16th PRIORITY PROJECT LIST REPORT
(APPELLINGCES)

PREPARED BY:

LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION
TASK FORCE

March 2007
Coastal Wetlands Planning, Protection, and Restoration Act
16th Priority Project List Report

Table of Contents

Volume 1……………………………………………………………………………………………………Main Report

Volume 2………………………………………………………………………………………………… Appendices

Appendix A............................... Summary and Complete Text of the CWPPRA
Appendix B......Wetland Value Assessment Methodology and Community Models
Appendix C....................... Engineering Cost Estimates for Candidate Projects
Appendix D...............................Economic Analyses for Candidate Projects
Appendix E...............................Wetland Value Assessment
Appendix F...............................CWPPRA Prioritization Criteria
Appendix G...............................Public Support for Candidate Projects
Appendix H............................... Project Status Summary Report by from 1st through 16th Priority Project Lists Lead Agency, Basin and Priority List
Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix A

Summary and Complete Text of the CWPPRA
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.


- 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 under this section 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

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:
Coastal, Wetlands Planning, Protection and Restoration Act (CWPPRA)

Funding History:

(1) CWPPRA ORIGINAL FUNDING: Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508, Title IX, Section 11211, dated 05 Nov 1990, effective 01 Dec 1990)

Provided dedicated funding for CWPPRA via the transfer of small engine fuel taxes from the Highway Trust Fund to the Sport Fish Restoration Account through FY94, thus providing CWPPRA with funds through FY95.

(2) CWPPRA 2nd FUNDING: Intermodal Surface Transportation Efficiency Act of 1991 (Public Law 102-240, Title VIII, Section 8002, dated 18 Dec 1991)

Provided dedicated funding for CWPPRA via the transfer of small engine fuel taxes from the Highway Trust Fund to the Sport Fish Restoration Account through FY97, thus providing CWPPRA with funds through FY98.

(3) CWPPRA 3rd FUNDING: Transportation Equity Act for the 21st Century (Public Law 105-178, Title IX, Section 9002, dated 09 Jun 1998)
Provided dedicated funding for CWPPRA via the transfer of small engine fuel taxes from the Highway Trust Fund to the Sport Fish Restoration Account through FY05, thus providing CWPPRA with funds through FY06.

(4) **CWPPRA 4th Funding:** Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFTEA LU) (Public Law 109-59, Title XI, Section 11101, dated 10Aug2005)

Provided dedicated funding for CWPPRA via the transfer of small engine fuel taxes from the Highway Trust Fund to the Sport Fish Restoration Account through FY11, thus providing CWPPRA with funds through FY12.

**Authorization History:**

(1) **CWPPRA ORIGINAL AUTHORIZATION:** Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (Public Law 101-646, Title III, dated 29 Nov 1990)

Authorized CWPPRA through 1999.

(2) **CWPPRA 2nd AUTHORIZATION:** Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2000 (Public Law 106-74, Title IV, General Provisions, dated 20Oct1999)

Sec. 430. Section 4(a) of the Act of August 9, 1950 (16 U.S.C. 777c(a)), is amended in the second sentence by striking “1999” and inserting “2000”.

(3) **CWPPRA 3rd AUTHORIZATION:** Fish and Wildlife Programs Improvement and Nation Wildlife Refuge System Centennial Act of 2000 (Public Law 106-408, Section 123, dated 01 Nov 2000)

Sec. 123. Section 4(a) of the Dingell-Johnson Sport Fish Restoration Act (16 U.S.C. 777c(a) is amended in the second sentence by striking “2000” and inserting “2009”).

(4) **CWPPRA 4th AUTHORIZATION:** Consolidated Appropriations Act (Public Law 108-447, Division D, Title X, Section 114, dated 08Dec2004)

Sec. 114. Coastal Wetland Conservation Project Funding.

(b) Period of Authorization. — Section 4(a) of the Dingell-Johnson Sport Fish Restoration Act 16 U.S.C. 777c (a) is amended in the second sentence by striking “2009” and inserting “2019”.

**Additional History:**

(1) **CWPPRA PRESIDENTIAL STATEMENT:**


CONGRESSIONAL RECORD, Vol. 136 (1990):

Oct. 1, considered and passed House.
Today I am signing H.R. 5390, "An Act to prevent and control infestation of the coastal inland waters of the United States by the zebra mussel and other nonindigenous aquatic species to reauthorize the National Sea Grant College Program, and for other purposes." This Act is designed to minimize, monitor, and control nonindigenous species that become established in the United States, particularly the zebra mussel; establish wetlands protection and restoration programs in Louisiana and nationally; and promote fish and wildlife conservation in the Great Lakes.

Title III of this Act designates a State official not subject to executive control as a member of the Louisiana Coastal Wetlands Conservation and Restoration Task Force. This official would be the only member of the Task Force whose appointment would not conform to the Appointments Clause of the Constitution.

The Task Force will set priorities for wetland restoration and formulate Federal conservation plans. Certain of its duties, which ultimately determine funding levels for particular restoration projects, are an exercise of significant authority that must be undertaken by an officer of the United States, appointed in accordance with the Appointments Clause, Article II, sec. 2, cl. 2, of the Constitution.

In order to constitutionally enforce this program, I instruct the Task Force to promulgate its priorities list under section 303(a)(2) “by a majority vote of those Task Force members who are present and voting,” and to consider the State official to be a nonvoting member of the Task Force for this purpose. Moreover, the Secretary of the Army should construe “lead Task Force member” to include only those members appointed in conformity with the Appointments Clause.

George Bush

The White House,


SEC. 532. COASTAL WETLANDS RESTORATION PROJECTS, LOUISIANA. Section 303(f) of the Coastal Wetlands Planning, Protection and Restoration Act (16 U.S.C. 3952(f); 104 Stat. 4782-4783) is amended--

(1) in paragraph (4) by striking “and (3)” and inserting “(3), and (5)”;
and
(2) by adding at the end the following:

“(5) Federal share in calendar 1996 and 1997, -- Notwithstanding paragraphs (1) and (2), under approval of the conservation plan under section 304 and a determination by the Secretary that a reduction in the non-Federal share is warranted, amounts made available in accordance with section 306 to carry out

A-13
coastal wetlands restoration projects under this section in calendar years 1996 and 1997 shall provide 90 percent of the cost of such project.”.

(Note: Calendar years 1996 and 1997 correspond to Priority Project Lists 5 and 6, respectively.)

(3) **CWPPRA FUNDING AMENDMENT:** Consolidated Appropriations Act (Public Law 108-447, Division D, Title X, Section 114, dated 08Dec2004)

*SEC. 114. COASTAL WETLAND CONSERVATION PROJECT FUNDING.*

(a) **FUNDING.** — Section 306 of the Coastal Wetlands Planning, Protection, and Restoration Act (16 U.S.C. 3955) is amended

(1) in subsection (a), by striking “, not to exceed $70,000,000,”;

(2) in subsection (b), by striking “, not to exceed $15,000,000”; and

(3) in subsection 9c), by striking “, not to exceed $15,000,000.”.

(4) **CWPPRA ANNUAL APPROPRIATIONS AND CREATION OF SPORT FISH RESTORATION AND BOATING SAFETY TRUST FUND AMENDMENT:** Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFTEA LU) (Public Law 109-59, Title XI, Section 10113 and 11115, dated 10Aug2005)

*SEC. 10113. DIVISION OF ANNUAL APPROPRIATIONS.* Section 4 (16 U.S.C. 777c) is amended--

(1) by striking subsections (a) through (c) and redesignating subsections (d), (e), (f), and (g) as subsections (b), (c), (d), and (e), respectively;

(2) by inserting before subsection (b), as redesignated by paragraph (1), the following:

“(a) In General. -- For each of fiscal years 2006 through 2009, the balance of each annual appropriation made in accordance with the provisions of section 3 remaining after the distributions for administrative expenses and other purposes under subsection (b) and for multistate conservation grants under section 14 shall be distributed as follows:

“(1) Coastal wetlands. -- An amount equal to 18.5 percent to the Secretary of the Interior for distribution as provided in the Coastal Wetlands Planning, Protection, and Restoration Act (16 U.S.C. 3951 et seq.).”

*Sec. 11115. ELIMINATION OF AQUATIC RESOURCES TRUST FUND AND TRANSFORMATION OF SPORT FISH RESTORATION ACCOUNT.*

(a) **Simplification of Funding for Boat Safety Account.**

(1) In general.--Paragraph (4) of section 9503(c) (relating to transfers from Trust Fund for motorboat fuel taxes) is amended--

(A) by striking so much of that paragraph as precedes subparagraph (D),

(B) by redesignating subparagraphs (D) and (E) as subparagraphs (C) and (D), respectively, and
(C) by inserting before subparagraph (C) (as so redesignated) the following:
``(4) Transfers from the trust fund for motorboat fuel taxes.--
  ``(A) Transfer to land and water conservation fund.--
  ``(i) In general.--The Secretary shall pay
from time to time from the Highway Trust Fund into
the land and water conservation fund provided for
in title I of the Land and Water Conservation Fund
Act of 1965 amounts (as determined by the
Secretary) equivalent to the motorboat fuel taxes
received on or after October 1, 2005, and before
October 1, 2011.
  ``(ii) Limitation.--The aggregate amount
transferred under this subparagraph during any
fiscal year shall not exceed $1,000,000.
  ``(B) Excess funds transferred to sport fish restoration and boating trust
fund.-Any amounts in the Highway Trust Fund--
``(i) which are attributable to motorboat fuel
taxes, and
``(ii) which are not transferred from the
Highway Trust Fund under subparagraph (A),
shall be transferred by the Secretary from the Highway
Trust Fund into the Sport Fish Restoration and Boating
Trust Fund.".
(2) Conforming amendment.--Paragraph (5) of section 9503(c)
is amended by striking ``Account in the Aquatic Resources'' in
subparagraph (A) and inserting ``and Boating".

(b) Merging of Accounts.--
(1) In general.--Subsection (a) of section 9504 is amended
to read as follows:
``(a) Creation of Trust Fund.--There is hereby established in the
Treasury of the United States a trust fund to be known as the 'Sport
Fish Restoration and Boating Trust Fund'. Such
Trust Fund shall consist of such amounts as may be appropriated,
credited, or paid to it as provided in this section, section 9503(c)(4),
section 9503(c)(5), or section 9602(b).".
(2) Conforming amendments.--
(A) Subsection (b) of section 9504, as amended by
section 11101 of this Act, is amended--
(i) by striking ``Account'' in the heading
thereof and inserting ``and Boating Trust Fund'',
(ii) by striking ``Account'' both places it
appears in paragraphs (1) and (2) and inserting
``and Boating Trust Fund'', and
(iii) by striking ``account'' both places it
appears in the headings for paragraphs (1) and (2) and
inserting “trust fund”.
(B) Subsection (d) of section 9504, as amended by
section 11101 of this Act, is amended--
(i) by striking "Aquatic Resources" in the
heading thereof,
(ii) by striking "any Account in the Aquatic
Resources" in paragraph (1) and inserting "the
Sport Fish Restoration and Boating",
(iii) by striking "any such Account" in
paragraph (1) and inserting "such Trust Fund".
(C) Subsection (e) of section 9504 is amended by
striking "Boat Safety Account and Sport Fish
Restoration Account" and inserting "Sport Fish
Restoration and Boating Trust Fund".
(D) Section 9504 is amended by striking "aquatic
resources" in the heading thereof and inserting "sport
fish restoration and boating".
(E) The item relating to section 9504 in the table
of sections for subchapter A of chapter 98 is amended by
striking "aquatic resources" and inserting "sport
fish restoration and boating".
(F) Paragraph (2) of section 1511(e) of the Homeland
Security Act of 2002 (6 U.S.C. 551(e)) is amended by
striking "Aquatic Resources Trust Fund of the Highway
Trust Fund" and inserting "Sport Fish Restoration and
Boating Trust Fund".
(c) Phaseout of Boat Safety Account.--Subsection (c) of section 9504
is amended to read as follows:
``(c) Expenditures From Boat Safety Account.--Amounts remaining in
the Boat Safety Account on October 1, 2005, and amounts thereafter
credited to the Account under section 9602(b), shall be available,
without further appropriation, for making expenditures before October 1,
2010, to carry out the purposes of section 15 of the Dingell-Johnson
Sport Fish Restoration Act (as in effect on the date of the enactment of
the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A
Legacy for Users). For purposes of section 9602, the Boat Safety Account
shall be treated as a Trust Fund established by this subchapter.".
Coastal Wetlands Planning, Protection, and
Restoration Act
16th Priority Project List Report
Appendix B
Wetland Value Assessment Methodology and Community Models
Appendix B

Wetland Value Assessment Methodology and Community Models

Table of Contents

I. BARRIER HEADLAND COMMUNITY MODEL ........................................ B-1
   INTRODUCTION .............................................................................. B-1
   VARIABLE SELECTION ................................................................. B-1
   SUITABILITY INDEX GRAPH DEVELOPMENT ............................... B-2
   HABITAT SUITABILITY INDEX FORMULA ..................................... B-3
   BENEFIT ASSESSMENT ................................................................. B-3
   WETLAND VALUE ASSESSMENT COMMUNITY MODEL
       Barrier Headland ................................................................. B-4

II. BARRIER ISLAND COMMUNITY MODEL ........................................ B-10
   INTRODUCTION .............................................................................. B-10
   VARIABLE SELECTION ................................................................. B-10
   SUITABILITY INDEX GRAPH DEVELOPMENT ............................... B-11
   HABITAT SUITABILITY INDEX FORMULA ..................................... B-15
   BENEFIT ASSESSMENT ................................................................. B-15
   WETLAND VALUE ASSESSMENT COMMUNITY MODEL
       Barrier Island ................................................................. B-16

