732	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

South Lake Decade Freshwater Introduction (PTE-28)

Fully Funded Costs Total Fully Funded Costs $3,968,577 Amortized Costs $363,758

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	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	1.000	2000	$82,833	$19,444	$18,667	$9,333	$628	$0	$0	$0	$130,906
2	1.033	2001	$134,462	$31,564	$33,056	$16,528	$649	$0	$0	$0	$216,259
1	1.067	2002	$0	$0	$22,765	$11,382	$670	$53,354	$384,686	$1,538,742	$2,011,599
		TOTAL	$217,296	$51,008	$74,487	$37,244	$1,947	$53,354	$384,686	$1,538,742	$2,358,764

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$43,608	$0	$0
1	1.067	2002	$27,738	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$28,653	$4,018	$692
-2	1.139	2004	$29,599	$4,150	$715
-3	1.176	2005	$30,576	$4,287	$739
-4	1.215	2006	$31,585	$4,429	$763
-5	1.255	2007	$32,627	$4,575	$788
-6	1.297	2008	$33,704	$4,726	$814
-7	1.339	2009	$34,816	$300,741	$841
-8	1.384	2010	$35,965	$5,043	$869
-9	1.429	2011	$37,152	$5,210	$898
-10	1.476	2012	$38,378	$5,381	$927
-11	1.525	2013	$39,644	$5,559	$958
-12	1.575	2014	$40,952	$5,743	$989
-13	1.627	2015	$42,304	$5,932	$1,022
-14	1.681	2016	$43,700	$377,481	$1,056
-15	1.737	2017	$45,142	$6,330	$1,091
-16	1.794	2018	$46,631	$6,539	$1,127
-17	1.853	2019	$48,170	$6,755	$1,164
-18	1.914	2020	$49,760	$6,978	$1,202
-19	1.977	2021	$51,402	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$812,103	$778,531	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Four Mile Canal & Little White Lake Terrace and Sediment Trapping - (XTV-30/PTV-22)

Project Construction Years:	3	Total Project Years	7
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$3,233,370	Total Fully Funded Costs	$5,086,511

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$3,451,407	$316,354
Monitoring	$84,135	$7,712
O & M Costs	$589,862	$54,066
Other Costs	$6,851	$628
Total	$4,132,300	$378,761
Average Annual Habitat Units		116
Cost Per Habitat Unit		3,265
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Four Mile Canal & Little White Lake Terrace and Sediment Trapping - (XTV-30/PTV-22)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$243,325	$23,333	$37,382	$14,953	$628	$0	$0	$0	$319,620
2 Compound	2001	$69,521	$6,667	$64,083	$25,633	$628	$58,125	$246,378	$985,510	$1,456,544
1 Compound	2002	$0	$0	$21,361	$8,544	$628	$58,125	$246,378	$985,510	$1,320,546
TOTAL		$312,846	$30,000	$122,825	$49,130	$1,884	$116,250	$492,755	$1,971,020	$3,096,710

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$18,118	$0	$0
1 Compound	2002	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$5,431	$0	$628
2 Discount	2004	$5,431	$0	$628
3 Discount	2005	$5,431	$3,645	$628
4 Discount	2006	$5,431	$0	$628
5 Discount	2007	$5,431	$0	$628
6 Discount	2008	$5,431	$3,645	$628
7 Discount	2009	$5,431	$0	$628
8 Discount	2010	$5,431	$0	$628
9 Discount	2011	$5,431	$3,645	$628
10 Discount	2012	$5,431	$1,098,026	$628
11 Discount	2013	$5,431	$3,645	$628
12 Discount	2014	$5,431	$0	$628
13 Discount	2015	$5,431	$0	$628
14 Discount	2016	$5,431	$0	$628
15 Discount	2017	$5,431	$3,645	$628
16 Discount	2018	$5,431	$0	$628
17 Discount	2019	$5,431	$0	$628
18 Discount	2020	$5,431	$0	$628
19 Discount	2021	$5,431	$0	$628
20 Discount	2022	$0	$3,645	$628
Total		$126,738	$1,119,896	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Four Mile Canal & Little White Lake Terrace and Sediment Trapping - (XTV-30/PTV-22)

Present Valued Costs Total Discounted Costs $4,132,256 Amortized Costs $378,761

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$294,960	$28,285	$45,314	$18,126	$761	$0	$0	$0	$387,446
2	1.137	2001	$79,038	$7,579	$72,855	$29,142	$714	$66,082	$280,104	$1,120,416	$1,655,929
1	1.066	2002	$0	$0	$22,776	$9,110	$670	$61,976	$262,700	$1,050,800	$1,408,032
		Total	$373,998	$35,864	$140,945	$56,378	$2,145	$128,057	$542,804	$2,171,216	$3,451,407

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$20,598	$0	$0
1	1.066	2002	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$5,094	$0	$589
-2	0.880	2004	$4,777	$0	$552
-3	0.825	2005	$4,480	$3,007	$518
-4	0.774	2006	$4,202	$0	$486
-5	0.726	2007	$3,941	$0	$456
-6	0.681	2008	$3,696	$2,481	$427
-7	0.638	2009	$3,466	$0	$401
-8	0.599	2010	$3,251	$0	$376
-9	0.561	2011	$3,049	$2,046	$353
-10	0.527	2012	$2,859	$578,125	$331
-11	0.494	2013	$2,682	$1,800	$310
-12	0.463	2014	$2,515	$0	$291
-13	0.434	2015	$2,359	$0	$273
-14	0.407	2016	$2,212	$0	$256
-15	0.382	2017	$2,075	$1,393	$240
-16	0.358	2018	$1,946	$0	$225
-17	0.336	2019	$1,825	$0	$211
-18	0.315	2020	$1,712	$0	$198
-19	0.296	2021	$1,605	$0	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$84,135	$589,862	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Four Mile Canal & Little White Lake Terrace and Sediment Trapping - (XTV-30/PTV-22)

Fully Funded Costs Total Fully Funded Costs $5,086,511 Amortized Costs $466,227

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$243,325	$23,333	$37,382	$14,953	$628	$0	$0	$0	$319,620
2	1.033	2001	$71,816	$6,887	$66,197	$26,479	$649	$60,043	$254,508	$1,018,032	$1,504,610
1	1.067	2002	$0	$0	$22,794	$9,118	$670	$62,025	$262,907	$1,051,627	$1,409,140
		TOTAL	$315,140	$30,220	$126,373	$50,549	$1,947	$122,068	$517,415	$2,069,659	$3,233,370

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$18,716	$0	$0
1	1.067	2002	$5,795	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$5,987	$0	$692
-2	1.139	2004	$6,184	$0	$715
-3	1.176	2005	$6,388	$4,287	$739
-4	1.215	2006	$6,599	$0	$763
-5	1.255	2007	$6,817	$0	$788
-6	1.297	2008	$7,042	$4,726	$814
-7	1.339	2009	$7,274	$0	$841
-8	1.384	2010	$7,514	$0	$869
-9	1.429	2011	$7,762	$5,210	$898
-10	1.476	2012	$8,018	$1,621,124	$927
-11	1.525	2013	$8,283	$5,559	$958
-12	1.575	2014	$8,556	$0	$989
-13	1.627	2015	$8,839	$0	$1,022
-14	1.681	2016	$9,130	$0	$1,056
-15	1.737	2017	$9,432	$6,330	$1,091
-16	1.794	2018	$9,743	$0	$1,127
-17	1.853	2019	$10,064	$0	$1,164
-18	1.914	2020	$10,396	$0	$1,202
-19	1.977	2021	$10,740	$0	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$179,280	$1,654,682	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Castille Pass Sediment Delivery (XAT-11)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$16,179,071	Total Fully Funded Costs	$31,084,397

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$17,267,839	$1,582,762
Monitoring	$139,025	$12,743
O & M Costs	$4,830,804	$442,789
Other Costs	$6,851	$628
Total	$22,244,500	$2,038,922
Average Annual Habitat Units		296
Cost Per Habitat Unit		$6,888
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Castille Pass Sediment Delivery (XAT-11)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$881,311	$26,250	$206,289	$33,478	$628	$0	$0	$0	$1,147,956
2 Compound	2001	$125,902	$3,750	$353,638	$57,391	$628	$48,214	$1,519,096	$6,076,385	$8,185,005
1 Compound	2002	$0	$0	$117,879	$19,130	$628	$64,286	$1,192,128	$4,768,514	$6,162,566
TOTAL		$1,007,212	$30,000	$677,806	$110,000	$1,884	$112,500	$2,711,225	$10,844,899	$15,495,526

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2000	$14,142	$0	$0
2 Compound	2001	$10,831	$0	$0
1 Compound	2002	$10,831	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$10,831	$0	$628
2 Discount	2004	$10,831	$0	$628
3 Discount	2005	$10,831	$0	$628
4 Discount	2006	$10,831	$0	$628
5 Discount	2007	$10,831	$3,645	$628
6 Discount	2008	$10,831	$3,147,416	$628
7 Discount	2009	$10,831	$0	$628
8 Discount	2010	$10,831	$0	$628
9 Discount	2011	$10,831	$0	$628
10 Discount	2012	$10,831	$3,645	$628
11 Discount	2013	$10,831	$3,147,416	$628
12 Discount	2014	$10,831	$0	$628
13 Discount	2015	$10,831	$0	$628
14 Discount	2016	$10,831	$0	$628
15 Discount	2017	$10,831	$3,645	$628
16 Discount	2018	$10,831	$3,147,416	$628
17 Discount	2019	$10,831	$0	$628
18 Discount	2020	$10,831	$0	$628
19 Discount	2021	$10,831	$0	$628
20 Discount	2022	$0	$3,645	$628
Total		$227,451	$9,456,829	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Castille Pass Sediment Delivery (XAT-11)

Present Valued Costs Total Discounted Costs **$22,244,519** Amortized Costs **$2,038,922**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$1,068,332	$31,820	$250,065	$40,583	$761	$0	$0	$0	$1,391,561
2	1.137	2001	$143,136	$4,263	$402,047	$65,248	$714	$54,814	$1,727,044	$6,908,176	$9,305,442
1	1.066	2002	$0	$0	$125,689	$20,398	$670	$68,545	$1,271,107	$5,084,428	$6,570,836
		Total	$1,211,468	$36,084	$777,801	$126,228	$2,145	$123,359	$2,998,151	$11,992,604	$17,267,839

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2000	$17,143	$0	$0
2	1.137	2001	$12,314	$0	$0
1	1.066	2002	$11,549	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$10,158	$0	$589
-2	0.880	2004	$9,527	$0	$552
-3	0.825	2005	$8,935	$0	$518
-4	0.774	2006	$8,380	$0	$486
-5	0.726	2007	$7,859	$2,645	$456
-6	0.681	2008	$7,371	$2,141,904	$427
-7	0.638	2009	$6,913	$0	$401
-8	0.599	2010	$6,483	$0	$376
-9	0.561	2011	$6,080	$0	$353
-10	0.527	2012	$5,703	$1,919	$331
-11	0.494	2013	$5,348	$1,554,192	$310
-12	0.463	2014	$5,016	$0	$291
-13	0.434	2015	$4,704	$0	$273
-14	0.407	2016	$4,412	$0	$256
-15	0.382	2017	$4,138	$1,393	$240
-16	0.358	2018	$3,881	$1,127,741	$225
-17	0.336	2019	$3,640	$0	$211
-18	0.315	2020	$3,414	$0	$198
-19	0.296	2021	$3,201	$0	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$139,025	$4,830,804	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Castille Pass Sediment Delivery (XAT-11)

Fully Funded Costs Total Fully Funded Costs **$31,084,397** Amortized Costs **$2,849,181**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	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	1.000	2000	$881,311	$26,250	$206,289	$33,478	$628	$0	$0	$0	$1,147,956
2	1.033	2001	$130,056	$3,874	$365,308	$59,285	$649	$49,805	$1,569,227	$6,276,906	$8,455,110
1	1.067	2002	$0	$0	$125,788	$20,414	$670	$68,599	$1,272,107	$5,088,429	$6,576,006
		TOTAL	$1,011,367	$30,124	$697,384	$113,177	$1,947	$118,404	$2,841,334	$11,365,335	$16,179,071

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.000	2000	$14,142	$0	$0
2	1.033	2001	$11,188	$0	$0
1	1.067	2002	$11,558	$0	$0
0	Base Year		$0	$0	$0
-1	1.067	2003	$11,558	$0	$670
-2	1.102	2004	$11,939	$0	$692
-3	1.139	2005	$12,333	$0	$715
-4	1.176	2006	$12,740	$0	$739
-5	1.215	2007	$13,160	$4,575	$763
-6	1.255	2008	$13,595	$4,080,908	$788
-7	1.297	2009	$14,043	$0	$814
-8	1.339	2010	$14,507	$0	$841
-9	1.384	2011	$14,986	$0	$869
-10	1.429	2012	$15,480	$5,381	$898
-11	1.476	2013	$15,991	$4,800,189	$927
-12	1.525	2014	$16,519	$0	$958
-13	1.575	2015	$17,064	$0	$989
-14	1.627	2016	$17,627	$0	$1,022
-15	1.681	2017	$18,208	$6,330	$1,056
-16	1.737	2018	$18,809	$5,646,248	$1,091
-17	1.794	2019	$19,430	$0	$1,127
-18	1.853	2020	$20,071	$0	$1,164
-19	1.914	2021	$20,734	$0	$1,202
-20	1.977	2022	$0	$7,446	$1,242
		Total	$335,681	$14,551,077	$18,566

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Labranche Wetlands Terracing and Plantings (PPO-7a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$8,699,214	Total Fully Funded Costs	$9,496,951

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$8,785,198	$805,247
Monitoring	$88,248	$8,089
O & M Costs	$200,770	$18,403
Other Costs	$6,851	$628
Total	$9,081,100	$832,367
Average Annual Habitat Units		198
Cost Per Habitat Unit		$4,204
Average Annual Acres of Emergent Marsh		NA

Labranche Wetlands Terracing and Plantings (PPO-7a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$108,691	$10,606	$38,886	$15,714	$628	$0	$0	$0	$174,525
4 Compound	2001	$186,327	$18,182	$66,661	$26,939	$628	$0	$0	$0	$298,737
3 Compound	2002	$186,327	$18,182	$66,661	$26,939	$628	$0	$0	$0	$298,737
2 Compound	2003	$31,055	$3,030	$66,661	$26,939	$628	$72,692	$726,627	$2,906,508	$3,834,140
1 Compound	2004	$0	$0	$33,331	$13,469	$628	$62,308	$622,823	$2,491,292	$3,223,851
TOTAL		$512,400	$50,000	$272,200	$110,000	$3,140	$135,000	$1,349,450	$5,397,800	$7,829,990

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$16,616	$0	$0
2 Compound	2003	$5,431	$0	$0
1 Compound	2004	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$5,431	$22,000	$628
2 Discount	2006	$5,431	$0	$628
3 Discount	2007	$5,431	$3,645	$628
4 Discount	2008	$5,431	$0	$628
5 Discount	2009	$5,431	$0	$628
6 Discount	2010	$5,431	$3,645	$628
7 Discount	2011	$5,431	$156,177	$628
8 Discount	2012	$5,431	$0	$628
9 Discount	2013	$5,431	$0	$628
10 Discount	2014	$5,431	$0	$628
11 Discount	2015	$5,431	$0	$628
12 Discount	2016	$5,431	$22,000	$628
13 Discount	2017	$5,431	$3,645	$628
14 Discount	2018	$5,431	$134,177	$628
15 Discount	2019	$5,431	$0	$628
16 Discount	2020	$5,431	$0	$628
17 Discount	2021	$5,431	$22,000	$628
18 Discount	2022	$5,431	$3,645	$628
19 Discount	2023	$0	$0	$628
20 Discount	2024	$0	$0	$628
Total		$125,236	$370,933	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Labranche Wetlands Terracing and Plantings (PPO-7a)

Present Valued Costs Total Discounted Costs **$9,081,068** Amortized Costs **$832,367**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$149,792	$14,617	$53,590	$21,657	$865	$0	$0	$0	$240,521
4	1.293	2001	$240,831	$23,500	$86,161	$34,819	$812	$0	$0	$0	$386,123
3	1.212	2002	$225,867	$22,040	$80,807	$32,655	$761	$0	$0	$0	$362,131
2	1.137	2003	$35,306	$3,445	$75,786	$30,626	$714	$82,643	$826,094	$3,304,377	$4,358,992
1	1.066	2004	$0	$0	$35,539	$14,362	$670	$66,436	$664,085	$2,656,340	$3,437,431
		Total	$651,796	$63,602	$331,883	$134,119	$3,822	$149,079	$1,490,179	$5,960,717	$8,785,198

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$20,142	$0	$0
2	1.137	2003	$6,174	$0	$0
1	1.066	2004	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$5,094	$20,633	$589
-2	0.880	2006	$4,777	$0	$552
-3	0.825	2007	$4,480	$3,007	$518
-4	0.774	2008	$4,202	$0	$486
-5	0.726	2009	$3,941	$0	$456
-6	0.681	2010	$3,696	$2,481	$427
-7	0.638	2011	$3,466	$99,679	$401
-8	0.599	2012	$3,251	$0	$376
-9	0.561	2013	$3,049	$0	$353
-10	0.527	2014	$2,859	$0	$331
-11	0.494	2015	$2,682	$0	$310
-12	0.463	2016	$2,515	$10,189	$291
-13	0.434	2017	$2,359	$1,583	$273
-14	0.407	2018	$2,212	$54,658	$256
-15	0.382	2019	$2,075	$0	$240
-16	0.358	2020	$1,946	$0	$225
-17	0.336	2021	$1,825	$7,393	$211
-18	0.315	2022	$1,712	$1,149	$198
-19	0.296	2023	$0	$0	$186
-20	0.277	2024	$0	$0	$174
		Total	$88,248	$200,770	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Labranche Wetlands Terracing and Plantings (PPO-7a)

Fully Funded Costs Total Fully Funded Costs **$9,496,951** Amortized Costs **$870,486**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$108,691	$10,606	$38,886	$15,714	$628	$0	$0	$0	$174,525
4	1.033	2001	$192,476	$18,782	$68,861	$27,828	$649	$0	$0	$0	$308,595
3	1.067	2002	$198,828	$19,402	$71,133	$28,746	$670	$0	$0	$0	$318,779
2	1.102	2003	$34,232	$3,340	$73,481	$29,695	$692	$80,129	$800,963	$3,203,852	$4,226,384
1	1.139	2004	$0	$0	$37,953	$15,337	$715	$70,948	$709,196	$2,836,782	$3,670,931
		TOTAL	$534,226	$52,130	$290,314	$117,320	$3,354	$151,077	$1,510,159	$6,040,634	$8,699,214

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$17,731	$0	$0
2	1.102	2003	$5,987	$0	$0
1	1.139	2004	$6,184	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$6,388	$25,878	$739
-2	1.215	2006	$6,599	$0	$763
-3	1.255	2007	$6,817	$4,575	$788
-4	1.297	2008	$7,042	$0	$814
-5	1.339	2009	$7,274	$0	$841
-6	1.384	2010	$7,514	$5,043	$869
-7	1.429	2011	$7,762	$223,213	$898
-8	1.476	2012	$8,018	$0	$927
-9	1.525	2013	$8,283	$0	$958
-10	1.575	2014	$8,556	$0	$989
-11	1.627	2015	$8,839	$0	$1,022
-12	1.681	2016	$9,130	$36,985	$1,056
-13	1.737	2017	$9,432	$6,330	$1,091
-14	1.794	2018	$9,743	$240,704	$1,127
-15	1.853	2019	$10,064	$0	$1,164
-16	1.914	2020	$10,396	$0	$1,202
-17	1.977	2021	$10,740	$43,504	$1,242
-18	2.043	2022	$11,094	$7,446	$1,283
-19	2.110	2023	$0	$0	$1,325
-20	2.180	2024	$0	$0	$1,369
		Total	$183,593	$593,678	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Black Bayou Culverts (CS-16)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$6,531,248	Total Fully Funded Costs	$8,377,604

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$6,627,082	$607,435
Monitoring	$439,094	$40,247
O & M Costs	$285,175	$26,139
Other Costs	$6,851	$628
Total	$7,358,200	$674,449
Average Annual Habitat Units		162
Cost Per Habitat Unit		$4,163
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Black Bayou Culverts (CS-16)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$144,667	$33,333	$52,500	$26,250	$628	$0	$0	$0	$257,378
2 Compound	2001	$248,000	$57,143	$90,000	$45,000	$628	$0	$0	$0	$440,771
1 Compound	2002	$41,333	$9,524	$67,500	$33,750	$628	$50,000	$1,050,000	$4,200,000	$5,452,735
TOTAL		$434,000	$100,000	$210,000	$105,000	$1,884	$50,000	$1,050,000	$4,200,000	$6,150,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$51,860	$0	$0
1 Compound	2002	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$32,493	$15,645	$628
2 Discount	2004	$32,493	$15,645	$628
3 Discount	2005	$32,493	$15,645	$628
4 Discount	2006	$32,493	$15,645	$628
5 Discount	2007	$32,493	$15,645	$628
6 Discount	2008	$32,493	$15,645	$628
7 Discount	2009	$32,493	$121,713	$628
8 Discount	2010	$32,493	$15,645	$628
9 Discount	2011	$32,493	$15,645	$628
10 Discount	2012	$32,493	$15,645	$628
11 Discount	2013	$32,493	$15,645	$628
12 Discount	2014	$32,493	$15,645	$628
13 Discount	2015	$32,493	$15,645	$628
14 Discount	2016	$32,493	$130,513	$628
15 Discount	2017	$32,493	$15,645	$628
16 Discount	2018	$32,493	$15,645	$628
17 Discount	2019	$32,493	$15,645	$628
18 Discount	2020	$32,493	$15,645	$628
19 Discount	2021	$32,493	$15,645	$628
20 Discount	2022	$0	$15,645	$628
Total		$701,720	$533,836	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Black Bayou Culverts (CS-16)

Present Valued Costs Total Discounted Costs **$7,358,203** Amortized Costs **$674,449**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$175,366	$40,407	$63,641	$31,820	$761	$0	$0	$0	$311,996
2	1.137	2001	$281,948	$64,965	$102,320	$51,160	$714	$0	$0	$0	$501,108
1	1.066	2002	$44,072	$10,155	$71,972	$35,986	$670	$53,313	$1,119,563	$4,478,250	$5,813,979
		Total	$501,386	$115,527	$237,933	$118,966	$2,145	$53,313	$1,119,563	$4,478,250	$6,627,082

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$58,959	$0	$0
1	1.066	2002	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$30,474	$14,673	$589
-2	0.880	2004	$28,581	$13,761	$552
-3	0.825	2005	$26,805	$12,906	$518
-4	0.774	2006	$25,139	$12,104	$486
-5	0.726	2007	$23,577	$11,352	$456
-6	0.681	2008	$22,112	$10,647	$427
-7	0.638	2009	$20,738	$77,683	$401
-8	0.599	2010	$19,450	$9,365	$376
-9	0.561	2011	$18,241	$8,783	$353
-10	0.527	2012	$17,108	$8,237	$331
-11	0.494	2013	$16,045	$7,725	$310
-12	0.463	2014	$15,048	$7,245	$291
-13	0.434	2015	$14,113	$6,795	$273
-14	0.407	2016	$13,236	$53,165	$256
-15	0.382	2017	$12,414	$5,977	$240
-16	0.358	2018	$11,642	$5,606	$225
-17	0.336	2019	$10,919	$5,257	$211
-18	0.315	2020	$10,241	$4,931	$198
-19	0.296	2021	$9,604	$4,624	$186
-20	0.277	2022	$0	$4,337	$174
		Total	$439,094	$285,175	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Black Bayou Culverts (CS-16)

Fully Funded Costs Total Fully Funded Costs **$8,377,604** Amortized Costs **$767,887**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$144,667	$33,333	$52,500	$26,250	$628	$0	$0	$0	$257,378
2	1.033	2001	$256,184	$59,029	$92,970	$46,485	$649	$0	$0	$0	$455,316
1	1.067	2002	$44,106	$10,163	$72,029	$36,014	$670	$53,354	$1,120,443	$4,481,774	$5,818,554
		TOTAL	$444,957	$102,525	$217,499	$108,749	$1,947	$53,354	$1,120,443	$4,481,774	$6,531,248

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$53,571	$0	$0
1	1.067	2002	$34,673	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$35,817	$17,246	$692
-2	1.139	2004	$36,999	$17,815	$715
-3	1.176	2005	$38,220	$18,403	$739
-4	1.215	2006	$39,481	$19,010	$763
-5	1.255	2007	$40,784	$19,637	$788
-6	1.297	2008	$42,130	$20,285	$814
-7	1.339	2009	$43,520	$163,020	$841
-8	1.384	2010	$44,957	$21,646	$869
-9	1.429	2011	$46,440	$22,360	$898
-10	1.476	2012	$47,973	$23,098	$927
-11	1.525	2013	$49,556	$23,861	$958
-12	1.575	2014	$51,191	$24,648	$989
-13	1.627	2015	$52,880	$25,461	$1,022
-14	1.681	2016	$54,625	$219,411	$1,056
-15	1.737	2017	$56,428	$27,169	$1,091
-16	1.794	2018	$58,290	$28,066	$1,127
-17	1.853	2019	$60,214	$28,992	$1,164
-18	1.914	2020	$62,201	$29,949	$1,202
-19	1.977	2021	$64,253	$30,937	$1,242
-20	2.043	2022	$0	$31,958	$1,283
		Total	$1,014,205	$812,972	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Perry Ridge to Texas Shoreline Protection (PCS-26ii)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$3,118,043	Total Fully Funded Costs	$3,742,451

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$3,161,887	$289,817
Monitoring	$47,373	$4,342
O & M Costs	$181,598	$16,645
Other Costs	$6,851	$628
Total	$3,397,700	$311,432
Average Annual Habitat Units		40
Cost Per Habitat Unit		$7,786
Average Annual Acres of Emergent Marsh		NA

Perry Ridge to Texas Shoreline Protection (PCS-26ii)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$67,053	$12,895	$25,000	$12,500	$628	$0	$0	$0	$118,075
2 Compound	2001	$114,947	$22,105	$42,857	$21,429	$628	$0	$0	$0	$201,966
1 Compound	2002	$0	$0	$32,143	$16,071	$628	$72,000	$499,000	$1,996,000	$2,615,842
TOTAL		$182,000	$35,000	$100,000	$50,000	$1,884	$72,000	$499,000	$1,996,000	$2,935,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$13,885	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$3,645	$628
2 Discount	2004	$2,700	$3,645	$628
3 Discount	2005	$2,700	$3,645	$628
4 Discount	2006	$2,700	$3,645	$628
5 Discount	2007	$2,700	$3,645	$628
6 Discount	2008	$2,700	$3,645	$628
7 Discount	2009	$2,700	$26,604	$628
8 Discount	2010	$2,700	$3,645	$628
9 Discount	2011	$2,700	$3,645	$628
10 Discount	2012	$2,700	$227,429	$628
11 Discount	2013	$2,700	$3,645	$628
12 Discount	2014	$2,700	$3,645	$628
13 Discount	2015	$2,700	$3,645	$628
14 Discount	2016	$2,700	$26,604	$628
15 Discount	2017	$2,700	$3,645	$628
16 Discount	2018	$2,700	$3,645	$628
17 Discount	2019	$2,700	$3,645	$628
18 Discount	2020	$2,700	$3,645	$628
19 Discount	2021	$2,700	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$67,885	$342,602	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Perry Ridge to Texas Shoreline Protection (PCS-26ii)

Present Valued Costs Total Discounted Costs $3,397,710 Amortized Costs $311,432

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$81,282	$15,631	$30,305	$15,153	$761	$0	$0	$0	$143,132
2	1.137	2001	$130,682	$25,131	$48,724	$24,362	$714	$0	$0	$0	$229,613
1	1.066	2002	$0	$0	$34,272	$17,136	$670	$76,770	$532,059	$2,128,235	$2,789,142
		Total	$211,964	$40,762	$113,301	$56,651	$2,145	$76,770	$532,059	$2,128,235	$3,161,887

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$15,786	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$3,419	$589
-2	0.880	2004	$2,375	$3,206	$552
-3	0.825	2005	$2,227	$3,007	$518
-4	0.774	2006	$2,089	$2,820	$486
-5	0.726	2007	$1,959	$2,645	$456
-6	0.681	2008	$1,837	$2,481	$427
-7	0.638	2009	$1,723	$16,980	$401
-8	0.599	2010	$1,616	$2,182	$376
-9	0.561	2011	$1,516	$2,046	$353
-10	0.527	2012	$1,422	$119,744	$331
-11	0.494	2013	$1,333	$1,800	$310
-12	0.463	2014	$1,250	$1,688	$291
-13	0.434	2015	$1,173	$1,583	$273
-14	0.407	2016	$1,100	$10,837	$256
-15	0.382	2017	$1,032	$1,393	$240
-16	0.358	2018	$967	$1,306	$225
-17	0.336	2019	$907	$1,225	$211
-18	0.315	2020	$851	$1,149	$198
-19	0.296	2021	$798	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$47,373	$181,598	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Perry Ridge to Texas Shoreline Protection (PCS-26ii)

Fully Funded Costs Total Fully Funded Costs $3,742,451 Amortized Costs $343,031

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$67,053	$12,895	$25,000	$12,500	$628	$0	$0	$0	$118,075
2	1.033	2001	$118,741	$22,835	$44,271	$22,136	$649	$0	$0	$0	$208,631
1	1.067	2002	$0	$0	$34,299	$17,150	$670	$76,830	$532,477	$2,129,910	$2,791,337
		TOTAL	$185,793	$35,729	$103,571	$51,785	$1,947	$76,830	$532,477	$2,129,910	$3,118,043

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$14,343	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,018	$692
-2	1.139	2004	$3,074	$4,150	$715
-3	1.176	2005	$3,176	$4,287	$739
-4	1.215	2006	$3,281	$4,429	$763
-5	1.255	2007	$3,389	$4,575	$788
-6	1.297	2008	$3,501	$4,726	$814
-7	1.339	2009	$3,616	$35,633	$841
-8	1.384	2010	$3,736	$5,043	$869
-9	1.429	2011	$3,859	$5,210	$898
-10	1.476	2012	$3,986	$335,776	$927
-11	1.525	2013	$4,118	$5,559	$958
-12	1.575	2014	$4,254	$5,743	$989
-13	1.627	2015	$4,394	$5,932	$1,022
-14	1.681	2016	$4,539	$44,726	$1,056
-15	1.737	2017	$4,689	$6,330	$1,091
-16	1.794	2018	$4,844	$6,539	$1,127
-17	1.853	2019	$5,003	$6,755	$1,164
-18	1.914	2020	$5,169	$6,978	$1,202
-19	1.977	2021	$5,339	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$94,167	$511,061	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Freshwater Bayou on Belle Isle to Lock (XTV-27)

Project Construction Years:	4	Total Project Years	24
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$13,263,340	Total Fully Funded Costs	$25,071,556

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$13,657,604	$1,251,850
Monitoring	$407,471	$37,349
O & M Costs	$4,648,309	$426,062
Other Costs	$6,851	$628
Total	$18,720,200	$1,715,888
Average Annual Habitat Units		252
Cost Per Habitat Unit		$6,809
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 30, 1999

Freshwater Bayou on Belle Isle to Lock (XTV-27)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound	2000	$334,667	$12,333	$84,350	$19,250	$628	$0	$0	$0	$451,228
3 Compound	2001	$573,714	$21,143	$144,600	$33,000	$628	$0	$0	$0	$773,085
2 Compound	2002	$95,619	$3,524	$144,600	$33,000	$628	$0	$0	$0	$4,934,558
1 Compound	2003	$0	$0	$108,450	$24,750	$628	$175,000	$896,438	$3,585,750	$6,121,641
	TOTAL	$1,004,000	$37,000	$482,000	$110,000	$2,512	$400,000	$2,049,000	$8,196,000	$12,280,512

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2001	$46,635	$0	$0
2 Compound	2002	$32,493	$0	$0
1 Compound	2003	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2004	$32,493	$0	$628
2 Discount	2005	$32,493	$4,407	$628
3 Discount	2006	$32,493	$2,475,524	$628
4 Discount	2007	$32,493	$4,407	$628
5 Discount	2008	$32,493	$0	$628
6 Discount	2009	$32,493	$4,407	$628
7 Discount	2010	$32,493	$2,475,524	$628
8 Discount	2011	$32,493	$4,407	$628
9 Discount	2012	$32,493	$0	$628
10 Discount	2013	$32,493	$0	$628
11 Discount	2014	$32,493	$0	$628
12 Discount	2015	$32,493	$0	$628
13 Discount	2016	$32,493	$4,407	$628
14 Discount	2017	$32,493	$2,475,524	$628
15 Discount	2018	$32,493	$4,407	$628
16 Discount	2019	$32,493	$0	$628
17 Discount	2020	$32,493	$0	$628
18 Discount	2021	$32,493	$0	$628
19 Discount	2022	$0	$0	$628
20 Discount	2023	$0	$4,407	$628
	Total	$649,860	$7,457,420	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Freshwater Bayou on Belle Isle to Lock (XTV-27)

Present Valued Costs Total Discounted Costs **$18,720,236** Amortized Costs **$1,715,868**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293	2000	$432,562	$15,941	$109,024	$24,881	$812	$0	$0	$0	$583,220
3	1.212	2001	$695,461	$25,630	$175,285	$40,003	$761	$0	$0	$0	$937,140
2	1.137	2002	$108,708	$4,006	$164,394	$37,517	$714	$198,956	$1,019,150	$4,076,600	$5,610,045
1	1.066	2003	$0	$0	$115,635	$26,390	$670	$239,906	$1,228,920	$4,915,679	$6,527,199
		Total	$1,236,732	$45,577	$564,338	$128,791	$2,957	$438,862	$2,248,070	$8,992,279	$13,657,604

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2002	$36,941	$0	$0
1	1.066	2003	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2004	$30,474	$0	$589
-2	0.880	2005	$28,581	$3,876	$552
-3	0.825	2006	$26,805	$2,042,161	$518
-4	0.774	2007	$25,139	$3,410	$486
-5	0.726	2008	$23,577	$0	$456
-6	0.681	2009	$22,112	$2,999	$427
-7	0.638	2010	$20,738	$1,579,988	$401
-8	0.599	2011	$19,450	$2,638	$376
-9	0.561	2012	$18,241	$0	$353
-10	0.527	2013	$17,108	$0	$331
-11	0.494	2014	$16,045	$0	$310
-12	0.463	2015	$15,048	$0	$291
-13	0.434	2016	$14,113	$1,914	$273
-14	0.407	2017	$13,236	$1,008,418	$256
-15	0.382	2018	$12,414	$1,684	$240
-16	0.358	2019	$11,642	$0	$225
-17	0.336	2020	$10,919	$0	$211
-18	0.315	2021	$10,241	$0	$198
-19	0.296	2022	$0	$0	$186
-20	0.277	2023	$0	$1,222	$174
		Total	$407,471	$4,648,309	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Freshwater Bayou on Belle Isle to Lock (XTV-27)

Fully Funded Costs Total Fully Funded Costs **$25,071,556**

Amortized Costs **$2,298,047**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5			$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.000	2000	$334,667	$12,333	$84,350	$19,250	$628	$0	$0	$0	$451,228
3	1.033	2001	$592,647	$21,841	$149,372	$34,089	$649	$0	$0	$0	$798,597
2	1.067	2002	$102,034	$3,760	$154,301	$35,214	$670	$186,741	$956,579	$3,826,314	$5,265,613
1	1.102	2003	$0	$0	$119,545	$27,282	$692	$248,018	$1,270,473	$5,081,892	$6,747,902
		TOTAL	$1,029,348	$37,934	$507,568	$115,835	$2,639	$434,759	$2,227,052	$8,908,206	$13,263,340

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.033	2001	$48,174	$0	$0
2	1.067	2002	$34,673	$0	$0
1	1.102	2003	$35,817	$0	$0
0	Base Year		$0	$0	$0
-1	1.139	2004	$36,999	$0	$715
-2	1.176	2005	$38,220	$5,184	$739
-3	1.215	2006	$39,481	$3,007,939	$763
-4	1.255	2007	$40,784	$5,532	$788
-5	1.297	2008	$42,130	$0	$814
-6	1.339	2009	$43,520	$5,903	$841
-7	1.384	2010	$44,957	$3,425,077	$869
-8	1.429	2011	$46,440	$6,299	$898
-9	1.476	2012	$47,973	$0	$927
-10	1.525	2013	$49,556	$0	$958
-11	1.575	2014	$51,191	$0	$989
-12	1.627	2015	$52,880	$0	$1,022
-13	1.681	2016	$54,625	$7,409	$1,056
-14	1.737	2017	$56,428	$4,299,051	$1,091
-15	1.794	2018	$58,290	$7,906	$1,127
-16	1.853	2019	$60,214	$0	$1,164
-17	1.914	2020	$62,201	$0	$1,202
-18	1.977	2021	$64,253	$0	$1,242
-19	2.043	2022	$0	$0	$1,283
-20	2.110	2023	$0	$9,299	$1,325
		Total	$1,008,808	$10,779,597	$19,812

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Houma Navigational Canal Salinity Control (TE-8a)

Project Construction Years:	4	Total Project Years	24
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$16,668,350	Total Fully Funded Costs	$22,758,646

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$17,161,090	$1,572,978
Monitoring	$464,003	$42,530
O & M Costs	$1,989,095	$182,320
Other Costs	$6,851	$628
Total	$19,621,000	$1,798,455
Average Annual Habitat Units		331
Cost Per Habitat Unit		$5,433
Average Annual Acres of Emergent Marsh		NA

North Houma Navigational Canal Salinity Control (TE-8a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound	2000	$329,050	$47,727	$98,336	$20,263	$628	$0	$0	$0	$496,004
3 Compound	2001	$564,085	$81,818	$168,576	$34,737	$628	$0	$0	$0	$849,844
2 Compound	2002	$141,021	$20,455	$168,576	$34,737	$628	$92,308	$1,237,163	$4,948,650	$6,643,537
1 Compound	2003	$0	$0	$98,336	$20,263	$628	$107,692	$1,443,356	$5,773,425	$7,443,701
TOTAL		$1,034,156	$150,000	$533,823	$110,000	$2,512	$200,000	$2,680,519	$10,722,075	$15,433,085

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2001	$46,635	$0	$0
2 Compound	2002	$32,493	$0	$0
1 Compound	2003	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2004	$32,493	$12,911	$628
2 Discount	2005	$32,493	$12,911	$628
3 Discount	2006	$32,493	$12,911	$628
4 Discount	2007	$32,493	$12,911	$628
5 Discount	2008	$32,493	$1,220,259	$628
6 Discount	2009	$32,493	$12,911	$628
7 Discount	2010	$32,493	$12,911	$628
8 Discount	2011	$32,493	$12,911	$628
9 Discount	2012	$32,493	$12,911	$628
10 Discount	2013	$32,493	$1,571,221	$628
11 Discount	2014	$32,493	$12,911	$628
12 Discount	2015	$32,493	$12,911	$628
13 Discount	2016	$32,493	$12,911	$628
14 Discount	2017	$32,493	$12,911	$628
15 Discount	2018	$32,493	$409,982	$628
16 Discount	2019	$32,493	$12,911	$628
17 Discount	2020	$32,493	$12,911	$628
18 Discount	2021	$32,493	$12,911	$628
19 Discount	2022	$0	$12,911	$628
20 Discount	2023	$0	$12,911	$628
Total		$696,495	$3,420,949	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Houma Navigational Canal Salinity Control (TE-8a)

Present Valued Costs Total Discounted Costs $19,621,040 Amortized Costs $1,798,455

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293	2000	$425,302	$61,688	$127,101	$26,190	$812	$0	$0	$0	$641,093
3	1.212	2001	$683,788	$99,181	$204,349	$42,108	$761	$0	$0	$0	$1,030,187
2	1.137	2002	$160,326	$23,255	$191,652	$39,492	$714	$104,944	$1,406,517	$5,626,066	$7,552,964
1	1.066	2003	$0	$0	$104,851	$21,606	$670	$114,827	$1,538,979	$6,155,914	$7,936,846
		Total	$1,269,416	$184,123	$627,952	$129,396	$2,957	$219,771	$2,945,495	$11,781,980	$17,161,090

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2001	$56,531	$0	$0
2	1.137	2002	$36,941	$0	$0
1	1.066	2003	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2004	$30,474	$12,109	$589
-2	0.880	2005	$28,581	$11,356	$552
-3	0.825	2006	$26,805	$10,651	$518
-4	0.774	2007	$25,139	$9,989	$486
-5	0.726	2008	$23,577	$885,435	$456
-6	0.681	2009	$22,112	$8,786	$427
-7	0.638	2010	$20,738	$8,240	$401
-8	0.599	2011	$19,450	$7,728	$376
-9	0.561	2012	$18,241	$7,248	$353
-10	0.527	2013	$17,108	$827,269	$331
-11	0.494	2014	$16,045	$6,375	$310
-12	0.463	2015	$15,048	$5,979	$291
-13	0.434	2016	$14,113	$5,608	$273
-14	0.407	2017	$13,236	$5,259	$256
-15	0.382	2018	$12,414	$156,631	$240
-16	0.358	2019	$11,642	$4,626	$225
-17	0.336	2020	$10,919	$4,339	$211
-18	0.315	2021	$10,241	$4,069	$198
-19	0.296	2022	$0	$3,816	$186
-20	0.277	2023	$0	$3,579	$174
		Total	$464,003	$1,989,095	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Houma Navigational Canal Salinity Control (TE-8a)

Fully Funded Costs Total Fully Funded Costs $22,758,646 Amortized Costs $2,088,047

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5			$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.000	2000	$329,050	$47,727	$98,336	$20,263	$628	$0	$0	$0	$496,004
3	1.033	2001	$582,700	$84,518	$174,139	$35,883	$649	$0	$0	$0	$877,889
2	1.067	2002	$150,482	$21,827	$179,885	$37,067	$670	$98,501	$1,320,162	$5,280,650	$7,089,245
1	1.102	2003	$0	$0	$108,396	$22,336	$692	$118,710	$1,591,016	$6,364,063	$8,205,213
		TOTAL	$1,062,232	$154,072	$560,756	$115,550	$2,639	$217,210	$2,911,178	$11,644,713	$16,668,350

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.033	2001	$48,174	$0	$0
2	1.067	2002	$34,673	$0	$0
1	1.102	2003	$35,817	$0	$0
0	Base Year		$0	$0	$0
-1	1.139	2004	$36,999	$14,701	$715
-2	1.176	2005	$38,220	$15,187	$739
-3	1.215	2006	$39,481	$15,688	$763
-4	1.255	2007	$40,784	$16,205	$788
-5	1.297	2008	$42,130	$1,582,175	$814
-6	1.339	2009	$43,520	$17,293	$841
-7	1.384	2010	$44,957	$17,863	$869
-8	1.429	2011	$46,440	$18,453	$898
-9	1.476	2012	$47,973	$19,062	$927
-10	1.525	2013	$49,556	$2,396,301	$958
-11	1.575	2014	$51,191	$20,341	$989
-12	1.627	2015	$52,880	$21,012	$1,022
-13	1.681	2016	$54,625	$21,705	$1,056
-14	1.737	2017	$56,428	$22,422	$1,091
-15	1.794	2018	$58,290	$735,479	$1,127
-16	1.853	2019	$60,214	$23,926	$1,164
-17	1.914	2020	$62,201	$24,715	$1,202
-18	1.977	2021	$64,253	$25,531	$1,242
-19	2.043	2022	$0	$26,373	$1,283
-20	2.110	2023	$0	$27,244	$1,325
		Total	$1,008,808	$5,061,676	$19,812

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Little Pecan Bayou (XME-42a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$11,008,599	Total Fully Funded Costs	$15,274,025

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$10,988,056	$1,007,160
Monitoring	$476,127	$43,642
O & M Costs	$1,014,277	$92,968
Other Costs	$6,851	$628
Total	$12,485,300	$1,144,398
Average Annual Habitat Units		224
Cost Per Habitat Unit		$5,109
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

Little Pecan Bayou (XME-42a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$157,839	$33,871	$42,127	$14,000	$628	$0	$0	$0	$248,465
4 Compound	2001	$270,581	$58,065	$72,218	$24,000	$628	$0	$0	$0	$425,491
3 Compound	2002	$270,581	$58,065	$72,218	$24,000	$628	$0	$0	$0	$425,491
2 Compound	2003	$0	$0	$72,218	$24,000	$628	$112,000	$609,461	$2,437,842	$3,256,149
1 Compound	2004	$0	$0	$72,218	$24,000	$628	$192,000	$1,044,789	$4,179,158	$5,512,794
	TOTAL	$699,000	$150,000	$331,000	$110,000	$3,140	$304,000	$1,654,250	$6,617,000	$9,868,390

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$48,714	$0	$0
2 Compound	2003	$32,493	$0	$0
1 Compound	2004	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$32,493	$15,645	$628
2 Discount	2006	$32,493	$15,645	$628
3 Discount	2007	$32,493	$15,645	$628
4 Discount	2008	$32,493	$15,645	$628
5 Discount	2009	$32,493	$15,645	$628
6 Discount	2010	$32,493	$15,645	$628
7 Discount	2011	$32,493	$534,861	$628
8 Discount	2012	$32,493	$15,645	$628
9 Discount	2013	$32,493	$15,645	$628
10 Discount	2014	$32,493	$520,903	$628
11 Discount	2015	$32,493	$15,645	$628
12 Discount	2016	$32,493	$15,645	$628
13 Discount	2017	$32,493	$15,645	$628
14 Discount	2018	$32,493	$619,981	$628
15 Discount	2019	$32,493	$15,645	$628
16 Discount	2020	$32,493	$15,645	$628
17 Discount	2021	$32,493	$15,645	$628
18 Discount	2022	$32,493	$15,645	$628
19 Discount	2023	$32,493	$15,645	$628
20 Discount	2024	$0	$15,645	$628
	Total	$731,067	$1,941,710	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Little Pecan Bayou (XME-42a)

Present Valued Costs Total Discounted Costs $12,485,311 Amortized Costs $1,144,398

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$217,525	$46,679	$58,058	$19,294	$865	$0	$0	$0	$342,421
4	1.293	2001	$349,730	$75,049	$93,343	$31,020	$812	$0	$0	$0	$549,955
3	1.212	2002	$0	$70,386	$87,543	$29,093	$761	$0	$0	$0	$515,784
2	1.137	2003	$0	$0	$82,104	$27,285	$714	$127,332	$692,889	$2,771,556	$3,701,880
1	1.066	2004	$0	$0	$77,003	$25,590	$670	$204,720	$1,114,007	$4,456,027	$5,878,016
		Total	$567,255	$192,115	$398,051	$132,283	$3,822	$332,052	$1,806,896	$7,227,583	$10,988,056

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$59,051	$0	$0
2	1.137	2003	$36,941	$0	$0
1	1.066	2004	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$30,474	$14,673	$589
-2	0.880	2006	$28,581	$13,761	$552
-3	0.825	2007	$26,805	$12,906	$518
-4	0.774	2008	$25,139	$12,104	$486
-5	0.726	2009	$23,577	$11,352	$456
-6	0.681	2010	$22,112	$10,647	$427
-7	0.638	2011	$20,738	$341,372	$401
-8	0.599	2012	$19,450	$9,365	$376
-9	0.561	2013	$18,241	$8,783	$353
-10	0.527	2014	$17,108	$274,263	$331
-11	0.494	2015	$16,045	$7,725	$310
-12	0.463	2016	$15,048	$7,245	$291
-13	0.434	2017	$14,113	$6,795	$273
-14	0.407	2018	$13,236	$252,553	$256
-15	0.382	2019	$12,414	$5,977	$240
-16	0.358	2020	$11,642	$5,606	$225
-17	0.336	2021	$10,919	$5,257	$211
-18	0.315	2022	$10,241	$4,931	$198
-19	0.296	2023	$9,604	$4,624	$186
-20	0.277	2024	$0	$4,337	$174
		Total	$476,127	$1,014,277	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Little Pecan Bayou (XME-42a)

Fully Funded Costs Total Fully Funded Costs $15,274,025

Amortized Costs $1,400,010

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$157,839	$33,871	$42,127	$14,000	$628	$0	$0	$0	$248,465
4	1.033	2001	$279,510	$59,981	$74,601	$24,792	$649	$0	$0	$0	$439,533
3	1.067	2002	$288,734	$61,960	$77,063	$25,610	$670	$0	$0	$0	$454,037
2	1.102	2003	$0	$0	$79,606	$26,455	$692	$123,458	$671,810	$2,687,241	$3,589,262
1	1.139	2004	$0	$0	$82,233	$27,328	$715	$218,626	$1,189,680	$4,758,719	$6,277,302
		TOTAL	$726,082	$155,812	$355,632	$118,186	$3,354	$342,084	$1,861,490	$7,445,960	$11,008,599

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$51,982	$0	$0
2	1.102	2003	$35,817	$0	$0
1	1.139	2004	$36,999	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$38,220	$18,403	$739
-2	1.215	2006	$39,481	$19,010	$763
-3	1.255	2007	$40,784	$19,637	$788
-4	1.297	2008	$42,130	$20,285	$814
-5	1.339	2009	$43,520	$20,955	$841
-6	1.384	2010	$44,957	$21,646	$869
-7	1.429	2011	$46,440	$764,442	$898
-8	1.476	2012	$47,973	$23,098	$927
-9	1.525	2013	$49,556	$23,861	$958
-10	1.575	2014	$51,191	$820,656	$989
-11	1.627	2015	$52,880	$25,461	$1,022
-12	1.681	2016	$54,625	$26,302	$1,056
-13	1.737	2017	$56,428	$27,169	$1,091
-14	1.794	2018	$58,290	$1,112,203	$1,127
-15	1.853	2019	$60,214	$28,992	$1,164
-16	1.914	2020	$62,201	$29,949	$1,202
-17	1.977	2021	$64,253	$30,937	$1,242
-18	2.043	2022	$66,374	$31,958	$1,283
-19	2.110	2023	$68,564	$33,013	$1,325
-20	2.180	2024	$0	$34,102	$1,369
		Total	$1,112,881	$3,132,080	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Barataria Land Bridge Shore Protection - Phase 3 (BA-27 Ph 3)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$14,883,705	Total Fully Funded Costs	$20,745,106

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$15,024,422	$1,377,132
Monitoring	$47,076	$4,315
O & M Costs	$3,024,645	$277,238
Other Costs	$6,851	$628
Total	$18,103,000	$1,659,312
Average Annual Habitat Units		101
Cost Per Habitat Unit		$16,429
Average Annual Acres of Emergent Marsh		NA

Barataria Land Bridge Shore Protection - Phase 3 (BA-27 Ph 3)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$249,789	$27,632	$85,581	$24,839	$628	$0	$0	$0	$388,468
2 Compound	2001	$428,211	$47,368	$146,710	$42,581	$628	$0	$0	$0	$665,497
1 Compound	2002	$0	$0	$146,710	$42,581	$628	$116,000	$2,526,750	$10,107,000	$12,939,668
TOTAL		$678,000	$75,000	$379,000	$110,000	$1,884	$116,000	$2,526,750	$10,107,000	$13,993,634

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$13,624	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$3,645	$628
2 Discount	2004	$2,700	$3,645	$628
3 Discount	2005	$2,700	$3,002,185	$628
4 Discount	2006	$2,700	$3,645	$628
5 Discount	2007	$2,700	$3,645	$628
6 Discount	2008	$2,700	$3,645	$628
7 Discount	2009	$2,700	$3,645	$628
8 Discount	2010	$2,700	$3,645	$628
9 Discount	2011	$2,700	$3,645	$628
10 Discount	2012	$2,700	$3,645	$628
11 Discount	2013	$2,700	$3,645	$628
12 Discount	2014	$2,700	$3,645	$628
13 Discount	2015	$2,700	$3,645	$628
14 Discount	2016	$2,700	$1,258,717	$628
15 Discount	2017	$2,700	$3,645	$628
16 Discount	2018	$2,700	$3,645	$628
17 Discount	2019	$2,700	$3,645	$628
18 Discount	2020	$2,700	$3,645	$628
19 Discount	2021	$2,700	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$67,624	$4,326,512	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Barataria Land Bridge Shore Protection - Phase 3 (BA-27 Ph 3)

Present Valued Costs Total Discounted Costs $18,102,995 Amortized Costs $1,659,312

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$302,797	$33,495	$103,742	$30,110	$761	$0	$0	$0	$470,904
2	1.137	2001	$486,828	$53,853	$166,793	$48,409	$714	$0	$0	$0	$756,597
1	1.066	2002	$0	$0	$156,429	$45,402	$670	$123,685	$2,694,147	$10,776,589	$13,796,921
		Total	$789,625	$87,348	$426,963	$123,921	$2,145	$123,685	$2,694,147	$10,776,589	$15,024,422

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$15,489	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$3,419	$589
-2	0.880	2004	$2,375	$3,206	$552
-3	0.825	2005	$2,227	$2,476,625	$518
-4	0.774	2006	$2,089	$2,820	$486
-5	0.726	2007	$1,959	$2,645	$456
-6	0.681	2008	$1,837	$2,481	$427
-7	0.638	2009	$1,723	$2,326	$401
-8	0.599	2010	$1,616	$2,182	$376
-9	0.561	2011	$1,516	$2,046	$353
-10	0.527	2012	$1,422	$1,919	$331
-11	0.494	2013	$1,333	$1,800	$310
-12	0.463	2014	$1,250	$1,688	$291
-13	0.434	2015	$1,173	$1,583	$273
-14	0.407	2016	$1,100	$512,745	$256
-15	0.382	2017	$1,032	$1,393	$240
-16	0.358	2018	$967	$1,306	$225
-17	0.336	2019	$907	$1,225	$211
-18	0.315	2020	$851	$1,149	$198
-19	0.296	2021	$798	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$47,076	$3,024,645	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Barataria Land Bridge Shore Protection - Phase 3 (BA-27 Ph 3)

Fully Funded Costs Total Fully Funded Costs $20,745,106 Amortized Costs $1,901,487

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$249,789	$27,632	$85,581	$24,839	$628	$0	$0	$0	$388,468
2	1.033	2001	$442,341	$48,932	$151,551	$43,986	$649	$0	$0	$0	$687,459
1	1.067	2002	$0	$0	$156,552	$45,437	$670	$123,782	$2,696,267	$10,785,069	$13,807,778
		TOTAL	$692,131	$76,563	$393,684	$114,262	$1,947	$123,782	$2,696,267	$10,785,069	$14,883,705

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$14,074	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,018	$692
-2	1.139	2004	$3,074	$4,150	$715
-3	1.176	2005	$3,176	$3,531,336	$739
-4	1.215	2006	$3,281	$4,429	$763
-5	1.255	2007	$3,389	$4,575	$788
-6	1.297	2008	$3,501	$4,726	$814
-7	1.339	2009	$3,616	$4,882	$841
-8	1.384	2010	$3,736	$5,043	$869
-9	1.429	2011	$3,859	$5,210	$898
-10	1.476	2012	$3,986	$5,381	$927
-11	1.525	2013	$4,118	$5,559	$958
-12	1.575	2014	$4,254	$5,743	$989
-13	1.627	2015	$4,394	$5,932	$1,022
-14	1.681	2016	$4,539	$2,116,086	$1,056
-15	1.737	2017	$4,689	$6,330	$1,091
-16	1.794	2018	$4,844	$6,539	$1,127
-17	1.853	2019	$5,003	$6,755	$1,164
-18	1.914	2020	$5,169	$6,978	$1,202
-19	1.977	2021	$5,339	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$93,897	$5,748,325	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Marsh Creation South of Leeville (BA-32a)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$6,610,450	Total Fully Funded Costs	$6,897,502

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$6,814,227	$624,589
Monitoring	$84,797	$7,772
O & M Costs	$62,891	$5,765
Other Costs	$6,851	$628
Total	$6,968,800	$638,754
Average Annual Habitat Units		86
Cost Per Habitat Unit		$7,427
Average Annual Acres of Emergent Marsh		NA

Marsh Creation South of Leeville (BA-32a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$262,642	$491,556	$43,438	$21,719	$628	$0	$0	$0	$819,983
2 Compound	2001	$75,040	$140,444	$74,466	$37,233	$628	$0	$0	$0	$327,812
1 Compound	2002	$0	$0	$74,466	$37,233	$628	$187,500	$961,850	$3,847,399	$5,109,075
TOTAL		$337,682	$632,000	$192,370	$96,185	$1,884	$187,500	$961,850	$3,847,399	$6,256,870

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2000	$12,445	$0	$0
2 Compound	2001	$5,431	$0	$0
1 Compound	2002	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$5,431	$0	$628
2 Discount	2004	$5,431	$3,645	$628
3 Discount	2005	$5,431	$72,351	$628
4 Discount	2006	$5,431	$0	$628
5 Discount	2007	$5,431	$0	$628
6 Discount	2008	$5,431	$0	$628
7 Discount	2009	$5,431	$0	$628
8 Discount	2010	$5,431	$0	$628
9 Discount	2011	$5,431	$0	$628
10 Discount	2012	$5,431	$0	$628
11 Discount	2013	$5,431	$0	$628
12 Discount	2014	$5,431	$0	$628
13 Discount	2015	$5,431	$0	$628
14 Discount	2016	$5,431	$0	$628
15 Discount	2017	$5,431	$0	$628
16 Discount	2018	$5,431	$0	$628
17 Discount	2019	$5,431	$0	$628
18 Discount	2020	$5,431	$0	$628
19 Discount	2021	$5,431	$0	$628
20 Discount	2022	$0	$0	$628
Total		$126,496	$75,996	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Marsh Creation South of Leeville (BA-32a)

Present Valued Costs Total Discounted Costs **$6,968,787** Amortized Costs **$638,754**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$318,376	$595,868	$52,656	$26,328	$761	$0	$0	$0	$993,990
2	1.137	2001	$85,313	$159,670	$84,659	$42,330	$714	$0	$0	$0	$372,685
1	1.066	2002	$0	$0	$79,399	$39,700	$670	$199,922	$1,025,572	$4,102,289	$5,447,552
		Total	$403,689	$755,537	$216,715	$108,357	$2,145	$199,922	$1,025,572	$4,102,289	$6,814,227

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2000	$15,086	$0	$0
2	1.137	2001	$6,174	$0	$0
1	1.066	2002	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$5,094	$0	$589
-2	0.880	2003	$4,777	$3,206	$552
-3	0.825	2004	$4,480	$59,685	$518
-4	0.774	2005	$4,202	$0	$486
-5	0.726	2006	$3,941	$0	$456
-6	0.681	2007	$3,696	$0	$427
-7	0.638	2008	$3,466	$0	$401
-8	0.599	2009	$3,251	$0	$376
-9	0.561	2010	$3,049	$0	$353
-10	0.527	2011	$2,859	$0	$331
-11	0.494	2012	$2,682	$0	$310
-12	0.463	2013	$2,515	$0	$291
-13	0.434	2014	$2,359	$0	$273
-14	0.407	2015	$2,212	$0	$256
-15	0.382	2016	$2,075	$0	$240
-16	0.358	2017	$1,946	$0	$225
-17	0.336	2018	$1,825	$0	$211
-18	0.315	2019	$1,712	$0	$198
-19	0.296	2020	$1,605	$0	$186
-20	0.277	2021	$0	$0	$174
		Total	$84,797	$62,891	$6,851

Marsh Creation South of Leeville (BA-32a)

Fully Funded Costs Total Fully Funded Costs $6,897,502 Amortized Costs $632,222

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	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	1.000	2000	$262,642	$491,556	$43,438	$21,719	$628	$0	$0	$0	$819,983
2	1.033	2001	$77,517	$145,079	$76,923	$38,462	$649	$0	$0	$0	$338,629
1	1.067	2002	$0	$0	$79,462	$39,731	$670	$200,079	$1,026,379	$4,105,517	$5,451,838
		TOTAL	$340,158	$636,635	$199,823	$99,912	$1,947	$200,079	$1,026,379	$4,105,517	$6,610,450

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.000	2000	$12,445	$0	$0
2	1.033	2001	$5,610	$0	$0
1	1.067	2002	$5,795	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$5,987	$0	$692
-2	1.139	2004	$6,184	$4,150	$715
-3	1.176	2005	$6,388	$85,103	$739
-4	1.215	2006	$6,599	$0	$763
-5	1.255	2007	$6,817	$0	$788
-6	1.297	2008	$7,042	$0	$814
-7	1.339	2009	$7,274	$0	$841
-8	1.384	2010	$7,514	$0	$869
-9	1.429	2011	$7,762	$0	$898
-10	1.476	2012	$8,018	$0	$927
-11	1.525	2013	$8,283	$0	$958
-12	1.575	2014	$8,556	$0	$989
-13	1.627	2015	$8,839	$0	$1,022
-14	1.681	2016	$9,130	$0	$1,056
-15	1.737	2017	$9,432	$0	$1,091
-16	1.794	2018	$9,743	$0	$1,127
-17	1.853	2019	$10,064	$0	$1,164
-18	1.914	2020	$10,396	$0	$1,202
-19	1.977	2021	$10,740	$0	$1,242
-20	2.043	2022	$0	$0	$1,283
		Total	$178,619	$89,253	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Shore Tangipahoa Shoreline Protection (PO-13)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$4,250,689	Total Fully Funded Costs	$5,092,305

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$4,317,325	$395,724
Monitoring	$47,076	$4,315
O & M Costs	$259,068	$23,746
Other Costs	$6,851	$628
Total	$4,630,300	$424,413
Average Annual Habitat Units		34
Cost Per Habitat Unit		$12,483
Average Annual Acres of Emergent Marsh		NA

North Shore Tangipahoa Shoreline Protection (PO-13)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$115,938	$21,875	$37,154	$18,577	$628	$0	$0	$0	$194,171
2 Compound	2001	$149,063	$28,125	$63,692	$31,846	$628	$0	$0	$0	$273,354
1 Compound	2002	$0	$0	$37,154	$18,577	$628	$33,000	$689,500	$2,758,000	$3,536,859
TOTAL		$265,000	$50,000	$138,000	$69,000	$1,884	$33,000	$689,500	$2,758,000	$4,004,384

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$13,624	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$3,645	$628
2 Discount	2004	$2,700	$3,645	$628
3 Discount	2005	$2,700	$3,645	$628
4 Discount	2006	$2,700	$3,645	$628
5 Discount	2007	$2,700	$3,645	$628
6 Discount	2008	$2,700	$3,645	$628
7 Discount	2009	$2,700	$29,354	$628
8 Discount	2010	$2,700	$3,645	$628
9 Discount	2011	$2,700	$3,645	$628
10 Discount	2012	$2,700	$369,106	$628
11 Discount	2013	$2,700	$3,645	$628
12 Discount	2014	$2,700	$3,645	$628
13 Discount	2015	$2,700	$3,645	$628
14 Discount	2016	$2,700	$29,354	$628
15 Discount	2017	$2,700	$3,645	$628
16 Discount	2018	$2,700	$3,645	$628
17 Discount	2019	$2,700	$3,645	$628
18 Discount	2020	$2,700	$3,645	$628
19 Discount	2021	$2,700	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$67,624	$489,779	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Shore Tangipahoa Shoreline Protection (PO-13)

Present Valued Costs Total Discounted Costs **$4,630,321** Amortized Costs **$424,413**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$140,540	$26,517	$45,038	$22,519	$761	$0	$0	$0	$235,376
2	1.137	2001	$169,468	$31,975	$72,411	$36,206	$714	$0	$0	$0	$310,773
1	1.066	2002	$0	$0	$39,615	$19,808	$670	$35,186	$735,179	$2,940,718	$3,771,176
		Total	$310,008	$58,492	$157,065	$78,532	$2,145	$35,186	$735,179	$2,940,718	$4,317,325

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$15,489	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$3,419	$589
-2	0.880	2004	$2,375	$3,206	$552
-3	0.825	2005	$2,227	$3,007	$518
-4	0.774	2006	$2,089	$2,820	$486
-5	0.726	2007	$1,959	$2,645	$456
-6	0.681	2008	$1,837	$2,481	$427
-7	0.638	2009	$1,723	$18,735	$401
-8	0.599	2010	$1,616	$2,182	$376
-9	0.561	2011	$1,516	$2,046	$353
-10	0.527	2012	$1,422	$194,339	$331
-11	0.494	2013	$1,333	$1,800	$310
-12	0.463	2014	$1,250	$1,688	$291
-13	0.434	2015	$1,173	$1,583	$273
-14	0.407	2016	$1,100	$11,958	$256
-15	0.382	2017	$1,032	$1,393	$240
-16	0.358	2018	$967	$1,306	$225
-17	0.336	2019	$907	$1,225	$211
-18	0.315	2020	$851	$1,149	$198
-19	0.296	2021	$798	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$47,076	$259,068	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Shore Tangipahoa Shoreline Protection (PO-13)

Fully Funded Costs Total Fully Funded Costs $5,092,305 Amortized Costs $466,758

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$115,938	$21,875	$37,154	$18,577	$628	$0	$0	$0	$194,171
2	1.033	2001	$153,982	$29,053	$65,794	$32,897	$649	$0	$0	$0	$282,375
1	1.067	2002	$0	$0	$39,646	$19,823	$670	$35,214	$735,758	$2,943,031	$3,774,143
		TOTAL	$269,919	$50,928	$142,594	$71,297	$1,947	$35,214	$735,758	$2,943,031	$4,250,689

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$14,074	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,018	$692
-2	1.139	2004	$3,074	$4,150	$715
-3	1.176	2005	$3,176	$4,287	$739
-4	1.215	2006	$3,281	$4,429	$763
-5	1.255	2007	$3,389	$4,575	$788
-6	1.297	2008	$3,501	$4,726	$814
-7	1.339	2009	$3,616	$39,316	$841
-8	1.384	2010	$3,736	$5,043	$869
-9	1.429	2011	$3,859	$5,210	$898
-10	1.476	2012	$3,986	$544,947	$927
-11	1.525	2013	$4,118	$5,559	$958
-12	1.575	2014	$4,254	$5,743	$989
-13	1.627	2015	$4,394	$5,932	$1,022
-14	1.681	2016	$4,539	$49,349	$1,056
-15	1.737	2017	$4,689	$6,330	$1,091
-16	1.794	2018	$4,844	$6,539	$1,127
-17	1.853	2019	$5,003	$6,755	$1,164
-18	1.914	2020	$5,169	$6,978	$1,202
-19	1.977	2021	$5,339	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$93,897	$728,539	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand and White Lake Land Bridge Protection - Breakwaters (PME-18a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$5,130,470	Total Fully Funded Costs	$7,603,732

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$5,198,926	$476,531
Monitoring	$88,248	$8,089
O & M Costs	$685,636	$62,845
Other Costs	$6,851	$628
Total	$5,979,700	$548,093
Average Annual Habitat Units		38
Cost Per Habitat Unit		$14,424
Average Annual Acres of Emergent Marsh		NA

Grand and White Lake Land Bridge Protection - Breakwaters (PME-18a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$69,003	$7,424	$30,943	$10,314	$628	$0	$0	$0	$118,312
4 Compound	2001	$118,291	$12,727	$53,045	$17,682	$628	$0	$0	$0	$202,373
3 Compound	2002	$118,291	$12,727	$53,045	$17,682	$628	$0	$0	$0	$202,373
2 Compound	2003	$19,715	$2,121	$53,045	$17,682	$628	$194,363	$388,729	$1,554,915	$2,231,198
1 Compound	2004	$0	$0	$26,522	$8,841	$628	$166,597	$333,196	$1,332,785	$1,868,569
TOTAL		$325,300	$35,000	$216,600	$72,200	$3,140	$360,960	$721,925	$2,887,700	$4,622,825

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$16,616	$0	$0
2 Compound	2003	$5,431	$0	$0
1 Compound	2004	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$5,431	$0	$628
2 Discount	2006	$5,431	$3,645	$628
3 Discount	2007	$5,431	$0	$628
4 Discount	2008	$5,431	$0	$628
5 Discount	2009	$5,431	$3,645	$628
6 Discount	2010	$5,431	$0	$628
7 Discount	2011	$5,431	$0	$628
8 Discount	2012	$5,431	$0	$628
9 Discount	2013	$5,431	$3,645	$628
10 Discount	2014	$5,431	$1,055,169	$628
11 Discount	2015	$5,431	$0	$628
12 Discount	2016	$5,431	$0	$628
13 Discount	2017	$5,431	$0	$628
14 Discount	2018	$5,431	$3,645	$628
15 Discount	2019	$5,431	$315,913	$628
16 Discount	2020	$5,431	$0	$628
17 Discount	2021	$5,431	$0	$628
18 Discount	2022	$5,431	$0	$628
19 Discount	2023	$0	$0	$628
20 Discount	2024	$0	$0	$628
Total		$125,236	$1,385,662	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand and White Lake Land Bridge Protection - Breakwaters (PME-18a)

Present Valued Costs Total Discounted Costs $5,979,662 Amortized Costs $548,093

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$95,096	$10,232	$42,644	$14,215	$865	$0	$0	$0	$163,052
4	1.293	2001	$152,893	$16,450	$68,561	$22,854	$812	$0	$0	$0	$261,570
3	1.212	2002	$143,393	$15,428	$64,301	$21,434	$761	$0	$0	$0	$245,318
2	1.137	2003	$22,414	$2,412	$60,306	$20,102	$714	$220,969	$441,942	$1,767,766	$2,536,625
1	1.066	2004	$0	$0	$28,280	$9,427	$670	$177,634	$355,270	$1,421,082	$1,992,362
		Total	$413,796	$44,522	$264,092	$88,031	$3,822	$398,603	$797,212	$3,188,848	$5,198,926

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$20,142	$0	$0
2	1.137	2003	$6,174	$0	$0
1	1.066	2004	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$5,094	$0	$589
-2	0.880	2006	$4,777	$3,206	$552
-3	0.825	2007	$4,480	$0	$518
-4	0.774	2008	$4,202	$0	$486
-5	0.726	2009	$3,941	$2,645	$456
-6	0.681	2010	$3,696	$0	$427
-7	0.638	2011	$3,466	$0	$401
-8	0.599	2012	$3,251	$0	$376
-9	0.561	2013	$3,049	$2,046	$353
-10	0.527	2014	$2,859	$555,561	$331
-11	0.494	2015	$2,682	$0	$310
-12	0.463	2016	$2,515	$0	$291
-13	0.434	2017	$2,359	$0	$273
-14	0.407	2018	$2,212	$1,485	$256
-15	0.382	2019	$2,075	$120,693	$240
-16	0.358	2020	$1,946	$0	$225
-17	0.336	2021	$1,825	$0	$211
-18	0.315	2022	$1,712	$0	$198
-19	0.296	2023	$0	$0	$186
-20	0.277	2024	$0	$0	$174
		Total	$88,248	$685,636	$6,851

Grand and White Lake Land Bridge Protection - Breakwaters (PME-18a)

Fully Funded Costs Total Fully Funded Costs $7,603,732 Amortized Costs $698,955

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$69,003	$7,424	$30,943	$10,314	$628	$0	$0	$0	$118,312
4	1.033	2001	$122,195	$13,147	$54,795	$18,265	$649	$0	$0	$0	$209,051
3	1.067	2002	$126,227	$13,581	$56,604	$18,868	$670	$0	$0	$0	$215,950
2	1.102	2003	$21,732	$2,338	$58,472	$19,491	$692	$214,247	$428,497	$1,713,988	$2,459,456
1	1.139	2004	$0	$0	$30,201	$10,067	$715	$189,700	$379,403	$1,517,614	$2,127,700
		TOTAL	$339,157	$36,491	$231,014	$77,005	$3,354	$403,947	$807,900	$3,231,602	$5,130,470

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$17,731	$0	$0
2	1.102	2003	$5,987	$0	$0
1	1.139	2004	$6,184	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$6,388	$0	$739
-2	1.215	2006	$6,599	$4,429	$763
-3	1.255	2007	$6,817	$0	$788
-4	1.297	2008	$7,042	$0	$814
-5	1.339	2009	$7,274	$4,882	$841
-6	1.384	2010	$7,514	$0	$869
-7	1.429	2011	$7,762	$0	$898
-8	1.476	2012	$8,018	$0	$927
-9	1.525	2013	$8,283	$5,559	$958
-10	1.575	2014	$8,556	$1,662,366	$989
-11	1.627	2015	$8,839	$0	$1,022
-12	1.681	2016	$9,130	$0	$1,056
-13	1.737	2017	$9,432	$0	$1,091
-14	1.794	2018	$9,743	$6,539	$1,127
-15	1.853	2019	$10,064	$585,428	$1,164
-16	1.914	2020	$10,396	$0	$1,202
-17	1.977	2021	$10,740	$0	$1,242
-18	2.043	2022	$11,094	$0	$1,283
-19	2.110	2023	$0	$0	$1,325
-20	2.180	2024	$0	$0	$1,369
		Total	$183,593	$2,269,203	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand and White Lake Land Bridge Protection - A-Jacks (PME-18b)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$2,671,869	Total Fully Funded Costs	$3,970,799

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$2,720,937	$249,400
Monitoring	$88,248	$8,089
O & M Costs	$343,430	$31,479
Other Costs	$6,851	$628
Total	$3,159,500	$289,595
Average Annual Habitat Units		32
Cost Per Habitat Unit		$9,050
Average Annual Acres of Emergent Marsh		NA

Grand and White Lake Land Bridge Protection - A-Jacks (PME-18b)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$44,970	$7,424	$15,300	$5,100	$628	$0	$0	$0	$73,422
4 Compound	2001	$77,091	$12,727	$26,229	$8,743	$628	$0	$0	$0	$125,418
3 Compound	2002	$77,091	$12,727	$26,229	$8,743	$628	$0	$0	$0	$125,418
2 Compound	2003	$12,848	$2,121	$26,229	$8,743	$628	$55,838	$206,190	$824,762	$1,137,360
1 Compound	2004	$0	$0	$13,114	$4,371	$628	$47,862	$176,735	$706,938	$949,648
	TOTAL	$212,000	$35,000	$107,100	$35,700	$3,140	$103,700	$382,925	$1,531,700	$2,411,265

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$16,616	$0	$0
2 Compound	2003	$5,431	$0	$0
1 Compound	2004	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$5,431	$0	$628
2 Discount	2006	$5,431	$3,645	$628
3 Discount	2007	$5,431	$0	$628
4 Discount	2008	$5,431	$0	$628
5 Discount	2009	$5,431	$3,645	$628
6 Discount	2010	$5,431	$0	$628
7 Discount	2011	$5,431	$0	$628
8 Discount	2012	$5,431	$0	$628
9 Discount	2013	$5,431	$3,645	$628
10 Discount	2014	$5,431	$558,908	$628
11 Discount	2015	$5,431	$0	$628
12 Discount	2016	$5,431	$0	$628
13 Discount	2017	$5,431	$0	$628
14 Discount	2018	$5,431	$3,645	$628
15 Discount	2019	$5,431	$104,110	$628
16 Discount	2020	$5,431	$0	$628
17 Discount	2021	$5,431	$0	$628
18 Discount	2022	$5,431	$0	$628
19 Discount	2023	$0	$0	$628
20 Discount	2024	$0	$0	$628
	Total	$125,236	$677,598	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand and White Lake Land Bridge Protection - A-Jacks (PME-18b)

Present Valued Costs Total Discounted Costs **$3,159,486** Amortized Costs **$289,595**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$61,975	$10,232	$21,086	$7,029	$865	$0	$0	$0	$101,186
4	1.293	2001	$99,641	$16,450	$33,901	$11,300	$812	$0	$0	$0	$162,104
3	1.212	2002	$93,450	$15,428	$31,794	$10,598	$761	$0	$0	$0	$152,032
2	1.137	2003	$14,607	$2,412	$29,819	$9,940	$714	$63,482	$234,416	$937,662	$1,293,052
1	1.066	2004	$0	$0	$13,983	$4,661	$670	$51,032	$188,443	$753,773	$1,012,563
		Total	$269,674	$44,522	$130,583	$43,528	$3,822	$114,515	$422,859	$1,691,436	$2,720,937

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$20,142	$0	$0
2	1.137	2003	$6,174	$0	$0
1	1.066	2004	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$5,094	$0	$589
-2	0.880	2006	$4,777	$3,206	$552
-3	0.825	2007	$4,480	$0	$518
-4	0.774	2008	$4,202	$0	$486
-5	0.726	2009	$3,941	$2,645	$456
-6	0.681	2010	$3,696	$0	$427
-7	0.638	2011	$3,466	$0	$401
-8	0.599	2012	$3,251	$0	$376
-9	0.561	2013	$3,049	$2,046	$353
-10	0.527	2014	$2,859	$294,273	$331
-11	0.494	2015	$2,682	$0	$310
-12	0.463	2016	$2,515	$0	$291
-13	0.434	2017	$2,359	$0	$273
-14	0.407	2018	$2,212	$1,485	$256
-15	0.382	2019	$2,075	$39,775	$240
-16	0.358	2020	$1,946	$0	$225
-17	0.336	2021	$1,825	$0	$211
-18	0.315	2022	$1,712	$0	$198
-19	0.296	2023	$0	$0	$186
-20	0.277	2024	$0	$0	$174
		Total	$88,248	$343,430	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

Grand and White Lake Land Bridge Protection - A-Jacks (PME-18b)

Fully Funded Costs Total Fully Funded Costs $3,970,799 Amortized Costs $363,962

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$44,970	$7,424	$15,300	$5,100	$628	$0	$0	$0	$73,422
4	1.033	2001	$79,635	$13,147	$27,094	$9,031	$649	$0	$0	$0	$129,556
3	1.067	2002	$82,263	$13,581	$27,988	$9,329	$670	$0	$0	$0	$133,832
2	1.102	2003	$14,163	$2,338	$28,912	$9,637	$692	$61,551	$227,284	$909,137	$1,253,715
1	1.139	2004	$0	$0	$14,933	$4,978	$715	$54,499	$201,244	$804,976	$1,081,345
		TOTAL	$221,030	$36,491	$114,227	$38,076	$3,354	$116,050	$428,528	$1,714,113	$2,671,869

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$17,731	$0	$0
2	1.102	2003	$5,987	$0	$0
1	1.139	2004	$6,184	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$6,388	$0	$739
-2	1.215	2006	$6,599	$4,429	$763
-3	1.255	2007	$6,817	$0	$788
-4	1.297	2008	$7,042	$0	$814
-5	1.339	2009	$7,274	$4,882	$841
-6	1.384	2010	$7,514	$0	$869
-7	1.429	2011	$7,762	$0	$898
-8	1.476	2012	$8,018	$0	$927
-9	1.525	2013	$8,283	$5,559	$958
-10	1.575	2014	$8,556	$880,532	$989
-11	1.627	2015	$8,839	$0	$1,022
-12	1.681	2016	$9,130	$0	$1,056
-13	1.737	2017	$9,432	$0	$1,091
-14	1.794	2018	$9,743	$6,539	$1,127
-15	1.853	2019	$10,064	$192,930	$1,164
-16	1.914	2020	$10,396	$0	$1,202
-17	1.977	2021	$10,740	$0	$1,242
-18	2.043	2022	$11,094	$0	$1,283
-19	2.110	2023	$0	$0	$1,325
-20	2.180	2024	$0	$0	$1,369
		Total	$183,593	$1,094,870	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Raccoon Island II (PTE-15viii)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$8,241,316	Total Fully Funded Costs	$8,467,281

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$8,331,455	$763,657
Monitoring	$48,805	$4,473
O & M Costs	$39,767	$3,645
Other Costs	$6,851	$628
Total	$8,426,900	$772,404
Average Annual Habitat Units		83
Cost Per Habitat Unit		$9,306
Average Annual Acres of Emergent Marsh		NA

Raccoon Island II (PTE-15viii)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$165,550	$5,250	$47,367	$27,500	$628	$0	$0	$0	$246,295
2 Compound	2001	$283,800	$9,000	$81,200	$47,143	$628	$0	$0	$0	$421,771
1 Compound	2002	$23,650	$750	$74,433	$35,357	$628	$198,000	$1,350,250	$5,401,000	$7,084,068
TOTAL		$473,000	$15,000	$203,000	$110,000	$1,884	$198,000	$1,350,250	$5,401,000	$7,752,134