   Attachment A: Marsh Edge and Interspersion Classes ............... B-27

III. COASTAL CHENIER/RIDGE COMMUNITY MODEL ....................... B-30
   INTRODUCTION .............................................................................. B-30
   VARIABLE SELECTION ................................................................. B-30
   SUITABILITY INDEX GRAPH DEVELOPMENT ............................... B-31
   HABITAT SUITABILITY INDEX FORMULA ..................................... B-32
   BENEFIT ASSESSMENT ................................................................. B-33
WETLAND VALUE ASSESSMENT COMMUNITY MODEL

Coastal Chenier/Ridge ......................... B-34

IV. EMERGENT MARSH COMMUNITY MODELS ......................... B-37

  INTRODUCTION .............................................. B-37
  VARIABLE SELECTION ................................. B-37
  SUITABILITY INDEX GRAPH DEVELOPMENT ........... B-38
  HABITAT SUITABILITY INDEX FORMULAS ............... B-42
  BENEFIT ASSESSMENT ................................. B-43

WETLAND VALUE ASSESSMENT COMMUNITY MODELS

  Fresh/Intermediate Marsh Model .................. B-44
  Brackish Marsh Model ............................... B-51
  Saline Marsh Model ................................. B-59
  Attachment B: Marsh Edge and Interspersion Classes ........ B-66
  Attachment C: Procedure for Calculating Access Value .... B-68

V. SWAMP COMMUNITY MODEL ................................. B-72

  INTRODUCTION .............................................. B-72
  VARIABLE SELECTION ................................. B-72
  SUITABILITY INDEX GRAPH DEVELOPMENT ........... B-73
  HABITAT SUITABILITY INDEX FORMULAS ............... B-75
  BENEFIT ASSESSMENT ................................. B-75

WETLAND VALUE ASSESSMENT COMMUNITY MODELS

  Swamp ................................................. B-76
Wetland Value Assessment Methodology

I. Barrier Headland Community Model

INTRODUCTION

The barrier headland model was developed to determine the wetland benefits of headland restoration projects and was developed by an interagency/academic workgroup consisting of individuals with backgrounds in wildlife ecology, fisheries ecology, geomorphology, and plant ecology. The barrier headland model has been developed for determining the suitability of barrier headland habitat along the Louisiana coast in providing resting, foraging, breeding, and nursery habitat to a diverse assemblage of fish and wildlife species.

The barrier island model was developed to evaluate traditional barrier island habitat along the Louisiana coast; those containing emergent habitat surrounded by open water. However, non-barrier island shorelines (i.e., headlands) also contain barrier island-type habitats such as beach, dune, and supratidal habitats but do not provide the same functions as barrier islands. Application of the barrier island model to those areas was not practical because many of the variables contained within the barrier island model do not apply to headland areas. Therefore, this model was developed to complement the barrier island model.

The barrier headland model should be applied to shoreline areas along the coast which consist of beach, dune, and supratidal habitat and which naturally decrease in elevation to an intertidal marsh. By nature, barrier headlands are contiguous with the mainland marsh and have not yet detached and begun formation of a barrier island. Conversely, the barrier island model is applied to detached headlands which have formed barrier islands and are gulfward of bay or lake systems. This model has been designed to function at a community level and therefore attempts to define an optimal combination of habitat conditions for all fish and wildlife species utilizing barrier headlands.

VARIABLE SELECTION

As with barrier islands, headlands consist of many different habitat components including surf zone, beach, dune, supratidal marsh (i.e., swale), and unvegetated flats or washover areas. A key assumption in model development was that for a barrier headland to provide optimal conditions for fish and wildlife, all of the above habitat components should exist. Unlike the barrier island model which encompasses intertidal and subtidal habitats, this model does not. Those habitat types exist landward of the headland and should be evaluated using the appropriate marsh model.

The variables selected for this model were those variables within the barrier island model which could be applied to barrier headland habitat. The model development group agreed that barrier headlands provide many of the same functions as barrier islands such as nesting and resting sites for birds and other wildlife, storm surge protection of interior marshes, and proximity to gulf/marine foraging habitat. Furthermore, barrier headlands
consist of many of the same habitat components as barrier islands such as surf zone, beach, dune, swale, and woody areas. Therefore, the group agreed that those variables within the barrier island model which address dune and supratidal habitats, vegetative cover, woody vegetation, and beach zone features should be included in the barrier headland model. The final list of variables included in this model are: 1) percent of the subaerial area that is classified as dune habitat; 2) percent of the subaerial area that is classified as supratidal habitat; 3) percent vegetative cover of dune and supratidal habitats; 4) percent vegetative cover by woody species; and 5) beach/surf zone features.

**SUITABILITY INDEX GRAPH DEVELOPMENT**

Suitability Index graph development was very similar to the process used for other community models developed for CWPPRA. The suitability index graphs from the barrier island community model were modified so that the variable-habitat quality relationships corresponded to barrier headland habitat. The process of SI graph development is one of constant evolution, feedback, and refinement; the form of each SI graph was decided upon through consensus among EnvWG members.

The Suitability Index graphs were developed according to the following assumptions.

**Variable V<sub>1</sub> - Percent of the total project area that is classified as dune habitat.** Dune habitat is defined as subaerial habitat ≥ 5 ft. NAVD88 and encompasses foredune, dune, and reardune. Although dune habitat occurs at elevations below 5 ft. NAVD88, lower-elevation dunes are more ephemeral and more frequently overwashed, which reduces their habitat value. Lower-elevation dunes often consist of vegetation more commonly associated with swale habitat and lack a high percentage of “typical” dune species.

Suitability index graph relationships for this variable were determined by: 1) reviewing profiles and cross-sections of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of habitat distribution on the islands, and 3) field knowledge of those involved in development of the model.

**Variable V<sub>2</sub> - Percent of the total project area that is classified as supratidal habitat.** Supratidal habitat occurs from 2.0 ft. NAVD88 to 4.9 ft. NAVD88. This habitat type primarily encompasses swale and may include low-elevation dune and beach habitat.

Suitability index graph relationships for this variable were determined by: 1) reviewing profiles and cross-sections of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of habitat distribution on the islands, and 3) field knowledge of those involved in development of the model.

**Variable V<sub>3</sub> - Percent vegetative cover of dune and supratidal habitats.** Common dune species include beach tea (*Croton punctatus*), bitter panicum (*Panicum amarum*), morningglory (*Ipomoea sp.*), marshhay cordgrass (*Spartina patens*), and *Heterotheca subaxillaris*. Common foredune/high beach species include sea rocket (*Cakile fusiformis*), sea purslane (*Sesuvium portulacastrum*), and seaside heliotrope (*Heliotropium curassavicum*).

Common supratidal species include goldenrod (*Solidago sempervirens*), marshhay cordgrass (*Spartina patens*), saltgrass (*Distichlis spicata*), deerpea (*Vigna luteola*), eastern baccharis (*Baccharis halimifolia*), marshelder (*Iva frutescens*), sea ox-eye (*Borrichia*...
frutescens), glasswort (Salicornia bigelovii, S. virginica), saltwort (Batis maritima), black mangrove (Avicennia germinans), beach pea (Strophostyles helvola), seashore paspalum (Paspalum vaginatum), Heterotheca subaxillaris, Fimbristylis castanea, Suaeda linearis, smooth cordgrass (Spartina alterniflora), Sabatia stellaris and seaside gerardia (Agalinis maritima).

Suitability index graph relationships for this variable were determined by: 1) reviewing vegetative cover transects of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of vegetative cover, and 3) field knowledge of those involved in development of the model.

Variable V₄ - Percent vegetative cover by woody species. This variable is intended to capture the habitat value of areas vegetated by woody species. Common woody species include black mangrove (Avicennia germinans), eastern baccharis (Baccharis halimifolia), wax myrtle (Myrica cerifera), and marshelder (Iva frutescens). This variable is defined as the percent of the subaerial vegetated area consisting of at least two woody species. The suitability index is divided by two for islands with only one woody species.

The suitability index graph for this variable was primarily based on the best professional judgment and personal field knowledge of those involved in model development. It was agreed that cover by woody species should be a small percentage (10% to 20%) of the vegetative cover on an island.

Variable V₅ - Beach/surf zone features. This variable is intended to capture the habitat value of the beach/surf zone. The suitability index graph for this variable is based on the assumption that a natural beach/surf zone slope or profile provides optimal habitat conditions for fish and wildlife. Man-made features such as breakwaters, containment dikes, and shoreline protection provide sub-optimal conditions. The suitability index value for each beach zone feature was based on the best professional judgment and field knowledge of those involved in model development.

HABITAT SUITABILITY INDEX FORMULA

As with the barrier island model, the EnvWG agreed that the primary habitat variables (i.e., those pertaining to dune and supratidal habitats) were the most important variables in characterizing the habitat quality of a barrier island. Therefore, those variables were given greater influence (i.e., 64% of the model weight) in the model than the remaining variables. Within the HSI formula, variable influence is only determined by the weight (i.e., multiplier) assigned to each variable.

BENEFIT ASSESSMENT

One HSI formula is used for the barrier headland model to calculate net benefits in the project area. Calculation of HUs, AAHUs, and net AAHUs follow the procedure described in the Wetland Value Assessment Methodology Introduction.
Wetland Value Assessment Community Model

Barrier Headland Community Model

**Dune Habitat**
Variable $V_1$ Percent of the total project area that is classified as dune habitat.

**Supratidal Habitat**
Variable $V_2$ Percent of the total project area that is classified as supratidal habitat.

**Vegetative Cover**
Variable $V_3$ Percent vegetative cover of dune and supratidal habitats.

**Woody Species**
Variable $V_4$ Percent vegetative cover by woody species.

**Beach Zone Habitat**
Variable $V_5$ Beach/surf zone features.

**HSI Calculation:**

$$HSI = 0.23(V_1) + 0.23(V_2) + 0.18(V_3) + 0.18(V_4) + 0.18(V_5)$$
Barrier Headland

**Variable $V_1$** Percent of the total project area that is classified as dune habitat.

### Line Formulas

- If $\% < 15$, then $SI = (0.06*\%) + 0.1$
- If $15 \leq \% \leq 30$, then $SI = 1.0$
- If $30 < \% \leq 55$, then $SI = (-0.036*\%) + 2.08$
- If $\% > 55$, then $SI = 0.1$
Barrier Headland

Variable $V_2$  Percent of the total project area that is classified as supratidal habitat.

Suitability Graph

Line Formulas

If $\% < 70$, then $SI = (0.013*\%) + 0.1$
If $70 \leq \% \leq 85$, then $SI = 1.0$
If $\% > 85$, then $SI = (-0.0333*\%) + 3.83$
Barrier Headland

**Variable V₃**  Percent vegetative cover of dune and supratidal habitats.

**Line Formulas**

- If \( % < 70 \), then \( S_I = (0.013 \times %) + 0.1 \)
- If \( 70 \leq % \leq 90 \), then \( S_I = 1.0 \)
- If \( % > 90 \), then \( S_I = (-0.05 \times %) + 5.5 \)
Barrier Headland

Variable V₄  Percent vegetative cover by woody species.

Suitability Graph

Line Formulas

If  % < 15, then SI = (0.06*%)+0.1
If  15 ≤ % ≤ 35, then SI = 1.0
If  35 < % ≤ 65, then SI = (-0.03*%)+2.05
If  % > 65, then SI = 0.1
Barrier Headland

Variable $V_5$  Beach/surf zone features.

Suitability Graph

Class 1 = Natural Beach/Unconfined Disposal
Class 2 = Confined Disposal
Class 3 = Breakwaters
Class 4 = Rock on Beach
Class 5 = Seawall/No emergent habitat
II. Barrier Island Community Model

INTRODUCTION

Development of the barrier island model began in 2000 when the Environmental Work Group (EnvWG) requested Drs. Shea Penland and Mark Hester of the University of New Orleans to develop a barrier island model which could be used to determine the wetland benefits of barrier island restoration projects. Historically, the EnvWG utilized the saline emergent marsh model (Attachment 1) to evaluate barrier island restoration projects. For several years, it was recognized that the saline marsh model was inadequate in determining barrier island habitat quality and projecting barrier island restoration project benefits. Barrier islands provide many functions not provided by interior saline marsh and a unique assessment model was necessary to characterize those functions.

A draft barrier island model was presented in May, 2001 and was reviewed and further developed by the EnvWG and Academic Advisory Subcommittee (AAS). Also participating in model development was an interagency group involved in the Barataria Barrier Shoreline Feasibility Study being conducted by the Corps of Engineers (COE) and the Louisiana Department of Natural Resources (LDNR). That group was also in need of a barrier island assessment model to evaluate restoration alternatives proposed along the Barataria Basin gulf shoreline. Both groups, the EnvWG and the feasibility study group, worked together in reviewing and refining several drafts to reach consensus on a final assessment model. The model was developed by an interagency/academic workgroup consisting of individuals with backgrounds in wildlife ecology, fisheries ecology, geomorphology, and plant ecology. As with all habitat assessment models, this model has undergone several revisions since development began in 2000. Model refinement will continue as the model is applied to various restoration projects in different environmental settings. Model refinement can only occur after practical application through which model shortcomings are identified.