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$15,145	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$3,645	$628
2 Discount	2004	$2,700	$3,645	$628
3 Discount	2005	$2,700	$3,645	$628
4 Discount	2006	$2,700	$3,645	$628
5 Discount	2007	$2,700	$3,645	$628
6 Discount	2008	$2,700	$3,645	$628
7 Discount	2009	$2,700	$3,645	$628
8 Discount	2010	$2,700	$3,645	$628
9 Discount	2011	$2,700	$3,645	$628
10 Discount	2012	$2,700	$3,645	$628
11 Discount	2013	$2,700	$3,645	$628
12 Discount	2014	$2,700	$3,645	$628
13 Discount	2015	$2,700	$3,645	$628
14 Discount	2016	$2,700	$3,645	$628
15 Discount	2017	$2,700	$3,645	$628
16 Discount	2018	$2,700	$3,645	$628
17 Discount	2019	$2,700	$3,645	$628
18 Discount	2020	$2,700	$3,645	$628
19 Discount	2021	$2,700	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$69,145	$72,900	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Raccoon Island II (PTE-15viii)

Present Valued Costs Total Discounted Costs $8,426,879 Amortized Costs $772,404

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$200,681	$6,364	$57,418	$33,336	$761	$0	$0	$0	$298,560
2	1.137	2001	$322,649	$10,232	$92,315	$53,596	$714	$0	$0	$0	$479,507
1	1.066	2002	$25,217	$800	$79,365	$37,700	$670	$211,118	$1,439,704	$5,758,816	$7,553,388
		Total	$548,547	$17,396	$229,098	$124,631	$2,145	$211,118	$1,439,704	$5,758,816	$8,331,455

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$17,218	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$3,419	$589
-2	0.880	2004	$2,375	$3,206	$552
-3	0.825	2005	$2,227	$3,007	$518
-4	0.774	2006	$2,089	$2,820	$486
-5	0.726	2007	$1,959	$2,645	$456
-6	0.681	2008	$1,837	$2,481	$427
-7	0.638	2009	$1,723	$2,326	$401
-8	0.599	2010	$1,616	$2,182	$376
-9	0.561	2011	$1,516	$2,046	$353
-10	0.527	2012	$1,422	$1,919	$331
-11	0.494	2013	$1,333	$1,800	$310
-12	0.463	2014	$1,250	$1,688	$291
-13	0.434	2015	$1,173	$1,583	$273
-14	0.407	2016	$1,100	$1,485	$256
-15	0.382	2017	$1,032	$1,393	$240
-16	0.358	2018	$967	$1,306	$225
-17	0.336	2019	$907	$1,225	$211
-18	0.315	2020	$851	$1,149	$198
-19	0.296	2021	$798	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$48,805	$39,767	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Raccoon Island II (PTE-15viii)

Fully Funded Costs Total Fully Funded Costs $8,467,281 Amortized Costs $776,107

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$165,550	$5,250	$47,367	$27,500	$628	$0	$0	$0	$246,295
2	1.033	2001	$293,165	$9,297	$83,880	$48,699	$649	$0	$0	$0	$435,689
1	1.067	2002	$25,237	$800	$79,427	$37,729	$670	$211,284	$1,440,837	$5,763,348	$7,559,332
		TOTAL	$483,952	$15,347	$210,673	$113,928	$1,947	$211,284	$1,440,837	$5,763,348	$8,241,316

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$15,645	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,018	$692
-2	1.139	2004	$3,074	$4,150	$715
-3	1.176	2005	$3,176	$4,287	$739
-4	1.215	2006	$3,281	$4,429	$763
-5	1.255	2007	$3,389	$4,575	$788
-6	1.297	2008	$3,501	$4,726	$814
-7	1.339	2009	$3,616	$4,882	$841
-8	1.384	2010	$3,736	$5,043	$869
-9	1.429	2011	$3,859	$5,210	$898
-10	1.476	2012	$3,986	$5,381	$927
-11	1.525	2013	$4,118	$5,559	$958
-12	1.575	2014	$4,254	$5,743	$989
-13	1.627	2015	$4,394	$5,932	$1,022
-14	1.681	2016	$4,539	$6,128	$1,056
-15	1.737	2017	$4,689	$6,330	$1,091
-16	1.794	2018	$4,844	$6,539	$1,127
-17	1.853	2019	$5,003	$6,755	$1,164
-18	1.914	2020	$5,169	$6,978	$1,202
-19	1.977	2021	$5,339	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$95,468	$111,318	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Amoretta Freshwater Diversion (BA-17)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$16,827,779	Total Fully Funded Costs	$19,339,342

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$18,253,171	$1,673,077
Monitoring	$376,097	$34,473
O & M Costs	$578,275	$53,004
Other Costs	$6,851	$628
Total	$19,214,400	$1,761,182
Average Annual Habitat Units		133
Cost Per Habitat Unit		$13,242
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

Amoretta Freshwater Diversion (BA-17)

First Costs and Annual Charges

Year		Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	Compound	2000	$115,868	$1,013,158	$54,444	$17,111	$628	$0	$0	$0	$1,201,210
4	Compound	2001	$198,632	$1,736,842	$93,333	$29,333	$628	$0	$0	$0	$2,058,768
3	Compound	2002	$198,632	$1,736,842	$93,333	$29,333	$628	$0	$0	$0	$2,058,768
2	Compound	2003	$115,868	$1,013,158	$93,333	$29,333	$628	$126,000	$1,361,500	$5,446,000	$8,185,821
1	Compound	2004	$0	$0	$15,556	$4,889	$628	$36,000	$389,000	$1,556,000	$2,002,072
	TOTAL		$629,000	$5,500,000	$350,000	$110,000	$3,140	$162,000	$1,750,500	$7,002,000	$15,506,640

Year		Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	Compound	2002	$41,350	$0	$0
2	Compound	2003	$25,994	$0	$0
1	Compound	2004	$25,994	$0	$0
0	Base Year		$0	$0	$0
1	Discount	2005	$25,994	$38,645	$628
2	Discount	2006	$25,994	$38,645	$628
3	Discount	2007	$25,994	$38,645	$628
4	Discount	2008	$25,994	$38,645	$628
5	Discount	2009	$25,994	$154,569	$628
6	Discount	2010	$25,994	$38,645	$628
7	Discount	2011	$25,994	$38,645	$628
8	Discount	2012	$25,994	$38,645	$628
9	Discount	2013	$25,994	$38,645	$628
10	Discount	2014	$25,994	$154,569	$628
11	Discount	2015	$25,994	$38,645	$628
12	Discount	2016	$25,994	$38,645	$628
13	Discount	2017	$25,994	$38,645	$628
14	Discount	2018	$25,994	$38,645	$628
15	Discount	2019	$25,994	$68,769	$628
16	Discount	2020	$25,994	$38,645	$628
17	Discount	2021	$25,994	$38,645	$628
18	Discount	2022	$25,994	$38,645	$628
19	Discount	2023	$0	$38,645	$628
20	Discount	2024	$0	$38,645	$628
	Total		$561,230	$1,034,872	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Amoretta Freshwater Diversion (BA-17)

Present Valued Costs Total Discounted Costs $19,214,394 Amortized Costs $1,761,182

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$159,684	$1,396,279	$75,032	$23,582	$865	$0	$0	$0	$1,655,443
4	1.293	2001	$256,735	$2,244,897	$120,635	$37,914	$812	$0	$0	$0	$2,660,993
3	1.212	2002	$140,457	$2,105,414	$113,139	$35,558	$761	$0	$0	$0	$2,495,655
2	1.137	2003	$0	$1,151,848	$106,110	$33,349	$714	$143,248	$1,547,874	$6,191,498	$9,306,370
1	1.066	2004	$0	$0	$16,586	$5,213	$670	$38,385	$414,771	$1,659,085	$2,134,710
		Total	$556,875	$6,898,439	$431,502	$135,615	$3,822	$181,633	$1,962,646	$7,850,583	$18,253,171

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$50,125	$0	$0
2	1.137	2003	$29,552	$0	$0
1	1.066	2004	$27,716	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$24,379	$36,244	$589
-2	0.880	2006	$22,864	$33,992	$552
-3	0.825	2007	$21,444	$31,880	$518
-4	0.774	2008	$20,111	$29,899	$486
-5	0.726	2009	$18,862	$112,157	$456
-6	0.681	2010	$17,690	$26,299	$427
-7	0.638	2011	$16,591	$24,665	$401
-8	0.599	2012	$15,560	$23,132	$376
-9	0.561	2013	$14,593	$21,695	$353
-10	0.527	2014	$13,686	$81,383	$331
-11	0.494	2015	$12,836	$19,083	$310
-12	0.463	2016	$12,038	$17,897	$291
-13	0.434	2017	$11,290	$16,785	$273
-14	0.407	2018	$10,589	$15,742	$256
-15	0.382	2019	$9,931	$26,273	$240
-16	0.358	2020	$9,314	$13,847	$225
-17	0.336	2021	$8,735	$12,986	$211
-18	0.315	2022	$8,192	$12,180	$198
-19	0.296	2023	$0	$11,423	$186
-20	0.277	2024	$0	$10,713	$174
		Total	$376,097	$578,275	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Amoretta Freshwater Diversion (BA-17)

Fully Funded Costs Total Fully Funded Costs $19,339,342

Amortized Costs $1,772,635

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$115,868	$1,013,158	$54,444	$17,111	$628	$0	$0	$0	$1,201,210
4	1.033	2001	$205,186	$1,794,158	$96,413	$30,301	$649	$0	$0	$0	$2,126,708
3	1.067	2002	$211,958	$1,853,365	$99,595	$31,301	$670	$0	$0	$0	$2,196,889
2	1.102	2003	$127,722	$1,116,807	$102,882	$32,334	$692	$138,890	$1,500,785	$6,003,142	$9,023,255
1	1.139	2004	$0	$0	$17,713	$5,567	$715	$40,992	$442,946	$1,771,784	$2,279,718
		TOTAL	$660,735	$5,777,488	$371,047	$116,615	$3,354	$179,883	$1,943,732	$7,774,926	$16,827,779

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$44,124	$0	$0
2	1.102	2003	$28,653	$0	$0
1	1.139	2004	$29,599	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$30,576	$45,456	$739
-2	1.215	2006	$31,585	$46,956	$763
-3	1.255	2007	$32,627	$48,506	$788
-4	1.297	2008	$33,704	$50,107	$814
-5	1.339	2009	$34,816	$207,026	$841
-6	1.384	2010	$35,965	$53,468	$869
-7	1.429	2011	$37,152	$55,233	$898
-8	1.476	2012	$38,378	$57,055	$927
-9	1.525	2013	$39,644	$58,938	$958
-10	1.575	2014	$40,952	$243,516	$989
-11	1.627	2015	$42,304	$62,892	$1,022
-12	1.681	2016	$43,700	$64,968	$1,056
-13	1.737	2017	$45,142	$67,112	$1,091
-14	1.794	2018	$46,631	$69,326	$1,127
-15	1.853	2019	$48,170	$127,438	$1,164
-16	1.914	2020	$49,760	$73,978	$1,202
-17	1.977	2021	$51,402	$76,419	$1,242
-18	2.043	2022	$53,098	$78,941	$1,283
-19	2.110	2023	$0	$81,546	$1,325
-20	2.180	2024	$0	$84,237	$1,369
		Total	$837,979	$1,653,118	$20,466

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East West Grand Terre Island Restoration (XBA-1a)

Project Construction Years:	5	Total Project Years	25
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$17,998,083	Total Fully Funded Costs	$18,203,486

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$18,219,851	$1,670,023
Monitoring	$89,776	$8,229
O & M Costs	$0	$0
Other Costs	$6,851	$628
Total	$18,316,500	$1,678,880
Average Annual Habitat Units		183
Cost Per Habitat Unit		$9,174
Average Annual Acres of Emergent Marsh		NA

East West Grand Terre Island Restoration (XBA-1a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound	2000	$189,399	$94,606	$98,771	$15,714	$628	$0	$0	$0	$399,119
4 Compound	2001	$324,685	$162,182	$169,322	$26,939	$628	$0	$0	$0	$683,756
3 Compound	2002	$324,685	$162,182	$169,322	$26,939	$628	$0	$0	$0	$683,756
2 Compound	2003	$54,114	$27,030	$169,322	$26,939	$628	$129,231	$1,489,237	$5,956,946	$7,853,447
1 Compound	2004	$0	$0	$84,661	$13,469	$628	$110,769	$1,276,488	$5,105,954	$6,591,970
TOTAL		$892,883	$446,000	$691,400	$110,000	$3,140	$240,000	$2,765,725	$11,062,900	$16,212,048

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2002	$17,876	$0	$0
2 Compound	2003	$5,431	$0	$0
1 Compound	2004	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2005	$5,431	$0	$628
2 Discount	2006	$5,431	$0	$628
3 Discount	2007	$5,431	$0	$628
4 Discount	2008	$5,431	$0	$628
5 Discount	2009	$5,431	$0	$628
6 Discount	2010	$5,431	$0	$628
7 Discount	2011	$5,431	$0	$628
8 Discount	2012	$5,431	$0	$628
9 Discount	2013	$5,431	$0	$628
10 Discount	2014	$5,431	$0	$628
11 Discount	2015	$5,431	$0	$628
12 Discount	2016	$5,431	$0	$628
13 Discount	2017	$5,431	$0	$628
14 Discount	2018	$5,431	$0	$628
15 Discount	2019	$5,431	$0	$628
16 Discount	2020	$5,431	$0	$628
17 Discount	2021	$5,431	$0	$628
18 Discount	2022	$5,431	$0	$628
19 Discount	2023	$0	$0	$628
20 Discount	2024	$0	$0	$628
Total		$126,496	$0	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East West Grand Terre Island Restoration (XBA-1a)

Present Valued Costs Total Discounted Costs $18,316,478 Amortized Costs $1,678,880

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378	2000	$261,020	$130,381	$136,121	$21,657	$865	$0	$0	$0	$550,045
4	1.293	2001	$419,660	$209,623	$218,852	$34,819	$812	$0	$0	$0	$883,766
3	1.212	2002	$393,585	$196,598	$205,254	$32,655	$761	$0	$0	$0	$828,854
2	1.137	2003	$61,522	$30,730	$192,501	$30,626	$714	$146,921	$1,693,097	$6,772,387	$8,928,498
1	1.066	2004	$0	$0	$90,270	$14,362	$670	$118,108	$1,361,056	$5,444,223	$7,028,688
		Total	$1,135,788	$567,332	$842,998	$134,119	$3,822	$265,029	$3,054,153	$12,216,610	$18,219,851

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2002	$21,669	$0	$0
2	1.137	2003	$6,174	$0	$0
1	1.066	2004	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2005	$5,094	$0	$589
-2	0.880	2006	$4,777	$0	$552
-3	0.825	2007	$4,480	$0	$518
-4	0.774	2008	$4,202	$0	$486
-5	0.726	2009	$3,941	$0	$456
-6	0.681	2010	$3,696	$0	$427
-7	0.638	2011	$3,466	$0	$401
-8	0.599	2012	$3,251	$0	$376
-9	0.561	2013	$3,049	$0	$353
-10	0.527	2014	$2,859	$0	$331
-11	0.494	2015	$2,682	$0	$310
-12	0.463	2016	$2,515	$0	$291
-13	0.434	2017	$2,359	$0	$273
-14	0.407	2018	$2,212	$0	$256
-15	0.382	2019	$2,075	$0	$240
-16	0.358	2020	$1,946	$0	$225
-17	0.336	2021	$1,825	$0	$211
-18	0.315	2022	$1,712	$0	$198
-19	0.296	2023	$0	$0	$186
-20	0.277	2024	$0	$0	$174
		Total	$89,776	$0	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East West Grand Terre Island Restoration (XBA-1a)

Fully Funded Costs Total Fully Funded Costs $18,203,486 Amortized Costs $1,668,523

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.000	2000	$189,399	$94,606	$98,771	$15,714	$628	$0	$0	$0	$399,119
4	1.033	2001	$335,399	$167,534	$174,910	$27,828	$649	$0	$0	$0	$706,320
3	1.067	2002	$346,468	$173,062	$180,682	$28,746	$670	$0	$0	$0	$729,628
2	1.102	2003	$59,650	$29,796	$186,645	$29,695	$692	$142,451	$1,641,590	$6,566,359	$8,656,878
1	1.139	2004	$0	$0	$96,402	$15,337	$715	$126,131	$1,453,511	$5,814,042	$7,506,138
		TOTAL	$930,916	$464,998	$737,410	$117,320	$3,354	$268,582	$3,095,100	$12,380,401	$17,998,083

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.067	2002	$19,075	$0	$0
2	1.102	2003	$5,987	$0	$0
1	1.139	2004	$6,184	$0	$0
0	Base Year		$0	$0	$0
-1	1.176	2005	$6,388	$0	$739
-2	1.215	2006	$6,599	$0	$763
-3	1.255	2007	$6,817	$0	$788
-4	1.297	2008	$7,042	$0	$814
-5	1.339	2009	$7,274	$0	$841
-6	1.384	2010	$7,514	$0	$869
-7	1.429	2011	$7,762	$0	$898
-8	1.476	2012	$8,018	$0	$927
-9	1.525	2013	$8,283	$0	$958
-10	1.575	2014	$8,556	$0	$989
-11	1.627	2015	$8,839	$0	$1,022
-12	1.681	2016	$9,130	$0	$1,056
-13	1.737	2017	$9,432	$0	$1,091
-14	1.794	2018	$9,743	$0	$1,127
-15	1.853	2019	$10,064	$0	$1,164
-16	1.914	2020	$10,396	$0	$1,202
-17	1.977	2021	$10,740	$0	$1,242
-18	2.043	2022	$11,094	$0	$1,283
-19	2.110	2023	$0	$0	$1,325
-20	2.180	2024	$0	$0	$1,369
		Total	$184,938	$0	$20,466

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East Golden Meadow Terracing (XBA-77)

Project Construction Years:	4	Total Project Years	24
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$11,490,282	Total Fully Funded Costs	$16,155,909

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$11,700,974	$1,072,506
Monitoring	$69,712	$6,390
O & M Costs	$1,546,451	$141,747
Other Costs	$6,851	$628
Total	$13,324,000	$1,221,271
Average Annual Habitat Units		108
Cost Per Habitat Unit		$11,308
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

East Golden Meadow Terracing (XBA-77)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound	2000	$194,000	$48,000	$86,139	$21,389	$628	$0	$0	$0	$350,156
3 Compound	2001	$332,571	$82,286	$147,667	$36,667	$628	$0	$0	$0	$599,818
2 Compound	2002	$55,429	$13,714	$147,667	$36,667	$628	$175,000	$1,034,250	$4,137,800	$5,600,354
1 Compound	2003	$0	$0	$61,528	$15,278	$628	$125,000	$738,750	$2,955,000	$3,896,184
TOTAL		$582,000	$144,000	$443,000	$110,000	$2,512	$300,000	$1,773,000	$7,092,000	$10,446,512

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2001	$17,118	$0	$0
2 Compound	2002	$5,431	$0	$0
1 Compound	2003	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2004	$5,431	$0	$628
2 Discount	2005	$5,431	$0	$628
3 Discount	2006	$5,431	$0	$628
4 Discount	2007	$5,431	$0	$628
5 Discount	2008	$5,431	$0	$628
6 Discount	2009	$5,431	$0	$628
7 Discount	2010	$5,431	$0	$628
8 Discount	2011	$5,431	$0	$628
9 Discount	2012	$5,431	$4,407	$628
10 Discount	2013	$5,431	$2,926,000	$628
11 Discount	2014	$5,431	$4,407	$628
12 Discount	2015	$5,431	$0	$628
13 Discount	2016	$5,431	$0	$628
14 Discount	2017	$5,431	$0	$628
15 Discount	2018	$5,431	$0	$628
16 Discount	2019	$5,431	$0	$628
17 Discount	2020	$5,431	$0	$628
18 Discount	2021	$5,431	$0	$628
19 Discount	2022	$5,431	$0	$628
20 Discount	2023	$0	$4,407	$628
Total		$114,051	$2,939,221	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East Golden Meadow Terracing (XBA-77)

Present Valued Costs Total Discounted Costs **$13,323,988** Amortized Costs **$1,221,271**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293	2000	$250,748	$62,041	$111,336	$27,645	$812	$0	$0	$0	$452,582
3	1.212	2001	$403,146	$99,747	$179,003	$44,448	$761	$0	$0	$0	$727,105
2	1.137	2002	$63,016	$15,592	$167,881	$41,686	$714	$198,956	$1,175,828	$4,703,310	$6,366,981
1	1.066	2003	$0	$0	$65,604	$16,290	$670	$133,281	$787,692	$3,150,769	$4,154,306
		Total	$716,910	$177,380	$523,823	$130,069	$2,957	$332,237	$1,963,520	$7,854,079	$11,700,974

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2001	$20,751	$0	$0
2	1.137	2002	$6,174	$0	$0
1	1.066	2003	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2004	$5,094	$0	$589
-2	0.880	2005	$4,777	$0	$552
-3	0.825	2006	$4,480	$0	$518
-4	0.774	2007	$4,202	$0	$486
-5	0.726	2008	$3,941	$0	$456
-6	0.681	2009	$3,696	$0	$427
-7	0.639	2010	$3,466	$0	$401
-8	0.599	2011	$3,251	$0	$376
-9	0.561	2012	$3,049	$2,474	$353
-10	0.527	2013	$2,859	$1,540,579	$331
-11	0.494	2014	$2,682	$2,176	$310
-12	0.463	2015	$2,515	$0	$291
-13	0.434	2016	$2,359	$0	$273
-14	0.407	2017	$2,212	$0	$256
-15	0.382	2018	$2,075	$0	$240
-16	0.358	2019	$1,946	$0	$225
-17	0.336	2020	$1,825	$0	$211
-18	0.315	2021	$1,712	$0	$198
-19	0.296	2022	$1,605	$0	$186
-20	0.277	2023	$0	$1,222	$174
		Total	$69,712	$1,546,451	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

East Golden Meadow Terracing (XBA-77)

Fully Funded Costs Total Fully Funded Costs **$16,155,909** Amortized Costs **$1,480,843**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5			$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.000	2000	$332,571	$82,286	$147,667	$36,667	$628	$0	$0	$0	$599,818
3	1.033	2001	$343,546	$85,001	$152,540	$37,877	$649	$0	$0	$0	$619,612
2	1.067	2002	$59,147	$14,634	$157,573	$39,127	$670	$186,741	$1,103,637	$4,414,547	$5,976,076
1	1.102	2003	$0	$0	$67,822	$16,841	$692	$137,788	$814,326	$3,257,305	$4,294,775
		TOTAL	$735,265	$181,921	$525,602	$130,511	$2,639	$324,528	$1,917,963	$7,671,852	$11,490,282

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
1	1.033	2001	$17,683	$0	$0
2	1.067	2002	$5,795	$0	$0
1	1.102	2003	$5,987	$0	$0
0	Base Year		$0	$0	$0
-1	1.139	2004	$6,184	$0	$715
-2	1.176	2005	$6,388	$0	$739
-3	1.215	2006	$6,599	$0	$763
-4	1.255	2007	$6,817	$0	$788
-5	1.297	2008	$7,042	$0	$814
-6	1.339	2009	$7,274	$0	$841
-7	1.384	2010	$7,514	$0	$869
-8	1.429	2011	$7,762	$0	$898
-9	1.476	2012	$8,018	$6,506	$927
-10	1.525	2013	$8,283	$4,462,503	$958
-11	1.575	2014	$8,556	$6,943	$989
-12	1.627	2015	$8,839	$0	$1,022
-13	1.681	2016	$9,130	$0	$1,056
-14	1.737	2017	$9,432	$0	$1,091
-15	1.794	2018	$9,743	$0	$1,127
-16	1.853	2019	$10,064	$0	$1,164
-17	1.914	2020	$10,396	$0	$1,202
-18	1.977	2021	$10,740	$0	$1,242
-19	2.043	2022	$0	$0	$1,283
-20	2.110	2023	$0	$9,299	$1,325
		Total	$160,564	$4,485,252	$19,812

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Timbalier Island Dune/Marsh Creation - (XTE-45a)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$16,036,470	Total Fully Funded Costs	$16,234,679

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$16,227,601	$1,487,414
Monitoring	$83,860	$7,687
O & M Costs	$0	$0
Other Costs	$6,851	$628
Total	$16,318,300	$1,495,729
Average Annual Habitat Units		124
Cost Per Habitat Unit		$12,062
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Timbalier Island Dune/Marsh Creation - (XTE-45a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$339,581	$65,471	$119,579	$24,839	$628	$0	$0	$0	$550,097
2 Compound	2001	$485,115	$93,529	$204,993	$42,581	$628	$0	$0	$0	$826,846
1 Compound	2002	$0	$0	$204,993	$42,581	$628	$225,000	$2,647,819	$10,591,277	$13,712,297
TOTAL		$824,696	$159,000	$529,564	$110,000	$1,884	$225,000	$2,647,819	$10,591,277	$15,089,240

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$17,876	$0	$0
1 Compound	2002	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$5,431	$0	$628
2 Discount	2004	$5,431	$0	$628
3 Discount	2005	$5,431	$0	$628
4 Discount	2006	$5,431	$0	$628
5 Discount	2007	$5,431	$0	$628
6 Discount	2008	$5,431	$0	$628
7 Discount	2009	$5,431	$0	$628
8 Discount	2010	$5,431	$0	$628
9 Discount	2011	$5,431	$0	$628
10 Discount	2012	$5,431	$0	$628
11 Discount	2013	$5,431	$0	$628
12 Discount	2014	$5,431	$0	$628
13 Discount	2015	$5,431	$0	$628
14 Discount	2016	$5,431	$0	$628
15 Discount	2017	$5,431	$0	$628
16 Discount	2018	$5,431	$0	$628
17 Discount	2019	$5,431	$0	$628
18 Discount	2020	$5,431	$0	$628
19 Discount	2021	$5,431	$0	$628
20 Discount	2022	$0	$0	$628
Total		$126,496	$0	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Timbalier Island Dune/Marsh Creation - (XTE-45a)

Present Valued Costs Total Discounted Costs **$16,318,313** Amortized Costs **$1,495,729**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$411,642	$79,364	$144,955	$30,110	$761	$0	$0	$0	$666,832
2	1.137	2001	$551,522	$106,333	$233,054	$48,409	$714	$0	$0	$0	$940,032
1	1.066	2002	$0	$0	$218,573	$45,402	$670	$239,906	$2,823,237	$11,292,949	$14,620,737
		Total	$963,165	$185,697	$596,582	$123,921	$2,145	$239,906	$2,823,237	$11,292,949	$16,227,601

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$20,323	$0	$0
1	1.066	2002	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$5,094	$0	$589
-2	0.880	2004	$4,777	$0	$552
-3	0.825	2005	$4,480	$0	$518
-4	0.774	2006	$4,202	$0	$486
-5	0.726	2007	$3,941	$0	$456
-6	0.681	2008	$3,696	$0	$427
-7	0.638	2009	$3,466	$0	$401
-8	0.599	2010	$3,251	$0	$376
-9	0.561	2011	$3,049	$0	$353
-10	0.527	2012	$2,859	$0	$331
-11	0.494	2013	$2,682	$0	$310
-12	0.463	2014	$2,515	$0	$291
-13	0.434	2015	$2,359	$0	$273
-14	0.407	2016	$2,212	$0	$256
-15	0.382	2017	$2,075	$0	$240
-16	0.358	2018	$1,946	$0	$225
-17	0.336	2019	$1,825	$0	$211
-18	0.315	2020	$1,712	$0	$198
-19	0.296	2021	$1,605	$0	$186
-20	0.277	2022	$0	$0	$174
		Total	$83,860	$0	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Timbalier Island Dune/Marsh Creation - (XTE-45a)

Fully Funded Costs Total Fully Funded Costs **$16,234,679** Amortized Costs **$1,488,063**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	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	1.000	2000	$339,581	$65,471	$119,579	$24,839	$628	$0	$0	$0	$550,097
2	1.033	2001	$501,124	$96,616	$211,757	$43,986	$649	$0	$0	$0	$854,132
1	1.067	2002	$0	$0	$218,745	$45,437	$670	$240,095	$2,825,459	$11,301,835	$14,632,242
		TOTAL	$840,705	$162,086	$550,081	$114,262	$1,947	$240,095	$2,825,459	$11,301,835	$16,036,470

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$18,466	$0	$0
1	1.067	2002	$5,795	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$5,987	$0	$692
-2	1.139	2004	$6,184	$0	$715
-3	1.176	2005	$6,388	$0	$739
-4	1.215	2006	$6,599	$0	$763
-5	1.255	2007	$6,817	$0	$788
-6	1.297	2008	$7,042	$0	$814
-7	1.339	2009	$7,274	$0	$841
-8	1.384	2010	$7,514	$0	$869
-9	1.429	2011	$7,762	$0	$898
-10	1.476	2012	$8,018	$0	$927
-11	1.525	2013	$8,283	$0	$958
-12	1.575	2014	$8,556	$0	$989
-13	1.627	2015	$8,839	$0	$1,022
-14	1.681	2016	$9,130	$0	$1,056
-15	1.737	2017	$9,432	$0	$1,091
-16	1.794	2018	$9,743	$0	$1,127
-17	1.853	2019	$10,064	$0	$1,164
-18	1.914	2020	$10,396	$0	$1,202
-19	1.977	2021	$10,740	$0	$1,242
-20	2.043	2022	$0	$0	$1,283
		Total	$179,030	$0	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand Pierre Island Restoration - (XBA-1c)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$6,664,035	Total Fully Funded Costs	$6,862,244

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$6,815,508	$624,706
Monitoring	$83,860	$7,687
O & M Costs	$0	$0
Other Costs	$6,851	$628
Total	$6,906,200	$633,021
Average Annual Habitat Units		51
Cost Per Habitat Unit		$12,412
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Grand Pierre Island Restoration - (XBA-1c)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$172,988	$179,941	$48,499	$24,250	$628	$0	$0	$0	$426,305
2 Compound	2001	$247,125	$257,059	$83,141	$41,571	$628	$0	$0	$0	$629,524
1 Compound	2002	$0	$0	$62,356	$31,178	$628	$90,000	$1,010,397	$4,041,586	$5,236,144
TOTAL		$420,113	$437,000	$193,996	$96,998	$1,884	$90,000	$1,010,397	$4,041,586	$6,291,974

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$17,876	$0	$0
1 Compound	2002	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$5,431	$0	$628
2 Discount	2004	$5,431	$0	$628
3 Discount	2005	$5,431	$0	$628
4 Discount	2006	$5,431	$0	$628
5 Discount	2007	$5,431	$0	$628
6 Discount	2008	$5,431	$0	$628
7 Discount	2009	$5,431	$0	$628
8 Discount	2010	$5,431	$0	$628
9 Discount	2011	$5,431	$0	$628
10 Discount	2012	$5,431	$0	$628
11 Discount	2013	$5,431	$0	$628
12 Discount	2014	$5,431	$0	$628
13 Discount	2015	$5,431	$0	$628
14 Discount	2016	$5,431	$0	$628
15 Discount	2017	$5,431	$0	$628
16 Discount	2018	$5,431	$0	$628
17 Discount	2019	$5,431	$0	$628
18 Discount	2020	$5,431	$0	$628
19 Discount	2021	$5,431	$0	$628
20 Discount	2022	$0	$0	$628
Total		$126,496	$0	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand Pierre Island Restoration - (XBA-1c)

Present Valued Costs Total Discounted Costs **$6,906,220** Amortized Costs **$633,021**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$209,697	$218,126	$58,791	$29,395	$761	$0	$0	$0	$516,771
2	1.137	2001	$280,954	$292,247	$94,522	$47,261	$714	$0	$0	$0	$715,699
1	1.066	2002	$0	$0	$66,487	$33,243	$670	$95,963	$1,077,335	$4,309,341	$5,583,039
		Total	$490,651	$510,373	$219,800	$109,900	$2,145	$95,963	$1,077,335	$4,309,341	$6,815,508

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$20,323	$0	$0
1	1.066	2002	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$5,094	$0	$589
-2	0.880	2004	$4,777	$0	$552
-3	0.825	2005	$4,480	$0	$518
-4	0.774	2006	$4,202	$0	$486
-5	0.726	2007	$3,941	$0	$456
-6	0.681	2008	$3,696	$0	$427
-7	0.638	2009	$3,466	$0	$401
-8	0.599	2010	$3,251	$0	$376
-9	0.561	2011	$3,049	$0	$353
-10	0.527	2012	$2,859	$0	$331
-11	0.494	2013	$2,682	$0	$310
-12	0.463	2014	$2,515	$0	$291
-13	0.434	2015	$2,359	$0	$273
-14	0.407	2016	$2,212	$0	$256
-15	0.382	2017	$2,075	$0	$240
-16	0.358	2018	$1,946	$0	$225
-17	0.336	2019	$1,825	$0	$211
-18	0.315	2020	$1,712	$0	$198
-19	0.296	2021	$1,605	$0	$186
-20	0.277	2022	$0	$0	$174
		Total	$83,860	$0	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Grand Pierre Island Restoration - (XBA-1c)

Fully Funded Costs Total Fully Funded Costs **$6,862,244** Amortized Costs **$628,990**

Year	Inflation	Fiscal Year	Engineering & Design	Easements	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$172,988	$179,311	$48,499	$24,250	$628	$0	$0	$0	$426,305
2	1.033	2001	$255,280	$266,242	$85,885	$42,942	$649	$0	$0	$0	$650,298
1	1.067	2002	$0	$0	$66,539	$33,270	$670	$96,038	$1,078,183	$4,312,732	$5,587,432
		TOTAL	$428,268	$445,483	$200,923	$100,462	$1,947	$96,038	$1,078,183	$4,312,732	$6,664,035

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$18,466	$0	$0
1	1.067	2002	$5,795	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$5,987	$0	$692
-2	1.139	2004	$6,184	$0	$715
-3	1.176	2005	$6,388	$0	$739
-4	1.215	2006	$6,599	$0	$763
-5	1.255	2007	$6,817	$0	$788
-6	1.297	2008	$7,042	$0	$814
-7	1.339	2009	$7,274	$0	$841
-8	1.384	2010	$7,514	$0	$869
-9	1.429	2011	$7,762	$0	$898
-10	1.476	2012	$8,018	$0	$927
-11	1.525	2013	$8,283	$0	$958
-12	1.575	2014	$8,556	$0	$989
-13	1.627	2015	$8,839	$0	$1,022
-14	1.681	2016	$9,130	$0	$1,056
-15	1.737	2017	$9,432	$0	$1,091
-16	1.794	2018	$9,743	$0	$1,127
-17	1.853	2019	$10,064	$0	$1,164
-18	1.914	2020	$10,396	$0	$1,202
-19	1.977	2021	$10,740	$0	$1,242
-20	2.043	2022	$0	$0	$1,283
		Total	$179,030	$0	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Freshwater Bayou on GIWW to Schooner Bayou (XME-28/33)

Project Construction Years:	4	Total Project Years	24
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$7,903,487	Total Fully Funded Costs	$15,373,113

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$8,389,899	$769,014
Monitoring	$407,471	$37,349
O & M Costs	$2,797,122	$256,383
Other Costs	$6,851	$628
Total	$11,601,300	$1,063,374
Average Annual Habitat Units		47
Cost Per Habitat Unit		$22,625
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 30, 1999

Freshwater Bayou on GIWW to Schooner Bayou (XME-28/33)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound	2000	$201,000	$12,333	$61,091	$23,333	$628	$0	$0	$0	$298,386
3 Compound	2001	$344,571	$21,143	$104,727	$40,000	$628	$0	$0	$0	$511,070
2 Compound	2002	$57,429	$3,524	$104,727	$40,000	$628	$175,000	$953,361	$3,813,444	$5,148,113
1 Compound	2003	$0	$0	$17,455	$6,667	$628	$50,000	$272,389	$1,089,556	$1,436,694
TOTAL		$603,000	$37,000	$288,000	$110,000	$2,512	$225,000	$1,225,750	$4,903,000	$7,394,262

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2001	$45,890	$0	$0
2 Compound	2002	$32,493	$0	$0
1 Compound	2003	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2004	$32,493	$0	$628
2 Discount	2005	$32,493	$4,407	$628
3 Discount	2006	$32,493	$1,485,870	$628
4 Discount	2007	$32,493	$4,407	$628
5 Discount	2008	$32,493	$0	$628
6 Discount	2009	$32,493	$4,407	$628
7 Discount	2010	$32,493	$1,485,870	$628
8 Discount	2011	$32,493	$4,407	$628
9 Discount	2012	$32,493	$0	$628
10 Discount	2013	$32,493	$0	$628
11 Discount	2014	$32,493	$0	$628
12 Discount	2015	$32,493	$0	$628
13 Discount	2016	$32,493	$4,407	$628
14 Discount	2017	$32,493	$1,485,870	$628
15 Discount	2018	$32,493	$4,407	$628
16 Discount	2019	$32,493	$0	$628
17 Discount	2020	$32,493	$0	$628
18 Discount	2021	$32,493	$0	$628
19 Discount	2022	$0	$0	$628
20 Discount	2023	$0	$4,407	$628
Total		$649,860	$4,488,459	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Freshwater Bayou on GIWW to Schooner Bayou (XME-28/33)

Present Valued Costs Total Discounted Costs $11,601,344 Amortized Costs $1,063,374

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293	2000	$259,796	$15,941	$78,961	$30,159	$812	$0	$0	$0	$385,668
3	1.212	2001	$417,692	$25,630	$126,951	$48,488	$761	$0	$0	$0	$619,523
2	1.137	2002	$65,290	$4,006	$119,063	$45,476	$714	$198,956	$1,083,866	$4,335,463	$5,852,834
1	1.066	2003	$0	$0	$18,611	$7,108	$670	$53,313	$290,435	$1,161,739	$1,531,875
		Total	$742,778	$45,577	$343,586	$131,231	$2,957	$252,268	$1,374,300	$5,497,202	$8,389,899

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2001	$55,628	$0	$0
2	1.137	2002	$36,941	$0	$0
1	1.066	2003	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2004	$30,474	$0	$589
-2	0.880	2005	$28,581	$3,876	$552
-3	0.825	2006	$26,805	$1,225,755	$518
-4	0.774	2007	$25,139	$3,410	$486
-5	0.726	2008	$23,577	$0	$456
-6	0.681	2009	$22,112	$2,999	$427
-7	0.638	2010	$20,738	$948,348	$401
-8	0.599	2011	$19,450	$2,638	$376
-9	0.561	2012	$18,241	$0	$353
-10	0.527	2013	$17,108	$0	$331
-11	0.494	2014	$16,045	$0	$310
-12	0.463	2015	$15,048	$0	$291
-13	0.434	2016	$14,113	$1,914	$273
-14	0.407	2017	$13,236	$605,277	$256
-15	0.382	2018	$12,414	$1,684	$240
-16	0.358	2019	$11,642	$0	$225
-17	0.336	2020	$10,919	$0	$211
-18	0.315	2021	$10,241	$0	$198
-19	0.296	2022	$0	$0	$186
-20	0.277	2023	$0	$1,222	$174
		Total	$407,471	$2,797,122	$6,851

Freshwater Bayou on GIWW to Schooner Bayou (XME-28/33)

Fully Funded Costs Total Fully Funded Costs **$15,373,113** Amortized Costs **$1,409,092**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5			$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.000	2000	$201,000	$12,333	$61,091	$23,333	$628	$0	$0	$0	$298,386
3	1.033	2001	$355,942	$21,841	$108,183	$41,320	$649	$0	$0	$0	$527,935
2	1.067	2002	$61,281	$3,760	$111,753	$42,684	$670	$186,741	$1,017,321	$4,069,285	$5,493,495
1	1.102	2003	$0	$0	$19,240	$7,349	$692	$55,115	$300,255	$1,201,020	$1,583,672
		TOTAL	$618,224	$37,934	$300,268	$114,686	$2,639	$241,856	$1,317,576	$5,270,305	$7,903,487

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.033	2001	$47,404	$0	$0
2	1.067	2002	$34,673	$0	$0
1	1.102	2003	$35,817	$0	$0
0	Base Year		$0	$0	$0
-1	1.139	2004	$36,999	$0	$715
-2	1.176	2005	$38,220	$5,184	$739
-3	1.215	2006	$39,481	$1,805,439	$763
-4	1.255	2007	$40,784	$5,532	$788
-5	1.297	2008	$42,130	$0	$814
-6	1.339	2009	$43,520	$5,903	$841
-7	1.384	2010	$44,957	$2,055,815	$869
-8	1.429	2011	$46,440	$6,299	$898
-9	1.476	2012	$47,973	$0	$927
-10	1.525	2013	$49,556	$0	$958
-11	1.575	2014	$51,191	$0	$989
-12	1.627	2015	$52,880	$0	$1,022
-13	1.681	2016	$54,625	$7,409	$1,056
-14	1.737	2017	$56,428	$2,580,396	$1,091
-15	1.794	2018	$58,290	$7,906	$1,127
-16	1.853	2019	$60,214	$0	$1,164
-17	1.914	2020	$62,201	$0	$1,202
-18	1.977	2021	$64,253	$0	$1,242
-19	2.043	2022	$0	$0	$1,283
-20	2.110	2023	$0	$9,299	$1,325
		Total	$960,634	$6,489,180	$19,812

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

New Cut Dune/Marsh Restoration (TE-11a)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$7,159,999	Total Fully Funded Costs	$7,393,626

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$7,299,621	$669,080
Monitoring	$84,797	$7,772
O & M Costs	$4,962	$455
Other Costs	$6,851	$628
Total	$7,396,200	$677,935
Average Annual Habitat Units		43
Cost Per Habitat Unit		$15,766
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

New Cut Dune/Marsh Restoration (TE-11a)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Desigh	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$307,446	$114,333	$73,535	$35,000	$628	$0	$0	$0	$530,943
2 Compound	2001	$87,842	$32,667	$126,060	$60,000	$628	$0	$0	$0	$307,196
1 Compound	2002	$0	$0	$31,515	$15,000	$628	$90,000	$1,155,551	$4,622,204	$5,914,898
TOTAL		$395,288	$147,000	$231,110	$110,000	$1,884	$90,000	$1,155,551	$4,622,204	$6,753,037

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2000	$12,445	$0	$0
2 Compound	2001	$5,431	$0	$0
1 Compound	2002	$5,431	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$5,431	$0	$628
2 Discount	2004	$5,431	$0	$628
3 Discount	2005	$5,431	$0	$628
4 Discount	2006	$5,431	$0	$628
5 Discount	2007	$5,431	$0	$628
6 Discount	2008	$5,431	$0	$628
7 Discount	2009	$5,431	$0	$628
8 Discount	2010	$5,431	$0	$628
9 Discount	2011	$5,431	$0	$628
10 Discount	2012	$5,431	$0	$628
11 Discount	2013	$5,431	$0	$628
12 Discount	2014	$5,431	$0	$628
13 Discount	2015	$5,431	$0	$628
14 Discount	2016	$5,431	$0	$628
15 Discount	2017	$5,431	$0	$628
16 Discount	2018	$5,431	$0	$628
17 Discount	2019	$5,431	$0	$628
18 Discount	2020	$5,431	$0	$628
19 Discount	2021	$5,431	$3,645	$628
20 Discount	2022	$0	$14,011	$628
Total		$126,496	$17,656	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

New Cut Dune/Marsh Restoration (TE-11a)

Present Valued Costs Total Discounted Costs $7,396,232 Amortized Costs $677,935

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$372,689	$138,596	$89,140	$42,427	$761	$0	$0	$0	$643,613
2	1.137	2001	$99,866	$37,138	$143,316	$68,213	$714	$0	$0	$0	$349,248
1	1.066	2002	$0	$0	$33,603	$15,994	$670	$95,963	$1,232,106	$4,928,425	$6,306,760
		Total	$472,555	$175,734	$266,059	$126,634	$2,145	$95,963	$1,232,106	$4,928,425	$7,299,621

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2000	$15,086	$0	$0
2	1.137	2001	$6,174	$0	$0
1	1.066	2002	$5,791	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$5,094	$0	$589
-2	0.880	2004	$4,777	$0	$552
-3	0.825	2005	$4,480	$0	$518
-4	0.774	2006	$4,202	$0	$486
-5	0.726	2007	$3,941	$0	$456
-6	0.681	2008	$3,696	$0	$427
-7	0.638	2009	$3,466	$0	$401
-8	0.599	2010	$3,251	$0	$376
-9	0.561	2011	$3,049	$0	$353
-10	0.527	2012	$2,859	$0	$331
-11	0.494	2013	$2,682	$0	$310
-12	0.463	2014	$2,515	$0	$291
-13	0.434	2015	$2,359	$0	$273
-14	0.407	2016	$2,212	$0	$256
-15	0.382	2017	$2,075	$0	$240
-16	0.358	2018	$1,946	$0	$225
-17	0.336	2019	$1,825	$0	$211
-18	0.315	2020	$1,712	$0	$198
-19	0.296	2021	$1,605	$1,077	$186
-20	0.277	2022	$0	$3,884	$174
		Total	$84,797	$4,962	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

New Cut Dune/Marsh Restoration (TE-11a)

Fully Funded Costs Total Fully Funded Costs $7,393,826 Amortized Costs $677,696

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Managemet	Supervision & Inspectio	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	1.000	2000	$307,446	$114,333	$73,535	$35,000	$628	$0	$0	$0	$530,943
2	1.033	2001	$90,741	$33,745	$130,220	$61,980	$649	$0	$0	$0	$317,334
1	1.067	2002	$0	$0	$33,629	$16,006	$670	$96,038	$1,233,076	$4,932,303	$6,311,723
		TOTAL	$398,187	$148,078	$237,384	$112,986	$1,947	$96,038	$1,233,076	$4,932,303	$7,159,999

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.000	2000	$12,445	$0	$0
2	1.033	2001	$5,610	$0	$0
1	1.067	2002	$5,795	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$5,987	$0	$692
-2	1.139	2004	$6,184	$0	$715
-3	1.176	2005	$6,388	$0	$739
-4	1.215	2006	$6,599	$0	$763
-5	1.255	2007	$6,817	$0	$788
-6	1.297	2008	$7,042	$0	$814
-7	1.339	2009	$7,274	$0	$841
-8	1.384	2010	$7,514	$0	$869
-9	1.429	2011	$7,762	$0	$898
-10	1.476	2012	$8,018	$0	$927
-11	1.525	2013	$8,283	$0	$958
-12	1.575	2014	$8,556	$0	$989
-13	1.627	2015	$8,839	$0	$1,022
-14	1.681	2016	$9,130	$0	$1,056
-15	1.737	2017	$9,432	$0	$1,091
-16	1.794	2018	$9,743	$0	$1,127
-17	1.853	2019	$10,064	$0	$1,164
-18	1.914	2020	$10,396	$0	$1,202
-19	1.977	2021	$10,740	$7,208	$1,242
-20	2.043	2022	$0	$28,621	$1,283
		Total	$178,619	$35,829	$19,179

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Bully Camp (XTE-58)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$7,052,886	Total Fully Funded Costs	$8,990,659

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$7,469,134	$684,617
Monitoring	$435,517	$39,919
O & M Costs	$332,474	$30,474
Other Costs	$6,851	$628
Total	$8,244,000	$755,639
Average Annual Habitat Units		54
Cost Per Habitat Unit		$13,993
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Bully Camp (XTE-58)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$140,737	$884,211	$32,742	$16,484	$628	$0	$0	$0	$1,074,801
2 Compound	2001	$241,263	$1,515,789	$56,129	$28,258	$628	$0	$0	$0	$1,842,068
1 Compound	2002	$0	$0	$56,129	$28,258	$628	$104,000	$726,000	$2,904,000	$3,819,015
TOTAL		$382,000	$2,400,000	$145,000	$73,000	$1,884	$104,000	$726,000	$2,904,000	$6,735,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$48,714	$0	$0
1 Compound	2002	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$32,493	$3,645	$628
2 Discount	2004	$32,493	$3,645	$628
3 Discount	2005	$32,493	$3,645	$628
4 Discount	2006	$32,493	$137,076	$628
5 Discount	2007	$32,493	$3,645	$628
6 Discount	2008	$32,493	$3,645	$628
7 Discount	2009	$32,493	$3,645	$628
8 Discount	2010	$32,493	$137,076	$628
9 Discount	2011	$32,493	$3,645	$628
10 Discount	2012	$32,493	$3,645	$628
11 Discount	2013	$32,493	$3,645	$628
12 Discount	2014	$32,493	$137,076	$628
13 Discount	2015	$32,493	$3,645	$628
14 Discount	2016	$32,493	$3,645	$628
15 Discount	2017	$32,493	$3,645	$628
16 Discount	2018	$32,493	$137,076	$628
17 Discount	2019	$32,493	$3,645	$628
18 Discount	2020	$32,493	$3,645	$628
19 Discount	2021	$32,493	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$698,574	$606,625	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Bully Camp (XTE-58)

Present Valued Costs Total Discounted Costs $8,243,977 Amortized Costs $755,639

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$170,602	$1,071,847	$39,690	$19,982	$761	$0	$0	$0	$1,302,883
2	1.137	2001	$274,289	$1,723,284	$63,812	$32,126	$714	$0	$0	$0	$2,094,227
1	1.066	2002	$0	$0	$59,848	$30,130	$670	$110,890	$774,098	$3,096,390	$4,072,025
		Total	$444,892	$2,795,132	$163,350	$82,238	$2,145	$110,890	$774,098	$3,096,390	$7,469,134

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$55,382	$0	$0
1	1.066	2002	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$30,474	$3,419	$589
-2	0.880	2004	$28,581	$3,206	$552
-3	0.825	2005	$26,805	$3,007	$518
-4	0.774	2006	$25,139	$106,054	$486
-5	0.726	2007	$23,577	$2,645	$456
-6	0.681	2008	$22,112	$2,481	$427
-7	0.638	2009	$20,738	$2,326	$401
-8	0.599	2010	$19,450	$82,052	$376
-9	0.561	2011	$18,241	$2,046	$353
-10	0.527	2012	$17,108	$1,919	$331
-11	0.494	2013	$16,045	$1,800	$310
-12	0.463	2014	$15,048	$63,482	$291
-13	0.434	2015	$14,113	$1,583	$273
-14	0.407	2016	$13,236	$1,485	$256
-15	0.382	2017	$12,414	$1,393	$240
-16	0.358	2018	$11,642	$49,115	$225
-17	0.336	2019	$10,919	$1,225	$211
-18	0.315	2020	$10,241	$1,149	$198
-19	0.296	2021	$9,604	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$435,517	$332,474	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

North Bully Camp (XTE-58)

Fully Funded Costs Total Fully Funded Costs $8,990,659 Amortized Costs $824,080

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$140,737	$884,211	$32,742	$16,484	$628	$0	$0	$0	$1,074,801
2	1.033	2001	$249,225	$1,565,811	$57,981	$29,191	$649	$0	$0	$0	$1,902,856
1	1.067	2002	$0	$0	$59,895	$30,154	$670	$110,977	$774,707	$3,098,826	$4,075,229
		TOTAL	$389,962	$2,450,021	$150,618	$75,828	$1,947	$110,977	$774,707	$3,098,826	$7,052,886

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$50,322	$0	$0
1	1.067	2002	$34,673	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$35,817	$4,018	$692
-2	1.139	2004	$36,999	$4,150	$715
-3	1.176	2005	$38,220	$4,287	$739
-4	1.215	2006	$39,481	$166,557	$763
-5	1.255	2007	$40,784	$4,575	$788
-6	1.297	2008	$42,130	$4,726	$814
-7	1.339	2009	$43,520	$4,882	$841
-8	1.384	2010	$44,957	$189,655	$869
-9	1.429	2011	$46,440	$5,210	$898
-10	1.476	2012	$47,973	$5,381	$927
-11	1.525	2013	$49,556	$5,559	$958
-12	1.575	2014	$51,191	$215,957	$989
-13	1.627	2015	$52,880	$5,932	$1,022
-14	1.681	2016	$54,625	$6,128	$1,056
-15	1.737	2017	$56,428	$6,330	$1,091
-16	1.794	2018	$58,290	$245,905	$1,127
-17	1.853	2019	$60,214	$6,755	$1,164
-18	1.914	2020	$62,201	$6,978	$1,202
-19	1.977	2021	$64,253	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$1,010,955	$907,639	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Weeks Bay II (TV-10/PTV-13)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$14,074,874	Total Fully Funded Costs	$14,554,524

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$14,244,516	$1,305,646
Monitoring	$73,651	$6,751
O & M Costs	$124,291	$11,392
Other Costs	$6,851	$628
Total	$14,449,300	$1,324,417
Average Annual Habitat Units		57
Cost Per Habitat Unit		$23,235
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Weeks Bay II (TV-10/PTV-13)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$294,368	$25,789	$113,207	$26,552	$628	$0	$0	$0	$460,545
2 Compound	2001	$504,632	$44,211	$194,069	$45,517	$628	$0	$0	$0	$789,056
1 Compound	2002	$0	$0	$161,724	$37,931	$628	$70,000	$2,344,850	$9,379,400	$11,994,533
TOTAL		$799,000	$70,000	$469,000	$110,000	$1,884	$70,000	$2,344,850	$9,379,400	$13,244,134

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$36,999	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$3,645	$628
2 Discount	2004	$2,700	$3,645	$628
3 Discount	2005	$2,700	$3,645	$628
4 Discount	2006	$2,700	$3,645	$628
5 Discount	2007	$2,700	$55,368	$628
6 Discount	2008	$2,700	$3,645	$628
7 Discount	2009	$2,700	$3,645	$628
8 Discount	2010	$2,700	$3,645	$628
9 Discount	2011	$2,700	$3,645	$628
10 Discount	2012	$2,700	$55,368	$628
11 Discount	2013	$2,700	$3,645	$628
12 Discount	2014	$2,700	$3,645	$628
13 Discount	2015	$2,700	$3,645	$628
14 Discount	2016	$2,700	$3,645	$628
15 Discount	2017	$2,700	$55,368	$628
16 Discount	2018	$2,700	$3,645	$628
17 Discount	2019	$2,700	$3,645	$628
18 Discount	2020	$2,700	$3,645	$628
19 Discount	2021	$2,700	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$90,999	$228,069	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Weeks Bay II (TV-10/PTV-13)

Present Valued Costs Total Discounted Costs **$14,449,310** Amortized Costs **$1,324,417**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$356,836	$31,262	$137,230	$32,186	$761	$0	$0	$0	$558,276
2	1.137	2001	$573,710	$50,262	$220,635	$51,748	$714	$0	$0	$0	$897,069
1	1.066	2002	$0	$0	$172,438	$40,444	$670	$74,638	$2,500,196	$10,000,785	$12,789,171
		Total	$930,546	$81,525	$530,304	$124,378	$2,145	$74,638	$2,500,196	$10,000,785	$14,244,516

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$42,064	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$3,419	$589
-2	0.880	2004	$2,375	$3,206	$552
-3	0.825	2005	$2,227	$3,007	$518
-4	0.774	2006	$2,089	$2,820	$486
-5	0.726	2007	$1,959	$40,176	$456
-6	0.681	2008	$1,837	$2,481	$427
-7	0.638	2009	$1,723	$2,326	$401
-8	0.599	2010	$1,616	$2,182	$376
-9	0.561	2011	$1,516	$2,046	$353
-10	0.527	2012	$1,422	$29,152	$331
-11	0.494	2013	$1,333	$1,800	$310
-12	0.463	2014	$1,250	$1,688	$291
-13	0.434	2015	$1,173	$1,583	$273
-14	0.407	2016	$1,100	$1,485	$256
-15	0.382	2017	$1,032	$21,153	$240
-16	0.358	2018	$967	$1,306	$225
-17	0.336	2019	$907	$1,225	$211
-18	0.315	2020	$851	$1,149	$198
-19	0.296	2021	$798	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$73,651	$124,291	$6,851

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Weeks Bay II (TV-10/PTV-13)

Fully Funded Costs Total Fully Funded Costs $14,554,524 Amortized Costs $1,334,061

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$294,368	$25,789	$113,207	$26,552	$628	$0	$0	$0	$460,545
2	1.033	2001	$521,284	$45,669	$200,473	$47,019	$649	$0	$0	$0	$815,095
1	1.067	2002	$0	$0	$172,574	$40,476	$670	$74,696	$2,502,164	$10,008,655	$12,799,234
		TOTAL	$815,653	$71,459	$486,254	$114,047	$1,947	$74,696	$2,502,164	$10,008,655	$14,074,874

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$38,220	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,018	$692
-2	1.139	2004	$3,074	$4,150	$715
-3	1.176	2005	$3,176	$4,287	$739
-4	1.215	2006	$3,281	$4,429	$763
-5	1.255	2007	$3,389	$69,496	$788
-6	1.297	2008	$3,501	$4,726	$814
-7	1.339	2009	$3,616	$4,882	$841
-8	1.384	2010	$3,736	$5,043	$869
-9	1.429	2011	$3,859	$5,210	$898
-10	1.476	2012	$3,986	$81,745	$927
-11	1.525	2013	$4,118	$5,559	$958
-12	1.575	2014	$4,254	$5,743	$989
-13	1.627	2015	$4,394	$5,932	$1,022
-14	1.681	2016	$4,539	$6,128	$1,056
-15	1.737	2017	$4,689	$96,154	$1,091
-16	1.794	2018	$4,844	$6,539	$1,127
-17	1.853	2019	$5,003	$6,755	$1,164
-18	1.914	2020	$5,169	$6,978	$1,202
-19	1.977	2021	$5,339	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$118,044	$342,427	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Shore Protection in Lake Borgne at Shell Beach and Bayou Dupre (PPO-2b/d/h)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$10,165,493	Total Fully Funded Costs	$21,513,220

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$10,676,619	$978,614
Monitoring	$48,805	$4,473
O & M Costs	$5,526,822	$506,586
Other Costs	$6,851	$628
Total	$16,259,100	$1,490,301
Average Annual Habitat Units		28
Cost Per Habitat Unit		$53,225
Average Annual Acres of Emergent Marsh		NA

All dates are in Federal Fiscal Years (October 1 to September 30)

November 30, 1999

Shore Protection in Lake Borgne at Shell Beach and Bayou Dupre (PPO-2b/d/h)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$405,222	$1,559,444	$79,655	$26,552	$628	$0	$0	$0	$2,071,502
2 Compound	2001	$115,778	$445,556	$136,552	$45,517	$628	$0	$0	$0	$744,030
1 Compound	2002	$0	$0	$113,793	$37,931	$628	$115,000	$1,319,500	$5,278,000	$6,864,852
TOTAL		$521,000	$2,005,000	$330,000	$110,000	$1,884	$115,000	$1,319,500	$5,278,000	$9,680,384

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$15,145	$0	$0
1 Compound	2002	$2,700	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$2,700	$4,407	$628
2 Discount	2004	$2,700	$2,059,280	$628
3 Discount	2005	$2,700	$4,407	$628
4 Discount	2006	$2,700	$2,059,280	$628
5 Discount	2007	$2,700	$4,407	$628
6 Discount	2008	$2,700	$4,407	$628
7 Discount	2009	$2,700	$2,059,280	$628
8 Discount	2010	$2,700	$4,407	$628
9 Discount	2011	$2,700	$0	$628
10 Discount	2012	$2,700	$0	$628
11 Discount	2013	$2,700	$0	$628
12 Discount	2014	$2,700	$0	$628
13 Discount	2015	$2,700	$0	$628
14 Discount	2016	$2,700	$4,407	$628
15 Discount	2017	$2,700	$2,059,280	$628
16 Discount	2018	$2,700	$4,407	$628
17 Discount	2019	$2,700	$0	$628
18 Discount	2020	$2,700	$0	$628
19 Discount	2021	$2,700	$0	$628
20 Discount	2022	$0	$4,407	$628
Total		$69,145	$8,272,377	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Shore Protection in Lake Borgne at Shell Beach and Bayou Dupre (PPO-2b/d/h)

Present Valued Costs Total Discounted Costs $16,259,098 Amortized Costs $1,490,301

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$491,214	$1,890,371	$96,559	$32,186	$761	$0	$0	$0	$2,511,091
2	1.137	2001	$131,626	$506,547	$155,244	$51,748	$714	$0	$0	$0	$845,880
1	1.066	2002	$0	$0	$121,332	$40,444	$670	$122,619	$1,406,917	$5,627,668	$7,319,649
		Total	$622,840	$2,396,918	$373,135	$124,378	$2,145	$122,619	$1,406,917	$5,627,668	$10,676,619

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$17,218	$0	$0
1	1.066	2002	$2,879	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$2,532	$4,133	$589
-2	0.880	2004	$2,375	$1,811,329	$552
-3	0.825	2005	$2,227	$3,636	$518
-4	0.774	2006	$2,089	$1,593,233	$486
-5	0.726	2007	$1,959	$3,198	$456
-6	0.681	2008	$1,837	$2,999	$427
-7	0.638	2009	$1,723	$1,314,323	$401
-8	0.599	2010	$1,616	$2,638	$376
-9	0.561	2011	$1,516	$0	$353
-10	0.527	2012	$1,422	$0	$331
-11	0.494	2013	$1,333	$0	$310
-12	0.463	2014	$1,250	$0	$291
-13	0.434	2015	$1,173	$0	$273
-14	0.407	2016	$1,100	$1,795	$256
-15	0.382	2017	$1,032	$786,737	$240
-16	0.358	2018	$967	$1,579	$225
-17	0.336	2019	$907	$0	$211
-18	0.315	2020	$851	$0	$198
-19	0.296	2021	$798	$0	$186
-20	0.277	2022	$0	$1,222	$174
		Total	$48,805	$5,526,822	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Shore Protection in Lake Borgne at Shell Beach and Bayou Dupre (PPO-2b/d/h)

Fully Funded Costs Total Fully Funded Costs **$21,513,220** Amortized Costs **$1,971,892**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$405,222	$1,559,444	$79,655	$26,552	$628	$0	$0	$0	$2,071,502
2	1.033	2001	$119,598	$460,259	$141,058	$47,019	$649	$0	$0	$0	$768,583
1	1.067	2002	$0	$0	$121,427	$40,476	$670	$122,715	$1,408,024	$5,632,096	$7,325,408
		TOTAL	$524,821	$2,019,703	$342,140	$114,047	$1,947	$122,715	$1,408,024	$5,632,096	$10,165,493

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$15,645	$0	$0
1	1.067	2002	$2,881	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$2,976	$4,858	$692
-2	1.139	2004	$3,074	$2,344,859	$715
-3	1.176	2005	$3,176	$5,184	$739
-4	1.215	2006	$3,281	$2,502,173	$763
-5	1.255	2007	$3,389	$5,532	$788
-6	1.297	2008	$3,501	$5,714	$814
-7	1.339	2009	$3,616	$2,758,153	$841
-8	1.384	2010	$3,736	$6,097	$869
-9	1.429	2011	$3,859	$0	$898
-10	1.476	2012	$3,986	$0	$927
-11	1.525	2013	$4,118	$0	$958
-12	1.575	2014	$4,254	$0	$989
-13	1.627	2015	$4,394	$0	$1,022
-14	1.681	2016	$4,539	$7,409	$1,056
-15	1.737	2017	$4,689	$3,576,193	$1,091
-16	1.794	2018	$4,844	$7,906	$1,127
-17	1.853	2019	$5,003	$0	$1,164
-18	1.914	2020	$5,169	$0	$1,202
-19	1.977	2021	$5,339	$0	$1,242
-20	2.043	2022	$0	$9,002	$1,283
		Total	$95,468	$11,233,079	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lighthouse Bayou (PCS-32)

Project Construction Years:	3	Total Project Years	23
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$934,121	Total Fully Funded Costs	$2,074,238

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$971,909	$89,085
Monitoring	$299,800	$27,480
O & M Costs	$150,153	$13,763
Other Costs	$6,851	$628
Total	$1,428,700	$130,955
Average Annual Habitat Units		(173)
Cost Per Habitat Unit		∞
Average Annual Acres of Emergent Marsh		NA

Lighthouse Bayou (PCS-32)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$79,154	$32,308	$8,815	$2,852	$628	$0	$0	$0	$123,756
2 Compound	2001	$67,846	$27,692	$15,111	$4,889	$628	$0	$0	$0	$116,166
1 Compound	2002	$0	$0	$10,074	$3,259	$628	$68,000	$113,000	$452,000	$646,961
TOTAL		$147,000	$60,000	$34,000	$11,000	$1,884	$68,000	$113,000	$452,000	$886,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$36,349	$0	$0
1 Compound	2002	$22,094	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$22,094	$3,645	$628
2 Discount	2004	$22,094	$3,645	$628
3 Discount	2005	$22,094	$3,645	$628
4 Discount	2006	$22,094	$3,645	$628
5 Discount	2007	$22,094	$3,645	$628
6 Discount	2008	$22,094	$3,645	$628
7 Discount	2009	$22,094	$109,217	$628
8 Discount	2010	$22,094	$3,645	$628
9 Discount	2011	$22,094	$3,645	$628
10 Discount	2012	$22,094	$3,645	$628
11 Discount	2013	$22,094	$3,645	$628
12 Discount	2014	$22,094	$3,645	$628
13 Discount	2015	$22,094	$3,645	$628
14 Discount	2016	$22,094	$109,217	$628
15 Discount	2017	$22,094	$3,645	$628
16 Discount	2018	$22,094	$3,645	$628
17 Discount	2019	$22,094	$3,645	$628
18 Discount	2020	$22,094	$3,645	$628
19 Discount	2021	$22,094	$3,645	$628
20 Discount	2022	$0	$3,645	$628
Total		$478,225	$284,044	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lighthouse Bayou (PCS-32)

Present Valued Costs Total Discounted Costs $1,428,713 Amortized Costs $130,955

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$95,951	$39,164	$10,685	$3,457	$761	$0	$0	$0	$150,018
2	1.137	2001	$77,134	$31,483	$17,180	$5,558	$714	$0	$0	$0	$132,068
1	1.066	2002	$0	$0	$10,741	$3,475	$670	$72,505	$120,486	$481,945	$689,823
		Total	$173,084	$70,647	$38,607	$12,490	$2,145	$72,505	$120,486	$481,945	$971,909

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$41,325	$0	$0
1	1.066	2002	$23,558	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$20,721	$3,419	$589
-2	0.880	2004	$19,434	$3,206	$552
-3	0.825	2005	$18,226	$3,007	$518
-4	0.774	2006	$17,094	$2,820	$486
-5	0.726	2007	$16,032	$2,645	$456
-6	0.681	2008	$15,035	$2,481	$427
-7	0.638	2009	$14,101	$69,707	$401
-8	0.599	2010	$13,225	$2,182	$376
-9	0.561	2011	$12,403	$2,046	$353
-10	0.527	2012	$11,633	$1,919	$331
-11	0.494	2013	$10,910	$1,800	$310
-12	0.463	2014	$10,232	$1,688	$291
-13	0.434	2015	$9,596	$1,583	$273
-14	0.407	2016	$9,000	$44,490	$256
-15	0.382	2017	$8,441	$1,393	$240
-16	0.358	2018	$7,916	$1,306	$225
-17	0.336	2019	$7,425	$1,225	$211
-18	0.315	2020	$6,963	$1,149	$198
-19	0.296	2021	$6,531	$1,077	$186
-20	0.277	2022	$0	$1,010	$174
		Total	$299,800	$150,153	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lighthouse Bayou (PCS-32)

Fully Funded Costs Total Fully Funded Costs $2,074,238 Amortized Costs $190,124

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$79,154	$32,308	$8,815	$2,852	$628	$0	$0	$0	$123,756
2	1.033	2001	$70,085	$28,606	$15,610	$5,050	$649	$0	$0	$0	$120,000
1	1.067	2002	$0	$0	$10,750	$3,478	$670	$72,562	$120,581	$482,324	$690,365
		TOTAL	$149,239	$60,914	$35,175	$11,380	$1,947	$72,562	$120,581	$482,324	$934,121

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$37,548	$0	$0
1	1.067	2002	$23,576	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$24,354	$4,018	$692
-2	1.139	2004	$25,158	$4,150	$715
-3	1.176	2005	$25,988	$4,287	$739
-4	1.215	2006	$26,846	$4,429	$763
-5	1.255	2007	$27,731	$4,575	$788
-6	1.297	2008	$28,647	$4,726	$814
-7	1.339	2009	$29,592	$146,283	$841
-8	1.384	2010	$30,569	$5,043	$869
-9	1.429	2011	$31,577	$5,210	$898
-10	1.476	2012	$32,619	$5,381	$927
-11	1.525	2013	$33,696	$5,559	$958
-12	1.575	2014	$34,808	$5,743	$989
-13	1.627	2015	$35,956	$5,932	$1,022
-14	1.681	2016	$37,143	$183,609	$1,056
-15	1.737	2017	$38,369	$6,330	$1,091
-16	1.794	2018	$39,635	$6,539	$1,127
-17	1.853	2019	$40,943	$6,755	$1,164
-18	1.914	2020	$42,294	$6,978	$1,202
-19	1.977	2021	$43,690	$7,208	$1,242
-20	2.043	2022	$0	$7,446	$1,283
		Total	$690,737	$430,200	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Restore Conn. of Mermentau R./Restrict Nav. Channel

Project Construction Years:	3	Total Project Years	23
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$2,707,645	Total Fully Funded Costs	$12,566,773

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$2,760,567	$253,032
Monitoring	$435,517	$39,919
O & M Costs	$3,286,996	$301,285
Other Costs	$6,851	$628
Total	$6,489,900	$594,864
Average Annual Habitat Units		0
Cost Per Habitat Unit		∞
Average Annual Acres of Emergent Marsh		NA

Restore Conn. of Mermentau R./Restrict Nav. Channel

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$99,313	$17,500	$25,926	$10,370	$628	$0	$0	$0	$153,737
2 Compound	2001	$127,688	$22,500	$44,444	$17,778	$628	$0	$0	$0	$213,038
1 Compound	2002	$0	$0	$29,630	$11,852	$628	$150,000	$399,000	$1,596,000	$2,187,109
TOTAL		$227,000	$40,000	$100,000	$40,000	$1,884	$150,000	$399,000	$1,596,000	$2,453,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$48,714	$0	$0
1 Compound	2002	$32,493	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$32,493	$253,407	$628
2 Discount	2004	$32,493	$343,407	$628
3 Discount	2005	$32,493	$253,407	$628
4 Discount	2006	$32,493	$343,407	$628
5 Discount	2007	$32,493	$339,758	$628
6 Discount	2008	$32,493	$343,407	$628
7 Discount	2009	$32,493	$253,407	$628
8 Discount	2010	$32,493	$343,407	$628
9 Discount	2011	$32,493	$253,407	$628
10 Discount	2012	$32,493	$429,758	$628
11 Discount	2013	$32,493	$253,407	$628
12 Discount	2014	$32,493	$343,407	$628
13 Discount	2015	$32,493	$253,407	$628
14 Discount	2016	$32,493	$343,407	$628
15 Discount	2017	$32,493	$339,758	$628
16 Discount	2018	$32,493	$343,407	$628
17 Discount	2019	$32,493	$253,407	$628
18 Discount	2020	$32,493	$343,407	$628
19 Discount	2021	$32,493	$253,407	$628
20 Discount	2022	$0	$4,407	$628
Total		$698,574	$5,888,192	$12,560

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Restore Conn. of Mermentau R./Restrict Nav. Channel

Present Valued Costs Total Discounted Costs $6,489,932 Amortized Costs $594,864

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$120,387	$21,214	$31,428	$12,571	$761	$0	$0	$0	$186,361
2	1.137	2001	$145,167	$25,580	$50,528	$20,211	$714	$0	$0	$0	$242,200
1	1.066	2002	$0	$0	$31,593	$12,637	$670	$159,938	$425,434	$1,701,735	$2,332,005
		Total	$265,554	$46,794	$113,549	$45,419	$2,145	$159,938	$425,434	$1,701,735	$2,760,567

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$55,382	$0	$0
1	1.066	2002	$34,646	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$30,474	$237,662	$589
-2	0.880	2004	$28,581	$302,058	$552
-3	0.825	2005	$26,805	$209,046	$518
-4	0.774	2006	$25,139	$265,689	$486
-5	0.726	2007	$23,577	$246,532	$456
-6	0.681	2008	$22,112	$233,698	$427
-7	0.638	2009	$20,738	$161,735	$401
-8	0.599	2010	$19,450	$205,559	$376
-9	0.561	2011	$18,241	$142,261	$353
-10	0.527	2012	$17,108	$226,273	$331
-11	0.494	2013	$16,045	$125,132	$310
-12	0.463	2014	$15,048	$159,038	$291
-13	0.434	2015	$14,113	$110,065	$273
-14	0.407	2016	$13,236	$139,889	$256
-15	0.382	2017	$12,414	$129,803	$240
-16	0.358	2018	$11,642	$123,045	$225
-17	0.336	2019	$10,919	$85,156	$211
-18	0.315	2020	$10,241	$108,230	$198
-19	0.296	2021	$9,604	$74,903	$186
-20	0.277	2022	$0	$1,222	$174
		Total	$435,517	$3,286,996	$6,851

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Restore Conn. of Mermentau R./Restrict Nav. Channel

Fully Funded Costs Total Fully Funded Costs **$12,566,773** Amortized Costs **$1,151,865**

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$99,313	$17,500	$25,926	$10,370	$628	$0	$0	$0	$153,737
2	1.033	2001	$131,901	$23,243	$45,911	$18,364	$649	$0	$0	$0	$220,068
1	1.067	2002	$0	$0	$31,617	$12,647	$670	$160,063	$425,769	$1,703,074	$2,333,840
		TOTAL	$231,214	$40,743	$103,454	$41,382	$1,947	$160,063	$425,769	$1,703,074	$2,707,645

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$50,322	$0	$0
1	1.067	2002	$34,673	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$35,817	$279,331	$692
-2	1.139	2004	$36,999	$391,030	$715
-3	1.176	2005	$38,220	$298,071	$739
-4	1.215	2006	$39,481	$417,264	$763
-5	1.255	2007	$40,784	$426,453	$788
-6	1.297	2008	$42,130	$445,258	$814
-7	1.339	2009	$43,520	$339,408	$841
-8	1.384	2010	$44,957	$475,130	$869
-9	1.429	2011	$46,440	$362,178	$898
-10	1.476	2012	$47,973	$634,494	$927
-11	1.525	2013	$49,556	$386,476	$958
-12	1.575	2014	$51,191	$541,020	$989
-13	1.627	2015	$52,880	$412,405	$1,022
-14	1.681	2016	$54,625	$577,317	$1,056
-15	1.737	2017	$56,428	$590,031	$1,091
-16	1.794	2018	$58,290	$616,049	$1,127
-17	1.853	2019	$60,214	$469,596	$1,164
-18	1.914	2020	$62,201	$657,379	$1,202
-19	1.977	2021	$64,253	$501,101	$1,242
-20	2.043	2022	$0	$9,002	$1,283
		Total	$1,010,955	$8,828,994	$19,179

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lake Athanasio Oyster Reef Demo (BS-XX)

Project Construction Years:	3	Total Project Years	6
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$592,790	Total Fully Funded Costs	$706,608

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$607,047	$55,642
Monitoring	$103,289	$9,467
O & M Costs	$3,007	$276
Other Costs	$1,659	$152
Total	$715,000	$65,537
Average Annual Habitat Units		NA
Cost Per Habitat Unit		NA
Average Annual Acres of Emergent Marsh		NA

Lake Athanasio Oyster Reef Demo (BS-XX)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$38,500	$17,500	$2,240	$2,240	$628	$0	$0	$0	$61,108
2 Compound	2001	$5,500	$2,500	$3,840	$3,840	$628	$0	$0	$0	$16,308
1 Compound	2002	$0	$0	$1,920	$1,920	$628	$8,000	$94,000	$376,000	$482,468
TOTAL		$44,000	$20,000	$8,000	$8,000	$1,884	$8,000	$94,000	$376,000	$559,884

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3 Compound	2000	$13,397	$0	$0
2 Compound	2001	$21,651	$0	$0
1 Compound	2002	$21,651	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$21,651	$0	$628
2 Discount	2004	$21,651	$0	$628
3 Discount	2005	$0	$3,645	$628
4 Discount	2006	$0	$0	$0
5 Discount	2007	$0	$0	$0
6 Discount	2008	$0	$0	$0
7 Discount	2009	$0	$0	$0
8 Discount	2010	$0	$0	$0
9 Discount	2011	$0	$0	$0
10 Discount	2012	$0	$0	$0
11 Discount	2013	$0	$0	$0
12 Discount	2014	$0	$0	$0
13 Discount	2015	$0	$0	$0
14 Discount	2016	$0	$0	$0
15 Discount	2017	$0	$0	$0
16 Discount	2018	$0	$0	$0
17 Discount	2019	$0	$0	$0
18 Discount	2020	$0	$0	$0
19 Discount	2021	$0	$0	$0
20 Discount	2022	$0	$0	$0
Total		$100,000	$3,645	$1,884

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lake Athanasio Oyster Reef Demo (BS-XX)

Present Valued Costs Total Discounted Costs $715,003 Amortized Costs $65,537

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$46,670	$21,214	$2,715	$2,715	$761	$0	$0	$0	$74,076
2	1.137	2001	$6,253	$2,842	$4,366	$4,366	$714	$0	$0	$0	$18,540
1	1.066	2002	$0	$0	$2,047	$2,047	$670	$8,530	$100,228	$400,910	$514,432
		Total	$52,923	$24,056	$9,128	$9,128	$2,145	$8,530	$100,228	$400,910	$607,047

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.212	2000	$16,240	$0	$0
2	1.137	2001	$24,615	$0	$0
1	1.066	2002	$23,085	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$20,306	$0	$589
-2	0.880	2003	$19,044	$0	$552
-3	0.825	2004	$0	$3,007	$518
-4	0.774	2005	$0	$0	$0
-5	0.726	2006	$0	$0	$0
-6	0.681	2007	$0	$0	$0
-7	0.638	2008	$0	$0	$0
-8	0.599	2009	$0	$0	$0
-9	0.561	2010	$0	$0	$0
-10	0.527	2011	$0	$0	$0
-11	0.494	2012	$0	$0	$0
-12	0.463	2013	$0	$0	$0
-13	0.434	2014	$0	$0	$0
-14	0.407	2015	$0	$0	$0
-15	0.382	2016	$0	$0	$0
-16	0.358	2017	$0	$0	$0
-17	0.336	2018	$0	$0	$0
-18	0.315	2019	$0	$0	$0
-19	0.296	2020	$0	$0	$0
-20	0.277	2021	$0	$0	$0
		Total	$103,289	$3,007	$1,659

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Lake Athanasio Oyster Reef Demo (BS-XX)

Fully Funded Costs Total Fully Funded Costs $706,608 Amortized Costs $64,767

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspectio	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	1.000	2000	$38,500	$17,500	$2,240	$2,240	$628	$0	$0	$0	$61,108
2	1.033	2001	$5,682	$2,583	$3,967	$3,967	$649	$0	$0	$0	$16,846
1	1.067	2002	$0	$0	$2,049	$2,049	$670	$8,537	$100,306	$401,225	$514,836
		TOTAL	$44,182	$20,083	$8,256	$8,256	$1,947	$8,537	$100,306	$401,225	$592,790

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
3	1.000	2000	$13,397	$0	$0
2	1.033	2001	$22,365	$0	$0
1	1.067	2002	$23,103	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$23,866	$0	$692
-2	1.139	2004	$24,653	$0	$715
-3	1.176	2005	$0	$4,287	$739
-4	1.215	2006	$0	$0	$0
-5	1.255	2007	$0	$0	$0
-6	1.297	2008	$0	$0	$0
-7	1.339	2009	$0	$0	$0
-8	1.384	2010	$0	$0	$0
-9	1.429	2011	$0	$0	$0
-10	1.476	2012	$0	$0	$0
-11	1.525	2013	$0	$0	$0
-12	1.575	2014	$0	$0	$0
-13	1.627	2015	$0	$0	$0
-14	1.681	2016	$0	$0	$0
-15	1.737	2017	$0	$0	$0
-16	1.794	2018	$0	$0	$0
-17	1.853	2019	$0	$0	$0
-18	1.914	2020	$0	$0	$0
-19	1.977	2021	$0	$0	$0
-20	2.043	2022	$0	$0	$0
		Total	$107,384	$4,287	$2,146