This model was developed for determining the suitability of Louisiana coastal barrier islands in providing resting, foraging, breeding, and nursery habitat to a diverse assemblage of fish and wildlife species. Specifically, this model should be applied to barrier islands which consist of emergent habitats and which are gulfward of bay or lake systems. This model was developed to evaluate restoration projects on barrier islands in the Terrebonne and Barataria Basins (e.g., Isles Dernieres, Timbalier, Grand Terre). Application to the Chandeleur Islands, which contain extensive seagrass beds on the bayside, may require model revisions as the value of those seagrass beds is not specifically captured by this model. This model has been designed to function at a community level and therefore attempts to define an optimal combination of habitat conditions for all fish and wildlife species utilizing barrier islands.

VARIABLE SELECTION

The initial list of variables proposed for the barrier island model included; 1) percent of the area classified as supratidal habitat, 2) percent of the supratidal habitat that is vegetated, 3) percent of the area classified as intertidal habitat, 4) percent of the intertidal habitat that is vegetated, 5) marsh edge and interspersion, 6) percent of the area classified as subtidal habitat (relative to subaerial), 7) percent of the subtidal habitat that is vegetated, 8) percent of the project area width that equals or exceeds the 20-year erosion rate, 9) dune height, and 10) percent of project length that protects interior marshes.
Barrier islands consist of many different habitat components including surf zone, beach, dune, supratidal marsh (i.e., swale), intertidal marsh, ponds, lagoons, tidal creeks, unvegetated flats, and subtidal habitat. A key assumption in model development was that for a barrier island to provide optimal conditions for fish and wildlife, all of the above habitat components should exist. Therefore, model variables characterize those key habitat components to provide an index of habitat quality.

The barrier island model development group initially agreed that model variables should address barrier island habitat components (e.g., dune, supratidal, intertidal, vegetative cover, etc.), island integrity/longevity (e.g., island width), and back-barrier/wave shadow benefits. Published Habitat Suitability Index (HSI) models provided little help in developing a potential list of variables as very few HSI models address species-specific habitat needs on barrier islands.

Variables which addressed island integrity (i.e., island width and dune height) were omitted from the model because they do not specifically address fish and wildlife habitat quality. However, those variables are important in determining island longevity and the loss of habitat over the project life. Therefore, they are necessary to determine the quantity of habitat at any given point during the analysis but are not needed to characterize habitat quality.

Woody habitat on barrier islands provides the important functions of nesting habitat for certain species such as the brown pelican and stopover habitat for neotropical migratory birds. Therefore, it was agreed to include a variable addressing that habitat component. In addition, the importance of beach and surf zone habitat was addressed by including a variable which describes the features, if any, located in the beach/surf zone. That zone is especially important as foraging habitat for shorebirds and wading birds and provides habitat for unique nekton assemblages.

The final list of variables included in this model are: 1) percent of the subaerial area that is classified as dune habitat; 2) percent of the dune habitat that is vegetated; 3) percent of the subaerial area that is classified as supratidal habitat; 4) percent of the supratidal habitat that is vegetated; 5) percent of the subaerial area that is classified as intertidal habitat; 6) percent of the intertidal habitat that is vegetated; 7) percent of the area that is classified as subtidal habitat (relative to subaerial); 8) percent vegetative cover by woody species; 9) marsh edge and interspersion; and 10) beach/surf zone features.

SUITYABILITY INDEX GRAPH DEVELOPMENT

A key assumption in developing the suitability index graphs was that existing, stable barrier islands which contain the three key habitat components (i.e., dune, supratidal, and intertidal habitats) should serve as the optimum to which all other islands should be compared. The model development group agreed that the model should not use, as its optimum, an island which would not have existed nor presently exists along the Louisiana coast. For example, the optimal island (i.e., HSI = 1.0) should not be described as one 3 miles wide, with dunes 20 feet high and 1,000 feet wide, and with extensive forested habitat. Islands of that type have never existed along the Louisiana coast and restoration efforts are not aimed at creating islands of that sort. Although, “super” barrier islands could be constructed and would provide the same functions as typical barrier islands, it was agreed that creation of such islands is not likely and a comparison of a typical barrier island to a “super” island would be unrealistic. In essence, the group agreed that optimal barrier island habitat once existed along the Louisiana coast and that a naturally-formed, stable barrier island should serve as the optimal condition in this model. Therefore,
historical data and other information from existing barrier islands served as the primary basis for suitability index graph development.

Suitability Index graph development was very similar to the process used for other habitat assessment models developed for CWPPRA (e.g., marsh community models). A variety of resources were utilized to construct each SI graph, including personal knowledge of the barrier island model development group and EnvWG, consultation with other professionals and researchers outside the model development group, and published and unpublished data and studies. The process of SI graph development is one of constant evolution, feedback, and refinement; the form of each SI graph was decided upon through consensus among EnvWG members.

The Suitability Index graphs were developed according to the following assumptions.

Variable $V_{1a}$ - Percent of the total subaerial area that is classified as dune habitat. Dune habitat is defined as subaerial habitat $\geq 5$ ft. NAVD88 and encompasses foredune, dune, and reardune. Although dune habitat occurs at elevations below 5 ft. NAVD88, lower-elevation dunes are more ephemeral and more frequently overwashed, which reduces their habitat value. Lower-elevation dunes often consist of vegetation more commonly associated with swale habitat and lack a high percentage of “typical” dune species.

Suitability index graph relationships for this variable were determined by: 1) reviewing profiles and cross-sections of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of habitat distribution on the islands, and 3) field knowledge of those involved in development of the model.

Variable $V_{1b}$ - Percent of dune habitat that is vegetated. Common dune species include beach tea ($Croton punctatus$), bitter panicum ($Panicum amarum$), morning glory ($Ipomoea sp.$), marshhay cordgrass ($Spartina patens$), and Heterotheca subaxillaris. Common foredune/high beach species include sea rocket ($Cakile fusiformis$), sea purslane ($Sesuvium portulacastrum$), and seaside heliotrope ($Heliotropium curassavicum$).

Suitability index graph relationships for this variable were determined by: 1) reviewing vegetative cover transects of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of vegetative cover, and 3) field knowledge of those involved in development of the model.

Variable $V_{2a}$ - Percent of the total subaerial area that is classified as supratidal habitat. Supratidal habitat occurs from 2.0 ft. NAVD88 to 4.9 ft. NAVD88. This habitat type primarily encompasses swale and may include low-elevation dune and beach habitat.

Suitability index graph relationships for this variable were determined by: 1) reviewing profiles and cross-sections of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of habitat distribution on the islands, and 3) field knowledge of those involved in development of the model.

Variable $V_{2b}$ - Percent of supratidal habitat that is vegetated. Common supratidal species include goldenrod ($Solidago sempervirens$), marshhay cordgrass ($Spartina patens$), saltgrass ($Distichlis spicata$), deer pea ($Vigna luteola$), eastern baccharis ($Baccharis halimifolia$), marshelder ($Iva frutescens$), sea ox-eye ($Borrichia frutescens$), glasswort ($Salicornia bigelovii, S. virginica$), saltwort ($Batis maritima$), black mangrove ($Avicennia germinans$), beach pea ($Strophostyles helvola$), seashore paspalum ($Paspalum vaginatum$),
**Heterotheca subaxillaris, Fimbristylis castanea, Suaeda linearis,** smooth cordgrass (*Spartina alterniflora*), *Sabatia stellaris* and seaside gerardia (*Agalinis maritima*).

Suitability index graph relationships for this variable were determined by: 1) reviewing vegetative cover transects of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of vegetative cover, and 3) field knowledge of those involved in development of the model.

**Variable V\textsubscript{3a} - Percent of the total subaerial area that is classified as intertidal habitat.** Intertidal habitat occurs from 0.0 ft. NAVD88 to 1.9 ft. NAVD88. This habitat type encompasses intertidal marsh, mudflats, beach, and any other habitats within that elevation range on the gulfside and bayside of the barrier island.

Suitability index graph relationships for this variable were determined by: 1) reviewing profiles and cross-sections of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of habitat distribution on the islands, and 3) field knowledge of those involved in development of the model.

**Variable V\textsubscript{3b} - Percent of intertidal habitat that is vegetated (bayside only).** Common intertidal, back-barrier marsh species include smooth cordgrass (*Spartina alterniflora*) and black mangrove (*Avicennia germinans*). Intertidal habitat on the gulfside of an island is typically an unvegetated wash zone or low beach.

Suitability index graph relationships for this variable were determined by: 1) reviewing vegetative cover transects of existing barrier islands along the Louisiana coast, 2) field investigations which provided ocular estimates of vegetative cover, and 3) field knowledge of those involved in development of the model.

**Variable V\textsubscript{4} - Percent subtidal habitat expressed as a percent relative to subaerial habitat.** Subtidal habitat occurs from –1.5 ft. NAVD88 to 0.0 NAVD88 and encompasses vegetated and unvegetated, open-water habitat.

The suitability index graph for this variable was primarily based on the best professional judgment and personal field knowledge of those involved in model development.

**Variable V\textsubscript{5} - Percent vegetative cover by woody species.** This variable is intended to capture the habitat value of areas vegetated by woody species. Common woody species include black mangrove (*Avicennia germinans*), eastern baccharis (*Baccharis halimifolia*), wax myrtle (*Myrica cerifera*), and marshelder (*Iva frutescens*). This variable is defined as the percent of the subaerial vegetated area consisting of at least two woody species. The suitability index is divided by two for islands with only one woody species.

The suitability index graph for this variable was primarily based on the best professional judgment and personal field knowledge of those involved in model development. It was agreed that cover by woody species should be a small percentage (10% to 20%) of the vegetative cover on an island.

**Variable V\textsubscript{6} - Edge and interspersion.** This variable is intended to capture the relative juxtaposition of intertidal, subaerial habitat (vegetated and unvegetated) and intra-island aquatic habitats such as ponds, lagoons, and tidal creeks associated with barrier islands. The degree of interspersion is determined by comparing the project area to sample...
illustrations (Appendix A) depicting different degrees of interspersion. Interspersion including ponds, lagoons, and tidal creeks is of specific importance in assessing the foraging and nursery habitat functions of barrier islands to marine and estuarine fish and shellfish and associated avian predators. These habitats are characterized by specific physical attributes and thus unique fish and shellfish assemblages exhibit greater selection and utilization of these back barrier habitats as residents and transients over other barrier island, bay, and mainland aquatic habitats. However, interspersion can be indicative of degradation of back-barrier marsh from subsidence, a factor taken into secondary consideration in assigning suitability indices to the various interspersion classes.

A high degree of interspersion is assumed to be optimal (SI = 1.0), and the lowest expression of interspersion (e.g., all marsh/unvegetated flat, all open water, or all marsh/unvegetated flat clumped together) is assumed to be less desirable in terms of community-based function and quality. Class 1 is representative of unvegetated flats and healthy back-barrier marsh with a high degree of at least two of the following: tidal creeks, tidal channels, ponds, and/or lagoons. Numerous small ponds (Class 2) offer a high degree of interspersion, but are also usually indicative of the beginning of marsh break-up and degradation, and are therefore assigned a lower SI of 0.8. Class 3 represents the development of larger open water areas from coalescence of aquatic habitats, due to overwash, subsidence, or impacts from oil and gas exploration which provide less interspersion. Once these larger open water areas develop, they no longer have the physicochemical factors (e.g., area, edge, temperature, salinity, and hydroperiod) that make them functionally distinct and of high quality and would be assigned a SI = 0.6. Carpet marsh or projects designed to create intertidal marsh without construction of aquatic habitats would lack functionally distinct interspersion and provide basically one intertidal habitat type; therefore, natural and created carpet marsh should also be classified as Class 3. Class 4 represents extreme stages of subsidence or oil and gas induced loss of back barrier marshes or dominance of breaching with unstable overwash flats (SI = 0.4). Although habitats represented by this classification are predominantly subtidal, unvegetated flats still provide valuable habitat for many fish and shellfish and provide loafing areas targeted by waterbirds. The lowest expression of interspersion, Class 5, consists of no emergent, intertidal land and is assumed to be least optimal from a community basis (SI = 0.1). However, this class can represent the development of inlets which in themselves are important spawning and foraging habitat for economically important marine fishery species.

The suitability index graph for this variable was determined by reviewing aerial photographs of back-barrier habitats and determining which degree of interspersion provided optimal habitat conditions for fish and wildlife. It was determined that five classes of interspersion would best depict the range of interspersion on barrier islands. The suitability index value for each interspersion class was based on fisheries studies by the Louisiana State University, Coastal Fisheries Institute and the National Marine Fisheries Service; avian surveys by the Louisiana Department of Wildlife and Fisheries; wetland studies by LUMCON and the Louisiana State University, Wetland Biogeochemistry Institute; best professional judgment; and field knowledge of those involved in model development.

Variable V7 - Beach/surf zone features. This variable is intended to capture the habitat value of the beach/surf zone. The suitability index graph for this variable is based on the assumption that a natural beach/surf zone slope or profile provides optimal habitat conditions for fish and wildlife. Man-made features such as breakwaters, containment
dikes, and shoreline protection provide sub-optimal conditions. The suitability index value for each beach zone feature was based on the best professional judgment and field knowledge of those involved in model development.

HABITAT SUITABILITY INDEX FORMULA

The EnvWG agreed that the primary habitat variables (i.e., those pertaining to dune, supratidal, and intertidal habitats) were the most important variables in characterizing the habitat quality of a barrier island. Therefore, those variables were given greater influence (i.e., 60% of the model weight) in the model than the remaining variables. Within the HSI formula, variable influence is determined only by the weight (i.e., multiplier) assigned to each variable.