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Mandalay Bank Protection Demonstration - (XTE-XX)

Project Construction Years:	2	Total Project Years	7
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$1,101,210	Total Fully Funded Costs	$1,194,494

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$1,164,567	$106,744
Monitoring	$66,799	$6,123
O & M Costs	$9,070	$831
Other Costs	$2,601	$238
Total	$1,243,000	$113,936
Average Annual Habitat Units		NA
Cost Per Habitat Unit		NA
Average Annual Acres of Emergent Marsh		NA

Mandalay Bank Protection Demonstration - (XTE-XX)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
2 Compound	2000	$170,374	$75,000	$14,705	$5,882	$628	$0	$0	$0	$266,589
1 Compound	2001	$0	$0	$23,107	$9,243	$628	$18,750	$151,246	$604,984	$807,958
TOTAL		$170,374	$75,000	$37,812	$15,125	$1,256	$18,750	$151,246	$604,984	$1,074,547

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2000	$25,924	$0	$0
1 Compound	2001	$0	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2002	$15,000	$3,645	$628
2 Discount	2003	$0	$0	$628
3 Discount	2004	$15,000	$3,645	$628
4 Discount	2005	$0	$0	$628
5 Discount	2006	$15,000	$3,645	$628
6 Discount	2007	$0	$0	$0
7 Discount	2008	$0	$0	$0
8 Discount	2009	$0	$0	$0
9 Discount	2010	$0	$0	$0
10 Discount	2011	$0	$0	$0
11 Discount	2012	$0	$0	$0
12 Discount	2013	$0	$0	$0
13 Discount	2014	$0	$0	$0
14 Discount	2015	$0	$0	$0
15 Discount	2016	$0	$0	$0
16 Discount	2017	$0	$0	$0
17 Discount	2018	$0	$0	$0
18 Discount	2019	$0	$0	$0
19 Discount	2020	$0	$0	$0
20 Discount	2021	$0	$0	$0
Total		$70,924	$10,935	$3,140

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Mandalay Bank Protection Demonstration - (XTE-XX)

Present Valued Costs Total Discounted Costs $1,243,038 Amortized Costs $113,936

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212		$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.137	2000	$193,696	$85,267	$16,718	$6,687	$714	$0	$0	$0	$303,082
1	1.066	2001	$0	$0	$24,638	$9,855	$670	$19,992	$161,266	$645,064	$861,486
		Total	$193,696	$85,267	$41,356	$16,543	$1,384	$19,992	$161,266	$645,064	$1,164,567

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2000	$29,473	$0	$0
1	1.066	2001	$0	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$14,068	$3,419	$589
-2	0.880	2003	$0	$0	$552
-3	0.825	2004	$12,374	$3,007	$518
-4	0.774	2005	$0	$0	$486
-5	0.726	2006	$10,884	$2,645	$456
-6	0.681	2007	$0	$0	$0
-7	0.638	2008	$0	$0	$0
-8	0.599	2009	$0	$0	$0
-9	0.561	2010	$0	$0	$0
-10	0.527	2011	$0	$0	$0
-11	0.494	2012	$0	$0	$0
-12	0.463	2013	$0	$0	$0
-13	0.434	2014	$0	$0	$0
-14	0.407	2015	$0	$0	$0
-15	0.382	2016	$0	$0	$0
-16	0.358	2017	$0	$0	$0
-17	0.336	2018	$0	$0	$0
-18	0.315	2019	$0	$0	$0
-19	0.296	2020	$0	$0	$0
-20	0.277	2021	$0	$0	$0
		Total	$66,799	$9,070	$2,601

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Mandalay Bank Protection Demonstration - (XTE-XX)

Fully Funded Costs Total Fully Funded Costs $1,194,494 Amortized Costs $109,487

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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			$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.000	2000	$170,374	$75,000	$14,705	$5,882	$628	$0	$0	$0	$266,589
1	1.033	2001	$0	$0	$23,870	$9,548	$649	$19,369	$156,237	$624,948	$834,621
		TOTAL	$170,374	$75,000	$38,575	$15,430	$1,277	$19,369	$156,237	$624,948	$1,101,210

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.000	2000	$25,924	$0	$0
1	1.033	2001	$0	$0	$0
0	Base Year		$0	$0	$0
-1	1.067	2002	$16,006	$3,890	$670
-2	1.102	2003	$0	$0	$692
-3	1.139	2004	$17,080	$4,150	$715
-4	1.176	2005	$0	$0	$739
-5	1.215	2006	$18,226	$4,429	$763
-6	1.255	2007	$0	$0	$0
-7	1.297	2008	$0	$0	$0
-8	1.339	2009	$0	$0	$0
-9	1.384	2010	$0	$0	$0
-10	1.429	2011	$0	$0	$0
-11	1.476	2012	$0	$0	$0
-12	1.525	2013	$0	$0	$0
-13	1.575	2014	$0	$0	$0
-14	1.627	2015	$0	$0	$0
-15	1.681	2016	$0	$0	$0
-16	1.737	2017	$0	$0	$0
-17	1.794	2018	$0	$0	$0
-18	1.853	2019	$0	$0	$0
-19	1.914	2020	$0	$0	$0
-20	1.977	2021	$0	$0	$0
		Total	$77,237	$12,469	$3,579

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Periodic Introduction of Sediment and Nutrients at Selected Sites along the Mississippi River -(MR-XX)

Project Construction Years:	3	Total Project Years	11
Interest Rate	6.625%	Amortization Factor	0.0916595
Total First Costs	$1,506,784	Total Fully Funded Costs	$1,632,235

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$1,571,397	$144,034
Monitoring	$114,380	$10,484
O & M Costs	$0	$0
Other Costs	$1,659	$152
Total	$1,687,400	$154,670
Average Annual Habitat Units		NA
Cost Per Habitat Unit		NA
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Periodic Introduction of Sediment and Nutrients at Selected Sites along the Mississippi River -(MR-XX)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound	2000	$37,270	$10,640	$6,249	$3,117	$628	$0	$0	$0	$57,904
2 Compound	2001	$0	$0	$10,713	$5,344	$628	$28,932	$93,004	$372,017	$510,638
1 Compound	2002	$0	$0	$10,713	$5,344	$628	$49,598	$159,436	$637,743	$863,462
TOTAL		$37,270	$10,640	$27,675	$13,805	$1,884	$78,530	$252,440	$1,009,760	$1,432,004

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2001	$38,397	$0	$0
1 Compound	2002	$25,000	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2003	$25,000	$0	$628
2 Discount	2004	$0	$0	$628
3 Discount	2005	$25,000	$0	$628
4 Discount	2006	$0	$0	$0
5 Discount	2007	$0	$0	$0
6 Discount	2008	$0	$0	$0
7 Discount	2009	$0	$0	$0
8 Discount	2010	$0	$0	$0
9 Discount	2011	$0	$0	$0
10 Discount	2012	$0	$0	$0
11 Discount	2013	$0	$0	$0
12 Discount	2014	$0	$0	$0
13 Discount	2015	$0	$0	$0
14 Discount	2016	$0	$0	$0
15 Discount	2017	$0	$0	$0
16 Discount	2018	$0	$0	$0
17 Discount	2019	$0	$0	$0
18 Discount	2020	$0	$0	$0
19 Discount	2021	$0	$0	$0
20 Discount	2022	$0	$0	$0
Total		$113,397	$0	$1,884

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Periodic Introduction of Sediment and Nutrients at Selected Sites along the Mississippi River -(MR-XX)

Present Valued Costs Total Discounted Costs **$1,687,436** Amortized Costs **$154,670**

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212	2000	$45,179	$12,898	$7,575	$3,779	$761	$0	$0	$0	$70,192
2	1.137	2001	$0	$0	$12,179	$6,075	$714	$32,893	$105,735	$422,942	$580,539
1	1.066	2002	$0	$0	$11,423	$5,698	$670	$52,884	$169,998	$679,994	$920,666
		Total	$45,179	$12,898	$31,177	$15,552	$2,145	$85,776	$275,734	$1,102,936	$1,571,397

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2001	$43,653	$0	$0
1	1.066	2002	$26,656	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2003	$23,447	$0	$589
-2	0.880	2004	$0	$0	$552
-3	0.825	2005	$20,624	$0	$518
-4	0.774	2006	$0	$0	$0
-5	0.726	2007	$0	$0	$0
-6	0.681	2008	$0	$0	$0
-7	0.638	2009	$0	$0	$0
-8	0.599	2010	$0	$0	$0
-9	0.561	2011	$0	$0	$0
-10	0.527	2012	$0	$0	$0
-11	0.494	2013	$0	$0	$0
-12	0.463	2014	$0	$0	$0
-13	0.434	2015	$0	$0	$0
-14	0.407	2016	$0	$0	$0
-15	0.382	2017	$0	$0	$0
-16	0.358	2018	$0	$0	$0
-17	0.336	2019	$0	$0	$0
-18	0.315	2020	$0	$0	$0
-19	0.296	2021	$0	$0	$0
-20	0.277	2022	$0	$0	$0
		Total	$114,380	$0	$1,659

All dates are in Federal Fiscal Years (October 1 to September 30)

November 24, 1999

Periodic Introduction of Sediment and Nutrients at Selected Sites along the Mississippi River -(MR-XX)

Fully Funded Costs

Total Fully Funded Costs $1,632,235

Amortized Costs $149,610

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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	1.000	2000	$37,270	$10,640	$6,249	$3,117	$628	$0	$0	$0	$57,904
2	1.033	2001	$0	$0	$11,066	$5,520	$649	$29,887	$96,073	$384,293	$527,489
1	1.067	2002	$0	$0	$11,432	$5,702	$670	$52,925	$170,132	$680,529	$921,390
		TOTAL	$37,270	$10,640	$28,747	$14,340	$1,947	$82,812	$266,206	$1,064,822	$1,506,784

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.033	2001	$39,664	$0	$0
1	1.067	2002	$26,677	$0	$0
0	Base Year		$0	$0	$0
-1	1.102	2003	$27,558	$0	$692
-2	1.139	2004	$0	$0	$715
-3	1.176	2005	$29,406	$0	$739
-4	1.215	2006	$0	$0	$0
-5	1.255	2007	$0	$0	$0
-6	1.297	2008	$0	$0	$0
-7	1.339	2009	$0	$0	$0
-8	1.384	2010	$0	$0	$0
-9	1.429	2011	$0	$0	$0
-10	1.476	2012	$0	$0	$0
-11	1.525	2013	$0	$0	$0
-12	1.575	2014	$0	$0	$0
-13	1.627	2015	$0	$0	$0
-14	1.681	2016	$0	$0	$0
-15	1.737	2017	$0	$0	$0
-16	1.794	2018	$0	$0	$0
-17	1.853	2019	$0	$0	$0
-18	1.914	2020	$0	$0	$0
-19	1.977	2021	$0	$0	$0
-20	2.043	2022	$0	$0	$0
		Total	$123,305	$0	$2,146

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Terrebonne Bay Shore Protection Demonstration - (XTE-XX)

Project Construction Years:	2	Total Project Years	10
Interest Rate	6 625%	Amortization Factor	0.0916595
Total First Costs	$678,503	Total Fully Funded Costs	$1,060,774

Annual Charges	Present Worth	Average Annual
Interest & Amortization	$715,984	$65,627
Monitoring	$241,545	$22,140
O & M Costs	$22,085	$2,024
Other Costs	$3,805	$349
Total	$983,400	$90,140
Average Annual Habitat Units		NA
Cost Per Habitat Unit		NA
Average Annual Acres of Emergent Marsh		NA

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Terrebonne Bay Shore Protection Demonstration - (XTE-XX)

First Costs and Annual Charges

Year	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
4 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
3 Compound		$0	$0	$0	$0	$0	$0	$0	$0	$0
2 Compound	2000	$110,840	$30,000	$5,282	$2,641	$628	$0	$0	$0	$149,391
1 Compound	2001	$0	$0	$9,054	$4,527	$628	$50,000	$89,600	$358,400	$512,209
TOTAL		$110,840	$30,000	$14,336	$7,168	$1,256	$50,000	$89,600	$358,400	$661,600

Year	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2 Compound	2000	$41,397	$0	$0
1 Compound	2001	$0	$0	$0
0 Base Year		$0	$0	$0
1 Discount	2002	$63,000	$3,645	$628
2 Discount	2003	$0	$3,645	$628
3 Discount	2004	$63,000	$3,645	$628
4 Discount	2005	$0	$3,645	$628
5 Discount	2006	$63,000	$3,645	$628
6 Discount	2007	$0	$3,645	$628
7 Discount	2008	$0	$3,645	$628
8 Discount	2009	$63,000	$3,645	$628
9 Discount	2010	$0	$0	$0
10 Discount	2011	$0	$0	$0
11 Discount	2012	$0	$0	$0
12 Discount	2013	$0	$0	$0
13 Discount	2014	$0	$0	$0
14 Discount	2015	$0	$0	$0
15 Discount	2016	$0	$0	$0
16 Discount	2017	$0	$0	$0
17 Discount	2018	$0	$0	$0
18 Discount	2019	$0	$0	$0
19 Discount	2020	$0	$0	$0
20 Discount	2021	$0	$0	$0
Total		$293,397	$29,160	$5,024

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Terrebonne Bay Shore Protection Demonstration - (XTE-XX)

Present Valued Costs Total Discounted Costs $983,419 Amortized Costs $90,140

Year	Compound Rates	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	Supervision & Inspection	Contingency	First Cost Construction	Total First Cost
5	1.378		$0	$0	$0	$0	$0	$0	$0	$0	$0
4	1.293		$0	$0	$0	$0	$0	$0	$0	$0	$0
3	1.212		$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.137	2000	$126,013	$34,107	$6,005	$3,002	$714	$0	$0	$0	$169,840
1	1.066	2001	$0	$0	$9,654	$4,827	$670	$53,313	$95,536	$382,144	$546,143
		Total	$126,013	$34,107	$15,659	$7,829	$1,384	$53,313	$95,536	$382,144	$715,984

Year	Discount Rates	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.137	2000	$47,064	$0	$0
1	1.066	2001	$0	$0	$0
0	Base Year		$0	$0	$0
-1	0.938	2002	$59,086	$3,419	$589
-2	0.880	2003	$0	$3,206	$552
-3	0.825	2004	$51,971	$3,007	$518
-4	0.774	2005	$0	$2,820	$486
-5	0.726	2006	$45,714	$2,645	$456
-6	0.681	2007	$0	$2,481	$427
-7	0.638	2008	$0	$2,326	$401
-8	0.599	2009	$37,711	$2,182	$376
-9	0.561	2010	$0	$0	$0
-10	0.527	2011	$0	$0	$0
-11	0.494	2012	$0	$0	$0
-12	0.463	2013	$0	$0	$0
-13	0.434	2014	$0	$0	$0
-14	0.407	2015	$0	$0	$0
-15	0.382	2016	$0	$0	$0
-16	0.358	2017	$0	$0	$0
-17	0.336	2018	$0	$0	$0
-18	0.315	2019	$0	$0	$0
-19	0.296	2020	$0	$0	$0
-20	0.277	2021	$0	$0	$0
		Total	$241,545	$22,085	$3,805

Coastal Wetlands Conservation and Restoration Plan
Priority Project List IX

Terrebonne Bay Shore Protection Demonstration - (XTE-XX)

Fully Funded Costs Total Fully Funded Costs $1,060,774 Amortized Costs $97,230

Year	Inflation Factor	Fiscal Year	Engineering & Design	Easements & Land Rights	Federal Supervision & Administration	LDNR Supervision & Administration	Corps Project Management	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			$0	$0	$0	$0	$0	$0	$0	$0	$0
2	1.000	2000	$110,840	$30,000	$5,282	$2,641	$628	$0	$0	$0	$149,391
1	1.033	2001	$0	$0	$9,353	$4,677	$649	$51,650	$92,557	$370,227	$529,112
		TOTAL	$110,840	$30,000	$14,635	$7,317	$1,277	$51,650	$92,557	$370,227	$678,503

Year	Inflation Factor	Fiscal Year	Monitoring Costs	O&M Costs	Other Costs
2	1.000	2000	$41,397	$0	$0
1	1.033	2001	$0	$0	$0
0	Base Year		$0	$0	$0
-1	1.067	2002	$67,227	$3,890	$670
-2	1.102	2003	$0	$4,018	$692
-3	1.139	2004	$71,737	$4,150	$715
-4	1.176	2005	$0	$4,287	$739
-5	1.215	2006	$76,550	$4,429	$763
-6	1.255	2007	$0	$4,575	$788
-7	1.297	2008	$0	$4,726	$814
-8	1.339	2009	$84,381	$4,882	$841
-9	1.384	2010	$0	$0	$0
-10	1.429	2011	$0	$0	$0
-11	1.476	2012	$0	$0	$0
-12	1.525	2013	$0	$0	$0
-13	1.575	2014	$0	$0	$0
-14	1.627	2015	$0	$0	$0
-15	1.681	2016	$0	$0	$0
-16	1.737	2017	$0	$0	$0
-17	1.794	2018	$0	$0	$0
-18	1.853	2019	$0	$0	$0
-19	1.914	2020	$0	$0	$0
-20	1.977	2021	$0	$0	$0
		Total	$341,291	$34,957	$6,023

All dates are in Federal Fiscal Years (October 1 to September 30)

Coastal Wetlands Planning, Protection, and Restoration Act

9th Priority Project List Report

Appendix E

Wetlands Value Assessment For Candidate Projects

Appendix E

Wetlands Value Assessment For Candidate Projects

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WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XPO-55a Opportunistic Use of the Bonnet Carre Spillway

The WVA analysis for this project includes 2 areas; Area 2 consists of brackish marsh and Area 3 consists of intermediate marsh. Total WVA benefits (AAHUs) for this project are as follows:

Area	AAHUs
2	69
3	52

TOTAL BENEFITS = 121 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Opportunistic Use of the Bonnet Carre Spillway Area 2 — Project Area: 6,171

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	67	0.70	67	0.70	64	0.68
V2	% Aquatic	25	0.33	25	0.33	25	0.33
V3	Interspersion	%		%		%	
	Class 1	10	0.52	10	0.52	10	0.52
	Class 2	50		50		50	
	Class 3	20		20		20	
	Class 4	20		20		20	
	Class 5						
V4	%OW <= 1.5ft	40	0.61	40	0.61	40	0.61
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
	Emergent Marsh HSI	=	**0.76**	**EM HSI =**	**0.76**	**EM HSI =**	**0.74**
	Open Water HSI	=	**0.55**	**OW HSI =**	**0.55**	**OW HSI =**	**0.56**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Opportunistic Use of the Bonnet Carre Spillway Area 2 — Project Area: 6,171

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	67	0.70	67	0.70	66	0.69
V2	% Aquatic	25	0.33	30	0.37	40	0.46
V3	Interspersion	%		%		%	
	Class 1	10	0.52	10	0.52	10	0.52
	Class 2	50		50		50	
	Class 3	20		20		20	
	Class 4	20		20		20	
	Class 5						
V4	%OW <= 1.5ft	40	0.61	40	0.61	40	0.61
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
	Emergent Marsh HSI	=	**0.76**	**EM HSI =**	**0.76**	**EM HSI =**	**0.76**
	Open Water HSI	=	**0.55**	**OW HSI =**	**0.59**	**OW HSI =**	**0.65**

AAHU CALCULATION - EMERGENT MARSH

Project: Opportunistic Use of the Bonnet Carre Spillway Area 2

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	4155	0.76	3166.07	
1	4145	0.76	3158.45	3162.26
20	3968	0.74	2953.73	58055.88
			AAHUs =	3060.91

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	4155	0.76	3166.07	
1	4150	0.76	3162.26	3164.16
20	4060	0.76	3069.93	59204.14
			AAHUs	3118.42

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	3118.42
B. Future Without Project Emergent Marsh AAHUs	=	3060.91
Net Change (FWP - FWOP) =		57.51

AAHU CALCULATION - OPEN WATER

Project: Opportunistic Use of the Bonnet Carre Spillway Area 2

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2016	0.55	1117.61	
1	2026	0.55	1123.15	1120.38
20	2203	0.55	1221.27	22272.03
			AAHUs =	1169.62

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2016	0.55	1117.61	
1	2021	0.59	1185.18	1151.37
20	2111	0.65	1364.14	24201.49
			AAHUs	1267.64

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1267.64
B. Future Without Project Open Water AAHUs	=	1169.62
Net Change (FWP - FWOP) =		98.02

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	57.51
B. Open Water Habitat Net AAHUs	=	98.02
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		68.76

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Opportunistic Use of the Bonnet Carre Spillway
Area 3
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 7,412

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	79	0.81	79	0.81	76	0.78
V2	% Aquatic	60	0.64	60	0.64	60	0.64
V3	Interspersion	%		%		%	
	Class 1	30	0.62	30	0.62	30	0.62
	Class 2	20		20		20	
	Class 3	50		50		50	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	2		2		2	
V6	Access Value						
	fresh		0.78		0.78		0.78
	intermediat	0.72		0.72		0.72	
	Emergent Marsh HSI	=	0.81	EM HSI =	0.81	EM HSI =	0.79
	Open Water HSI	=	0.71	OW HSI =	0.71	OW HSI =	0.71

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Opportunistic Use of the Bonnet Carre Spillway
Area 3
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 7,412

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	79	0.81	79	0.81	77	0.79
V2	% Aquatic	60	0.64	65	0.69	75	0.78
V3	Interspersion	%		%		%	
	Class 1	30	0.62	30	0.62	30	0.62
	Class 2	20		20		20	
	Class 3	50		50		50	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	2		1		1	
V6	Access Value						
	fresh		0.78		0.78		0.78
	intermediat	0.72		0.72		0.72	
	Emergent Marsh HSI	=	0.81	EM HSI =	0.81	EM HSI =	0.79
	Open Water HSI	=	0.71	OW HSI =	0.74	OW HSI =	0.79

AAHU CALCULATION - EMERGENT MARSH

Project: Opportunistic Use of the Bonnet Carre Spillway
Area 3

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	5828	0.81	4698.28	
1	5819	0.81	4691.03	4694.65
20	5656	0.79	4461.09	86936.15
			AAHUs =	4581.54

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	5828	0.81	4698.28	
1	5824	0.81	4695.06	4696.67
20	5741	0.79	4561.54	87934.59
			AAHUs	4631.56

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	4631.56
B. Future Without Project Emergent Marsh AAHUs	=	4581.54
Net Change (FWP - FWOP) =		50.02

AAHU CALCULATION - OPEN WATER

Project: Opportunistic Use of the Bonnet Carre Spillway Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1584	0.71	1121.60	
1	1593	0.71	1127.98	1124.79
20	1756	0.71	1243.40	22528.04
			AAHUs =	1182.64

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1584	0.71	1121.60	
1	1588	0.74	1167.81	1144.69
20	1671	0.79	1317.94	23600.56
			AAHUs	1237.26

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1237.26
B. Future Without Project Open Water AAHUs	=	1182.64
Net Change (FWP - FWOP) =		54.62

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	50.02
B. Open Water Habitat Net AAHUs	=	54.62
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		51.51

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Chandeleur Island Vegetation Planting Project Area: 504

Condition: Future Without Project

Variable		TY 0		TY 1		TY 10	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	6	0.15	6	0.15	4	0.14
V2	% Aquatic	0	0.30	5	0.34	10	0.37
V3	Interspersion	%		%		%	
	Class 1	5	0.24	5	0.24	3	0.22
	Class 2						
	Class 3						
	Class 4	95		95		97	
	Class 5						
V4	%OW <= 1.5ft	100	0.50	100	0.50	100	0.50
V5	Salinity (ppt)	20	1.00	20	1.00	20	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.33**	**EM HSI =**	**0.33**	**EM HSI =**	**0.31**
	Open Water HSI	=	**0.68**	**OW HSI =**	**0.70**	**OW HSI =**	**0.71**

Project: Chandeleur Island Vegetation Planting
FWOP

Variable		TY 11		TY 15		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	12	0.21	44	0.50	42	0.48
V2	% Aquatic	20	0.44	45	0.62	90	0.93
V3	Interspersion	%		%		%	
	Class 1	11	0.29	43	0.54	41	0.53
	Class 2						
	Class 3						
	Class 4	89		57		59	
	Class 5						
V4	%OW <= 1.5ft	100	0.50	100	0.50	100	0.50
V5	Salinity (ppt)	20	1.00	20	1.00	20	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		EM HSI =	**0.38**	**EM HSI =**	**0.63**	**EM HSI =**	**0.62**
		OW HSI =	**0.75**	**OW HSI =**	**0.83**	**OW HSI =**	**0.91**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Chandeleur Island Vegetation Planting Project Area: 504

Condition: Future With Project

Variable		TY 0		TY 1		TY 2	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	6	0.15	43	0.49	80	0.82
V2	% Aquatic	0	0.30	5	0.34	10	0.37
V3	Interspersion	%		%		%	
	Class 1	5	0.24	42	0.54	79	0.83
	Class 2						
	Class 3						
	Class 4	95		58		21	
	Class 5						
V4	%OW <= 1.5ft	100	0.50	100	0.50	100	0.50
V5	Salinity (ppt)	20	1.00	20	1.00	20	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI =		0.33	EM HSI =	0.62	EM HSI =	0.87
	Open Water HSI =		0.68	OW HSI =	0.72	OW HSI =	0.76

Project: Chandeleur Island Vegetation Planting
FWP

Variable		TY 11		TY 20			
		Value	SI	Value	SI	Value	SI
V1	% Emergent	88	0.89	86	0.87		
V2	% Aquatic	75	0.83	90	0.93		
V3	Interspersion	%		%		%	
	Class 1	87	0.90	85	0.88		
	Class 2						
	Class 3						
	Class 4	13		15			
	Class 5						
V4	%OW <= 1.5ft	100	0.50	100	0.50		
V5	Salinity (ppt)	20	1.00	20	1.00		
V6	Access Value	1.00	1.00	1.00	1.00		
	EM HSI =		0.92	EM HSI =	0.91	EM HSI =	
	OW HSI =		0.91	OW HSI =	0.94	OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Chandeleur Island Vegetation Planting

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	30	0.33	9.87	
1	29	0.33	9.54	9.70
10	20	0.31	6.20	70.59
11	60	0.38	22.96	14.10
15	220	0.63	138.87	297.15
20	213	0.62	131.40	675.60
			AAHUs =	53.36

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	30	0.33	9.87	
1	217	0.62	135.43	63.45
2	404	0.87	353.00	236.43
11	446	0.92	412.35	3440.90
20	433	0.91	394.87	3632.25
			AAHUs	368.65

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	368.65
B. Future Without Project Emergent Marsh AAHUs	=	53.36
Net Change (FWP - FWOP) =		315.29

AAHU CALCULATION - OPEN WATER

Project: Chandeleur Island Vegetation Planting

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	474	0.68	322.45	
1	475	0.70	331.52	326.99
10	484	0.71	345.16	3044.88
11	444	0.75	331.93	338.78
15	284	0.83	235.24	1142.97
20	291	0.91	265.40	1251.13
			AAHUs =	305.24

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	474	0.68	322.45	
1	287	0.72	206.60	265.76
2	100	0.76	75.82	142.40
11	58	0.91	52.99	589.44
20	71	0.94	66.61	537.72
			AAHUs	76.77

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	76.77
B. Future Without Project Open Water AAHUs	=	305.24
Net Change (FWP - FWOP) =		-228.47

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	315.29
B. Open Water Habitat Net AAHUs	=	-228.47
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		194.46

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: PME-7a Highway 82 Freshwater Introduction

The WVA for this project includes 4 areas. Total benefits (AAHUs) for this project are as follows:

Area	AAHUs
A1	283
A2	37
B	143
C	90

TOTAL BENEFITS = 553 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Highway 82 Freshwater Introduction Area A1 — Project Area: 6,016

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	78	0.80	78	0.80	75	0.78
V2	% Aquatic	5	0.15	5	0.15	3	0.13
V3	Interspersion	%		%		%	
	Class 1	20	0.68	20	0.68	20	0.68
	Class 2	80		80		80	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.81	55	0.81	55	0.81
V5	Salinity (ppt)	15	0.25	15	0.25	15	0.25
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.76**	**EM HSI =**	**0.76**	**EM HSI =**	**0.74**
	Open Water HSI	=	**0.37**	**OW HSI =**	**0.37**	**OW HSI =**	**0.36**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Highway 82 Freshwater Introduction Area A1 — Project Area: 6,016

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	78	0.80	78	0.80	76	0.78
V2	% Aquatic	5	0.15	10	0.19	15	0.24
V3	Interspersion	%		%		%	
	Class 1	20	0.68	20	0.68	20	0.68
	Class 2	80		80		80	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.81	55	0.81	55	0.81
V5	Salinity (ppt)	15	0.25	11	0.85	11	0.85
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.76**	**EM HSI =**	**0.83**	**EM HSI =**	**0.82**
	Open Water HSI	=	**0.37**	**OW HSI =**	**0.46**	**OW HSI =**	**0.50**

AAHU CALCULATION - EMERGENT MARSH

Project: Highway 82 Freshwater Introduction
Area A1

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	4674	0.76	3550.82	
1	4667	0.76	3545.50	3548.16
20	4527	0.74	3361.89	65612.62
			AAHUs =	3468.04

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	4674	0.76	3550.82	
1	4670	0.83	3859.11	3705.01
20	4585	0.82	3736.78	72157.89
			AAHUs	3793.14

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	3793.14
B. Future Without Project Emergent Marsh AAHUs	=	3458.04
Net Change (FWP - FWOP) =		335.11

AAHU CALCULATION - OPEN WATER

Project: Highway 82 Freshwater Introduction
Area A1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1342	0.37	500.36	
1	1349	0.37	502.97	501.67
20	1489	0.35	527.38	9796.65
			AAHUs =	514.92

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1342	0.37	500.36	
1	1346	0.46	619.54	559.89
20	1431	0.50	714.56	12663.43
			AAHUs	661.17

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	661.17
B. Future Without Project Open Water AAHUs	=	514.92
Net Change (FWP - FWOP) =		146.25

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	335.11
B. Open Water Habitat Net AAHUs	=	146.25
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		282.65

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Highway 82 Freshwater Introduction Area A2 — Project Area: 8,352

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	84	0.86	84	0.86	81	0.83
V2	% Aquatic	5	0.34	5	0.34	4	0.33
V3	Interspersion	%		%		%	
	Class 1	60	0.84	60	0.84	60	0.84
	Class 2	40		40		40	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.81	55	0.81	55	0.81
V5	Salinity (ppt)	20	1.00	20	1.00	20	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.90**	**EM HSI =**	**0.90**	**EM HSI =**	**0.88**
	Open Water HSI	=	**0.77**	**OW HSI =**	**0.77**	**OW HSI =**	**0.76**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Highway 82 Freshwater Introduction Area A2 — Project Area: 8,352

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	84	0.86	84	0.86	82	0.84
V2	% Aquatic	5	0.34	7	0.35	10	0.37
V3	Interspersion	%		%		%	
	Class 1	60	0.84	60	0.84	60	0.84
	Class 2	40		40		40	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.81	55	0.81	55	0.81
V5	Salinity (ppt)	20	1.00	17	1.00	17	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.90**	**EM HSI =**	**0.90**	**EM HSI =**	**0.89**
	Open Water HSI	=	**0.77**	**OW HSI =**	**0.77**	**OW HSI =**	**0.78**

AAHU CALCULATION - EMERGENT MARSH

Project: Highway 82 Freshwater Introduction
Area A2

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	7010	0.90	6285.25	
1	6999	0.90	6275.38	6280.31
20	6789	0.88	5975.49	116372.32
			AAHUs =	6132.63

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	7010	0.90	6285.25	
1	7002	0.90	6278.07	6281.66
20	6862	0.89	6077.44	117372.54
			AAHUs	6182.71

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	6182.71
B. Future Without Project Emergent Marsh AAHUs	=	6132.63
Net Change (FWP - FWOP) =		50.08

AAHU CALCULATION - OPEN WATER

Project: Highway 82 Freshwater Introduction
Area A2

Future Without Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	1342	0.77	1026.83	
1	1353	0.77	1035.25	1031.04
20	1563	0.76	1190.58	21147.66
			AAHUs =	1108.94

Future With Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	1342	0.77	1026.83	
1	1350	0.77	1041.99	1034.40
20	1490	0.78	1164.49	20957.32
			AAHUs	1099.59

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1099.59
B. Future Without Project Open Water AAHUs	=	1108.94
Net Change (FWP - FWOP) =		-9.35

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	50.08
B. Open Water Habitat Net AAHUs	=	-9.35
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		36.87

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Highway 82 Freshwater Introduction
Area B
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 2,970

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	76	0.78	75	0.78	72	0.75
V2	% Aquatic	45	0.51	45	0.51	45	0.51
V3	Interspersion	%		%		%	
	Class 1	15	0.54	15	0.54	15	0.54
	Class 2	25		25		25	
	Class 3	60		60		60	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		0.80		0.80		0.80
	intermediate	5		5		5	
V6	Access Value						
	fresh		0.30		0.30		0.30
	intermediat	0.13		0.13		0.13	
	Emergent Marsh HSI	=	0.67	EM HSI =	0.66	EM HSI =	0.66
	Open Water HSI	=	0.51	OW HSI =	0.51	OW HSI =	0.51

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Highway 82 Freshwater Introduction
Area B
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 2,970

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	76	0.78	76	0.78	76	0.78
V2	% Aquatic	45	0.51	60	0.64	70	0.73
V3	Interspersion	%		%		%	
	Class 1	15	0.54	15	0.54	15	0.54
	Class 2	25		25		25	
	Class 3	60		60		60	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		0.80		1.00		1.00
	intermediate	5		4		4	
V6	Access Value						
	fresh		0.30		0.40		0.40
	intermediat	0.13		0.25		0.25	
	Emergent Marsh HSI	=	0.67	EM HSI =	0.72	EM HSI =	0.72
	Open Water HSI	=	0.61	OW HSI =	0.62	OW HSI =	0.67

Project: Highway 82 Freshwater Introduction
FWP

Variable		TY 13 Value	TY 13 SI	TY 20 Value	TY 20 SI		
V1	% Emergent	76	0.78	76	0.78		
V2	% Aquatic	70	0.73	70	0.73		
V3	Interspersion	%		%		%	
	Class 1	15	0.55	15	0.55		
	Class 2	30		30			
	Class 3	55		55			
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89		
V5	Salinity (ppt)						
	fresh		1.00		1.00		
	intermediate	4		4			
V6	Access Value						
	fresh		0.40		0.40		
	intermediat	0.25		0.25			
		EM HSI =	0.72	EM HSI =	0.72	EM HSI =	
		OW HSI =	0.67	OW HSI =	0.67	OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Highway 82 Freshwater Introduction
Area B

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	2244	0.67	1500.01	
1	2239	0.66	1485.53	1492.76
20	2139	0.65	1387.13	27285.49
			AAHUs =	1438.91

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	2244	0.67	1500.01	
1	2251	0.72	1612.15	1556.02
3	2255	0.72	1615.02	3227.17
13	2262	0.72	1622.54	16187.79
20	2244	0.72	1609.63	11312.61
			AAHUs	1614.18

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	1614.18
B. Future Without Project Emergent Marsh AAHUs	=	1438.91
Net Change (FWP - FWOP) =		175.27

AAHU CALCULATION - OPEN WATER

Project: Highway 82 Freshwater Introduction
Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	726	0.51	370.14	
1	731	0.51	372.69	371.41
20	831	0.51	423.67	7565.36
			AAHUs =	396.84

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	726	0.51	370.14	
1	710	0.62	441.91	406.32
3	715	0.67	477.84	919.68
13	708	0.67	473.69	4757.68
20	726	0.67	485.73	3357.98
			AAHUs	472.08

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	472.08
B. Future Without Project Open Water AAHUs	=	396.84
Net Change (FWP - FWOP) =		75.24

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	175.27
B. Open Water Habitat Net AAHUs	=	75.24
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		143.00

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Highway 82 Freshwater Introduction Area C
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 2,650

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	72	0.75	72	0.75	64	0.68
V2	% Aquatic	35	0.42	35	0.42	35	0.42
V3	Interspersion	%		%		%	
	Class 1	50	0.70	50	0.70	50	0.70
	Class 2						
	Class 3	50		50		50	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	30	0.44	30	0.44	30	0.44
V5	Salinity (ppt)						
	fresh		0.80		0.80		0.80
	intermediate	5		5		5	
V6	Access Value						
	fresh		0.30		0.30		0.30
	intermediat	0.13		0.13		0.13	
	Emergent Marsh HSI	=	0.67	EM HSI =	0.67	EM HSI =	0.63
	Open Water HSI	=	0.44	OW HSI =	0.44	OW HSI =	0.44

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Highway 82 Freshwater Introduction Area C
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 2,650

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	72	0.75	72	0.75	67	0.70
V2	% Aquatic	35	0.42	40	0.46	40	0.46
V3	Interspersion	%		%		%	
	Class 1	50	0.70	50	0.70	50	0.70
	Class 2						
	Class 3	50		50		50	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	30	0.44	30	0.44	30	0.44
V5	Salinity (ppt)						
	fresh		0.80		1.00		1.00
	intermediate	5		4		4	
V6	Access Value						
	fresh		0.30		0.40		0.40
	intermediat	0.13		0.25		0.25	
	Emergent Marsh HSI	=	0.67	EM HSI =	0.71	EM HSI =	0.69
	Open Water HSI	=	0.44	OW HSI =	0.50	OW HSI =	0.50

AAHU CALCULATION - EMERGENT MARSH

Project: Highway 82 Freshwater Introduction
Area C

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1907	0.67	1270.58	
1	1896	0.67	1263.25	1266.92
20	1704	0.63	1066.47	22107.79
			AAHUs =	1168.74

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1907	0.67	1270.58	
1	1900	0.71	1354.76	1312.73
20	1764	0.69	1211.20	24365.24
			AAHUs	1283.90

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	1283.90
B. Future Without Project Emergent Marsh AAHUs	=	1168.74
Net Change (FWP - FWOP) =		115.16

AAHU CALCULATION - OPEN WATER

Project: Highway 82 Freshwater Introduction
Area C

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	743	0.44	327.77	
1	754	0.44	332.62	330.20
20	946	0.44	417.32	7124.50
			AAHUs =	372.73

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	743	0.44	327.77	
1	750	0.50	377.87	352.75
20	886	0.50	446.39	7830.46
			AAHUs	409.16

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	409.16
B. Future Without Project Open Water AAHUs	=	372.73
Net Change (FWP - FWOP) =		36.43

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	115.16
B. Open Water Habitat Net AAHUs	=	36.43
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		89.76

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XPO-54a Southwest Lake Pontchartrain Sediment Trapping Project

The WVA for this project includes 3 areas. Open water benefits in Area B were subtracted from the total project benefits because those would occur only under future without-project conditions. Total benefits for this project are as follows:

Area	AAHUs
A	620
B	101
B-water	-27

TOTAL BENEFITS = 694 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Southwest Lake Pontchartrain Sediment Trapping Project Area A Project Area: 2,032

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	3	0.13	3	0.13	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.10
	Class 2						
	Class 3						
	Class 4	100		100			
	Class 5					100	
V4	%OW <= 1.5ft	22	0.38	22	0.38	22	0.38
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
	Emergent Marsh HSI	=	0.29	EM HSI =	0.29	EM HSI =	0.25
	Open Water HSI	=	0.31	OW HSI =	0.31	OW HSI =	0.31

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Southwest Lake Pontchartrain Sediment Trapping Project Area A Project Area: 2,032

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	3	0.13	8	0.17	29	0.36
V2	% Aquatic	0	0.10	10	0.19	30	0.37
V3	Interspersion	%		%		%	
	Class 1		0.20		0.21		0.25
	Class 2						
	Class 3			5		25	
	Class 4	100		95		75	
	Class 5						
V4	%OW <= 1.5ft	22	0.38	22	0.38	40	0.61
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
	Emergent Marsh HSI	=	0.29	EM HSI =	0.34	EM HSI =	0.49
	Open Water HSI	=	0.31	OW HSI =	0.41	OW HSI =	0.57