BENEFIT ASSESSMENT

One HSI formula is used for the barrier island model to calculate net benefits in the project area. Calculation of HUs, AAHUs, and net AAHUs follow the procedure described in the Wetland Value Assessment Methodology Introduction.
Wetland Value Assessment Community Model

Barrier Island

Dune Habitat
   Variable V_{1a}  Percent of the total subaerial area that is classified as dune habitat.
   Variable V_{1b}  Percent of dune habitat that is vegetated.

Supratidal Habitat
   Variable V_{2a}  Percent of the total subaerial area that is classified as supratidal habitat.
   Variable V_{2b}  Percent of supratidal habitat that is vegetated.

Intertidal Habitat
   Variable V_{3a}  Percent of the total subaerial area that is classified as intertidal habitat.
   Variable V_{3b}  Percent of intertidal habitat that is vegetated.

Subtidal Habitat
   Variable V_{4}   Percent subtidal habitat expressed as a percent relative to subaerial habitat.

Woody Species
   Variable V_{5}   Percent vegetative cover by woody species.

Interspersion
   Variable V_{6}   Edge and Interspersion.

Beach Zone Habitat
   Variable V_{7}   Beach/surf zone features.

EXAMPLE for calculating V_{1a}, V_{2a}, V_{3a} and V_{4}:  If island cross section has an average dune width=50 m, supratidal width=150 m, intertidal width=400 m, and subtidal width=150 m, then assume subaerial width =600m.

   V_{1a}=(50/600)=8\%,  V_{2a}=(150/600)=25\%,  V_{3a}=(400/600)=67\%,  V_{4}=(150/600)=25\%.

HSI Calculation:

\[
\text{HSI} = 0.125(V_{1a}) + 0.05(V_{1b}) + 0.125(V_{2a}) + 0.05(V_{2b}) + 0.15(V_{3a}) + 0.10(V_{3b}) + 0.05(V_{4}) + 0.10(V_{5}) + 0.15(V_{6}) + 0.10(V_{7})
\]
Barrier Island

Variable $V_{1a}$ Percent of the total subaerial area that is classified as dune habitat.

Line Formulas:

If $\% < 5$, then $SI = (0.18*\%) + 0.1$
If $5 \leq \% \leq 15$, then $SI = 1.0$
If $15 < \% \leq 40$, then $SI = (-0.036*\%) + 1.54$
If $\% > 40$, then $SI = 0.1$
Barrier Island

**Variable** $V_{1b}$  Percent of dune habitat that is vegetated.

**Line Formulas**

- If $% < 60$, then $SI = (0.015 \times \%) + 0.1$
- If $60 \leq \% \leq 80$, then $SI = 1.0$
- If $\% > 80$, then $SI = (-0.045 \times \%) + 4.6$
**Variable V₂ₐ**  Percent of the total subaerial area that is classified as supratidal habitat.

**Line Formulas**

If $\% < 20$, then $SI = (0.045*\%) + 0.1$
If $20 \leq \% \leq 40$, then $SI = 1.0$
If $\% > 40$, then $SI = (-0.015*\%) + 1.6$
Barrier Island

**Variable V₂ᵇ** Percent of supratidal habitat that is vegetated.

![Suitability Graph](image)

**Line Formulas**

- If $\% < 70$, then $SI = (0.013*\%) + 0.1$
- If $70 \leq \% \leq 90$, then $SI = 1.0$
- If $\% > 90$, then $SI = (-0.05*\%) + 5.5$
Barrier Island

Variable $V_{3a}$  Percent of the total subaerial area that is classified as intertidal habitat.

**Line Formulas**

If $% < 30$, then $SI = 0.1$
If $30 \leq % < 50$, then $SI = (0.045*%) - 1.25$
If $50 \leq % < 70$, then $SI = 1.0$
If $% > 70$, then $SI = (-0.03*%) + 3.1$
**Variable** $V_{3b}$  Percent of intertidal habitat that is vegetated (bayside only).

**Line Formulas**

- If $% < 60$, then $SI = (0.015*%) + 0.1$
- If $60 \leq % \leq 80$, then $SI = 1.0$
- If $% > 80$, then $SI = (-0.025*%) + 3$
**Barrier Island**

**Variable V₄**  Percent subtidal habitat expressed as a percent relative to subaerial habitat.

**Line Formulas**

If $\% < 20$, then $SI = (0.045 \times \%) + 0.1$

If $\% \geq 20$, then $SI = 1.0$
Barrier Island

Variable \( V_5 \)  Percent vegetative cover by woody species.

**Line Formulas**

- If \( % < 10 \), then \( SI = (0.09 \times \%) + 0.1 \)
- If \( 10 \leq \% \leq 20 \), then \( SI = 1.0 \)
- If \( 20 < \% \leq 50 \), then \( SI = (-0.03 \times \%) + 1.6 \)
- If \( \% > 50 \), then \( SI = 0.1 \)

The suitability index is divided by two for islands with only one woody species.
Barrier Island

**Variable V₆**  Edge and Interspersion.

Instructions for Calculating SI for Variable V₆:

1. Refer to Appendix A for examples of the different interspersion classes.

2. Estimate the percent of project area in each class. If the entire project area is open water, assign interspersion Class 5.
Barrier Island

Variable $V_7$  Beach/surf zone features.

![Suitability Graph]

Class 1 = Natural Beach/Unconfined Disposal
Class 2 = Confined Disposal
Class 3 = Breakwaters
Class 4 = Rock on Beach
Class 5 = Seawall/No emergent habitat
Attachment A – Marsh Edge and Interspersion Classes

Interspersion Class 1

Interspersion Class 2
Attachment A - Marsh Edge and Interspersion Classes

Interspersion Class 3

Interspersion Class 3
Attachment A - Marsh Edge and Interspersion Classes

Interspersion Class 4
III. Coastal Chenier/Ridge Community Model

INTRODUCTION

The habitat assessment model presented in this document is a modification of the U. S. Fish and Wildlife Service’s Habitat Evaluation Procedures (HEP). It utilizes a set of variables considered important in determining the suitability of non-grazed barrier headland ridges, cheniers, and spoil areas in Louisiana that are, or are proposed to be, vegetated in primarily non-obligate wetland plant species, to provide the habitat necessary to support transient migratory landbirds in the spring and fall. The area of the state to which this model is applicable includes the portions of Cameron, Vermilion, Iberia, St. Mary, Terrebonne, Lafourche, Jefferson, Plaquemines and St. Bernard Parishes south of the Intracoastal Waterway. The model attempts to assess the suitability of habitat for providing foraging and resting requirements to a diverse assemblage of migratory landbirds. This model has not been validated with field data.

VARIABLE SELECTION

Several existing Habitat Suitability Index (HSI) models were considered for use in determining migratory landbird stopover habitat quality, including the models for roseate spoonbill, great egret, brown thrasher, swamp rabbit, veery and yellow warbler. However, the emphasis for all these models was breeding habitat requirements. None addressed the set of variables that were determined to be most pertinent to assessment of stopover habitat quality, where a variety of species with differing foraging strategies occupy the habitat for a relatively brief time period. Selection of the variables used for this model was based upon a review of available literature, interviews with specialists who have studied various aspects of migratory landbird ecology in coastal stopover habitats, and the field knowledge of those involved with development of this model.

More than 80 species of neotropical migratory landbirds from at least eleven Families pass through Louisiana during the spring and fall (Sauer et al. 2000). At the peak of spring migration, it is estimated that as many as 50,000 birds per day per mile of coastline enter the state (Conner and Day 1987). During favorable weather conditions, the majority of these birds will bypass small wooded areas embedded in coastal marsh and land in extensive forested areas north of the marshes, but during thunderstorms or other unfavorable conditions, a large percentage of these individuals may stop in these small coastal wood patches (Gauthreaux 1971). Identifying the optimal stopover habitat characteristics for such a varied group of birds is challenging. Martin (1980) stated that migrants often select habitats en route that superficially resemble their breeding habitat. Moore et al. (1995) concluded that spring migrants on the northern Gulf of Mexico coast preferentially select structurally diverse stopover sites, consisting of forested areas with mixed shrub layers, and that maintenance of plant species and structural diversity should be a goal at migratory landbird stopover sites. Similarly, Martin (1980) found that habitat structure in shelterbelt “island” habitat in the Great Plains influences migrant diversity and abundance. Robinson and Holmes (1984) determined that the diversity of bird species in terrestrial habitats is correlated with factors associated with vegetation structure or composition, including diversity of foliage height, and stated that, in general, the number
of bird species increases with the addition of vertical vegetation layers. Based upon the findings above and upon prior field investigations, we proposed three habitat assessment variables: 1) percent tree canopy cover, 2) percent shrub/midstory canopy cover, and 3) the number of native woody species planted/present on the site. We also identified some tentative variables, including percent herbaceous ground cover, minimum patch size, average tree height, and proximity of the site to other forested patches.

We asked three specialists with expertise in the arena of migratory landbird habitat requirements to comment on our proposed habitat variables: William C. Hunter, U.S. Fish and Wildlife Service, Atlanta, GA; Mark Woodrey, U.S. Fish and Wildlife Service, Jackson, MS; and Wylie Barrow, U.S.G.S., National Wetlands Research Center, Lafayette, LA. Their comments have been incorporated into the model and referenced as personal communications.

All specialists queried concurred that structural and floristic diversity were key factors to consider. Additionally, they all stressed the importance of fresh water sources for spring trans-Gulf migrants. However, we did not develop a variable to capture this factor, as the model was being designed for created habitat in an area where fresh water input would probably be limited to precipitation. A variable to measure fresh water proximity should probably be created for assessing extant stopover sites. We decided not to use a variable for percent herbaceous ground cover because for the majority of birds that would be likely to use forested coastal areas, the amount of herbaceous ground cover would not be as critical a habitat need as would tree and shrub cover (Moore et al. 1995). Neotropical migratory landbirds dependent upon grasslands would not typically use forested cheniers, spoil banks, etc., instead gravitating towards marshes, pastures, and agricultural fields. No minimum patch size for sites was established, because while larger patches are accepted to be more valuable to birds than small patches, a small patch surrounded by non-forested habitat could be very important at times to migrants (Barrow, pers. comm.). The same basic rationale was used in determining that a variable to rank sites on the basis of their proximity to other forested patches was not practical. Sites adjacent to other forested sites are assumed to facilitate migration of forest birds by reducing the distance needed to travel through open and potentially inhospitable terrain, but an isolated woodland could be important during periods of inclement weather (Barrow, pers. comm.). Canopy height was ruled out as a variable because no data was discovered that addressed minimum canopy heights at stopover sites. The developers of this model assumed that percent canopy cover was a more pertinent variable to consider.

SUITABILITY INDEX GRAPH DEVELOPMENT

Variable V1 – Percent tree canopy cover. Neotropical migratory landbirds preferentially use stopover sites exhibiting high structural and floristic diversity (Moore et al.1995). To achieve the desired vertical plant diversity (i.e., a mix of trees, tree saplings, shrubs, vines, and herbaceous plants), a moderately closed tree canopy would be preferred to over a totally closed canopy (Hunter, pers. comm.; Barrow, pers. comm.; Woodrey, pers. comm.). Tree canopy coverage ranging from 65 - 85% is assumed to provide optimal conditions to allow for establishment of midstory trees, shrubs, vines, and herbaceous plants, provided that the site is not grazed. Tree species that may occur at coastal stopover sites include sugarberry (*Celtis laevigata*), toothache tree (*Zanthoxylum clava-herculis*), live oak (*Quercus virginiana*), water oak (*Q. nigra*), honey locust (*Gleditsia triacanthos*), red

Variable V2 – Percent shrub/midstory cover. Shrub-scrub habitats provide important foraging and resting areas for migrant landbirds (Moore et al. 1995). Shrub-scrub habitats are also presumed to be important to migratory passerine birds as refuges from raptor predators (Moore et al. 1990). For the purposes of this model, shrub/midstory means multi-stemmed shrubs, single-stemmed midstory trees, single-stemmed saplings of overstory tree species, and woody vines. Shrub/midstory canopy coverage ranging from 35 - 65% is assumed to represent optimal conditions at a forested site. Species of shrubs, small trees, and woody vines that may be found at stopover sites include Small’s acacia (Acacia minuta), wax myrtle (Morella cerifera), dwarf palmetto (Sabal minor), yaupon holly (Ilex vomitoria), saltbush (Baccharis halimifolia), greenbriars (Smilax spp.), grapes (Vitis spp.), prickly pear cactus (Opuntia spp.), Virginia creeper (Parthenocissus quinquefolia), pepper vine (Ampelopsis arborea), blackberries (Rubus spp.), rattlebox (Sesbania drummondii), marshelder (Iva frutescens), poison ivy (Toxicodendron radicans), Carolina wolf-berry (Lycium carolinianum), marine vine (Cissus incisa) and elderberry (Sambucus canadensis) (Louisiana Natural Heritage Program 1988, Materne 2000, Gosselink et al. 1979, Thomas and Allen 1996, Thomas and Allen 1998).

Variable V3 – Native woody species diversity. A wide variety of fruits, flowers, nectars, and animals, primarily invertebrates, are consumed by migrant landbirds (Moore et al. 1995, Fontenot 1999, Barrow, pers. comm.). Robinson and Holmes (1984) concluded that vegetation provides birds with foraging opportunities and constraints depending upon the structure of individual plants, aggregations of plants, and the arthropods that these plants host. The resulting foraging conditions define the diversity of bird species in the habitat. While some exotic plant species provide foraging opportunities to migrant landbirds, others are of limited value to spring and fall migrant birds (Barrow and Renne, 2001, Barrow, pers. comm.). It is assumed that a variety of native shrubs, midstory trees, woody vines and overstory trees will provide sufficiently diverse foraging and resting habitat to enable spring and fall transient birds to continue their migration. Woody plant species composition and diversity in stopover habitat is influenced by elevation, soil type, and salinity levels (Materne 2000, Louisiana Natural Heritage Program 1988), and the capacity of sites to support certain species will depend upon these and other factors. Based upon a review of available written information and upon the field knowledge of those involved in development of this model, and upon the range of conditions likely to be encountered in stopover habitat in the area the model addresses, presence of $\exists 10$ species of native trees, shrubs, and woody vines is assumed to represent optimal conditions. It is also assumed that the parameters defining optimal conditions for variables V1 and V2 will moderate the potential for variable V3 to exert a false reading of habitat value for migrant landbirds, should the diversity of plant species be confined only to trees, or to shrubs, or to woody vines.

HABITAT SUITABILITY INDEX FORMULA

The final step in model development was to construct a mathematical formula that combines all Suitability Indices into a single Habitat Suitability Index (HSI) value. Because the Suitability Indices range from 0.1 to 1.0, the HSI also ranges from 0.1 to 1.0, and is a numerical representation of the overall or "composite" habitat quality of the area.
being evaluated. Within the 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. For this model, it was assumed that the variables are of equal weight in determining the habitat quality of a coastal chenier/ridge.

To combine the variables into an HSI formula, a geometric mean was chosen, as opposed to an arithmetic mean, to convey the weak compensatory relationship between the three variables. An arithmetic mean is often used when it is assumed that the model variables have a strong compensatory relationship (i.e., a high value for one variable can compensate for the low value of another variable). The geometric mean is used to discourage a variable with a marginal or low suitability from being offset by the high suitability of the other variables (U.S. Fish and Wildlife Service1981). It was assumed that the three variables in this model do not have a strong compensatory relationship.

HSI Calculation: \[ HSI = (SIV_1 \times SIV_2 \times SIV_3)^{1/3} \]

BENEFIT ASSESSMENT

The net benefits of a proposed project are determined by predicting future habitat conditions under two scenarios: future without-project and future with-project. Specifically, predictions are made as to how the model variables will change through time under the two scenarios. Through that process, HSIs are established for baseline (pre-project) conditions and for future without- and future with-project scenarios for selected "target years" throughout the expected life of the project. Those HSIs are then multiplied by the project area acreage at each target year to arrive at Habitat Units (HUs). Habitat Units represent a numerical combination of quality (HSI) and quantity (acres) existing at any given point in time. The HUs resulting from the future without- and future with-project scenarios are annualized, averaged over the project life, to determine Average Annual Habitat Units (AAHUs). The "benefit" of a project is quantified by comparing AAHUs between the future without- and future with-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.
Coastal Chenier/Ridge

Variable $V_1$  Percent Tree Canopy Cover

Suitability Graph

Line Formulas

If $\% < 65$, then $SI = (0.014*\%) + 0.1$
If $65 \leq \% \leq 85$, then $SI = 1.0$
If $\% > 85$, then $SI = (-0.017*\%) + 2.445$

Suitability index graph relationships for Variable V1 were determined by: 1) reviewing available literature, 2) interviewing specialists who have studied various aspects of migratory landbird ecology in coastal stopover habitats, and 3) field knowledge of those involved with development of this model.
Coastal Chenier/Ridge

Variable $V_2$  Percent Shrub/Midstory Cover

Line Formulas

If $\% < 35$, then $SI = (0.026*\%) + 0.1$
If $35 \leq \% \leq 65$, then $SI = 1.0$
If $\% > 65$, then $SI = (-0.014*\%) + 1.9$

Suitability index graph relationships for Variable V2 were determined by: 1) reviewing available literature, 2) interviewing specialists who have studied various aspects of migratory landbird ecology in coastal stopover habitats, and 3) field knowledge of those involved with development of this model.
Coastal Chenier/Ridge

Variable V₃  Native Woody Species Diversity

**Line Formulas**

If % < 6, then SI = (0.117*%) + 0.1  
If 6 ≤ % < 10, then SI = (0.05*%) + 0.5  
If % ≥ 10, then SI = 1.0

Suitability index graph relationships for Variable V3 were determined by: 1) reviewing available literature, 2) interviewing specialists who have studied various aspects of migratory landbird ecology in coastal stopover habitats, and 3) field knowledge of those involved with development of this model.
IV. Emergent Marsh Community Models

INTRODUCTION

The emergent marsh models were initially developed after passage of the CWPPRA during 1990 and were first used for evaluating candidate projects in 1991. The following sections describe the process and assumptions used in the initial development of those models. Since their initial development, these models have undergone several revisions including the omission of certain variables, modifications to the Suitability Index graphs, and modifications to the Habitat Suitability Index formulas.

These models were developed to determine the suitability of emergent marsh and open water habitats in the Louisiana coastal zone. These models were designed to function at a community level and therefore attempt to define an optimal combination of habitat conditions for all fish and wildlife species utilizing coastal marsh ecosystems.

VARIABLE SELECTION

Variables for the emergent marsh models 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 ecosystems. 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 HSI 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 3 mammals (Table 1). The number of models included from each species group was dictated by model availability.

Selected HSI models were then grouped according to the marsh type(s) used by each species. Because most species for which models were considered are not restricted to one marsh type, most models were included in more than one marsh 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).
Table B-1. HSI Models Consulted for Variables for Possible Use in the Emergent Marsh Models

<table>
<thead>
<tr>
<th>Estuarine Fish and Shellfish</th>
<th>Birds</th>
<th>Mammals</th>
</tr>
</thead>
<tbody>
<tr>
<td>pink shrimp</td>
<td>white-fronted goose</td>
<td>mink</td>
</tr>
<tr>
<td>white shrimp</td>
<td>clapper rail</td>
<td>muskrat</td>
</tr>
<tr>
<td>brown shrimp</td>
<td>great egret</td>
<td>swamp rabbit</td>
</tr>
<tr>
<td>spotted seatrout</td>
<td>northern pintail</td>
<td></td>
</tr>
<tr>
<td>Gulf flounder</td>
<td>mottled duck</td>
<td></td>
</tr>
<tr>
<td>southern flounder</td>
<td>American coot</td>
<td></td>
</tr>
<tr>
<td>Gulf menhaden</td>
<td>marsh wren</td>
<td>Freshwater Fish</td>
</tr>
<tr>
<td>juvenile spot</td>
<td>snow goose</td>
<td>channel catfish</td>
</tr>
<tr>
<td>juvenile Atlantic croaker</td>
<td>great blue heron</td>
<td>largemouth bass</td>
</tr>
<tr>
<td>red drum</td>
<td>laughing gull</td>
<td>red ear sunfish</td>
</tr>
<tr>
<td></td>
<td>red-winged blackbird</td>
<td>bluegill</td>
</tr>
</tbody>
</table>

| Reptiles and Amphibians              |                                   |                       |
| bullfrog                             |                                   |                       |
| slider turtle                        |                                   |                       |
| American alligator                   |                                   |                       |

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; 1) percent of the wetland covered by emergent vegetation, 2) percent of the open water covered by aquatic vegetation, 3) marsh edge and interspersion, 4) percent of the open water area < 1.5 feet deep, 5) salinity, 6) aquatic organism access.

SUITABILITY INDEX GRAPH DEVELOPMENT

A variety of resources was utilized to construct each SI graph, including the HSI models from which the final list of variables was partially derived, consultation with other professionals and researchers outside the EnvWG, published and unpublished data and studies, and personal knowledge of EnvWG members. 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 V₁ (percent emergent marsh). 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 EnvWG members.

The Suitability Index graphs were developed according to the following assumptions.

Variable V₁ - Percent of wetland area covered by emergent vegetation. 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 of the food chain. An area with no emergent vegetation (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.
Optimal vegetative coverage is assumed to occur at 100 percent (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 EnvWG had originally developed a strictly biologically-based graph defining optimal habitat conditions at marsh cover values between 60 and 80 percent, and sub-optimal habitat conditions outside that range. However, application of that graph, in combination with the time analysis used in the evaluation process (i.e., 20-year project life), 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 into the optimal 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 optimal 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 EnvWG decided that, all other factors being equal, the models should favor projects that maximize emergent marsh creation, maintenance, and protection. Therefore, the EnvWG agreed to deviate from a strictly biologically-based habitat suitability index graph for V1 and established optimal habitat conditions at 100 percent marsh cover.

**Variable V2**: Percent of open water area covered 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). Optimal conditions (SI=1.0) are 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 EnvWG recognized, however, that those effects were highly dependent on the dominant aquatic plant species, their growth forms, and their arrangement in the water column; thus, it is possible to have 100 percent cover of a variety of floating and submerged aquatic plants without the above-mentioned problems due to differences in plant growth form and stratification of plants through the water column. Because predictions of which species may dominate at any time in the future would be tenuous, at best, the EnvWG decided to simplify the graph and define optimal conditions at 100 percent aquatic cover.

Brackish marshes also 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 V2 Suitability Index graph in the brackish marsh model is identical to that in the fresh/intermediate model.
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 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 optimal coverage of aquatic plants occurs at 100 percent.

**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 (Appendix A) 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 turbidity, and, thus, may provide more suitable waterfowl habitat. However, interspersion can be indicative of marsh degradation, a factor taken into consideration in assigning suitability indices to the various interspersion classes.

A relatively high degree of interspersion in the form of stream courses and tidal channels (Interspersion Class 1) 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 optimal, even though interspersion may be low, to avoid conflicts with the premises underlying the SI graph for variable V_4. 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 Class 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 Classes 3 and 4) offer lower interspersion values and usually indicate advanced stages of marsh loss, and are thus assigned SIs of 0.4 and 0.2, respectively. The lowest expression of interspersion, Class 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 # 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. Optimal open water conditions in a fresh/intermediate marsh are 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.

Shallow water areas in brackish marsh habitat are also 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. Optimal open water
conditions in a brackish marsh are assumed to occur when 70 to 80 percent of the open water area is less than or equal to 1.5 feet deep.

The SI graph for the saline marsh model is similar to that for brackish marsh, where optimal 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 as 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\text{\textsubscript{5}} - Salinity.** 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 Natural Resource Conservation Service soil surveys for coastal Louisiana). Therefore, mean high salinity is used as the salinity parameter for the fresh/intermediate marsh model. Mean high salinity is defined as the average of the upper 33 percent of salinity readings taken during a specified period of record. Optimal conditions in fresh marsh are assumed to occur when mean high salinity during the growing season is less than 2 parts per thousand (ppt). Optimal conditions in intermediate marsh are assumed to occur when mean high salinity during the growing season is less than 4 ppt.

For the brackish and saline marsh models, average annual salinity is used as the salinity parameter. The SI graph for brackish marsh is constructed to represent optimal conditions when salinities are between 0 ppt and 10 ppt. The EnvWG acknowledges that average annual salinities below 5 ppt will effectively define a marsh as fresh or intermediate, not brackish. However, the SI graph makes allowances for lower salinities 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 5 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. 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.

The SI graph for the saline marsh model is constructed to represent optimal salinity conditions at between 0 ppt and 21 ppt. The EnvWG acknowledges that average annual salinities below 10 ppt will effectively define a marsh as brackish, not saline. However, the suitability index graph makes allowances for lower salinities 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 10 ppt is the assumption that lower salinities are not detrimental to a saline marsh. Average annual salinities greater than 21 ppt are assumed to be slightly stressful to saline marsh vegetation.

**Variable V\text{\textsubscript{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 of a given marsh system. 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 SI for V\text{\textsubscript{6}} is determined by calculating an "access value" based on the interaction between the percentage of the project area wetlands considered accessible by aquatic 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 (Appendix B). It should be noted that access ratings for man-made structures were determined by consensus among EnvWG members and that scientific research has not been conducted to determine the actual access value for each of those structures. Optimal conditions are 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 an 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 an SI=0.2, reflecting that intermediate marshes are somewhat more important to estuarine-dependent organisms than fresh marshes. The general rationale and procedure behind the V₆ 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-dependent fish and shellfish than fresh/intermediate marshes. Therefore, a brackish marsh providing no access is assigned an SI of 0.1. The Suitability Index graph for aquatic organism access in the saline marsh model is the same as that in the brackish marsh model.

**HABITAT SUITABILITY INDEX FORMULAS**

In developing the HSI formulas, the EnvWG recognized that the primary focus of the CWPPRA is on vegetated wetlands, and that some marsh protection strategies could have adverse impacts to aquatic organism access. Therefore, the EnvWG made an a priori decision to emphasize variables V₁, V₂, and V₆ 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 V₃, V₄, and V₅ were grouped to isolate their influence relative to V₁, V₂, and V₆.

For all marsh models, V₁ receives the strongest weighting. The relative weights of V₁, V₂, and V₆ 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 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, V₂ receives more weight in the fresh/intermediate HSI formula than in the saline HSI formula. Similarly, the degree of aquatic organism access was considered more important in a saline marsh than a fresh/intermediate marsh, and V₆ 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 EnvWG members.