Project: Southwest Lake Pontchartrain Sediment Trapping Project
FWP

Variable		TY 8		TY 13		TY 18	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	50	0.55	70	0.73	91	0.92
V2	% Aquatic	40	0.46	50	0.55	50	0.55
V3	Interspersion	%		%		%	
	Class 1	33	0.66	40	0.76	100	1.00
	Class 2	33		60			
	Class 3	34					
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.81	65	0.94	75	1.00
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
		EM HSI =	0.68	EM HSI =	0.81	EM HSI =	0.95
		OW HSI =	0.67	OW HSI =	0.74	OW HSI =	0.77

Project: Southwest Lake Pontchartrain Sediment Trapping Project
FWP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	91	0.92				
V2	% Aquatic	50	0.55				
V3	Interspersion	%		%		%	
	Class 1	100	1.00				
	Class 2						
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	75	1.00				
V5	Salinity (ppt)	4	1.00				
V6	Access Value	1.00	1.00				
		EM HSI =	0.96	EM HSI =		EM HSI =	
		OW HSI =	0.77	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Southwest Lake Pontchartrain Sediment Trapping Project
Area A

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	71	0.29	20.76	
1	67	0.29	19.59	20.17
20	0	0.25	0.00	178.06
			AAHUs =	9.91

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	71	0.29	20.76	
1	171	0.34	57.33	38.33
3	590	0.49	291.51	326.66
8	1009	0.68	682.03	2370.37
13	1428	0.81	1151.11	4537.42
18	1847	0.95	1756.63	7218.73
20	1847	0.95	1756.63	3513.25
			AAHUs	900.24

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	900.24
B. Future Without Project Emergent Marsh AAHUs	=	9.91
Net Change (FWP - FWOP) =		890.33

AAHU CALCULATION - OPEN WATER

Project: Southwest Lake Pontchartrain Sediment Trapping Project
Area A

Future Without Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	1961	0.31	613.05	
1	1965	0.31	614.30	613.68
20	2032	0.31	620.20	11729.32
			AAHUs =	617.15

Future With Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	1961	0.31	613.05	
1	1861	0.41	753.97	685.05
3	1442	0.57	816.79	1593.29
8	1023	0.67	686.60	3795.05
13	604	0.74	448.80	2863.58
18	185	0.77	141.63	1483.93
20	185	0.77	141.63	283.26
			AAHUs	535.21

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	535.21
B. Future Without Project Open Water AAHUs	=	617.15
Net Change (FWP - FWOP) =		-81.94

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	890.33
B. Open Water Habitat Net AAHUs	=	-81.94
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		620.25

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... Southwest Lake Pontchartrain Sediment Trapping Project - Area B Acres: 187

Condition: Future Without Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	No swamp remaining
	Overstory	63	0.60	63	0.60		
	Scrub shrub	21		21			
	Herbaceous	79		79			
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		74		74			
		Cypress dbh		Cypress dbh		Cypress dbh	
		18.4		18.4			
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		26		26			
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		7.5	0.88	7.5	0.88		
V3	Hyrology	Class		Class		Class	
		4	1.00	4	1.00		
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00		
V5	Surrounding Land Use	Values %		Values %		Values %	
	Forest / marsh	100	1.00	100	1.00		
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class		Class		Class	
		4	1.00	4	1.00		
	Distance	Class		Class		Class	
		3		3			
		HSI =	0.82	HSI =	0.82	HSI =	

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... Southwest Lake Pontchartrain Sediment Trapping Project - Area B Acres: 187

Condition: Future With Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	
	Overstory	63	0.60	63	0.60	65	0.60
	Scrub shrub	21		21		25	
	Herbaceous	79		80		80	
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		74		74		75	
		Cypress dbh		Cypress dbh		Cypress dbh	
		18.4		18.4		21	
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		26		26		25	
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		7.5	0.88	7.5	0.88	9.5	0.94
V3	Hyrology	Class		Class		Class	
		4	1.00	4	1.00	4	1.00
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00	5	1.00
V5	Surrounding Land Use	Values %		Values %		Values %	
	Forest / marsh	100	1.00	100	1.00	100	1.00
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class		Class		Class	
		4	1.00	4	1.00	4	1.00
	Distance	Class		Class		Class	
		3		3		3	
		HSI =	0.82	HSI =	0.82	HSI =	0.94

05/02/2000

AAHU CALCULATION, Fresh Swamp

Project: Southwest Lake Pontchartrain Sediment Trapping Project - Area B

Future With Project			Total	Cummulative
TY	Acres	x HSI	HUs	HUs
0	187	0.82	153.45	
1	187	0.82	153.45	153.45
20	187	0.84	156.66	2946.03
			Total CHUs =	3099.48
			AAHUs =	154.97

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HUs	HUs
0	187	0.82	153.45	
1	178	0.82	146.06	149.76
20	0	0.00	0.00	925.07
			Total CHUs =	1074.83
			AAHUs =	53.74

NET CHANGE IN AAHU'S DUE TO PROJECT		
A. Future With Project AAHUs	=	154.97
B. Future Without Project AAHUs	=	53.74
Net Change (FWP - FWOP)	=	101.23

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Southwest Lake Pontchartrain Sediment Trapping Project
Open Water - FWOP Benefits - Area B

Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 187

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	95	0.96	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5					100	
V4	%OW <= 1.5ft	0	0.10	100	0.60	100	0.60
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	4		4		4	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediate	1.00		1.00		1.00	
	Emergent Marsh HSI =		1.00	EM HSI =	0.97	EM HSI =	0.24
	Open Water HSI =		0.29	OW HSI =	0.33	OW HSI =	0.26

AAHU CALCULATION - OPEN WATER

Project: Southwest Lake Pontchartrain Sediment Trapping Project
Open Water - FWOP Benefits - Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.29	0.00	
1	9	0.33	2.98	1.43
20	187	0.26	49.41	535.29
			AAHUs =	26.84

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: PTE-28 South Lake DeCade Freshwater Introduction

The WVA for this project includes 2 areas. Total benefits for this project are as follows:

Area	AAHUs
A	12
B	95

TOTAL BENEFITS = 107 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: South Lake DeCade Freshwater Introduction Area B — Project Area: 2,760

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	62	0.66	62	0.66	60	0.64
V2	% Aquatic	20	0.28	20	0.28	20	0.28
V3	Interspersion	%		%		%	
	Class 1	35	0.67	35	0.67	35	0.67
	Class 2	30		30		30	
	Class 3	35		35		35	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	30	0.49	30	0.49	30	0.49
V5	Salinity (ppt)	6	1.00	6	1.00	5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	**=**	**0.75**	**EM HSI =**	**0.75**	**EM HSI =**	**0.74**
	Open Water HSI	**=**	**0.52**	**OW HSI =**	**0.52**	**OW HSI =**	**0.52**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: South Lake DeCade Freshwater Introduction Area B — Project Area: 2,760

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	62	0.66	62	0.66	60	0.64
V2	% Aquatic	20	0.28	20	0.28	30	0.37
V3	Interspersion	%		%		%	
	Class 1	35	0.67	35	0.67	35	0.67
	Class 2	30		30		30	
	Class 3	35		35		35	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	30	0.49	30	0.49	30	0.49
V5	Salinity (ppt)	6	1.00	5	1.00	5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	**=**	**0.75**	**EM HSI =**	**0.75**	**EM HSI =**	**0.74**
	Open Water HSI	**=**	**0.52**	**OW HSI =**	**0.52**	**OW HSI =**	**0.59**

AAHU CALCULATION - EMERGENT MARSH

Project: South Lake DeCade Freshwater Introduction
Area B

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1714	0.75	1284.18	
1	1711	0.75	1281.93	1283.06
20	1653	0.74	1218.81	23754.89
			AAHUs =	1251.90

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1714	0.75	1284.18	
1	1712	0.75	1282.68	1283.43
20	1668	0.74	1229.87	23867.60
			AAHUs	1267.55

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	1257.55
B. Future Without Project Emergent Marsh AAHUs	=	1251.90
Net Change (FWP - FWOP) =		5.65

AAHU CALCULATION - OPEN WATER

Project: South Lake DeCade Freshwater Introduction
Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1046	0.52	546.07	
1	1049	0.52	547.64	546.86
20	1107	0.52	577.92	10692.78
			AAHUs =	561.98

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1046	0.52	546.07	
1	1048	0.52	547.12	546.59
20	1092	0.59	642.11	11288.50
			AAHUs	591.75

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	591.75
B. Future Without Project Open Water AAHUs	=	561.98
Net Change (FWP - FWOP) =		29.77

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	5.65
B. Open Water Habitat Net AAHUs	=	29.77
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		12.35

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: South Lake DeCade Freshwater Introduction Area A
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 4,025

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	67	0.70	67	0.70	61	0.65
V2	% Aquatic	70	0.73	70	0.73	65	0.69
V3	Interspersion	%		%		%	
	Class 1	40	0.70	40	0.70	35	0.67
	Class 2	30		30		30	
	Class 3	30		30		35	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.72	55	0.72	55	0.72
V5	Salinity (ppt)						
	fresh		0.90		0.90		1.00
	intermediate	4.5		4.5		3.5	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.76	EM HSI =	0.76	EM HSI =	0.73
	Open Water HSI	=	0.79	OW HSI =	0.79	OW HSI =	0.76

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: South Lake DeCade Freshwater Introduction Area A
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 4,025

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	67	0.70	67	0.70	65	0.69
V2	% Aquatic	70	0.73	75	0.78	90	0.91
V3	Interspersion	%		%		%	
	Class 1	40	0.70	40	0.70	40	0.70
	Class 2	30		30		30	
	Class 3	30		30		30	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	55	0.72	55	0.72	60	0.78
V5	Salinity (ppt)						
	fresh		0.90		1.00		1.00
	intermediate	4.5		3.5		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.76	EM HSI =	0.77	EM HSI =	0.76
	Open Water HSI	=	0.79	OW HSI =	0.82	OW HSI =	0.91

AAHU CALCULATION - EMERGENT MARSH

Project: South Lake DeCade Freshwater Introduction
Area A

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	2716	0.76	2057.73	
1	2709	0.76	2052.42	2055.07
20	2447	0.73	1781.53	36398.02
			AAHUs =	1922.65

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	2716	0.76	2057.73	
1	2712	0.77	2084.83	2071.29
20	2633	0.76	1991.45	38721.57
			AAHUs	2039.64

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	2039.64
B. Future Without Project Emergent Marsh AAHUs	=	1922.65
Net Change (FWP - FWOP) =		116.99

AAHU CALCULATION - OPEN WATER

Project: South Lake DeCade Freshwater Introduction
Area A

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1309	0.79	1028.89	
1	1316	0.79	1034.39	1031.64
20	1578	0.76	1203.34	21277.93
			AAHUs =	1115.48

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1309	0.79	1028.89	
1	1313	0.82	1078.77	1053.81
20	1392	0.91	1263.93	22234.04
			AAHUs	1164.39

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1164.39
B. Future Without Project Open Water AAHUs	=	1115.48
Net Change (FWP - FWOP) =		48.91

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	116.99
B. Open Water Habitat Net AAHUs	=	48.91
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		95.03

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XTV-30 Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration

The WVA for this project includes 3 areas. Total benefits for this project are as follows:

Area	AAHUs
1	18
2	81
3	17

TOTAL BENEFITS = 116 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 1
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 105

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	95	0.96	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5					100	
V4	%OW <= 1.5ft	0	0.10	100	0.60	10	0.21
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		2	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	1.00	EM HSI =	0.97	EM HSI =	0.24
	Open Water HSI	=	0.29	OW HSI =	0.33	OW HSI =	0.24

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 1
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 105

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	98	0.98	53	0.58
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00	50	0.60
	Class 2						
	Class 3						
	Class 4					50	
	Class 5						
V4	%OW <= 1.5ft	0	0.10	100	0.60	40	0.55
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		2	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	1.00	EM HSI =	0.99	EM HSI =	0.67
	Open Water HSI	=	0.29	OW HSI =	0.33	OW HSI =	0.30

AAHU CALCULATION - EMERGENT MARSH

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
Area 1

Future Without Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	105	1.00	105.00	
1	100	0.97	97.07	101.01
20	0	0.24	0.00	689.65
			AAHUs =	39.53

Future With Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	105	1.00	105.00	
1	103	0.99	101.80	103.39
20	56	0.67	37.20	1275.88
			AAHUs	68.96

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	68.96
B. Future Without Project Emergent Marsh AAHUs	=	39.53
Net Change (FWP - FWOP) =		29.43

AAHU CALCULATION - OPEN WATER

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
Area 1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.29	0.00	
1	5	0.33	1.65	0.80
20	105	0.24	24.73	280.86
			AAHUs =	14.08

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.29	0.00	
1	2	0.33	0.66	0.32
20	49	0.30	14.58	149.77
			AAHUs	7.50

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	7.50
B. Future Without Project Open Water AAHUs	=	14.08
Net Change (FWP - FWOP) =		-6.58

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	29.43
B. Open Water Habitat Net AAHUs	=	-6.58
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		17.81

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 2 Project Area: 2,194

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	3	0.13	3	0.13	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.10
	Class 2						
	Class 3						
	Class 4	100		100			
	Class 5					100	
V4	%OW <= 1.5ft	5	0.16	5	0.16	8	0.20
V5	Salinity (ppt)	4	1.00	4	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	0.29	EM HSI =	0.29	EM HSI =	0.25
	Open Water HSI	=	0.30	OW HSI =	0.30	OW HSI =	0.29

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 2 Project Area: 2,194

Condition: Future With Project

Variable		TY 0		TY 1		TY 2	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	3	0.13	5	0.15	5	0.15
V2	% Aquatic	0	0.10	0	0.10	5	0.15
V3	Interspersion	%		%		%	
	Class 1		0.20		0.22		0.22
	Class 2						
	Class 3			10		10	
	Class 4	100		90		90	
	Class 5						
V4	%OW <= 1.5ft	5	0.16	5	0.16	8	0.20
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
	Emergent Marsh HSI	=	0.29	EM HSI =	0.31	EM HSI =	0.31
	Open Water HSI	=	0.30	OW HSI =	0.30	OW HSI =	0.35

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
FWP

Variable		TY 9		TY 10		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	4	0.14	5	0.15	8	0.17
V2	% Aquatic	10	0.19	10	0.19	25	0.33
V3	Interspersion	%		%		%	
	Class 1		0.22		0.22		0.23
	Class 2						
	Class 3	10		10		15	
	Class 4	90		90		85	
	Class 5						
V4	%OW <= 1.5ft	15	0.29	16	0.31	32	0.51
V5	Salinity (ppt)	4	1.00	4	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		EM HSI =	0.30	EM HSI =	0.31	EM HSI =	0.34
		OW HSI =	0.40	OW HSI =	0.40	OW HSI =	0.63

AAHU CALCULATION - EMERGENT MARSH

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
Area 2

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	70	0.29	20.47	
1	67	0.29	19.59	20.03
20	0	0.25	0.00	178.06
			AAHUs =	9.90

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	70	0.29	20.47	
1	110	0.31	34.28	27.24
2	106	0.31	33.04	33.66
9	82	0.30	24.86	202.40
10	99	0.31	30.85	27.83
20	167	0.34	56.36	433.14
			AAHUs	36.21

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	36.21
B. Future Without Project Emergent Marsh AAHUs	=	9.90
Net Change (FWP - FWOP) =		26.31

AAHU CALCULATION - OPEN WATER

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 2

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2124	0.30	629.61	
1	2127	0.30	630.50	630.06
20	2194	0.29	640.38	12074.37
			AAHUs =	636.22

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2124	0.30	629.61	
1	2084	0.30	620.84	625.24
2	2088	0.35	729.88	675.33
9	2112	0.40	843.14	5504.19
10	2095	0.40	838.35	840.75
20	2027	0.53	1064.71	9529.52
			AAHUs	858.75

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	858.75
B. Future Without Project Open Water AAHUs	=	635.22
Net Change (FWP - FWOP) =		223.53

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	26.31
B. Open Water Habitat Net AAHUs	=	223.53
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		81.09

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 3 Project Area: 349

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	13	0.22	12	0.21	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.10
	Class 2						
	Class 3						
	Class 4	100		100			
	Class 5					100	
V4	%OW <= 1.5ft	95	0.70	95	0.70	95	0.70
V5	Salinity (ppt)	4	1.00	4	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.37**	**EM HSI =**	**0.37**	**EM HSI =**	**0.25**
	Open Water HSI	=	**0.34**	**OW HSI =**	**0.34**	**OW HSI =**	**0.33**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 3 Project Area: 349

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 2 Value	TY 2 SI
V1	% Emergent	13	0.22	15	0.24	14	0.23
V2	% Aquatic	0	0.10	0	0.10	5	0.15
V3	Interspersion	%		%		%	
	Class 1		0.20		0.24		0.24
	Class 2						
	Class 3			20		20	
	Class 4	100		80		80	
	Class 5						
V4	%OW <= 1.5ft	95	0.70	95	0.70	95	0.70
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
	Emergent Marsh HSI	=	**0.37**	**EM HSI =**	**0.39**	**EM HSI =**	**0.39**
	Open Water HSI	=	**0.34**	**OW HSI =**	**0.34**	**OW HSI =**	**0.39**

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
FWP

Variable		TY 9		TY 10		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	11	0.20	12	0.21	30	0.37
V2	% Aquatic	10	0.19	10	0.19	15	0.24
V3	Interspersion	%		%		%	
	Class 1		0.24		0.24		0.28
	Class 2						
	Class 3	20		20		40	
	Class 4	80		80		60	
	Class 5						
V4	%OW <= 1.5ft	95	0.70	95	0.70	95	0.70
V5	Salinity (ppt)	4	1.00	4	1.00	3	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
		EM HSI =	0.36	EM HSI =	0.37	EM HSI =	0.60
		OW HSI =	0.43	OW HSI =	0.43	OW HSI =	0.47

AAHU CALCULATION - EMERGENT MARSH

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration
Area 3

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	44	0.37	16.43	
1	42	0.37	15.36	15.89
20	0	0.25	0.00	131.15
			AAHUs =	7.35

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	44	0.37	16.43	
1	51	0.39	20.05	18.22
2	50	0.39	19.28	19.66
9	39	0.36	14.13	116.64
10	43	0.37	15.92	15.02
20	104	0.50	52.44	328.16
			AAHUs	24.89

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	24.89
B. Future Without Project Emergent Marsh AAHUs	=	7.35
Net Change (FWP - FWOP) =		17.53

AAHU CALCULATION - OPEN WATER

Project: Four-Mile Cut/Little Vermilion Bay Hydrologic Restoration Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	305	0.34	102.51	
1	307	0.34	103.19	102.85
20	349	0.33	114.72	2071.06
			AAHUs =	108.70

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	305	0.34	102.51	
1	298	0.34	101.04	101.78
2	299	0.39	115.97	108.50
9	310	0.43	133.56	872.82
10	306	0.43	131.84	132.70
20	245	0.47	115.85	1242.75
			AAHUs	122.93

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	122.93
B. Future Without Project Open Water AAHUs	=	108.70
Net Change (FWP - FWOP) =		14.23

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	17.53
B. Open Water Habitat Net AAHUs	=	14.23
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		16.62

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Castille Pass Sediment Delivery

Project Area:
Fresh..... 5,051
Intermediate..

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10	0.2	0.10	3	0.13
V2	% Aquatic	1	0.11	1	0.11	3	0.13
V3	Interspersion	%		%		%	
	Class 1		0.10		0.20		0.20
	Class 2						
	Class 3						
	Class 4			100		100	
	Class 5	100					
V4	%OW <= 1.5ft	2	0.12	2	0.12	6	0.17
V5	Salinity (ppt)						
	fresh	3	0.60	3	0.60	3	0.60
	intermediate						
V6	Access Value						
	fresh	1.00	1.00	1.00	1.00	1.00	1.00
	intermediate						
	Emergent Marsh HSI =		0.19	EM HSI =	0.20	EM HSI =	0.23
	Open Water HSI =		0.21	OW HSI =	0.22	OW HSI =	0.24

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Castille Pass Sediment Delivery

Project Area:
Fresh..... 5,051
Intermediate.

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10	1	0.11	4	0.14
V2	% Aquatic	1	0.11	3	0.13	4	0.14
V3	Interspersion	%		%		%	
	Class 1		0.10		0.20		0.20
	Class 2						
	Class 3						
	Class 4			100		100	
	Class 5	100					
V4	%OW <= 1.5ft	2	0.12	6	0.17	8	0.19
V5	Salinity (ppt)						
	fresh	3	0.60	2.5	0.60	2.5	0.60
	intermediate						
V6	Access Value						
	fresh	1.00	1.00	1.00	1.00	1.00	1.00
	intermediate						
	Emergent Marsh HSI =		0.19	EM HSI =	0.23	EM HSI =	0.26
	Open Water HSI =		0.21	OW HSI =	0.28	OW HSI =	0.26

Project: Castille Pass Sediment Delivery

FWP

Variable		TY 6		TY 9		TY 11	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	6	0.15	8	0.17	9	0.18
V2	% Aquatic	7	0.16	8	0.17	11	0.20
V3	Interspersion	%		%		%	
	Class 1	6	0.25	8	0.26	9	0.27
	Class 2						
	Class 3						
	Class 4	94		92		91	
	Class 5						
V4	%OW <= 1.5ft	14	0.26	16	0.28	22	0.35
V5	Salinity (ppt)						
	fresh	2.5	0.80	2.5	0.80	2.5	0.80
	intermediate						
V6	Access Value						
	fresh	1.00	1.00	1.00	1.00	1.00	1.00
	intermediate						
		EM HSI =	0.28	EM HSI =	0.30	EM HSI =	0.31
		OW HSI =	0.30	OW HSI =	0.31	OW HSI =	0.34

Project: Castille Pass Sediment Delivery

FWP

Variable		TY 14		TY 16		TY 19	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	11	0.20	12	0.21	14	0.23
V2	% Aquatic	13	0.22	15	0.24	17	0.25
V3	Interspersion	%		%		%	
	Class 1	11	0.29	12	0.30	15	0.32
	Class 2						
	Class 3						
	Class 4	89		88		85	
	Class 5						
V4	%OW <= 1.5ft	26	0.39	30	0.44	34	0.48
V5	Salinity (ppt)						
	fresh	2.5	0.80	2.5	0.80	2.5	0.80
	intermediate						
V6	Access Value						
	fresh	1.00	1.00	1.00	1.00	1.00	1.00
	intermediate						
		EM HSI =	0.32	EM HSI =	0.33	EM HSI =	0.35
		OW HSI =	0.36	OW HSI =	0.38	OW HSI =	0.40

Project: Castille Pass Sediment Delivery

FWP

Variable		TY 20 Value	SI	Value	SI	Value	SI
V1	% Emergent	15	0.24				
V2	% Aquatic	17	0.25				
V3	Interspersion	%		%		%	
	Class 1	15	0.32				
	Class 2						
	Class 3						
	Class 4	85					
	Class 5						
V4	%OW <= 1.5ft	34	0.48				
V5	Salinity (ppt)						
	fresh	2.5	0.80				
	intermediate						
V6	Access Value						
	fresh	1.00	1.00				
	intermediate						
		EM HSI =	0.36	EM HSI =		EM HSI =	
		OW HSI =	0.40	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Castille Pass Sediment Delivery

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	0	0.19	0.00	
1	8	0.20	1.64	0.80
20	160	0.23	36.51	351.16
			AAHUs =	17.60

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	0	0.19	0.00	
1	57	0.23	13.33	6.27
3	207	0.26	53.53	65.62
6	282	0.28	78.97	197.96
9	394	0.30	117.26	293.36
11	450	0.31	137.83	254.93
14	562	0.32	181.78	478.46
16	618	0.33	205.14	386.77
19	730	0.35	255.26	689.61
20	749	0.36	267.48	943.05
			AAHUs	166.80

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	166.80
B. Future Without Project Emergent Marsh AAHUs	=	17.60
Net Change (FWP - FWOP) =		148.20

AAHU CALCULATION - OPEN WATER

Project: Castille Pass Sediment Delivery

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	5051	0.21	1052.99	
1	5043	0.22	1088.68	1070.84
20	4891	0.24	1159.82	21370.89
			AAHUs =	1122.09

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	5051	0.21	1052.99	
1	4882	0.25	1230.01	1142.72
3	4844	0.26	1270.74	2500.88
6	4714	0.30	1396.42	4002.94
9	4657	0.31	1431.03	4241.50
11	4546	0.34	1531.48	2963.61
14	4489	0.36	1602.36	4701.34
16	4378	0.38	1646.61	3249.68
19	4321	0.40	1711.81	5038.20
20	4302	0.40	1704.28	6702.79
			AAHUs	1727.18

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1727.18
B. Future Without Project Open Water AAHUs	=	1122.09
Net Change (FWP - FWOP) =		605.10

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	148.20
B. Open Water Habitat Net AAHUs	=	605.10
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		296.69

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: PPO-7a LaBranche Wetlands Terracing/Plantings

The WVA for this project includes 3 areas. Total benefits for this project are as follows:

Area	AAHUs
A	21
C	61
D	77
E	12
Z	27

TOTAL BENEFITS = 198 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area A — Project Area: 477

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	48	0.53	48	0.53	46	0.51
V2	% Aquatic	45	0.51	45	0.51	45	0.51
V3	Interspersion	%		%		%	
	Class 1		0.32		0.32		0.31
	Class 2						
	Class 3	60		60		55	
	Class 4	40		40		45	
	Class 5						
V4	%OW <= 1.5ft	15	0.29	15	0.29	15	0.29
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
	Emergent Marsh HSI =		0.63	EM HSI =	0.63	EM HSI =	0.61
	Open Water HSI =		0.64	OW HSI =	0.64	OW HSI =	0.63

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area A — Project Area: 477

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 3 Value	TY 3 SI
V1	% Emergent	48	0.53	51	0.56	53	0.58
V2	% Aquatic	45	0.51	50	0.55	65	0.69
V3	Interspersion	%		%		%	
	Class 1		0.32		0.40		0.40
	Class 2						
	Class 3	60		100		100	
	Class 4	40					
	Class 5						
V4	%OW <= 1.5ft	15	0.29	15	0.29	15	0.29
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
	Emergent Marsh HSI =		0.63	EM HSI =	0.65	EM HSI =	0.67
	Open Water HSI =		0.64	OW HSI =	0.67	OW HSI =	0.75

Project: LaBranche Wetlands Terracing/Plantings
FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	52	0.57				
V2	% Aquatic	65	0.69				
V3	Interspersion	%		%		%	
	Class 1		0.40				
	Class 2						
	Class 3	100					
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	15	0.29				
V5	Salinity (ppt)	4	1.00				
V6	Access Value	1.00	1.00				
		EM HSI =	0.66	EM HSI =		EM HSI =	
		OW HSI =	0.75	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: LaBranche Wetlands Terracing/Plantings
Area A

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	231	0.63	144.45	
1	230	0.63	143.82	144.14
20	221	0.61	135.19	2650.19
			AAHUs =	139.72

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	231	0.63	144.45	
1	244	0.65	159.28	151.80
3	255	0.67	169.59	328.82
20	250	0.66	164.73	2841.65
			AAHUs	166.11

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	166.11
B. Future Without Project Emergent Marsh AAHUs	=	139.72
Net Change (FWP - FWOP) =		26.40

AAHU CALCULATION - OPEN WATER

Project: LaBranche Wetlands Terracing/Plantings
Area A

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	246	0.64	156.38	
1	247	0.64	157.02	156.70
20	256	0.63	162.55	3035.86
			AAHUs =	159.63

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	246	0.64	156.38	
1	221	0.67	147.79	152.22
3	222	0.75	165.44	313.21
20	227	0.75	169.17	2844.16
			AAHUs	165.48

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	165.48
B. Future Without Project Open Water AAHUs	=	159.63
Net Change (FWP - FWOP) =		5.85

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	26.40
B. Open Water Habitat Net AAHUs	=	5.85
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		20.69

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: LaBranche Wetlands Terracing/Plantings
Area C
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 2,502

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	49	0.54	49	0.54	47	0.52
V2	% Aquatic	65	0.69	65	0.69	65	0.69
V3	Interspersion	%		%		%	
	Class 1		0.30		0.30		0.30
	Class 2						
	Class 3	50		50		50	
	Class 4	50		50		50	
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	90	1.00
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	2		2		2	
V6	Access Value						
	fresh		0.78		0.78		0.78
	intermediat	0.72		0.72		0.72	
	Emergent Marsh HSI	=	0.69	EM HSI =	0.69	EM HSI =	0.68
	Open Water HSI	=	0.72	OW HSI =	0.72	OW HSI =	0.72

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: LaBranche Wetlands Terracing/Plantings
Area C
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 2,502

Variable		TY 0		TY 1		TY 2	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	49	0.54	51	0.56	53	0.58
V2	% Aquatic	65	0.69	65	0.69	65	0.69
V3	Interspersion	%		%		%	
	Class 1		0.30		0.30		0.31
	Class 2						
	Class 3	50		50		55	
	Class 4	50		50		45	
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	89	1.00
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	2		2		2	
V6	Access Value						
	fresh		0.78		0.78		0.78
	intermediat	0.72		0.72		0.72	
	Emergent Marsh HSI	=	0.69	EM HSI =	0.60	EM HSI =	0.62
	Open Water HSI	=	0.72	OW HSI =	0.72	OW HSI =	0.72

Project: LaBranche Wetlands Terracing/Plantings

FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	56	0.60				
V2	% Aquatic	65	0.69				
V3	Interspersion	%		%		%	
	Class 1		0.32				
	Class 2						
	Class 3	60					
	Class 4	40					
	Class 5						
V4	%OW <= 1.5ft	87	1.00				
V5	Salinity (ppt)						
	fresh		1.00				
	intermediate	2					
V6	Access Value						
	fresh		0.78				
	intermediat	0.72					
		EM HSI =	0.64	EM HSI =		EM HSI =	
		OW HSI =	0.72	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: LaBranche Wetlands Terracing/Plantings
Area C

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	1216	0.59	719.02	
1	1214	0.59	717.83	718.42
20	1180	0.58	683.07	13307.24
			AAHUs =	701.28

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	1216	0.59	719.02	
1	1265	0.60	763.62	741.22
2	1314	0.62	810.81	787.10
20	1396	0.64	888.53	15289.21
			AAHUs	840.88

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	840.88
B. Future Without Project Emergent Marsh AAHUs	=	701.28
Net Change (FWP - FWOP) =		139.59

AAHU CALCULATION - OPEN WATER

Project: LaBranche Wetlands Terracing/Plantings
Area C

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1288	0.72	925.95	
1	1288	0.72	927.39	926.67
20	1322	0.72	951.87	17852.99
			AAHUs =	938.98

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1288	0.72	925.95	
1	1237	0.72	890.67	908.31
2	1188	0.72	856.27	873.47
20	1106	0.72	797.98	14888.46
			AAHUs	833.51

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	833.51
B. Future Without Project Open Water AAHUs	=	938.98
Net Change (FWP - FWOP) =		-105.47

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	139.59
B. Open Water Habitat Net AAHUs	=	-105.47
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		60.64

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area D — Project Area: 1,246

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	35	0.42	35	0.42	33	0.40
V2	% Aquatic	30	0.37	30	0.37	20	0.28
V3	Interspersion	%		%		%	
	Class 1	20	0.36	20	0.36	20	0.36
	Class 2						
	Class 3						
	Class 4	80		80		80	
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
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
	Emergent Marsh HSI	=	0.66	EM HSI =	0.66	EM HSI =	0.63
	Open Water HSI	=	0.69	OW HSI =	0.69	OW HSI =	0.63

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area D — Project Area: 1,246

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	35	0.42	39	0.45	42	0.48
V2	% Aquatic	30	0.37	35	0.42	50	0.55
V3	Interspersion	%		%		%	
	Class 1	20	0.36	20	0.52	20	0.52
	Class 2						
	Class 3			80		80	
	Class 4	80					
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
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
	Emergent Marsh HSI	=	0.66	EM HSI =	0.69	EM HSI =	0.61
	Open Water HSI	=	0.69	OW HSI =	0.64	OW HSI =	0.72

Project: LaBranche Wetlands Terracing/Plantings
FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	42	0.48				
V2	% Aquatic	50	0.55				
V3	Interspersion	%		%		%	
	Class 1	20	0.52				
	Class 2						
	Class 3	80					
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	60	0.87				
V5	Salinity (ppt)	4	1.00				
V6	Access Value	1.00	1.00				
		EM HSI =	0.61	EM HSI =		EM HSI =	
		OW HSI =	0.72	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: LaBranche Wetlands Terracing/Plantings
Area D

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	431	0.55	235.55	
1	430	0.55	235.00	235.28
20	412	0.53	219.70	4318.96
			AAHUs =	227.71

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	431	0.55	235.55	
1	480	0.59	283.41	259.12
3	529	0.61	322.54	605.63
20	518	0.61	315.83	5426.11
			AAHUs	314.64

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	314.54
B. Future Without Project Emergent Marsh AAHUs	=	227.71
Net Change (FWP - FWOP) =		86.83

AAHU CALCULATION - OPEN WATER

Project: LaBranche Wetlands Terracing/Plantings
Area D

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	815	0.59	483.81	
1	816	0.59	484.40	484.11
20	834	0.53	440.08	8786.34
			AAHUs =	463.52

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	815	0.59	483.81	
1	716	0.64	455.39	470.30
3	717	0.72	516.60	971.96
20	728	0.72	524.52	8849.51
			AAHUs	514.59

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	514.59
B. Future Without Project Open Water AAHUs	=	463.52
Net Change (FWP - FWOP) =		51.07

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	86.83
B. Open Water Habitat Net AAHUs	=	51.07
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		76.90

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: LaBranche Wetlands Terracing/Plantings
Area E
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 30

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	7	0.16	7	0.16
V2	% Aquatic	50	0.55	50	0.55	50	0.55
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.20
	Class 2						
	Class 3						
	Class 4	100		100		100	
	Class 5						
V4	%OW <= 1.5ft	50	0.66	50	0.66	50	0.66
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	4		4		4	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.30	EM HSI =	0.30	EM HSI =	0.30
	Open Water HSI	=	0.63	OW HSI =	0.63	OW HSI =	0.63

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: LaBranche Wetlands Terracing/Plantings
Area E
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 30

Variable		TY 0		TY 1		TY 2	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	7	0.16	53	0.58	95	0.96
V2	% Aquatic	50	0.55	60	0.64	90	0.91
V3	Interspersion	%		%		%	
	Class 1		0.20		0.60	100	1.00
	Class 2			100			
	Class 3						
	Class 4	100					
	Class 5						
V4	%OW <= 1.5ft	50	0.66	50	0.66	50	0.66
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	4		4		4	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.30	EM HSI =	0.67	EM HSI =	0.97
	Open Water HSI	=	0.63	OW HSI =	0.72	OW HSI =	0.92

Project: LaBranche Wetlands Terracing/Plantings
FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	95	0.96				
V2	% Aquatic	90	0.91				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	% 100	 1.00	%		%	
V4	%OW <= 1.5ft	50	0.66				
V5	Salinity (ppt) fresh intermediate	 4	 1.00				
V6	Access Value fresh intermediat	 1.00	 1.00				
		EM HSI =	0.97	EM HSI =		EM HSI =	
		OW HSI =	0.92	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: LaBranche Wetlands Terracing/Plantings
Area E

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	2	0.30	0.61	
1	2	0.30	0.61	0.61
20	2	0.30	0.61	11.58
			AAHUs =	0.61

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	2	0.30	0.61	
1	16	0.67	10.71	4.81
2	29	0.97	28.15	18.78
20	29	0.97	28.15	506.72
			AAHUs	26.52

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	26.52
B. Future Without Project Emergent Marsh AAHUs	=	0.61
Net Change (FWP - FWOP) =		25.91

AAHU CALCULATION - OPEN WATER

Project: LaBranche Wetlands Terracing/Plantings
Area E

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	28	0.63	17.77	
1	28	0.63	17.77	17.77
20	28	0.63	17.77	337.66
			AAHUs =	17.77

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	28	0.63	17.77	
1	14	0.72	10.14	14.16
2	1	0.92	0.92	5.96
20	1	0.92	0.92	16.59
			AAHUs	1.84

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1.84
B. Future Without Project Open Water AAHUs	=	17.77
Net Change (FWP - FWOP) =		-15.94

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	25.91
B. Open Water Habitat Net AAHUs	=	-15.94
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		12.41

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area Z
Project Area: 250
Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	12	0.21	12	0.21	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.10
	Class 2						
	Class 3						
	Class 4	100		100			
	Class 5					100	
V4	%OW <= 1.5ft	22	0.38	22	0.38	20	0.36
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
	Emergent Marsh HSI	=	**0.37**	**EM HSI =**	**0.37**	**EM HSI =**	**0.25**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: LaBranche Wetlands Terracing/Plantings Area Z
Project Area: 250
Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	12	0.21	14	0.23	45	0.51
V2	% Aquatic	0	0.10	5	0.15	36	0.42
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20	40	0.52
	Class 2						
	Class 3						
	Class 4	100		100		60	
	Class 5						
V4	%OW <= 1.5ft	22	0.38	22	0.38	50	0.74
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
	Emergent Marsh HSI	=	**0.37**	**EM HSI =**	**0.38**	**EM HSI =**	**0.63**
	Open Water HSI	=	**0.31**	**OW HSI =**	**0.36**	**OW HSI =**	**0.63**

AAHU CALCULATION - EMERGENT MARSH

Project: LaBranche Wetlands Terracing/Plantings
Area Z

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	30	0.37	10.97	
1	29	0.37	10.61	10.79
20	0	0.25	0.00	90.55
			AAHUs =	5.07

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	30	0.37	10.97	
1	34	0.38	12.96	11.95
20	111	0.63	69.79	725.71
			AAHUs	36.88

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	36.88
B. Future Without Project Emergent Marsh AAHUs	=	5.07
Net Change (FWP - FWOP) =		31.82

AAHU CALCULATION - OPEN WATER

Project: LaBranche Wetlands Terracing/Plantings
Area Z

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	220	0.31	68.78	
1	221	0.31	69.09	68.93
20	250	0.30	75.83	1377.57
			AAHUs =	72.32

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	220	0.31	68.78	
1	216	0.36	78.07	73.45
20	139	0.63	87.91	1642.84
			AAHUs	85.81

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	85.81
B. Future Without Project Open Water AAHUs	=	72.32
Net Change (FWP - FWOP) =		13.49

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	31.82
B. Open Water Habitat Net AAHUs	=	13.49
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		26.73

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: CS-16 Black Bayou Bypass Culverts

The WVA for this project includes 5 areas. Total benefits for this project are as follows:

Area	AAHUs
1	25
2a	33
2b	61
3	41
4	2

TOTAL BENEFITS = 162 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 1
Condition: Future Without Project

Project Area:
Fresh..... 5,127
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	76	0.78	76	0.78	69	0.72
V2	% Aquatic	10	0.19	10	0.19	10	0.19
V3	Interspersion	%		%		%	
	Class 1	75	0.85	75	0.85	70	0.83
	Class 2					5	
	Class 3	25		25		25	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	48	0.64	48	0.64	48	0.64
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI =		0.74	EM HSI =	0.74	EM HSI =	0.71
	Open Water HSI =		0.36	OW HSI =	0.36	OW HSI =	0.36

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 1
Condition: Future With Project

Project Area:
Fresh..... 5,127
Intermediate.