For several years, 1991 through 1996, the EnvWG utilized one HSI formula specific to each marsh type. However, it was noted that variables V₂ and V₄, which characterize open water areas only, often resulted in an “artificially inflated” HSI when those variable values were optimal (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 V₂ and V₄ would equal 1.0 for both project areas even though open water only accounts for 10 percent of Project Area A. The EnvWG has commonly referred to this as a “scaling” problem; the Suitability Index values
for V2 and V4 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 EnvWG 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 EnvWG in developing potential solutions to the scaling problem. After several unsuccessful attempts to develop a single HSI formula for each marsh type which scaled the Suitability Index values for V2 and V4 based on the ratio of emergent marsh to open water, the EnvWG decided to develop a “split” model for each marsh type. The split model utilizes two HSI formulas for each marsh type; one HSI formula characterizes the emergent 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., V1, V3, V5, and V6). Likewise, the open water HSI formula contains only those variables important in characterizing the open water habitat (i.e., V2, V3, V4, V5, and V6). Individual HSI formulas were developed for emergent marsh and open water habitats for each marsh type.

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 as previously discussed.

BENEFIT ASSESSMENT

As previously discussed, the marsh models are split into emergent marsh and open water components and an HSI is determined for both. Subsequently, net AAHUs are also determined for the emergent marsh and open water habitats within the project area. Net AAHUs for the emergent marsh and open water habitat components must be combined to determine total net benefits for the project.

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 AAHUs for each marsh type are shown below:

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

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

Saline Marsh: \[ 3.5(\text{Emergent Marsh AAHUs}) + \frac{\text{Open Water AAHUs}}{4.5} \]
Wetland Value Assessment Community Model

Fresh/Intermediate Marsh

Vegetation:

Variable $V_1$  Percent of wetland area covered by emergent vegetation.

Variable $V_2$  Percent of open water area covered 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:

<table>
<thead>
<tr>
<th></th>
<th>Fresh / Intermediate HSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergent Marsh HSI</td>
<td>$(3.5 \times (SIV_1^5 \times SIV_6^1)^{1/6}) + \frac{(SIV_3 + SIV_5)}{2}$</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Water HSI</td>
<td>$(3.5 \times (SIV_2^3 \times SIV_6^1)^{1/4}) + \frac{(SIV_3 + SIV_4 + SIV_5)}{3}$</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Fresh/Intermediate Marsh**

**Variable V₁**  Percent of wetland area covered by emergent vegetation.

---

**Line Formula**

\[ SI = (0.009 \times \%) + 0.1 \]
**Fresh/Intermediate Marsh**

**Variable V₂**  Percent of open water area covered by aquatic vegetation.

**Line Formula**

$$SI = (0.009 \times \%) + 0.1$$
Fresh/Intermediate Marsh

**Variable V₃**  Marsh edge and interspersion.

**Instructions for Calculating the SI for Variable V₃:**

1. Refer to Appendix A for examples of the different interspersion classes.

2. Estimate percent of project area in each class. If the entire project area is solid marsh, assign interspersion Class 1. Conversely, if the entire project area is open water, assign interspersion Class 5.
Fresh/Intermediate Marsh

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

![Suitability Graph]

**Line Formulas**

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

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

If $\% > 90$, then $SI = (-0.04 \times \%) + 4.6$
Fresh/Intermediate Marsh

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

Line Formulas

**Fresh Marsh:**

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

**Intermediate Marsh:**

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

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

Variable $V_6$ Aquatic organism access.

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

Intermediate Marsh:

$$\text{SI} = (0.8 \times \text{Access Value}) + 0.2$$

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

Refer to Appendix B “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.

Variable $V_2$  Percent of open water area covered 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 $V_5$  Average annual salinity.

Aquatic Organism Access:
Variable $V_6$ Aquatic organism access.

**HSI Calculations:**

<table>
<thead>
<tr>
<th></th>
<th>Brackish Marsh HSI</th>
<th>Emergent Marsh HSI</th>
<th>Open Water HSI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$= \frac{(3.5 \times (SIV_1^5 \times SIV_6^{1.5})^{(1/6.5)}) + (SIV_3 + SIV_5)}{2}$</td>
<td>$= \frac{(3.5 \times (SIV_2^3 \times SIV_6^2)^{(1/5)}) + (SIV_3 + SIV_4 + SIV_5)}{3}$</td>
<td>$= \frac{(SIV_3 + SIV_4 + SIV_5)}{4.5}$</td>
</tr>
</tbody>
</table>
Brackish Marsh

Variable $V_1$  Percent of wetland area covered by emergent vegetation.

Line Formula

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

Variable $V_2$  Percent of open water area covered by aquatic vegetation.

Line Formula

\[ SI = (0.009 \times \% ) + 0.1 \]
Brackish Marsh

Variable $V_3$  Marsh edge and interspersion.

Instructions for Calculating SI for Variable $V_3$:

1. Refer to Appendix A for examples of the different interspersion classes.

2. Estimate the percent of project area in each class. If the entire project area is solid marsh, assign interspersion Class 1. Conversely, if the entire project area is open water, assign interspersion Class 5.
Brackish Marsh

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

**Line Formulas**

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

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

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

Variable $V_5$  Average annual salinity.

**Line Formulas**

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

If $\text{ppt} > 10$, then $SI = (-0.15 \times \text{ppt}) + 2.5$
**Brackish Marsh**

**Variable V₆**  Aquatic organism access.

---

**Line Formula**

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

**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 Appendix B "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.

Variable $V_2$  Percent of open water area covered 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 $V_5$  Average annual salinity.

Aquatic Organism Access:

Variable $V_6$  Aquatic organism access.

HSI Calculation:

<table>
<thead>
<tr>
<th>Type</th>
<th>HSI Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saline Marsh HSI</td>
<td>$\frac{(3.5 \times (SIV_1^3 \times SIV_6^1)^{(1/4)}) + (SIV_3 + SIV_5) / 2}{4.5}$</td>
</tr>
<tr>
<td>Emergent Marsh HSI</td>
<td>$\frac{(3.5 \times (SIV_2^1 \times SIV_6^2.5)^{(1/3.5)}) + (SIV_3 + SIV_4 + SIV_5) / 3}{4.5}$</td>
</tr>
<tr>
<td>Open Water HSI</td>
<td>$\frac{(3.5 \times (SIV_3^1 \times SIV_6^2.5)^{(1/3.5)}) + (SIV_3 + SIV_4 + SIV_5) / 3}{4.5}$</td>
</tr>
</tbody>
</table>
Saline Marsh

Variable $V_1$  Percent of wetland area covered by emergent vegetation.

Line Formula

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

Variable $V_2$  Percent of open water area covered by aquatic vegetation.

Line Formula

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

Variable $V_3$  Marsh edge and interspersion.

Instructions for Calculating SI for Variable $V_3$:

1. Refer to Appendix A for examples of the different interspersion classes.

2. Estimate percent of project area in each class. If the entire project area is solid marsh, assign an interspersion Class 1. Conversely, if the entire project area is open water, assign an interspersion Class 5.
Saline Marsh

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

Line Formulas

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

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

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

**Variable V₅**  Average annual salinity.

**Line Formulas**

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

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

Variable \( V_6 \)  Aquatic organism access.

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

**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 Appendix B "Procedure For Calculating Access Value" for complete information on calculating "P" and "R" values.
Attachment B - Marsh Edge and Interspersion Classes

Interspersion Class 1

Interspersion Class 2
Interspersion Class 3

Interspersion Class 4
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 the Access Value. The designation of "major" will be made by the Environmental Work Group. An "accessible unit" is defined as a portion of the total accessible area that is served by one or more access routes (canals, bayous, etc.), yet is isolated in terms of estuarine organism access to or from other units of the project area. Isolation factors include physical barriers that prohibit further movement of estuarine organisms, such as natural levee ridges, and spoil banks; and dense marsh that lacks channels, trenasses, and similar small connections that would, if present, provide access and intertidal refugia for estuarine organisms.

Access Value should be calculated according to the following examples (Note: for all examples, P for TY0 = 90%. 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 the entire 90% of the project area deemed accessible. A flap-gated 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 flap-gated 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 flap-gated 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
= ([P1*R1] + [P2*R2])/(P1+P2)
= ([.30*0.35] + [.60*1.0])/(.30+.60)
= (.11 + .60)/.90
= .71/.90
= .79

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

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 flap-gated 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).

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

Access Value = P * R2
= .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 flap-gated culvert with slotted weir across that opening that actually served to limit access.

Three openings into area. Opening #1 provides access to an accessible unit comprising 20% of the area. Openings #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 flap-gated culvert with slotted weir, and #3 with a fixed crest weir.

Access Value = ([P1*R1] + [P2*R3])/(P1+P2)
= ([.20*.5]+[.70*.35])/(.20+.70)
= (.10 + .25)/.90
= .35/.90
= .39

B-70
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 a flap-gated culvert with slotted weir, and #3 a fixed crest weir.

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
V. Swamp Community Model

INTRODUCTION

The CWPPRA Environmental Work Group (EnvWG) developed a fresh swamp community model in 1991. However, the Environmental Work Group abandoned use of that model and began using a swamp community model developed by the Louisiana Department of Natural Resources (LDNR). The LDNR model was developed to quantify the impacts of permitted activities and compensatory mitigation proposals in the Louisiana coastal zone and contained a more complete list of variables to characterize habitat quality of swamp in the coastal zone. Because that model was developed for regulatory purposes, it contained some variables which were not being impacted by candidate CWPPRA restoration projects. Therefore, in 2001, the EnvWG decided to modify that model so that it would be more sensitive to the impacts of proposed restoration projects. The following sections describe the process and assumptions used in the initial development of the swamp model.

The swamp model was developed to determine the suitability of swamp habitat in providing resting, foraging, and nesting habitat for a diverse assemblage of wildlife species. The model is generally applied to areas supporting or capable of supporting a canopy of woody vegetation which covers at least 33 percent of the area's surface, and with at least 60 percent of that canopy consisting of any combination of baldcypress, tupelogum, red maple, buttonbush, and/or planertree. The LDNR model stated that if woody canopy cover is less than 33 percent, then a fresh marsh model should be applied. However, the EnvWG recognized that some areas with less than 33% canopy cover provide functions and values more closely associated with a swamp than a fresh marsh. Therefore, the EnvWG agreed that the 33% canopy cover criterion should be treated as a general “rule of thumb” for model application, with some exceptions. If greater than 40 percent of the woody vegetation canopy consists of species such as oaks, hickories, American elm, green ash, sweetgum, sugarberry, boxelder, persimmon, honeylocust, red mulberry, eastern cottonwood, American sycamore, etc., then a bottomland hardwood model should be applied.

VARIABLE SELECTION

Variable selection for the original swamp model developed by the LDNR was based on a review of; 1) Habitat Suitability Index (HSI) models, published by the U.S. Fish and Wildlife Service, for wood duck, barred owl, swamp rabbit, mink, downy woodpecker, and gray squirrel, 2) a community model for forest birds, published by the U.S. Fish and Wildlife Service, 3) "A Habitat Evaluation System for Water Resources Planning", published by the U.S. Army Corps of Engineers, and 4) a draft version of "A Community Habitat Evaluation Model for Bottomland Hardwood Forests in the Southeastern United States", coauthored by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

Several habitat variables appeared repeatedly in the various models. In general, it was concluded that those variables which occurred most frequently in the various models were the most important for assessing habitat quality. The species-specific (i.e., HSI)
models concentrated on assessment of site-specific habitat quality features such as tree species composition, forest stand structure (understory, midstory, overstory conditions), stand maturity, and hydrology. Other models reviewed concentrated on how a site fits into the overall "landscape". The original swamp model incorporated variables which addressed habitat quality (e.g., stand structure) and landscape function (e.g., the size of the contiguous forested area). The final variables selected were reviewed by representatives of the LDNR, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the Louisiana Department of Wildlife and Fisheries. The final list of variables included; 1) stand structure, 2) stand maturity, 3) hydrology, 4) size of contiguous forested area, 5) suitability and traversability of surrounding land use, and 6) disturbance.

After using the LDNR model for several years, the EnvWg recognized that several of the model variables were not being impacted, thus model sensitivity and project benefits were being compromised. Values for the non-impacted variables (i.e., size of the contiguous forested area, suitability and traversability of surrounding land uses, and disturbance) were the same under future without-project and future with-project conditions. In an effort to improve model sensitivity, those variables were omitted. In addition, the stand structure, stand maturity, and hydrology variables were revised and a salinity variable was included in the model. A salinity variable was included in the original swamp model developed by the CWPPRA EnvWG and was recognized as an important variable in characterizing the habitat quality of swamp ecosystems. Therefore, the final list of variables includes; 1) stand structure, 2) stand maturity, 3) water regime, and 4) mean high salinity during the growing season.

SUITABILITY INDEX GRAPH DEVELOPMENT

Suitability Index (SI) graph development was very similar to the process used for other community models such as the emergent marsh community models. A variety of resources was utilized to construct each SI graph, including the HSI models from which the final list of variables was partially derived, consultation with other professionals and researchers outside the EnvWG, published and unpublished data and studies, and personal knowledge of EnvWG members. 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. 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 EnvWG members.

The Suitability Index graphs were developed according to the following assumptions:

Variable $V_1$ - Stand structure. Most swamp tree species do not produce hard mast; consequently, wildlife foods predominantly consist of soft mast, other edible seeds, invertebrates, and vegetation. Because most swamp tree species produce some soft mast or other edible seeds, the actual tree species composition is not usually a limiting factor. More limiting is the presence of stand structure to provide resting, foraging, breeding, nesting, and nursery habitat and the medium for invertebrate production. This medium can exist as herbaceous vegetation, scrub-shrub/midstory cover, or overstory canopy and preferably as a combination of all three. This variable assigns the lowest suitability to sites.
with a limited amount of all three stand structure components, the highest suitability to sites with a significant amount of all three stand structure components, and mid-range suitability to various combinations when one or two stand structure components are present.