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	76	0.78	76	0.78	70	0.73
V2	% Aquatic	10	0.19	10	0.19	10	0.19
V3	Interspersion	%		%		%	
	Class 1	75	0.85	75	0.85	70	0.83
	Class 2					5	
	Class 3	25		25		25	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	48	0.64	50	0.66	50	0.66
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.11	0.38	0.11	0.38
	intermediate						
	Emergent Marsh HSI =		0.74	EM HSI =	0.75	EM HSI =	0.71
	Open Water HSI =		0.36	OW HSI =	0.36	OW HSI =	0.36

AAHU CALCULATION - EMERGENT MARSH

Project: Black Bayou Bypass Culverts
Area 1

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	3906	0.74	2904.51	
1	3886	0.74	2889.63	2897.07
20	3521	0.71	2482.66	50992.27
			AAHUs =	2694.47

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	3906	0.74	2904.51	
1	3890	0.75	2899.16	2901.84
20	3595	0.71	2559.28	51823.98
			AAHUs	2736.29

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	2736.29
B. Future Without Project Emergent Marsh AAHUs	=	2694.47
Net Change (FWP - FWOP) =		41.82

AAHU CALCULATION - OPEN WATER

Project: Black Bayou Bypass Culverts
Area 1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1221	0.36	438.36	
1	1241	0.36	445.54	441.95
20	1606	0.36	574.20	9689.21
			AAHUs =	506.56

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1221	0.36	438.36	
1	1237	0.36	447.18	442.76
20	1532	0.36	551.55	9489.30
			AAHUs	496.60

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	496.60
B. Future Without Project Open Water AAHUs	=	506.56
Net Change (FWP - FWOP) =		-9.95

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	41.82
B. Open Water Habitat Net AAHUs	=	-9.95
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		25.12

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 2A
Condition: Future Without Project

Project Area:
Fresh..... 12,902
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	49	0.54	49	0.54	44	0.50
V2	% Aquatic	45	0.51	45	0.51	45	0.51
V3	Interspersion	%		%		%	
	Class 1	20	0.42	20	0.42	15	0.38
	Class 2						
	Class 3	30		30		30	
	Class 4	50		50		55	
	Class 5						
V4	%OW <= 1.5ft	45	0.61	45	0.61	45	0.61
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI =		0.55	EM HSI =	0.55	EM HSI =	0.52
	Open Water HSI =		0.51	OW HSI =	0.51	OW HSI =	0.51

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 2A
Condition: Future With Project

Project Area:
Fresh..... 12,902
Intermediate.

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	49	0.54	49	0.54	45	0.51
V2	% Aquatic	45	0.51	45	0.51	45	0.51
V3	Interspersion	%		%		%	
	Class 1	20	0.42	20	0.42	15	0.38
	Class 2						
	Class 3	30		30		30	
	Class 4	50		50		55	
	Class 5						
V4	%OW <= 1.5ft	45	0.61	48	0.64	48	0.64
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.11	0.38	0.11	0.38
	intermediate						
	Emergent Marsh HSI =		0.55	EM HSI =	0.55	EM HSI =	0.53
	Open Water HSI =		0.51	OW HSI =	0.52	OW HSI =	0.51

AAHU CALCULATION - EMERGENT MARSH

Project: Black Bayou Bypass Culverts
Area 2A

Future Without Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	6344	0.55	3506.57	
1	6311	0.55	3488.33	3497.45
20	5710	0.52	2973.31	61324.68
			AAHUs =	3241.11

Future With Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	6344	0.55	3506.57	
1	6316	0.55	3498.90	3502.74
20	5801	0.53	3059.65	62262.88
			AAHUs	3288.28

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	3288.28
B. Future Without Project Emergent Marsh AAHUs	=	3241.11
Net Change (FWP - FWOP) =		47.17

AAHU CALCULATION - OPEN WATER

Project: Black Bayou Bypass Culverts
Area 2A

Future Without Project TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	6568	0.51	3372.56	
1	6591	0.51	3384.37	3378.47
20	7192	0.51	3671.67	67038.00
			AAHUs =	3520.82

Future With Project TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	6568	0.51	3372.56	
1	6586	0.52	3409.51	3391.02
20	7101	0.51	3655.08	67118.44
			AAHUs	3525.47

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	3525.47
B. Future Without Project Open Water AAHUs	=	3520.82
Net Change (FWP - FWOP) =		4.65

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	47.17
B. Open Water Habitat Net AAHUs	=	4.65
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		33.46

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 2B
Condition: Future Without Project

Project Area:
Fresh..... 21,768
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	70	0.73	70	0.73	70	0.73
V2	% Aquatic	90	0.91	90	0.91	90	0.91
V3	Interspersion	%		%		%	
	Class 1	50	0.72	50	0.72	50	0.72
	Class 2	10		10		10	
	Class 3	40		40		40	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	90	1.00
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI	=	0.70	EM HSI =	0.70	EM HSI =	0.70
	Open Water HSI	=	0.77	OW HSI =	0.77	OW HSI =	0.77

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 2B
Condition: Future With Project

Project Area:
Fresh..... 21,768
Intermediate.

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	70	0.73	70	0.73	71	0.74
V2	% Aquatic	90	0.91	90	0.91	90	0.91
V3	Interspersion	%		%		%	
	Class 1	50	0.72	50	0.72	50	0.72
	Class 2	10		10		10	
	Class 3	40		40		40	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	90	1.00
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.105	0.37	0.105	0.37
	intermediate						
	Emergent Marsh HSI	=	0.70	EM HSI =	0.70	EM HSI =	0.70
	Open Water HSI	=	0.77	OW HSI =	0.77	OW HSI =	0.77

AAHU CALCULATION - EMERGENT MARSH

Project: Black Bayou Bypass Culverts
Area 2B

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	15236	0.70	10636.13	
1	15236	0.70	10636.13	10636.13
20	15236	0.70	10636.13	202086.45
			AAHUs =	10636.13

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	15236	0.70	10636.13	
1	15247	0.70	10655.95	10646.04
20	15455	0.70	10881.86	204605.73
			AAHUs	10762.59

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	10762.59
B. Future Without Project Emergent Marsh AAHUs	=	10636.13
Net Change (FWP - FWOP) =		126.46

AAHU CALCULATION - OPEN WATER

Project: Black Bayou Bypass Culverts
Area 2B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	6532	0.77	5007.83	
1	6532	0.77	5007.83	5007.83
20	6532	0.77	5007.83	95148.86
			AAHUs =	5007.83

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	6532	0.77	5007.83	
1	6521	0.77	5008.09	5007.96
20	6313	0.77	4848.34	93636.09
			AAHUs	4932.20

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	4932.20
B. Future Without Project Open Water AAHUs	=	5007.83
Net Change (FWP - FWOP) =		-75.63

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	126.46
B. Open Water Habitat Net AAHUs	=	-75.63
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		61.27

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 3
Condition: Future Without Project

Project Area:
Fresh..... 31,117
Intermediate..

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	80	0.82	80	0.82	80	0.82
V2	% Aquatic	90	0.91	90	0.91	90	0.91
V3	Interspersion	%		%		%	
	Class 1	70	0.84	70	0.84	70	0.84
	Class 2	10		10		10	
	Class 3	20		20		20	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	90	1.00
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI	=	0.76	EM HSI =	0.76	EM HSI =	0.76
	Open Water HSI	=	0.76	OW HSI =	0.76	OW HSI =	0.76

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Black Bayou Bypass Culverts
Area 3
Condition: Future With Project

Project Area:
Fresh..... 31,117
Intermediate.

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	80	0.82	80	0.82	80.5	0.82
V2	% Aquatic	90	0.91	90	0.91	90	0.91
V3	Interspersion	%		%		%	
	Class 1	70	0.84	70	0.84	70	0.84
	Class 2	10		10		10	
	Class 3	20		20		20	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	90	1.00	90	1.00	90	1.00
V5	Salinity (ppt)						
	fresh	0	1.00	0	1.00	0	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI	=	0.76	EM HSI =	0.76	EM HSI =	0.77
	Open Water HSI	=	0.76	OW HSI =	0.76	OW HSI =	0.76

AAHU CALCULATION - EMERGENT MARSH

Project: Black Bayou Bypass Culverts
Area 3

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	24894	0.76	18994.15	
1	24894	0.76	18994.15	18994.15
20	24894	0.76	18994.15	360888.92
			AAHUs =	18994.15

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	24894	0.76	18994.15	
1	24902	0.76	19000.26	18997.21
20	25050	0.77	19177.14	362684.08
			AAHUs	19084.06

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	19084.06
B. Future Without Project Emergent Marsh AAHUs	=	18994.15
Net Change (FWP - FWOP) =		89.91

AAHU CALCULATION - OPEN WATER

Project: Black Bayou Bypass Culverts
Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	6223	0.78	4826.25	
1	6223	0.78	4826.25	4826.25
20	6223	0.78	4826.25	91698.78
			AAHUs =	4826.25

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	6223	0.78	4826.25	
1	6215	0.78	4820.05	4823.15
20	6067	0.78	4705.27	90490.48
			AAHUs	4765.68

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	4765.68
B. Future Without Project Open Water AAHUs	=	4826.25
Net Change (FWP - FWOP) =		-60.57

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	89.91
B. Open Water Habitat Net AAHUs	=	-60.57
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		41.37

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Black Bayou Bypass Culverts
Area 4
Project Area: 1,464

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	56	0.60	55	0.60	53	0.58
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	40	0.52	40	0.52	40	0.52
	Class 2						
	Class 3						
	Class 4	60		60		60	
	Class 5						
V4	%OW <= 1.5ft	25	0.42	25	0.42	25	0.42
V5	Salinity (ppt)	10	1.00	10	1.00	10	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.70**	**EM HSI =**	**0.69**	**EM HSI =**	**0.68**
	Open Water HSI	=	**0.34**	**OW HSI =**	**0.34**	**OW HSI =**	**0.34**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Black Bayou Bypass Culverts
Area 4
Project Area: 1,464

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	56	0.60	55	0.60	53	0.58
V2	% Aquatic	0	0.10	1	0.11	1	0.11
V3	Interspersion	%		%		%	
	Class 1	40	0.52	40	0.52	40	0.52
	Class 2						
	Class 3						
	Class 4	60		60		60	
	Class 5						
V4	%OW <= 1.5ft	25	0.42	25	0.42	25	0.42
V5	Salinity (ppt)	10	1.00	10	1.00	10	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.70**	**EM HSI =**	**0.69**	**EM HSI =**	**0.68**
	Open Water HSI	=	**0.34**	**OW HSI =**	**0.35**	**OW HSI =**	**0.35**

AAHU CALCULATION - EMERGENT MARSH

Project: Black Bayou Bypass Culverts
Area 4

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	813	0.70	566.36	
1	811	0.69	560.05	563.21
20	782	0.68	530.50	10359.15
			AAHUs =	546.12

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	813	0.70	566.36	
1	811	0.69	560.05	563.21
20	782	0.68	530.50	10359.15
			AAHUs	546.12

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	546.12
B. Future Without Project Emergent Marsh AAHUs	=	546.12
Net Change (FWP - FWOP) =		0.00

AAHU CALCULATION - OPEN WATER

Project: Black Bayou Bypass Culverts
Area 4

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	651	0.34	220.81	
1	653	0.34	221.49	221.15
20	682	0.34	231.32	4301.70
			AAHUs =	226.14

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	651	0.34	220.81	
1	653	0.35	228.26	224.53
20	682	0.35	238.39	4433.19
			AAHUs	232.89

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	232.89
B. Future Without Project Open Water AAHUs	=	226.14
Net Change (FWP - FWOP) =		6.74

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	0.00
B. Open Water Habitat Net AAHUs	=	6.74
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		1.87

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: GIWW Bank Stabilization - Perry Ridge to Texas

Project Area:
Fresh.....
Intermediate. 1,132

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	43	0.49	43	0.49	34	0.41
V2	% Aquatic	55	0.60	55	0.60	50	0.55
V3	Interspersion	%		%		%	
	Class 1		0.32		0.32		0.28
	Class 2	20		20		10	
	Class 3	20		20		20	
	Class 4	60		60		70	
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	65	0.83
V5	Salinity (ppt)						
	fresh		1.00		1.00		0.60
	intermediate	4		4		6	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI =		0.67	EM HSI =	0.67	EM HSI =	0.46
	Open Water HSI =		0.69	OW HSI =	0.69	OW HSI =	0.62

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: GIWW Bank Stabilization - Perry Ridge to Texas

Project Area:
Fresh.....
Intermediate. 1,132

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 3 Value	TY 3 SI
V1	% Emergent	43	0.49	43	0.49	43	0.49
V2	% Aquatic	55	0.60	55	0.60	65	0.69
V3	Interspersion	%		%		%	
	Class 1		0.32		0.34		0.34
	Class 2	20		25		25	
	Class 3	20		20		20	
	Class 4	60		55		55	
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	4		4		4	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI =		0.67	EM HSI =	0.68	EM HSI =	0.68
	Open Water HSI =		0.69	OW HSI =	0.69	OW HSI =	0.75

05/02/2000

Project: GIWW Bank Stabilization - Perry Ridge to Texas

FWP

Variable		TY 10 Value	TY 10 SI	TY 20 Value	TY 20 SI		
V1	% Emergent	43	0.49	41	0.47		
V2	% Aquatic	65	0.69	65	0.69		
V3	Interspersion	%		%		%	
	Class 1		0.34		0.34		
	Class 2	25		25			
	Class 3	20		20			
	Class 4	55		55			
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89		
V5	Salinity (ppt)						
	fresh		1.00		1.00		
	intermediate	4		4			
V6	Access Value						
	fresh		1.00		1.00		
	intermediat	1.00		1.00			
		EM HSI =	0.58	EM HSI =	0.56	EM HSI =	
		OW HSI =	0.75	OW HSI =	0.75	OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: GIWW Bank Stabilization - Perry Ridge to Texas

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	489	0.57	280.54	
1	483	0.57	277.10	278.82
20	383	0.46	178.00	4288.90
			AAHUs =	228.39

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	489	0.57	280.54	
1	487	0.58	280.47	280.51
3	489	0.58	281.63	562.10
10	483	0.58	278.17	1959.29
20	466	0.56	262.23	2701.64
			AAHUs	276.18

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	275.18
B. Future Without Project Emergent Marsh AAHUs	=	228.39
Net Change (FWP - FWOP) =		46.79

AAHU CALCULATION - OPEN WATER

Project: GIWW Bank Stabilization - Perry Ridge to Texas

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	643	0.69	443.95	
1	649	0.69	448.09	446.02
20	749	0.62	467.00	8714.58
			AAHUs =	458.03

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	643	0.69	443.95	
1	641	0.69	443.52	443.74
3	643	0.75	482.66	926.14
10	649	0.75	487.16	3394.35
20	666	0.75	499.92	4935.39
			AAHUs	484.98

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	484.98
B. Future Without Project Open Water AAHUs	=	458.03
Net Change (FWP - FWOP) =		26.95

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	46.79
B. Open Water Habitat Net AAHUs	=	26.95
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		40.39

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XTV-27 Freshwater Bayou Canal HR/SP - Belle Isle to Lock

The WVA for this project includes 2 areas. Total benefits for this project are as follows:

Area	AAHUs
1	75
2	177

TOTAL BENEFITS = 252 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area A
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 285

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	69	0.72	66	0.69	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	65	0.72	65	0.72		0.10
	Class 2						
	Class 3						
	Class 4	35		35			
	Class 5					100	
V4	%OW <= 1.5ft	37	0.52	33	0.47	10	0.21
V5	Salinity (ppt)						
	fresh		0.60		0.60		0.60
	intermediate	6		6		6	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.74	EM HSI =	0.72	EM HSI =	0.19
	Open Water HSI	=	0.27	OW HSI =	0.27	OW HSI =	0.21

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area A
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 285

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	69	0.72	69	0.72	85	0.87
V2	% Aquatic	0	0.10	5	0.15	30	0.37
V3	Interspersion	%		%		%	
	Class 1	65	0.72	65	0.72	80	0.88
	Class 2						
	Class 3					20	
	Class 4	35		35			
	Class 5						
V4	%OW <= 1.5ft	37	0.52	37	0.52	41	0.56
V5	Salinity (ppt)						
	fresh		0.60		0.60		0.60
	intermediate	6		6		6	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.74	EM HSI =	0.74	EM HSI =	0.85
	Open Water HSI	=	0.27	OW HSI =	0.32	OW HSI =	0.52

AAHU CALCULATION - EMERGENT MARSH

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area A

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	197	0.74	145.56	
1	187	0.72	134.70	140.10
20	0	0.19	0.00	966.77
			AAHUs =	55.34

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	197	0.74	145.56	
1	197	0.74	145.56	145.56
20	241	0.85	205.74	3321.30
			AAHUs	173.34

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	173.34
B. Future Without Project Emergent Marsh AAHUs	=	55.34
Net Change (FWP - FWOP) =		118.00

AAHU CALCULATION - OPEN WATER

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area A

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	88	0.27	24.14	
1	98	0.27	26.56	25.35
20	285	0.21	58.68	848.33
			AAHUs =	43.68

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	88	0.27	24.14	
1	88	0.32	28.05	26.10
20	44	0.52	22.89	512.00
			AAHUs	26.90

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	26.90
B. Future Without Project Open Water AAHUs	=	43.68
Net Change (FWP - FWOP) =		-16.78

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	118.00
B. Open Water Habitat Net AAHUs	=	-16.78
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		74.52

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area B
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 4,630

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	84	0.86	83	0.85	67	0.70
V2	% Aquatic	35	0.42	35	0.42	20	0.28
V3	Interspersion	%		%		%	
	Class 1	40	0.64	40	0.64	40	0.60
	Class 2						
	Class 3	60		60		40	
	Class 4					20	
	Class 5						
V4	%OW <= 1.5ft	85	1.00	85	1.00	75	0.94
V5	Salinity (ppt)						
	fresh		1.00		1.00		0.70
	intermediate	4		4		5.5	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.87	EM HSI =	0.86	EM HSI =	0.72
	Open Water HSI	=	0.60	OW HSI =	0.60	OW HSI =	0.47

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area B
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 4,630

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	84	0.86	83	0.85	73	0.76
V2	% Aquatic	35	0.42	40	0.46	50	0.55
V3	Interspersion	%		%		%	
	Class 1	40	0.64	40	0.64	40	0.62
	Class 2						
	Class 3	60		60		50	
	Class 4					10	
	Class 5						
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	4		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.87	EM HSI =	0.86	EM HSI =	0.80
	Open Water HSI	=	0.60	OW HSI =	0.63	OW HSI =	0.69

AAHU CALCULATION - EMERGENT MARSH

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area B

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	3869	0.87	3348.54	
1	3826	0.86	3288.40	3318.42
20	3101	0.72	2246.05	52266.85
			AAHUs =	2779.26

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	3869	0.87	3348.54	
1	3843	0.86	3303.01	3325.75
20	3389	0.80	2700.15	56939.81
			AAHUs	3013.28

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	3013.28
B. Future Without Project Emergent Marsh AAHUs	=	2779.26
Net Change (FWP - FWOP) =		234.01

AAHU CALCULATION - OPEN WATER

Project: Freshwater Bayou Canal HR/SP - Belle Isle to Lock Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	761	0.60	454.86	
1	804	0.60	480.56	467.71
20	1529	0.47	711.88	11631.48
			AAHUs =	604.96

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	761	0.60	454.86	
1	787	0.63	495.80	475.19
20	1241	0.69	857.30	12767.01
			AAHUs	662.11

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	662.11
B. Future Without Project Open Water AAHUs	=	604.96
Net Change (FWP - FWOP) =		57.15

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	234.01
B. Open Water Habitat Net AAHUs	=	57.15
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		176.96

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: TE-8a North HNC Salinity Control

The WVA for this project includes 2 areas. Open water benefits in Area B were subtracted from the total project benefits because those would occur only under future without-project conditions. Total benefits for this project are as follows:

Area	AAHUs
A	420
B-water	(89)

TOTAL BENEFITS = 331 AAHUS

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... North HNC Salinity Control Acres: 3,791

Condition: Future Without Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	
	Overstory	50	0.825	50	0.825	50	0.765
	Scrub shrub	50		50		50	
	Herbaceous	50		50		50	
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		94		94		94	
		Cypress dbh		Cypress dbh		Cypress dbh	
		11		11		13	
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		6		6		6	
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		6	0.58	6	0.58	9	0.79
V3	Hyrology	Class		Class		Class	
		2	0.40	2	0.40		0.30
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00	5	1.00
V5	Surrounding Land Use	Values %		Values %		Values %	
	Forest / marsh		0.81		0.81		0.81
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class	0.97	Class	0.97	Class	0.97
	Distance	Class		Class		Class	
		HSI =	0.68	HSI =	0.68	HSI =	0.70

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... North HNC Salinity Control Acres: 3,791

Condition: Future With Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	
	Overstory	50	0.825	50	0.825	50	0.850
	Scrub shrub	50		50		50	
	Herbaceous	50		50		50	
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		94		94		94	
		Cypress dbh		Cypress dbh		Cypress dbh	
		11		11		14	
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		6		6		6	
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		6	0.58	6	0.58	10	0.88
V3	Hyrology	Class		Class		Class	
		2	0.40		0.60		0.60
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00	5	1.00
V5	Surrounding Land Use	Values %		Values %		Values %	
	Forest / marsh		0.81		0.81		0.81
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class	0.97	Class	0.97	Class	0.97
	Distance	Class		Class		Class	
		HSI =	0.68	HSI =	0.72	HSI =	0.82

AAHU CALCULATION, Fresh Swamp

Project: North HNC Salinity Control

Future With Project				
TY	Acres	x HSI	Total HUs	Cummulative HUs
0	3791	0.68	2578.92	
1	3791	0.72	2744.91	2661.91
20	3791	0.82	3127.21	55785.12

Total	
CHUs =	58447.03
AAHUs =	2922.35

Future Without Project				
TY	Acres	x HSI	Total HUs	Cummulative HUs
0	3791	0.68	2578.92	
1	3774	0.68	2567.35	2573.13
20	3471	0.70	2428.47	47478.94

Total	
CHUs =	50062.07
AAHUs =	2502.60

NET CHANGE IN AAHU'S DUE TO PROJECT		
A. Future With Project AAHUs	=	2922.35
B. Future Without Project AAHUs	=	2502.60
Net Change (FWP - FWOP)	=	419.76

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: North HNC Salinity Control
Open Water - FWOP Benefits
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 320

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	99	0.99	0	0.10
V2	% Aquatic	0	0.10	50	0.55	30	0.37
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5					100	
V4	%OW <= 1.5ft	0	0.10	100	0.60	70	0.89
V5	Salinity (ppt)						
	fresh		0.80		0.80		0.60
	intermediate	5		5		6	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediate	1.00		1.00		1.00	
	Emergent Marsh HSI	**=**	**0.98**	**EM HSI =**	**0.97**	**EM HSI =**	**0.19**
	Open Water HSI	**=**	**0.28**	**OW HSI =**	**0.67**	**OW HSI =**	**0.49**

AAHU CALCULATION - OPEN WATER

Project: North HNC Salinity Control
Open Water - FWOP Benefits

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.28	0.00	
1	17	0.67	11.47	4.61
20	320	0.49	155.70	1768.45
			AAHUs =	**88.65**

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XME-42 Little Pecan Bayou Control Structure

The WVA for this project includes 3 areas. Total benefits for this project are as follows:

Area	AAHUs
1	204
2	24
3	(4)

TOTAL BENEFITS = 224 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Little Pecan Bayou Control Structure
Area 1
Project Area: 5,044

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	26	0.33	26	0.33	25	0.33
V2	% Aquatic	15	0.24	15	0.24	15	0.24
V3	Interspersion	%		%		%	
	Class 1		0.24		0.24		0.24
	Class 2						
	Class 3	20		20		20	
	Class 4	80		80		80	
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
V5	Salinity (ppt)	12	0.70	12	0.70	12	0.70
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.44**	**EM HSI =**	**0.44**	**EM HSI =**	**0.43**
	Open Water HSI	=	**0.46**	**OW HSI =**	**0.46**	**OW HSI =**	**0.46**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Little Pecan Bayou Control Structure
Area 1
Project Area: 5,044

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	26	0.33	26	0.33	27	0.34
V2	% Aquatic	15	0.24	20	0.28	35	0.42
V3	Interspersion	%		%		%	
	Class 1		0.24		0.27		0.27
	Class 2						
	Class 3	20		35		35	
	Class 4	80		65		65	
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
V5	Salinity (ppt)	12	0.70	10	1.00	10	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.44**	**EM HSI =**	**0.48**	**EM HSI =**	**0.48**
	Open Water HSI	=	**0.46**	**OW HSI =**	**0.52**	**OW HSI =**	**0.62**

Project: Little Pecan Bayou Control Structure
FWP

Variable		TY 5 Value	TY 5 SI	TY 20 Value	TY 20 SI		
V1	% Emergent	27	0.34	27	0.34		
V2	% Aquatic	35	0.42	35	0.42		
V3	Interspersion	%		%		%	
	Class 1		0.27		0.27		
	Class 2						
	Class 3	35		35			
	Class 4	65		65			
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87		
V5	Salinity (ppt)	10	1.00	10	1.00		
V6	Access Value	1.00	1.00	1.00	1.00		
		EM HSI =	0.48	EM HSI =	0.48	EM HSI =	
		OW HSI =	0.62	OW HSI =	0.62	OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Little Pecan Bayou Control Structure
Area 1

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	1324	0.44	581.28	
1	1321	0.44	579.96	580.62
20	1272	0.43	549.60	10729.69
			AAHUs =	565.52

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	1324	0.44	581.28	
1	1331	0.48	633.15	607.17
3	1353	0.48	652.97	1286.07
5	1365	0.48	658.76	1311.73
20	1345	0.48	649.11	9809.05
			AAHUs	650.70

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	650.70
B. Future Without Project Emergent Marsh AAHUs	=	565.52
Net Change (FWP - FWOP) =		85.19

AAHU CALCULATION - OPEN WATER

Project: Little Pecan Bayou Control Structure
Area 1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	3720	0.46	1712.69	
1	3723	0.46	1714.08	1713.39
20	3772	0.46	1736.64	32781.76
			AAHUs =	1724.76

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	3720	0.46	1712.69	
1	3688	0.52	1921.47	1817.40
3	3691	0.62	2279.20	4200.57
5	3679	0.62	2271.79	4550.99
20	3699	0.62	2284.14	34169.44
			AAHUs	2236.92

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	2236.92
B. Future Without Project Open Water AAHUs	=	1724.76
Net Change (FWP - FWOP) =		512.16

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	85.19
B. Open Water Habitat Net AAHUs	=	512.16
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		203.79

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Little Pecan Bayou Control Structure
Area 2
Condition: Future Without Project

Project Area:
Fresh..... 8,500
Intermediate..

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	93	0.94	93	0.94	90	0.91
V2	% Aquatic	60	0.64	60	0.64	60	0.64
V3	Interspersion	%		%		%	
	Class 1	70	0.88	70	0.88	70	0.88
	Class 2	30		30		30	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt)						
	fresh	1	1.00	1	1.00	1	1.00
	intermediate						
V6	Access Value						
	fresh	0.35	0.55	0.35	0.55	0.35	0.55
	intermediate						
	Emergent Marsh HSI	=	0.87	EM HSI =	0.87	EM HSI =	0.86
	Open Water HSI	=	0.69	OW HSI =	0.69	OW HSI =	0.69

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Little Pecan Bayou Control Structure
Area 2
Condition: Future With Project

Project Area:
Fresh..... 8,500
Intermediate.

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	93	0.94	93	0.94	91	0.92
V2	% Aquatic	60	0.64	65	0.69	65	0.69
V3	Interspersion	%		%		%	
	Class 1	70	0.88	70	0.88	70	0.88
	Class 2	30		30		30	
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	85	1.00	85	1.00	85	1.00
V5	Salinity (ppt)						
	fresh	1	1.00	1	1.00	1	1.00
	intermediate						
V6	Access Value						
	fresh	0.35	0.55	0.35	0.55	0.35	0.55
	intermediate						
	Emergent Marsh HSI	=	0.87	EM HSI =	0.87	EM HSI =	0.86
	Open Water HSI	=	0.69	OW HSI =	0.72	OW HSI =	0.72

AAHU CALCULATION - EMERGENT MARSH

Project: Little Pecan Bayou Control Structure
Area 2

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	7891	0.87	6902.50	
1	7880	0.87	6892.88	6897.69
20	7688	0.86	6601.71	128188.89
			AAHUs =	6764.33

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	7891	0.87	6902.50	
1	7882	0.87	6894.63	6898.57
20	7718	0.86	6668.77	128846.79
			AAHUs	6787.27

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	6787.27
B. Future Without Project Emergent Marsh AAHUs	=	6754.33
Net Change (FWP - FWOP) =		32.94

AAHU CALCULATION - OPEN WATER

Project: Little Pecan Bayou Control Structure
Area 2

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	609	0.69	421.13	
1	620	0.69	428.74	424.93
20	812	0.69	561.51	9407.32
			AAHUs =	491.61

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	609	0.69	421.13	
1	618	0.72	442.80	431.93
20	782	0.72	560.31	9529.62
			AAHUs	498.08

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	498.08
B. Future Without Project Open Water AAHUs	=	491.61
Net Change (FWP - FWOP) =		6.46

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	32.94
B. Open Water Habitat Net AAHUs	=	6.46
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		24.40

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Little Pecan Bayou Control Structure
Area 3
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 10,900

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	80	0.82	80	0.82	77	0.79
V2	% Aquatic	30	0.37	30	0.37	30	0.37
V3	Interspersion	%		%		%	
	Class 1	20	0.62	20	0.62	20	0.62
	Class 2	50		50		50	
	Class 3	30		30		30	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		0.80		0.80		0.80
	intermediate	5		5		5	
V6	Access Value						
	fresh		0.58		0.58		0.58
	intermediat	0.48		0.48		0.48	
	Emergent Marsh HSI	=	0.76	EM HSI =	0.76	EM HSI =	0.74
	Open Water HSI	=	0.49	OW HSI =	0.49	OW HSI =	0.49

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Little Pecan Bayou Control Structure
Area 3
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 10,900

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 2 Value	TY 2 SI
V1	% Emergent	80	0.82	80	0.82	79	0.81
V2	% Aquatic	30	0.37	35	0.42	40	0.46
V3	Interspersion	%		%		%	
	Class 1	20	0.62	20	0.62	20	0.62
	Class 2	50		50		50	
	Class 3	30		30		30	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89	70	0.89	70	0.89
V5	Salinity (ppt)						
	fresh		0.80		1.00		1.00
	intermediate	5		4		4	
V6	Access Value						
	fresh		0.58		0.43		0.43
	intermediat	0.48		0.28		0.28	
	Emergent Marsh HSI	=	0.76	EM HSI =	0.76	EM HSI =	0.76
	Open Water HSI	=	0.49	OW HSI =	0.51	OW HSI =	0.54

Project: Little Pecan Bayou Control Structure

FWP

Variable		TY 20 Value	SI	Value	SI	Value	SI
V1	% Emergent	78	0.80				
V2	% Aquatic	40	0.46				
V3	Interspersion	%		%		%	
	Class 1	20	0.62				
	Class 2	50					
	Class 3	30					
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	0.89				
V5	Salinity (ppt)						
	fresh		1.00				
	intermediate	4					
V6	Access Value						
	fresh		0.43				
	intermediat	0.28					
		EM HSI =	0.74	EM HSI =		EM HSI =	
		OW HSI =	0.64	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Little Pecan Bayou Control Structure

Area 3

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	8685	0.76	6598.77	
1	8671	0.76	6588.14	6593.45
20	8411	0.74	6251.27	121960.69
			AAHUs =	6427.71

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	8685	0.76	6598.77	
1	8673	0.75	6519.86	6559.30
2	8661	0.75	6465.51	6492.68
20	8452	0.74	6265.17	114572.84
			AAHUs	6381.24

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	6381.24
B. Future Without Project Emergent Marsh AAHUs	=	6427.71
Net Change (FWP - FWOP) =		-46.47

AAHU CALCULATION - OPEN WATER

Project: Little Pecan Bayou Control Structure
Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2215	0.49	1091.84	
1	2229	0.49	1098.75	1095.29
20	2489	0.49	1226.91	22093.70
			AAHUs =	1159.45

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	2215	0.49	1091.84	
1	2227	0.51	1137.02	1114.40
2	2239	0.54	1201.52	1169.22
20	2448	0.54	1313.68	22636.81
			AAHUs	1246.02

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	1246.02
B. Future Without Project Open Water AAHUs	=	1159.45
Net Change (FWP - FWOP) =		86.57

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	-46.47
B. Open Water Habitat Net AAHUs	=	86.57
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		-3.56

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: XBA-63iii Barataria Basin Landbridge Shoreline Protection Phase 3

The WVA for this project includes 5 areas. Total benefits for this project are as follows:

Area	AAHUs
1	25
2a	11
2b	34
3	29
4	2

TOTAL BENEFITS = 101 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 1
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 974

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	74	0.77	73	0.76	66	0.69
V2	% Aquatic	50	0.55	49	0.54	39	0.45
V3	Interspersion	%		%		%	
	Class 1	30	0.64	30	0.64	25	0.56
	Class 2	30		30		25	
	Class 3	40		40		30	
	Class 4					20	
	Class 5						
V4	%OW <= 1.5ft	40	0.55	39	0.54	30	0.44
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.81	EM HSI =	0.80	EM HSI =	0.75
	Open Water HSI	=	0.66	OW HSI =	0.65	OW HSI =	0.58

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 1
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 974

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	74	0.77	73	0.76	71	0.74
V2	% Aquatic	50	0.55	60	0.64	60	0.64
V3	Interspersion	%		%		%	
	Class 1	30	0.64	30	0.64	30	0.64
	Class 2	30		30		30	
	Class 3	40		40		40	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	40	0.55	40	0.55	40	0.55
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.81	EM HSI =	0.80	EM HSI =	0.79
	Open Water HSI	=	0.66	OW HSI =	0.72	OW HSI =	0.72

AAHU CALCULATION - EMERGENT MARSH

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 1

Future Without Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	716	0.81	576.43	
1	712	0.80	568.86	572.64
20	647	0.75	483.31	9984.88
			AAHUs =	527.88

Future With Project				
TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	716	0.81	576.43	
1	715	0.80	571.26	573.84
20	691	0.79	543.62	10590.42
			AAHUs	558.21

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	558.21
B. Future Without Project Emergent Marsh AAHUs	=	527.88
Net Change (FWP - FWOP) =		30.34

AAHU CALCULATION - OPEN WATER

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	258	0.66	170.01	
1	259	0.65	168.87	169.44
20	327	0.58	188.35	3410.02
			AAHUs =	178.97

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	258	0.66	170.01	
1	259	0.72	186.16	178.07
20	283	0.72	203.41	3700.87
			AAHUs	193.95

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	193.95
B. Future Without Project Open Water AAHUs	=	178.97
Net Change (FWP - FWOP) =		14.97

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	30.34
B. Open Water Habitat Net AAHUs	=	14.97
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		25.38

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2a
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 20

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	89	0.90	88	0.89	63	0.67
V2	% Aquatic	80	0.82	72	0.75	30	0.37
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00	90	0.92
	Class 2						
	Class 3						
	Class 4					10	
	Class 5						
V4	%OW <= 1.5ft	50	0.66	45	0.61	19	0.31
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.94	EM HSI =	0.93	EM HSI =	0.77
	Open Water HSI	=	0.87	OW HSI =	0.82	OW HSI =	0.53

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2a
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 20

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	89	0.90	89	0.90	86	0.87
V2	% Aquatic	80	0.82	80	0.82	80	0.82
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00	100	1.00
	Class 2						
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	50	0.66	50	0.66	50	0.66
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.94	EM HSI =	0.94	EM HSI =	0.92
	Open Water HSI	=	0.87	OW HSI =	0.87	OW HSI =	0.87

AAHU CALCULATION - EMERGENT MARSH

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2a

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	107	0.94	100.08	
1	105	0.93	97.58	98.83
20	75	0.77	57.63	1459.16
			AAHUs =	77.90

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	107	0.94	100.08	
1	107	0.94	100.08	100.08
20	103	0.92	94.50	1848.19
			AAHUs	97.41

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	97.41
B. Future Without Project Emergent Marsh AAHUs	=	77.90
Net Change (FWP - FWOP) =		19.51

AAHU CALCULATION - OPEN WATER

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 2a

Future Without Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	13	0.87	11.28	
1	15	0.82	12.28	11.79
20	45	0.53	24.05	372.13
			AAHUs =	19.20

Future With Project				
TY	Water Acres	x HSI	Total HUs	Cummulative HUs
0	13	0.87	11.28	
1	13	0.87	11.28	11.28
20	17	0.87	14.75	247.22
			AAHUs	12.92

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	12.92
B. Future Without Project Open Water AAHUs	=	19.20
Net Change (FWP - FWOP) =		-6.27

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	19.51
B. Open Water Habitat Net AAHUs	=	-6.27
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		11.20

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2b Project Area: 203

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	68	0.71	65	0.69	12	0.21
V2	% Aquatic	30	0.37	27	0.34	12	0.21
V3	Interspersion	%		%		%	
	Class 1	30	0.58	30	0.58		0.20
	Class 2						
	Class 3	70		70			
	Class 4					100	
	Class 5						
V4	%OW <= 1.5ft	30	0.49	27	0.45	12	0.25
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
	Emergent Marsh HSI	=	**0.77**	**EM HSI =**	**0.76**	**EM HSI =**	**0.37**
	Open Water HSI	=	**0.58**	**OW HSI =**	**0.56**	**OW HSI =**	**0.41**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2b Project Area: 203

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	68	0.71	68	0.71	66	0.69
V2	% Aquatic	30	0.37	30	0.37	30	0.37
V3	Interspersion	%		%		%	
	Class 1	30	0.58	30	0.58	30	0.58
	Class 2						
	Class 3	70		70		70	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	30	0.49	30	0.49	30	0.49
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
	Emergent Marsh HSI	=	**0.77**	**EM HSI =**	**0.77**	**EM HSI =**	**0.76**
	Open Water HSI	=	**0.58**	**OW HSI =**	**0.58**	**OW HSI =**	**0.58**

AAHU CALCULATION - EMERGENT MARSH

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 2b

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	138	0.77	106.88	
1	132	0.76	99.92	103.38
20	25	0.37	9.14	903.53
			AAHUs =	50.35

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	138	0.77	106.88	
1	138	0.77	106.88	106.88
20	133	0.76	101.45	1978.98
			AAHUs	104.29

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	104.29
B. Future Without Project Emergent Marsh AAHUs	=	50.35
Net Change (FWP - FWOP) =		53.95

AAHU CALCULATION - OPEN WATER

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 2b

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	65	0.58	37.79	
1	71	0.56	39.72	38.78
20	178	0.41	73.14	1122.52
			AAHUs =	58.06

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	65	0.58	37.79	
1	65	0.58	37.79	37.79
20	70	0.58	40.69	745.58
			AAHUs	39.17

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	39.17
B. Future Without Project Open Water AAHUs	=	58.06
Net Change (FWP - FWOP) =		-18.90

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	53.95
B. Open Water Habitat Net AAHUs	=	-18.90
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		33.71

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 3 Project Area: 920

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	59	0.63	58	0.62	44	0.50
V2	% Aquatic	25	0.33	25	0.33	15	0.24
V3	Interspersion	%		%		%	
	Class 1		0.46		0.46		0.38
	Class 2	30		30			
	Class 3	70		70		90	
	Class 4					10	
	Class 5						
V4	%OW <= 1.5ft	70	1.00	69	0.99	50	0.74
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
	Emergent Marsh HSI =		0.71	EM HSI =	0.70	EM HSI =	0.61
	Open Water HSI =		0.68	OW HSI =	0.68	OW HSI =	0.48

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 3 Project Area: 920

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	59	0.63	58	0.62	53	0.58
V2	% Aquatic	25	0.33	25	0.33	25	0.33
V3	Interspersion	%		%		%	
	Class 1		0.46		0.46		0.45
	Class 2	30		30		25	
	Class 3	70		70		75	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	70	1.00	70	1.00	70	1.00
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
	Emergent Marsh HSI =		0.71	EM HSI =	0.70	EM HSI =	0.67
	Open Water HSI =		0.68	OW HSI =	0.68	OW HSI =	0.58

AAHU CALCULATION - EMERGENT MARSH

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 3

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	539	0.71	381.62	
1	532	0.70	373.48	377.54
20	408	0.61	247.60	5862.88
			AAHUs =	312.02

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	539	0.71	381.62	
1	536	0.70	376.28	378.95
20	486	0.67	325.92	6665.94
			AAHUs	352.24

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	352.24
B. Future Without Project Emergent Marsh AAHUs	=	312.02
Net Change (FWP - FWOP) =		40.22