Variable V₂ - Stand maturity. Because of man's historical conversion of swamp, the loss of swamp to saltwater intrusion, historical and ongoing timber harvesting, and a reduced tree growth rate in the subsiding coastal zone, swamps with mature sizeable trees are a unique but ecologically important feature. Older trees provide important wildlife requisites such as snags and nesting cavities and the medium for invertebrate production. Additionally, as the stronger trees establish themselves in the canopy, weaker trees are out-competed and eventually die, forming additional snags and downed treetops that would not be present in younger stands. The suitability graph for this variable assumes that snags, cavities, downed treetops, and invertebrate production are present in suitable amounts when the average diameter-at-breast height (DBH) of canopy-dominant and canopy-codominant trees is above 16 inches for baldcypress and above 12 inches for tupelogum and other species. Therefore, stands with those characteristics are considered optimal for this variable (SI = 1.0).

Another important consideration for this variable is stand density, measured in terms of basal area. A scenario sometimes encountered in mature swamp ecosystems is an overstory consisting of a very few, widely-scattered, mature baldcypress. If stand density was not considered, and average DBH only, then those stands would receive a high SI for this variable without providing many of the important habitat components of a mature swamp ecosystem, specifically a suitable number of trees for nesting, foraging, and other habitat functions. Therefore, the SI for this variable is dependent on average DBH and basal area which is used as a measure of stand density.

Variable V₃ - Water regime. This variable considers the duration and amount of water flow/exchange. Four flow/exchange and four flooding duration categories are described to characterize the water regime. The optimal water regime is assumed to be seasonal flooding with abundant and consistent riverine/tidal input and water flow-through (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. In addition, abundant and consistent input and water flow-through is optimal, because under that regime the full functions and values of a swamp in providing fish and wildlife habitat are assumed to be maximized. Temporary flooding is also assumed to be desirable. Habitat suitability is assumed to decrease as water exchange between the swamp and adjacent systems is reduced. The combination of permanently flooded conditions and 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 the least desirable (SI=0.1). Those conditions can produce poor water quality during warm weather, reducing fish use and crawfish production.

Variable V₄ - Mean high salinity during the growing season. Mean high salinity during the growing season (March 1 to October 31) is defined as the average of the upper 33 percent of salinity measurements taken during the specified period of record. Although baldcypress is able to tolerate higher salinities than other swamp species, species such as tupelogum and many herbaceous species are salinity-sensitive. Optimal conditions are assumed to occur at mean high salinities less than 1.0 ppt. Habitat suitability is assumed to decrease rapidly at mean high salinities in excess of 1.0 ppt.
HABITAT SUITABILITY INDEX FORMULA

In developing the HSI formula for this model, the EnvWG agreed that variables V1 and V3, stand structure and water regime, were the most important variables in characterizing the habitat quality of a swamp. Therefore, those variables were given greater influence in the model than the remaining variables. Variable V2, stand maturity, was given slightly less weight than stand structure and water regime. Variable V4, salinity, was deemed the least important. All variables are grouped to produce a geometric mean and variable influence is only controlled by the weight (i.e., exponent) assigned to each variable.

HSI Calculation: \[ HSI = (SIv_1^3 \times SIv_2^{2.5} \times SIv_3^3 \times SIv_4^{1.5})^{1/10} \]

BENEFIT ASSESSMENT

Calculation of HUs, AAHUs, and net AAHUs follows the same procedure as indicated in the Wetland Value Assessment Methodology Introduction.
Swamp

Variable $V_1$  Stand structure.

Each component of stand structure should be viewed independently to determine the percent closure or coverage.

<table>
<thead>
<tr>
<th>Class</th>
<th>Overstory Closure</th>
<th>Scrub-shrub/ Midstory Cover</th>
<th>Herbaceous Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1.</td>
<td>$&lt;33%$</td>
<td>$&lt;33%$</td>
<td>$&lt;33%$</td>
</tr>
<tr>
<td>Class 2.</td>
<td>$33% &lt; 50%$ and $&lt;33%$ and $&lt;33%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3.</td>
<td>$33% &lt; 50%$ and $&gt;33%$ or $&gt;33%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4.</td>
<td>$50% - 75%$ and $&gt;33%$ or $&gt;33%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5.</td>
<td>$33% &lt; 50%$ and $&gt;33%$ and $&gt;33%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 6.</td>
<td>$\geq 50%$ and $&gt;33%$ and $&gt;33%$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OR

$\geq 75\%$ and $>33\%$ or $>33\%$

Suitability Graph
Swamp

**Variable V₂**  Stand maturity.

Average dbh of canopy-dominant and canopy-codominant trees.

**Notes:**
1. Canopy-dominant and codominant trees are those whose crown rises above or is an integral part of the overstory.
2. For trees with buttress swell, dbh is the diameter measured at 12" above the swell.
3. The SI for this variable is multiplied by the factors in the table below depending on stand density.

**Suitability Graph**

**Suitability Index Line Formulas for baldcypress:**

If dbh = 0 then SI = 0
If 0 < dbh ≤ 1 then SI = .01 * dbh
If 1 < dbh ≤ 4 then SI = (.013 * dbh) - .003
If 4 < dbh ≤ 7 then SI = (.017 * dbh) - .017
If 7 < dbh ≤ 9 then SI = (.1 * dbh) - .6
If 9 < dbh ≤ 11 then SI = (.15 * dbh) - 1.05
If 11 < dbh ≤ 13 then SI = (.1 * dbh) - .5
If 13 < dbh ≤ 16 then SI = (.067 * dbh) -

**Suitability Graph**

**Suitability Index Line Formulas for tupelogum et al.:**

If 0 < dbh ≤ 1 then SI = .01 * dbh
If 1 < dbh ≤ 2 then SI = (.04 * dbh) - .03
If 2 < dbh ≤ 4 then SI = .025 * dbh
If 4 < dbh ≤ 6 then SI = (.1 * dbh) - .3
If 6 < dbh ≤ 8 then SI = (.15 * dbh) - .6
If 8 < dbh ≤ 12 then SI = (.1 * dbh) - .2
If dbh > 12 then SI = 1.0
**Swamp**

Variable $V_3$  Water regime.

<table>
<thead>
<tr>
<th>Density</th>
<th>Basal Area</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>$&lt;40ft^2$</td>
<td>0.2</td>
</tr>
<tr>
<td>Moderately Open</td>
<td>$40ft^2 \leq BA &lt; 80ft^2$</td>
<td>0.4</td>
</tr>
<tr>
<td>Moderate</td>
<td>$81ft^2 \leq BA &lt; 120ft^2$</td>
<td>0.6</td>
</tr>
<tr>
<td>Moderately Dense</td>
<td>$121ft^2 \leq BA &lt; 160ft^2$</td>
<td>0.8</td>
</tr>
<tr>
<td>Dense</td>
<td>$&gt;161ft^2$</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flooding Duration</th>
<th>Flow/Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Seasonal</td>
<td>1.00</td>
</tr>
<tr>
<td>Temporary</td>
<td>0.9</td>
</tr>
<tr>
<td>Semi-Permanent</td>
<td>0.75</td>
</tr>
<tr>
<td>Permanent</td>
<td>0.65</td>
</tr>
</tbody>
</table>

**Flooding Duration**

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.

**Flow/Exchange**

1. High: Receives abundant and consistent riverine input and through-flow.
2. Moderate: Moderate water exchange, through riverine and/or tidal input.
3. Low: Limited water exchange, through riverine and/or tidal input.
4. None: No water exchange (stagnant, impounded).
Attachment C - Procedure for Calculating Access Value

1. Determine the percent (P) of the wetland area accessible by estuarine organisms during normal tidal fluctuations 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:

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Structure Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open system</td>
<td>1.0</td>
</tr>
<tr>
<td>Rock weir set at 1ft BML(^1), w/ boat bay</td>
<td>0.8</td>
</tr>
<tr>
<td>Rock weir with boat bay</td>
<td>0.6</td>
</tr>
<tr>
<td>Rock weir set at ≥ 1 ft BML</td>
<td>0.6</td>
</tr>
<tr>
<td>Slotted weir with boat bay</td>
<td>0.6</td>
</tr>
<tr>
<td>Open culverts</td>
<td>0.5</td>
</tr>
<tr>
<td>Weir with boat bay</td>
<td>0.5</td>
</tr>
<tr>
<td>Weir set at ≥ 1 ft BML</td>
<td>0.5</td>
</tr>
<tr>
<td>Slotted weir</td>
<td>0.4</td>
</tr>
<tr>
<td>Flap-gated culvert with slotted weir</td>
<td>0.35</td>
</tr>
<tr>
<td>Variable crest weir</td>
<td>0.3</td>
</tr>
<tr>
<td>Flap-gated variable crest weir</td>
<td>0.25</td>
</tr>
<tr>
<td>Flap-gated culvert</td>
<td>0.2</td>
</tr>
<tr>
<td>Rock weir</td>
<td>0.15</td>
</tr>
<tr>
<td>Fixed crest weir</td>
<td>0.1</td>
</tr>
<tr>
<td>Solid plug</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

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

\(^1\) Below Marsh Level
Swamp

Variable V₄  Mean high salinity during the growing season.

Line Formulas

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

If 1.0 < \text{ppt} < 3.0, then SI = (-0.45 \times \text{ppt}) + 1.45

If \text{ppt} \geq 3.0, then SI = 0.1

Mean high salinity during the growing season is defined as the average of the highest 33 percent of consecutive salinity readings taken during the period of record (March 1 through October 31).
Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix C

Engineering Cost Estimates for Candidate Projects
# Appendix C

## Engineering Cost Estimates for Candidate Projects

### Table of Contents

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidate Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Alligator Bend Marsh Restoration and Shoreline Protection</td>
<td>C-1</td>
</tr>
<tr>
<td>Violet Siphon Enlargement</td>
<td>C-3</td>
</tr>
<tr>
<td>Breton Landbridge Marsh Restoration</td>
<td>C-5</td>
</tr>
<tr>
<td>Jean Lafitte Shoreline Protection</td>
<td>C-7</td>
</tr>
<tr>
<td>Grand Liard Marsh and Ridge Restoration</td>
<td>C-9</td>
</tr>
<tr>
<td>Madison Bay Marsh Creation and Terracing</td>
<td>C-11</td>
</tr>
<tr>
<td>West Belle Pass Barrier Headland Restoration</td>
<td>C-13</td>
</tr>
<tr>
<td>Deer Island Pass Sediment Delivery</td>
<td>C-15</td>
</tr>
<tr>
<td>Vermilion Bay Shoreline Protection</td>
<td>C-17</td>
</tr>
<tr>
<td>Southwest LA Gulf Shoreline Nourishment and Protection</td>
<td>C-19</td>
</tr>
<tr>
<td><strong>Demonstration Candidate Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Enhancement of Barrier Island Vegetation Demo</td>
<td>C-21</td>
</tr>
<tr>
<td>Nourishment of Permanently Flooded Cypress Swamps Through Dedicated Dredging Demo</td>
<td>C-23</td>
</tr>
<tr>
<td>Sediment Containment System For Marsh Creation Demo</td>
<td>C-25</td>
</tr>
</tbody>
</table>
APPENDIX C

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
# Project Priority List 16

## Alligator Bend Marsh Restoration and Shoreline Protection

**Computed by:** Jurgensen

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$1,000,000.00</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>2</td>
<td>Excavation for Flotation</td>
<td>93,867</td>
<td>CY</td>
<td>$3.00</td>
<td>$281,600</td>
</tr>
<tr>
<td>3</td>
<td>Containment Dikes</td>
<td>26,250</td>
<td>CY</td>
<td>$2.50</td>
<td>$65,625</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Creation</td>
<td>2,988,700</td>
<td>CY</td>
<td>$3.00</td>
<td>$8,966,100</td>
</tr>
<tr>
<td>5</td>
<td>Vegetative Plantings - Marsh Creation</td>
<td>315</td>
<td>Acres</td>
<td>$3,500.00</td>
<td>$1,102,500</td>
</tr>
<tr>
<td>6</td>
<td>Vegetative Plantings - Shoreline</td>
<td>15,256</td>
<td>Each</td>
<td>$4.00</td>
<td>$61,024</td>
</tr>
<tr>
<td>7</td>
<td>Temporary Navigation Aids</td>
<td>10</td>
<td>Each</td>
<td>$1,000.00</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

- $11,486,849

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

- $14,358,561

## PHASE I

### Federal Costs

- **Engineering and Design:**
  - Engineering: $857,648
  - Geotechnical Investigation: $0
  - Hydrologic Modeling: $0
  - Data Collection: $0
  - Cultural Resources: $10,000
  - HTRW: $0
  - NEPA Compliance: $30,000

**SubTotal:** $897,648

<table>
<thead>
<tr>
<th>NMFS</th>
<th>NRCS</th>
<th>Other</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$287,171</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$3,000</td>
</tr>
</tbody>
</table>

### State Costs

- **Supervision and Administration:**
  - $265,379

- **Ecological Review Costs:**
  - $0

- **Easements and Land Rights**
  - Oyster Issues (# of Leases): 0 Leases, $0
  - Land Rights: $108,000

**SubTotal:** $108,000

- **Monitoring**
  - Monitoring Plan Development: $0
  - Monitoring Protocol Cost: $0