AAHU CALCULATION - OPEN WATER

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	381	0.58	220.40	
1	388	0.58	224.09	222.25
20	512	0.48	247.54	4517.38
			AAHUs =	236.98

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	381	0.58	220.40	
1	384	0.58	222.14	221.27
20	434	0.58	250.74	4492.49
			AAHUs	235.69

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	235.69
B. Future Without Project Open Water AAHUs	=	236.98
Net Change (FWP - FWOP) =		-1.29

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	40.22
B. Open Water Habitat Net AAHUs	=	-1.29
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		28.69

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 4 Project Area: 163

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	53	0.58	52	0.57	43	0.49
V2	% Aquatic	15	0.24	15	0.24	12	0.21
V3	Interspersion	%		%		%	
	Class 1		0.44		0.44		0.43
	Class 2	20		20		15	
	Class 3	80		80		85	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	20	0.36	20	0.36	17	0.32
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
	Emergent Marsh HSI	=	**0.67**	**EM HSI =**	**0.66**	**EM HSI =**	**0.61**
	Open Water HSI	=	**0.46**	**OW HSI =**	**0.46**	**OW HSI =**	**0.43**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 4 Project Area: 163

Condition: Future With Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	53	0.58	52	0.57	46	0.51
V2	% Aquatic	15	0.24	15	0.24	15	0.24
V3	Interspersion	%		%		%	
	Class 1		0.44		0.44		0.44
	Class 2	20		20		20	
	Class 3	80		80		80	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	20	0.36	20	0.36	20	0.36
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
	Emergent Marsh HSI	=	**0.67**	**EM HSI =**	**0.66**	**EM HSI =**	**0.63**
	Open Water HSI	=	**0.46**	**OW HSI =**	**0.46**	**OW HSI =**	**0.46**

AAHU CALCULATION - EMERGENT MARSH

Project: Barataria Basin Landbridge Shore Protection - Phase 3
Area 4

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	86	0.67	57.58	
1	85	0.66	56.39	56.98
20	70	0.61	42.43	936.00
			AAHUs =	49.65

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	86	0.67	57.58	
1	85	0.66	56.39	56.98
20	76	0.63	47.59	986.69
			AAHUs	52.18

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	52.18
B. Future Without Project Emergent Marsh AAHUs	=	49.65
Net Change (FWP - FWOP) =		2.53

AAHU CALCULATION - OPEN WATER

Project: Barataria Basin Landbridge Shore Protection - Phase 3 Area 4

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	77	0.46	35.37	
1	78	0.46	35.83	35.60
20	93	0.43	40.24	723.93
			AAHUs =	37.98

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	77	0.46	35.37	
1	78	0.46	35.83	35.60
20	87	0.46	39.96	720.01
			AAHUs	37.78

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	37.78
B. Future Without Project Open Water AAHUs	=	37.98
Net Change (FWP - FWOP) =		-0.20

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	2.53
B. Open Water Habitat Net AAHUs	=	-0.20
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		1.78

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Marsh Creation South of Leeville Project Area: 163

Condition: Future Without Project

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	6	0.15	6	0.15	6	0.15
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.20
	Class 2						
	Class 3						
	Class 4	100		100		100	
	Class 5						
V4	%OW <= 1.5ft	0	0.10	0	0.10	0	0.10
V5	Salinity (ppt)	16	1.00	16	1.00	16	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.32**	**EM HSI =**	**0.32**	**EM HSI =**	**0.32**
	Open Water HSI	=	**0.65**	**OW HSI =**	**0.65**	**OW HSI =**	**0.65**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Marsh Creation South of Leeville Project Area: 163

Condition: Future With Project

Variable		TY 0		TY 1		TY 3	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	6	0.15	29	0.36	99	0.99
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1		0.20	100	1.00	100	1.00
	Class 2						
	Class 3						
	Class 4	100					
	Class 5						
V4	%OW <= 1.5ft	0	0.10	100	0.50	100	0.50
V5	Salinity (ppt)	16	1.00	16	1.00	16	1.00
V6	Access Value	1.00	1.00	0.0001	0.10	1.00	1.00
	Emergent Marsh HSI	=	**0.32**	**EM HSI =**	**0.43**	**EM HSI =**	**0.99**
	Open Water HSI	=	**0.65**	**OW HSI =**	**0.29**	**OW HSI =**	**0.74**

Project: Marsh Creation South of Leeville
FWP

Variable		TY 20 Value	TY 20 SI	Value	SI	Value	SI
V1	% Emergent	95	0.96				
V2	% Aquatic	0	0.30				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	% 100	1.00	%		%	
V4	%OW <= 1.5ft	95	0.63				
V5	Salinity (ppt)	16	1.00				
V6	Access Value	1.00	1.00				
		EM HSI =	0.97	EM HSI =		EM HSI =	
		OW HSI =	0.75	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Marsh Creation South of Leeville

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	10	0.32	3.25	
1	10	0.32	3.25	3.25
20	9	0.32	2.92	58.58
			AAHUs =	3.09

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	10	0.32	3.25	
1	48	0.43	20.45	11.20
3	162	0.99	161.15	159.98
20	155	0.97	150.91	2652.06
			AAHUs	141.16

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	141.16
B. Future Without Project Emergent Marsh AAHUs	=	3.09
Net Change (FWP - FWOP) =		138.07

AAHU CALCULATION - OPEN WATER

Project: Marsh Creation South of Leeville

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	153	0.65	99.10	
1	153	0.65	99.10	99.10
20	154	0.65	99.74	1888.99
			AAHUs =	99.40

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	153	0.65	99.10	
1	0	0.29	0.00	40.47
3	1	0.74	0.74	0.59
20	8	0.75	5.97	56.79
			AAHUs	4.89

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	4.89
B. Future Without Project Open Water AAHUs	=	99.40
Net Change (FWP - FWOP) =		-94.51

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	138.07
B. Open Water Habitat Net AAHUs	=	-94.51
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		86.39

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: PO-13 Tangipahoa/Pontchartrain Shoreline Protection

The WVA for this project includes 4 areas. Total benefits for this project are as follows:

Area	AAHUs
A	10
B	11
B1	16
B-water	(3)

TOTAL BENEFITS = 34 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Tangipahoa/Pontchartrain Shoreline Protection
Area A
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 40

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 13 Value	TY 13 SI
V1	% Emergent	38	0.44	35	0.42	15	0.24
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	35	0.48	30	0.44	10	0.28
	Class 2						
	Class 3						
	Class 4	65		70		90	
	Class 5						
V4	%OW <= 1.5ft	38	0.53	36	0.51	28	0.42
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediate	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.56	EM HSI =	0.53	EM HSI =	0.37
	Open Water HSI	=	0.29	OW HSI =	0.28	OW HSI =	0.28

Project: Tangipahoa/Pontchartrain Shoreline Protection
FWOP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	0	0.10				
V2	% Aquatic	0	0.10				
V3	Interspersion	%		%		%	
	Class 1		0.10				
	Class 2						
	Class 3						
	Class 4						
	Class 5	100					
V4	%OW <= 1.5ft	24	0.37				
V5	Salinity (ppt)						
	fresh		1.00				
	intermediate	3					
V6	Access Value						
	fresh		1.00				
	intermediate	1.00					
	EM HSI =		0.24	EM HSI =		EM HSI =	
	OW HSI =		0.25	OW HSI =		OW HSI =	

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Tangipahoa/Pontchartrain Shoreline Protection Area A
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 40

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	38	0.44	40	0.46	85	0.87
V2	% Aquatic	0	0.10	5	0.15	50	0.55
V3	Interspersion	%		%		%	
	Class 1	35	0.48	35	0.48	100	1.00
	Class 2						
	Class 3						
	Class 4	65		65			
	Class 5						
V4	%OW <= 1.5ft	38	0.53	40	0.55	95	0.80
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediate	1.00		1.00		1.00	
	Emergent Marsh HSI =		0.56	EM HSI =	0.57	EM HSI =	0.91
	Open Water HSI =		0.29	OW HSI =	0.33	OW HSI =	0.70

AAHU CALCULATION - EMERGENT MARSH

Project: Tangipahoa/Pontchartrain Shoreline Protection Area A

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	15	0.56	8.38	
1	14	0.53	7.47	7.92
13	6	0.37	2.25	55.79
20	0	0.24	0.00	6.90
			AAHUs =	3.53

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	15	0.56	8.38	
1	16	0.57	9.15	8.76
20	34	0.91	30.99	361.92
			AAHUs	16.53

NET CHANGE IN AAHUs DUE TO PROJECT	
A. Future With Project Emergent Marsh AAHUs =	16.53
B. Future Without Project Emergent Marsh AAHUs =	3.53
Net Change (FWP - FWOP) =	13.00

AAHU CALCULATION - OPEN WATER

Project: Tangipahoa/Pontchartrain Shoreline Protection Area A

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	25	0.29	7.18	
1	26	0.28	7.34	7.26
13	34	0.26	8.97	98.18
20	40	0.25	9.89	66.12
			AAHUs =	8.58

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	25	0.29	7.18	
1	24	0.33	8.00	7.59
20	6	0.70	4.22	137.24
			AAHUs	7.24

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	7.24
B. Future Without Project Open Water AAHUs	=	8.58
Net Change (FWP - FWOP) =		-1.34

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	15.00
B. Open Water Habitat Net AAHUs	=	-1.34
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		9.73

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... Tangipahoa/Pontchartrain Shoreline Protection Area B Acres: 20

Condition: Future Without Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	No swamp remaining
	Overstory	63	0.60	63	0.60		
	Scrub shrub	21		21			
	Herbaceous	79		79			
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		74		74			
		Cypress dbh		Cypress dbh		Cypress dbh	
		18.4		18.4			
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		26		26			
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		7.5	0.88	7.5	0.88		
V3	Hyrology	Class		Class		Class	
		4	1.00	4	1.00		
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00		
V5	Surrounding Land Use	Values	%	Values	%	Values	%
	Forest / marsh	100	1.00	100	1.00		
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class		Class		Class	
		4	1.00	4	1.00		
	Distance	Class		Class		Class	
		3		3			
		HSI =	0.82	HSI =	0.82	HSI =	

COMMUNITY HABITAT SUITABILITY MODEL

Fresh Swamp

Project..... Tangipahoa/Pontchartrain Shoreline Protection Area B Acres: 20

Condition: Future With Project

Variable		TY 0 Class/Value	TY 0 SI	TY 1 Class/Value	TY 1 SI	TY 20 Class/Value	TY 20 SI
V1	Stand Structure	% Cover		% Cover		% Cover	
	Overstory	63	0.60	63	0.60	65	0.60
	Scrub shrub	21		21		24	
	Herbaceous	79		79		80	
V2	Maturity (input age or species composition and dbh)	Age		Age		Age	
		Cypress %		Cypress %		Cypress %	
		74		74		75	
		Cypress dbh		Cypress dbh		Cypress dbh	
		18.4		18.4		21	
		Tupelo et al. %		Tupelo et al. %		Tupelo et al. %	
		26		26		25	
		Tupelo et al dbh		Tupelo et al dbh		Tupelo et al dbh	
		7.5	0.88	7.5	0.88	9.5	0.94
V3	Hyrology	Class		Class		Class	
		4	1.00	4	1.00	4	1.00
V4	Forest Size	Class		Class		Class	
		5	1.00	5	1.00	5	1.00
V5	Surrounding Land Use	Values	%	Values	%	Values	%
	Forest / marsh	100	1.00	100	1.00	100	1.00
	Abandoned Ag						
	Pasture / Hay						
	Active Ag						
	Development						
V6	Disturbance						
	Type	Class		Class		Class	
		4	1.00	4	1.00	4	1.00
	Distance	Class		Class		Class	
		3		3		3	
		HSI =	0.82	HSI =	0.82	HSI =	0.84

AAHU CALCULATION, Fresh Swamp

Project: Tangipahoa/Pontchartrain Shoreline Protection
Area B

Future With Project			Total	Cummulative
TY	Acres	x HSI	HUs	HUs
0	20	0.82	16.41	
1	20	0.82	16.41	16.41
20	20	0.84	16.76	315.08
			Total CHUs =	331.60
			AAHUs =	16.57

Future Without Project			Total	Cummulative
TY	Acres	x HSI	HUs	HUs
0	20	0.82	16.41	
1	19	0.82	15.59	16.00
20	0	0.00	0.00	98.74
			Total CHUs =	114.75
			AAHUs =	5.74

NET CHANGE IN AAHU'S DUE TO PROJECT		
A. Future With Project AAHUs	=	16.57
B. Future Without Project AAHUs	=	5.74
Net Change (FWP - FWOP)	=	10.84

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Tangipahoa/Pontchartrain Shoreline Protection Area B1
Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 100

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10	0	0.10	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1		0.10		0.10		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5	100		100		100	
V4	%OW <= 1.5ft	67	0.85	67	0.85	67	0.85
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.24	EM HSI =	0.24	EM HSI =	0.24
	Open Water HSI	=	0.28	OW HSI =	0.28	OW HSI =	0.28

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Tangipahoa/Pontchartrain Shoreline Protection Area B1
Condition: Future With Project

Project Area:
Fresh.....
Intermediate. 100

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10	4	0.14	75	0.78
V2	% Aquatic	0	0.10	5	0.15	50	0.55
V3	Interspersion	%		%		%	
	Class 1		0.10		0.20	70	0.76
	Class 2						
	Class 3						
	Class 4			100		30	
	Class 5	100					
V4	%OW <= 1.5ft	67	0.85	67	0.85	95	0.80
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediat	1.00		1.00		1.00	
	Emergent Marsh HSI	=	0.24	EM HSI =	0.28	EM HSI =	0.82
	Open Water HSI	=	0.28	OW HSI =	0.33	OW HSI =	0.69

AAHU CALCULATION - EMERGENT MARSH

Project: Tangipahoa/Pontchartrain Shoreline Protection Area B1

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	0	0.24	0.00	
1	0	0.24	0.00	0.00
20	0	0.24	0.00	0.00
			AAHUs =	0.00

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	0	0.24	0.00	
1	4	0.28	1.12	0.53
20	75	0.82	61.84	475.89
			AAHUs	23.82

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	23.82
B. Future Without Project Emergent Marsh AAHUs	=	0.00
Net Change (FWP - FWOP) =		23.82

AAHU CALCULATION - OPEN WATER

Project: Tangipahoa/Pontchartrain Shoreline Protection Area B1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	100	0.28	28.30	
1	100	0.28	28.30	28.30
20	100	0.28	28.30	537.76
			AAHUs =	28.30

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	100	0.28	28.30	
1	96	0.33	32.15	30.26
20	25	0.69	17.16	547.46
			AAHUs	28.89

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	28.89
B. Future Without Project Open Water AAHUs	=	28.30
Net Change (FWP - FWOP) =		0.58

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	23.82
B. Open Water Habitat Net AAHUs	=	0.58
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		16.32

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Tangipahoa/Pontchartrain Shoreline Protection
Open Water - FWOP Benefits - Area B

Condition: Future Without Project

Project Area:
Fresh.....
Intermediate. 20

Variable		TY 0		TY 1		TY 20	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	99	0.99	0	0.10
V2	% Aquatic	0	0.10	0	0.10	0	0.10
V3	Interspersion	%		%		%	
	Class 1	100	1.00	100	1.00		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5					100	
V4	%OW <= 1.5ft	0	0.10	100	0.60	67	0.85
V5	Salinity (ppt)						
	fresh		1.00		1.00		1.00
	intermediate	3		3		3	
V6	Access Value						
	fresh		1.00		1.00		1.00
	intermediate	1.00		1.00		1.00	
	Emergent Marsh HSI =		1.00	EM HSI =	0.99	EM HSI =	0.24
	Open Water HSI =		0.29	OW HSI =	0.33	OW HSI =	0.28

AAHU CALCULATION - OPEN WATER

Project: Tangipahoa/Pontchartrain Shoreline Protection
Open Water - FWOP Benefits - Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.29	0.00	
1	1	0.33	0.33	0.16
20	20	0.28	5.66	59.80
			AAHUs =	3.00

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Grand/White Lakes Landbridge Protection
Option A - Rock Breakwaters
Condition: Future Without Project

Project Area:
Fresh..... 1,530
Intermediate..

Variable		TY 0		TY 1		TY 15	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	29	0.36	29	0.36	17	0.25
V2	% Aquatic	3	0.13	3	0.13	3	0.13
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	4	0.15	4	0.15	4	0.15
V5	Salinity (ppt) fresh intermediate	1	1.00	1	1.00	1	1.00
V6	Access Value fresh intermediate	0.10	0.37	0.10	0.37	0.10	0.37
	Emergent Marsh HSI =		0.42	EM HSI =	0.42	EM HSI =	0.34
	Open Water HSI =		0.23	OW HSI =	0.23	OW HSI =	0.23

Project: Grand/White Lakes Landbridge Protection
FWOP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	14	0.23				
V2	% Aquatic	1	0.11				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	% 100	0.20	%		%	
V4	%OW <= 1.5ft	2	0.12				
V5	Salinity (ppt) fresh intermediate	1	1.00				
V6	Access Value fresh intermediate	0.10	0.37				
	EM HSI =		0.32	EM HSI =		EM HSI =	
	OW HSI =		0.21	OW HSI =		OW HSI =	

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Grand/White Lakes Landbridge Protection
Option A - Rock Breakwaters
Condition: Future With Project

Project Area:
Fresh..... 1,530
Intermediate.

Variable		TY 0		TY 1		TY 10	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	29	0.36	30	0.37	30	0.37
V2	% Aquatic	3	0.13	3	0.13	5	0.15
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.20
	Class 2						
	Class 3						
	Class 4	100		100		100	
	Class 5						
V4	%OW <= 1.5ft	4	0.15	5	0.16	3	0.13
V5	Salinity (ppt)						
	fresh	1	1.00	1	1.00	1	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI =		0.42	EM HSI =	0.42	EM HSI =	0.42
	Open Water HSI =		0.23	OW HSI =	0.23	OW HSI =	0.24

Project: Grand/White Lakes Landbridge Protection
FWP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	28	0.35				
V2	% Aquatic	3	0.13				
V3	Interspersion	%		%		%	
	Class 1		0.20				
	Class 2						
	Class 3						
	Class 4	100					
	Class 5						
V4	%OW <= 1.5ft	3	0.13				
V5	Salinity (ppt)						
	fresh	1	1.00				
	intermediate						
V6	Access Value						
	fresh	0.10	0.37				
	intermediate						
	EM HSI =		0.41	EM HSI =		EM HSI =	
	OW HSI =		0.23	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Grand/White Lakes Landbridge Protection
Option A - Rock Breakwaters

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	451	0.42	187.28	
1	441	0.42	183.13	185.21
15	267	0.34	91.58	1893.61
20	216	0.32	70.02	403.19
			AAHUs =	124.10

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	451	0.42	187.28	
1	460	0.42	193.71	190.49
10	458	0.42	192.87	1739.61
20	429	0.41	175.63	1841.93
			AAHUs	188.60

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	188.60
B. Future Without Project Emergent Marsh AAHUs	=	124.10
Net Change (FWP - FWOP) =		64.50

AAHU CALCULATION - OPEN WATER

Project: Grand/White Lakes Landbridge Protection
Option A - Rock Breakwaters

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1079	0.23	246.75	
1	1089	0.23	249.03	247.89
15	1263	0.23	288.82	3764.99
20	1314	0.21	279.93	1422.55
			AAHUs =	271.77

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1079	0.23	246.75	
1	1070	0.23	245.58	246.16
10	1072	0.24	258.71	2269.27
20	1101	0.23	250.86	2548.50
			AAHUs	253.20

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	253.20
B. Future Without Project Open Water AAHUs	=	271.77
Net Change (FWP - FWOP) =		-18.57

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	64.50
B. Open Water Habitat Net AAHUs	=	-18.57
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		37.70

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Grand/White Lakes Landbridge Protection
Option B - A-Jacks
Condition: Future Without Project

Project Area:
Fresh..... 1,530
Intermediate..

Variable		TY 0		TY 1		TY 15	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	29	0.36	29	0.36	17	0.25
V2	% Aquatic	3	0.13	3	0.13	3	0.13
V3	Interspersion	%		%		%	
	Class 1		0.20		0.20		0.20
	Class 2						
	Class 3						
	Class 4	100		100		100	
	Class 5						
V4	%OW <= 1.5ft	4	0.15	4	0.15	4	0.15
V5	Salinity (ppt)						
	fresh	1	1.00	1	1.00	1	1.00
	intermediate						
V6	Access Value						
	fresh	0.10	0.37	0.10	0.37	0.10	0.37
	intermediate						
	Emergent Marsh HSI =		0.42	EM HSI =	0.42	EM HSI =	0.34
	Open Water HSI =		0.23	OW HSI =	0.23	OW HSI =	0.23

Project: Grand/White Lakes Landbridge Protection
FWOP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	14	0.23				
V2	% Aquatic	1	0.11				
V3	Interspersion	%		%		%	
	Class 1		0.20				
	Class 2						
	Class 3						
	Class 4	100					
	Class 5						
V4	%OW <= 1.5ft	2	0.12				
V5	Salinity (ppt)						
	fresh	1	1.00				
	intermediate						
V6	Access Value						
	fresh	0.10	0.37				
	intermediate						
	EM HSI =		0.32	EM HSI =		EM HSI =	
	OW HSI =		0.21	OW HSI =		OW HSI =	

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Fresh/Intermediate Marsh

Project: Grand/White Lakes Landbridge Protection
Option B - A-Jacks
Condition: Future With Project

Project Area:
Fresh..... 1,530
Intermediate.

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 10 Value	TY 10 SI
V1	% Emergent	29	0.36	30	0.37	28	0.35
V2	% Aquatic	3	0.13	3	0.13	5	0.15
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	4	0.15	5	0.16	5	0.16
V5	Salinity (ppt) fresh intermediate	1	1.00	1	1.00	1	1.00
V6	Access Value fresh intermediate	0.10	0.37	0.10	0.37	0.10	0.37
	Emergent Marsh HSI =		0.42	EM HSI =	0.42	EM HSI =	0.41
	Open Water HSI =		0.23	OW HSI =	0.23	OW HSI =	0.24

Project: Grand/White Lakes Landbridge Protection
FWP

Variable		TY 20 Value	TY 20 SI	Value	SI	Value	SI
V1	% Emergent	26	0.33				
V2	% Aquatic	4	0.14				
V3	Interspersion Class 1 Class 2 Class 3 Class 4 Class 5	% 100	 0.20 	%		%	
V4	%OW <= 1.5ft	6	0.17				
V5	Salinity (ppt) fresh intermediate	1	1.00				
V6	Access Value fresh intermediate	0.10	0.37				
		EM HSI =	0.40	EM HSI =		EM HSI =	
		OW HSI =	0.24	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Grand/White Lakes Landbridge Protection
Option B - A-Jacks

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	451	0.42	187.28	
1	441	0.42	183.13	185.21
15	267	0.34	91.58	1893.61
20	216	0.32	70.02	403.19
			AAHUs =	124.10

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	451	0.42	187.28	
1	459	0.42	193.29	190.28
10	435	0.41	178.09	1670.78
20	396	0.40	157.44	1676.88
			AAHUs	176.90

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	176.90
B. Future Without Project Emergent Marsh AAHUs	=	124.10
Net Change (FWP - FWOP) =		52.80

AAHU CALCULATION - OPEN WATER

Project: Grand/White Lakes Landbridge Protection
Option B - A-Jacks

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1079	0.23	246.75	
1	1089	0.23	249.03	247.89
15	1263	0.23	288.82	3764.99
20	1314	0.21	279.93	1422.55
			AAHUs =	271.77

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	1079	0.23	246.75	
1	1071	0.23	245.81	246.28
10	1095	0.24	266.09	2303.04
20	1134	0.24	268.92	2675.43
			AAHUs	261.24

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	261.24
B. Future Without Project Open Water AAHUs	=	271.77
Net Change (FWP - FWOP) =		-10.53

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	52.80
B. Open Water Habitat Net AAHUs	=	-10.53
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1		32.37

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: PTE-15viii Raccoon Island Restoration

The WVA for this project includes 3 areas. Total benefits for this project are as follows:

Area	AAHUs
1	41
2	42
3	0.48

TOTAL BENEFITS = 83 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration Area 1 — Project Area: 86

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	0	0.10	0	0.10	0	0.10
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1		0.10		0.10		0.10
	Class 2						
	Class 3						
	Class 4						
	Class 5	100		100		100	
V4	%OW <= 1.5ft	60	0.87	60	0.87	50	0.74
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.25**	**EM HSI =**	**0.25**	**EM HSI =**	**0.25**
	Open Water HSI	=	**0.69**	**OW HSI =**	**0.69**	**OW HSI =**	**0.68**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration Area 1 — Project Area: 86

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 3 Value	TY 3 SI
V1	% Emergent	0	0.10	25	0.33	97	0.97
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1		0.10	100	1.00	100	1.00
	Class 2						
	Class 3						
	Class 4						
	Class 5	100					
V4	%OW <= 1.5ft	60	0.87	100	0.50	100	0.50
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	0.0001	0.10	1.00	1.00
	Emergent Marsh HSI	=	**0.25**	**EM HSI =**	**0.40**	**EM HSI =**	**0.98**
	Open Water HSI	=	**0.69**	**OW HSI =**	**0.29**	**OW HSI =**	**0.73**

Project: Raccoon Island Restoration
FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	87	0.88				
V2	% Aquatic	0	0.30				
V3	Interspersion	%		%		%	
	Class 1	85	0.88				
	Class 2						
	Class 3						
	Class 4	15					
	Class 5						
V4	%OW <= 1.5ft	100	0.50				
V5	Salinity (ppt)	22	0.93				
V6	Access Value	1.00	1.00				
		EM HSI =	0.91	EM HSI =		EM HSI =	
		OW HSI =	0.72	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Raccoon Island Restoration
Area 1

Future Without Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	0	0.25	0.00	
1	0	0.25	0.00	0.00
20	0	0.25	0.00	0.00
			AAHUs =	0.00

Future With Project TY	Marsh Acres	x HSI	Total HUs	Cummulative HUs
0	0	0.25	0.00	
1	21	0.40	8.45	3.70
3	83	0.98	81.01	77.60
20	75	0.91	68.19	1266.61
			AAHUs	67.40

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	67.40
B. Future Without Project Emergent Marsh AAHUs	=	0.00
Net Change (FWP - FWOP) =		67.40

AAHU CALCULATION - OPEN WATER

Project: Raccoon Island Restoration
Area 1

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	86	0.69	59.51	
1	86	0.69	59.51	59.51
20	86	0.68	58.69	1122.87
			AAHUs =	59.12

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	86	0.69	59.51	
1	0	0.29	0.00	23.94
3	3	0.73	2.19	1.75
20	11	0.72	7.94	86.37
			AAHUs	5.60

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	5.60
B. Future Without Project Open Water AAHUs	=	59.12
Net Change (FWP - FWOP) =		-53.52

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	67.40
B. Open Water Habitat Net AAHUs	=	-53.52
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		40.53

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration Area 2 — Project Area: 93

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 13 Value	TY 13 SI
V1	% Emergent	62	0.66	57	0.61	0	0.10
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1	60	0.68	60	0.68		0.10
	Class 2						
	Class 3						
	Class 4	40		40			
	Class 5					100	
V4	%OW <= 1.5ft	50	0.74	50	0.74	60	0.87
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.75**	**EM HSI =**	**0.72**	**EM HSI =**	**0.25**
	Open Water HSI	=	**0.73**	**OW HSI =**	**0.73**	**OW HSI =**	**0.69**

Project: Raccoon Island Restoration

FWOP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	0	0.10				
V2	% Aquatic	0	0.30				
V3	Interspersion	%		%		%	
	Class 1		0.10				
	Class 2						
	Class 3						
	Class 4						
	Class 5	100					
V4	%OW <= 1.5ft	40	0.61				
V5	Salinity (ppt)	22	0.93				
V6	Access Value	1.00	1.00				
	EM HSI =		**0.25**	**EM HSI =**		**EM HSI =**	
	OW HSI =		**0.67**	**OW HSI =**		**OW HSI =**	

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration Area 2 — Project Area: 93

Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 10 Value	TY 10 SI
V1	% Emergent	62	0.66	66	0.69	98	0.98
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1	60	0.68	60	0.68	100	1.00
	Class 2						
	Class 3						
	Class 4	40		40			
	Class 5						
V4	%OW <= 1.5ft	50	0.74	50	0.74	100	0.50
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI =		0.75	EM HSI =	0.77	EM HSI =	0.98
	Open Water HSI =		0.73	OW HSI =	0.73	OW HSI =	0.73

Project: Raccoon Island Restoration FWP

Variable		TY 20 Value	TY 20 SI				
V1	% Emergent	98	0.98				
V2	% Aquatic	0	0.30				
V3	Interspersion	%		%		%	
	Class 1	100	1.00				
	Class 2						
	Class 3						
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	100	0.50				
V5	Salinity (ppt)	22	0.93				
V6	Access Value	1.00	1.00				
	EM HSI =		0.98	EM HSI =		EM HSI =	
	OW HSI =		0.73	OW HSI =		OW HSI =	

AAHU CALCULATION - EMERGENT MARSH

Project: Raccoon Island Restoration
Area 2

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	58	0.75	43.31	
1	53	0.72	38.02	40.64
13	0	0.25	0.00	178.81
20	0	0.25	0.00	0.00
			AAHUs =	10.97

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	58	0.75	43.31	
1	61	0.77	46.96	45.12
10	91	0.98	89.29	603.63
20	91	0.98	89.29	892.94
			AAHUs	77.08

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	77.08
B. Future Without Project Emergent Marsh AAHUs	=	10.97
Net Change (FWP - FWOP) =		66.11

AAHU CALCULATION - OPEN WATER

Project: Raccoon Island Restoration
Area 2

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	35	0.73	25.39	
1	40	0.73	29.02	27.20
13	93	0.69	64.35	563.75
20	93	0.67	62.58	444.26
			AAHUs =	51.76

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	35	0.73	25.39	
1	32	0.73	23.21	24.30
10	2	0.73	1.46	111.29
20	2	0.73	1.46	14.62
			AAHUs	7.51

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	7.51
B. Future Without Project Open Water AAHUs	=	51.76
Net Change (FWP - FWOP) =		-44.25

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	66.11
B. Open Water Habitat Net AAHUs	=	-44.25
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		41.59

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration Area 3 — Project Area: 33

Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 6 Value	TY 6 SI
V1	% Emergent	100	1.00	82	0.84	0	0.10
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1	100	1.00	80	0.84		0.10
	Class 2						
	Class 3						
	Class 4			20			
	Class 5					100	
V4	%OW <= 1.5ft	100	0.50	100	0.50	80	1.00
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI =		**0.99**	**EM HSI =**	**0.88**	**EM HSI =**	**0.25**
	Open Water HSI =		**0.73**	**OW HSI =**	**0.72**	**OW HSI =**	**0.70**

Project: Raccoon Island Restoration

FWOP

Variable		TY 20 Value	TY 20 SI	Value	SI	Value	SI
V1	% Emergent	0	0.10				
V2	% Aquatic	0	0.30				
V3	Interspersion	%		%		%	
	Class 1		0.10				
	Class 2						
	Class 3						
	Class 4						
	Class 5	100					
V4	%OW <= 1.5ft	20	0.36				
V5	Salinity (ppt)	22	0.93				
V6	Access Value	1.00	1.00				
		EM HSI =	**0.25**	**EM HSI =**		**EM HSI =**	
		OW HSI =	**0.65**	**OW HSI =**		**OW HSI =**	

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Saline Marsh

Project: Raccoon Island Restoration
Area 3

Project Area: 33

Condition: Future With Project

Variable		TY 0		TY 1		TY 7	
		Value	SI	Value	SI	Value	SI
V1	% Emergent	100	1.00	87	0.88	0	0.10
V2	% Aquatic	0	0.30	0	0.30	0	0.30
V3	Interspersion	%		%		%	
	Class 1	100	1.00	85	0.88		0.10
	Class 2						
	Class 3						
	Class 4			15			
	Class 5					100	
V4	%OW <= 1.5ft	100	0.50	100	0.50	80	1.00
V5	Salinity (ppt)	22	0.93	22	0.93	22	0.93
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.99**	**EM HSI =**	**0.91**	**EM HSI =**	**0.25**
	Open Water HSI	=	**0.73**	**OW HSI =**	**0.72**	**OW HSI =**	**0.70**

Project: Raccoon Island Restoration
FWP

Variable		TY 20					
		Value	SI	Value	SI	Value	SI
V1	% Emergent	0	0.10				
V2	% Aquatic	0	0.30				
V3	Interspersion	%		%		%	
	Class 1		0.10				
	Class 2						
	Class 3						
	Class 4						
	Class 5	100					
V4	%OW <= 1.5ft	20	0.36				
V5	Salinity (ppt)	22	0.93				
V6	Access Value	1.00	1.00				
		EM HSI =	**0.25**	**EM HSI =**		**EM HSI =**	
		OW HSI =	**0.65**	**OW HSI =**		**OW HSI =**	

AAHU CALCULATION - EMERGENT MARSH

Project: Raccoon Island Restoration
Area 3

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	33	0.99	32.73	
1	27	0.88	23.69	28.10
6	0	0.25	0.00	45.16
20	0	0.25	0.00	0.00
			AAHUs =	3.66

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	33	0.99	32.73	
1	29	0.91	26.37	29.49
7	0	0.25	0.00	60.05
20	0	0.25	0.00	0.00
			AAHUs	4.48

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	4.48
B. Future Without Project Emergent Marsh AAHUs	=	3.66
Net Change (FWP - FWOP) =		0.81

AAHU CALCULATION - OPEN WATER

Project: Raccoon Island Restoration
Area 3

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.73	0.00	
1	6	0.72	4.32	2.17
6	33	0.70	23.15	69.06
20	33	0.65	21.58	313.08
			AAHUs =	19.22

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	0	0.73	0.00	
1	4	0.72	2.89	1.45
7	33	0.70	23.15	78.71
20	33	0.65	21.58	290.72
			AAHUs	18.54

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	18.54
B. Future Without Project Open Water AAHUs	=	19.22
Net Change (FWP - FWOP) =		-0.67

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	0.81
B. Open Water Habitat Net AAHUs	=	-0.67
Net Benefits= (3.5xEMAAHUs+OWAAHUs)/4.5		0.48

WETLAND VALUE ASSESSMENT

MULTIPLE AREA BENEFITS SUMMARY SHEET

Project: BA-17a Amoretta Diversion

The WVA for this project includes 3 areas. Total benefits for this project are as follows:

Area	AAHUs
A	15
B	54
C	64

TOTAL BENEFITS = 133 AAHUS

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Amoretta Diversion
Area A
Project Area: 1,447
Condition: Future Without Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	76	0.78	76	0.78	72	0.75
V2	% Aquatic	20	0.28	20	0.28	20	0.28
V3	Interspersion	%		%		%	
	Class 1	30	0.65	30	0.65	20	0.60
	Class 2	35		35		40	
	Class 3	35		35		40	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	60	0.87
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
	Emergent Marsh HSI	=	**0.83**	**EM HSI =**	**0.83**	**EM HSI =**	**0.80**
	Open Water HSI	=	**0.55**	**OW HSI =**	**0.55**	**OW HSI =**	**0.55**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Amoretta Diversion
Area A
Project Area: 1,447
Condition: Future With Project

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	76	0.78	76	0.78	73	0.76
V2	% Aquatic	20	0.28	25	0.33	50	0.55
V3	Interspersion	%		%		%	
	Class 1	30	0.65	30	0.65	20	0.60
	Class 2	35		35		40	
	Class 3	35		35		40	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	60	0.87	60	0.87	70	1.00
V5	Salinity (ppt)	8	1.00	5	1.00	5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.83**	**EM HSI =**	**0.83**	**EM HSI =**	**0.81**
	Open Water HSI	=	**0.55**	**OW HSI =**	**0.58**	**OW HSI =**	**0.74**

AAHU CALCULATION - EMERGENT MARSH

Project: Amoretta Diversion
Area A

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1104	0.83	914.48	
1	1101	0.83	912.00	913.24
20	1043	0.80	834.27	16584.27
			AAHUs =	874.88

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	1104	0.83	914.48	
1	1101	0.83	912.00	913.24
20	1053	0.81	848.32	16719.55
			AAHUs	881.64

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	881.64
B. Future Without Project Emergent Marsh AAHUs	=	874.88
Net Change (FWP - FWOP) =		6.76

AAHU CALCULATION - OPEN WATER

Project: Amoretta Diversion
Area A

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	343	0.55	188.36	
1	346	0.55	190.01	189.18
20	404	0.55	220.36	3899.18
			AAHUs =	204.42

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	343	0.55	188.36	
1	346	0.58	201.74	195.03
20	394	0.74	289.96	4647.85
			AAHUs	242.14

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	242.14
B. Future Without Project Open Water AAHUs	=	204.42
Net Change (FWP - FWOP) =		37.73

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	6.76
B. Open Water Habitat Net AAHUs	=	37.73
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		15.36

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Amoretta Diversion
Area B
Condition: Future Without Project

Project Area: 1,269

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	56	0.60	55	0.60	48	0.53
V2	% Aquatic	5	0.15	5	0.15	5	0.15
V3	Interspersion	%		%		%	
	Class 1	65	0.81	65	0.81	60	0.78
	Class 2	10		10		10	
	Class 3	25		25		30	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	45	0.68	45	0.68	40	0.61
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
	Emergent Marsh HSI	=	**0.73**	**EM HSI =**	**0.72**	**EM HSI =**	**0.68**
	Open Water HSI	=	**0.43**	**OW HSI =**	**0.43**	**OW HSI =**	**0.42**

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Amoretta Diversion
Area B
Condition: Future With Project

Project Area: 1,269

Variable		TY 0 Value	TY 0 SI	TY 1 Value	TY 1 SI	TY 20 Value	TY 20 SI
V1	% Emergent	56	0.60	56	0.60	54	0.59
V2	% Aquatic	5	0.15	20	0.28	40	0.46
V3	Interspersion	%		%		%	
	Class 1	65	0.81	65	0.81	65	0.81
	Class 2	10		10		10	
	Class 3	25		25		25	
	Class 4						
	Class 5						
V4	%OW <= 1.5ft	45	0.68	45	0.68	45	0.68
V5	Salinity (ppt)	8	1.00	5	1.00	5	1.00
V6	Access Value	1.00	1.00	1.00	1.00	1.00	1.00
	Emergent Marsh HSI	=	**0.73**	**EM HSI =**	**0.73**	**EM HSI =**	**0.72**
	Open Water HSI	=	**0.43**	**OW HSI =**	**0.55**	**OW HSI =**	**0.67**

AAHU CALCULATION - EMERGENT MARSH

Project: Amoretta Diversion
Area B

Future Without Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	706	0.73	514.57	
1	701	0.72	506.68	510.62
20	605	0.68	409.24	8687.13
			AAHUs =	459.89

Future With Project			Total	Cummulative
TY	Marsh Acres	x HSI	HUs	HUs
0	706	0.73	514.57	
1	705	0.73	513.84	514.21
20	679	0.72	486.65	9503.66
			AAHUs	500.89

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Emergent Marsh AAHUs	=	500.89
B. Future Without Project Emergent Marsh AAHUs	=	459.89
Net Change (FWP - FWOP) =		41.01

AAHU CALCULATION - OPEN WATER

Project: Amoretta Diversion
Area B

Future Without Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	563	0.43	241.25	
1	568	0.43	243.39	242.32
20	664	0.42	279.89	4973.33
			AAHUs =	260.78

Future With Project			Total	Cummulative
TY	Water Acres	x HSI	HUs	HUs
0	563	0.43	241.25	
1	564	0.55	308.35	274.78
20	590	0.67	396.75	6688.04
			AAHUs	348.14

NET CHANGE IN AAHUs DUE TO PROJECT		
A. Future With Project Open Water AAHUs	=	348.14
B. Future Without Project Open Water AAHUs	=	260.78
Net Change (FWP - FWOP) =		87.36

TOTAL BENEFITS IN AAHUs DUE TO PROJECT		
A. Emergent Marsh Habitat Net AAHUs	=	41.01
B. Open Water Habitat Net AAHUs	=	87.36
Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6		53.88