**SubTotal:** $0

**Total Phase I Cost Estimate:** $1,561,198

## PHASE II

### Federal Costs

- **Estimated Construction Cost +25% Contingency:** $14,358,561

- **Inspection Surveys**
  - 0 days @ $3,111.00 per day: $0

- **Supervision and Inspection**
  - 287 days @ $1,200.00 per day: $344,400

**SubTotal:** $14,358,561

### State Costs

- **Supervision and Administration:**
  - $265,379

**Total Phase II Cost Estimate:** $15,255,511

## TOTAL ESTIMATED PROJECT FIRST COST

- $16,816,709
**O&M Cost Considerations:**

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Engineering Monitoring @ TY1-5, 10, 15, 19</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

**Specific Intermittent Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td></td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Repair Shoreline Plantings (25% replacement)</td>
<td>$0</td>
<td></td>
<td>$15,256</td>
<td>$15,256</td>
<td>$15,256</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Eng Survey 2 days @ $3,230 per day</td>
<td>$0</td>
<td></td>
<td>$6,460</td>
<td>$6,460</td>
<td>$6,460</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Inspection 1 days @ $1,200 per day</td>
<td>$1,200</td>
<td></td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td></td>
<td>$25,256</td>
<td>$25,256</td>
<td>$25,256</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contingency</strong></td>
<td>$0</td>
<td></td>
<td>$31,570</td>
<td>$31,570</td>
<td>$31,570</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

**State Costs**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$469</td>
<td>$947</td>
<td>$947</td>
<td>$947</td>
<td>$469</td>
<td></td>
</tr>
<tr>
<td>Eng Survey</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 days @ $3,230 per day</td>
<td>$0</td>
<td>$6,460</td>
<td>$6,460</td>
<td>$6,460</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Inspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 days @ $1,200 per day</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$76,669</td>
<td>$86,607</td>
<td>$86,607</td>
<td>$11,607</td>
<td>$75,469</td>
<td></td>
</tr>
</tbody>
</table>

**Federal Costs**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Cost</td>
<td>$500</td>
<td>$947</td>
<td>$947</td>
<td>$947</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$77,169</td>
<td>$119,124</td>
<td>$119,124</td>
<td>$44,124</td>
<td>$75,969</td>
<td></td>
</tr>
</tbody>
</table>

**Annual Project Costs:**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

**Construction Schedule:**

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design Start</td>
<td>March-07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning &amp; Design End</td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>May-11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Independent upon type of project)
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material (see Supporting data, Appendix 1)</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td></td>
<td></td>
<td>$2,500,000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Demolition and Removal</td>
<td></td>
<td></td>
<td>$1,980,000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Earthwork Excavation</td>
<td></td>
<td></td>
<td>$3,735,929</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Earthwork Placement</td>
<td></td>
<td></td>
<td>$3,287,824</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Geotextile</td>
<td></td>
<td></td>
<td>$42,000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Plantings (Guide levee)</td>
<td></td>
<td></td>
<td>$14,000</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Plantings (marsh creation - 50% of created acres)</td>
<td>24</td>
<td>acre</td>
<td>$3,500.00</td>
<td>$84,000</td>
</tr>
<tr>
<td>8</td>
<td>Electrical</td>
<td></td>
<td></td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Revetment</td>
<td></td>
<td></td>
<td>$8,681,400</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Structural</td>
<td></td>
<td></td>
<td>$1,660,000</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Concrete</td>
<td></td>
<td></td>
<td>$6,881,400</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Utilities</td>
<td></td>
<td></td>
<td>$18,000</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Highway 39 (twin span fixed bridge)</td>
<td></td>
<td></td>
<td>$2,000,000</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Highway 42 (2-lane construction)</td>
<td></td>
<td></td>
<td>$900,000</td>
<td></td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

$26,433,903

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

$33,042,379

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

- **Engineering and Design:**
  - Engineering: $1,878,639
  - Geotechnical Investigation: $390,000
  - Surveys: $260,000
  - Hydrologic Modeling: $700,000
  - Data Collection: $180,000
  - Cultural Resources: $25,000
  - NEPA Compliance: $50,000
  - USACE Coordination: $500,000
  - **SubTotal:** $3,983,639

- **Supervision and Administration:** $3,000

**State Costs**

- **Supervision and Administration:** $400,000
- **Ecological Review Costs:** $0

- **Easements and Land Rights**
  - Oyster Issues (0 of Leases): 0 Leases $0
  - Land Rights: $100,000
  - **SubTotal:** $100,000

- **Monitoring**
  - Monitoring Plan Development: $0
  - Monitoring Protocol Cost: $0
  - **SubTotal:** $0

*Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.*

**Total Phase I Cost Estimate:** $4,986,639

**PHASE II**

**Federal Costs**

- **Estimated Construction Cost +25% Contingency:** $33,042,379
  - Oyster Issues (0 of Leased Acres): 0 Leased AC $0
  - Land Rights: $0
  - **SubTotal:** $33,042,379

- **Inspection Surveys:** 0 days @ $3,111.00 per day $0
- **Supervision and Inspection:** 1,095 days @ $1,200.00 per day $1,314,000
- **Supervision and Administration:** $500,000

**State Costs**

- **Supervision and Administration:** $400,000
- **Land Rights:** $2,000,000

**Total Phase II Cost Estimate:** $37,256,379

**TOTAL ESTIMATED PROJECT FIRST COST**

$42,243,018
## O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$10,000</td>
<td>$65,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$5,000</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash removal</td>
<td></td>
<td></td>
<td>$50,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Structure refurbishment</td>
<td></td>
<td></td>
<td>$0</td>
<td>$200,000</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Structure demolition and removal (see Appendix 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>$0</td>
<td>$50,000</td>
<td>$250,000</td>
<td>$50,000</td>
<td>$7,333,450</td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contingency</strong></td>
<td></td>
<td></td>
<td>$0</td>
<td>$62,500</td>
<td>$312,500</td>
<td>$62,500</td>
<td>$9,166,813</td>
</tr>
</tbody>
</table>

### State Costs

<table>
<thead>
<tr>
<th>State Costs</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$5,571</td>
<td>$24,313</td>
<td>$5,571</td>
<td>$562,868</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
</tr>
<tr>
<td>Eng Survey 0 days @ $3,230 per day</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Inspectio 183 days @ $1,200 per day</td>
<td>$18,000</td>
<td>$144,000</td>
<td>$75,805</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspectio 15 days @ $1,200 per day</td>
<td>$18,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspectio 120 days @ $1,200 per day</td>
<td>$18,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$10,000</td>
<td>$35,446</td>
<td>$202,563</td>
<td>$35,446</td>
<td>$975,805</td>
</tr>
</tbody>
</table>

### Federal Costs

<table>
<thead>
<tr>
<th>Federal Costs</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$10,000</td>
<td>$99,821</td>
<td>$521,313</td>
<td>$99,821</td>
<td>$10,325,955</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring *</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

### Construction Schedule:

- Planning & Design Start: March-07
- Planning & Design End: March-11
- Const. Start: March-12
- Const. End: March-15

(Subject to change based on weather conditions)

---

**Violet Siphon Enlargement Project**

**Operation & Maintenance and Monitoring**

Project Priority List 16
Project: Breton Landbridge Marsh Restoration  
Date: 27-Jun-06  
Revised: 26-Jul-06

Computed by: Robert Dubois  
Project Priority List 16

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$500,000.00</td>
<td>$500,000</td>
</tr>
<tr>
<td>2</td>
<td>Marsh Creation</td>
<td>2,278,430</td>
<td>CY</td>
<td>$3.00</td>
<td>$6,835,290</td>
</tr>
<tr>
<td>3</td>
<td>Containment Dikes</td>
<td>111,611</td>
<td>CY</td>
<td>$2.50</td>
<td>$279,028</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**  
$7,614,318

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**  
$9,517,898

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*

- Engineering: $583,059
- Geotechnical Investigation: $100,000
- Hydrologic Modeling: $0
- Data Collection: $100,000
- Cultural Resources: $0
- HTRW: $0
- NEPA Compliance: $0

SubTotal: $783,059

**Supervision and Administration**

- NMFS: $190,358
- NRCS: $3,000
- Other: $0

SubTotal: $216,250

**State Costs**

- Supervision and Administration: $190,358
- Ecological Review Costs: $0

SubTotal: $190,358

**Easements and Land Rights**

- Oyster Issues (# of Leases): 0 Leases $16,250
- Land Rights $200,000

SubTotal: $216,250

**Monitoring**

- Monitoring Plan Development: $0
- Monitoring Protocol Cost *: $0

SubTotal: $0

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

Total Phase I Cost Estimate: $1,383,025

**PHASE II**

**Federal Costs**

*Estimated Construction Cost + 25% Contingency*  
$9,517,898

- Oyster Issues (# of Leased Acres): 0 Leased AC $2,000
- Land Rights $0

SubTotal: $9,517,898

- Inspection Surveys: 0 days @ $3,111.00 per day $0
- Supervision and Inspection: 275 days @ $1,200.00 per day $330,000
- Supervision and Administration: $190,358

Total Phase II Cost Estimate: $10,230,614

**TOTAL ESTIMATED PROJECT FIRST COST**  
$11,613,639
Breton Landbridge Marsh Restoration
Operation & Maintenance and Monitoring

Project Priority List 16

O&M Cost Considerations:

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

**Specific Intermittent Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Repair Shoreline Plantings (25% replacement)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contingency</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Inspection</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

**Federal Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Cost</td>
<td>$500</td>
<td></td>
<td>$500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$75,500</td>
<td>$75,500</td>
<td>$75,500</td>
</tr>
</tbody>
</table>

**Annual Project Costs:**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring *</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

**Construction Schedule:**

<table>
<thead>
<tr>
<th></th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design Start</td>
<td>March-07</td>
<td></td>
</tr>
<tr>
<td>Planning &amp; Design End</td>
<td>March-09</td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>March-11</td>
<td></td>
</tr>
</tbody>
</table>

(Minimum of one year to complete this phase)
(Requires 4 months for contracting and advertising)
### Jean Lafitte Shoreline Protection Project

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$200,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>2</td>
<td>Temporary Nav Aids</td>
<td>48</td>
<td>Each</td>
<td>$1,000.00</td>
<td>$48,000</td>
</tr>
<tr>
<td>3</td>
<td>Settlement Plates</td>
<td>48</td>
<td>Each</td>
<td>$1,000.00</td>
<td>$48,000</td>
</tr>
<tr>
<td>4</td>
<td>Site Access</td>
<td>25,000</td>
<td>CY</td>
<td>$4.50</td>
<td>$112,500</td>
</tr>
<tr>
<td></td>
<td>REACH A 15,000 LF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Flotation Access</td>
<td>169,000</td>
<td>CY</td>
<td>$4.50</td>
<td>$760,500</td>
</tr>
<tr>
<td>6</td>
<td>Separator Geotextile</td>
<td>50,000</td>
<td>SY</td>
<td>$6.00</td>
<td>$300,000</td>
</tr>
<tr>
<td>7</td>
<td>Stone</td>
<td>52,500</td>
<td>TON</td>
<td>$45.00</td>
<td>$2,362,500</td>
</tr>
<tr>
<td></td>
<td>REACH B 33,000 LF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Flotation Access</td>
<td>372,000</td>
<td>CY</td>
<td>$4.50</td>
<td>$1,674,000</td>
</tr>
<tr>
<td>9</td>
<td>Separator Geotextile</td>
<td>110,000</td>
<td>SY</td>
<td>$6.00</td>
<td>$660,000</td>
</tr>
<tr>
<td>10</td>
<td>Stone</td>
<td>115,500</td>
<td>TON</td>
<td>$45.00</td>
<td>$5,197,500</td>
</tr>
</tbody>
</table>

**Estimated Construction Cost**

**Estimated Construction + 25% Contingency**

**Total Estimated Project Costs**

### Phase I

**Federal Costs**

- Engineering and Design:
  - Engineering: $317,500
  - Geotechnical Investigation: $250,000
  - Surveying: $150,000
  - Data Collection: $0
  - Cultural Resources: $80,000
  - HTRW: $0
  - NEPA Compliance: $50,000

- Subtotal: $847,500

- Real Estate: $78,000

- Supervision and Administration: $125,000
- Corps Administration: $3,000

**State Costs**

- Supervision and Administration: $263,000
- Ecological Review Costs: $0

**Easements and Land Rights**

- Oyster Issues (# of Leases): 0 Leases, $0
- Land Rights: $0

- Subtotal: $0

**Monitoring**

- Monitoring Plan Development: $0
- Monitoring Protocol Cost: $0

*Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.*

**Subtotal:** $0

**Total Phase I Cost Estimate:** $1,316,500

### Phase II

**Federal Costs**

- Estimated Construction Cost + 25% Contingency: $14,203,750
- Oyster Issues (# of Leased Acres): 0 Leased AC, $0
- Land Rights: $170,000

- Subtotal: $14,373,750

- Inspection Surveys: 0 days, $3,111.00 per day
- Supervision and Inspection: 285 days, $1,200.00 per day
- Supervision and Administration: $125,000

**State Costs**

- Supervision and Administration: $263,000

**Total Phase II Cost Estimate:** $15,103,750

**Total Estimated Project First Cost:** $16,420,250
Jean Lafitte Shoreline Protection Project  
Operation & Maintenance and Monitoring  
Project Priority List 16

Q&M Cost Considerations:

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Specific Intermittent Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td></td>
<td>$115,000</td>
</tr>
<tr>
<td>25% replace @ TY3/10% replace @ TY9</td>
<td></td>
<td>$1,890,000</td>
</tr>
<tr>
<td>Floatation Channel (TY3 75% and TY 9 50% of original @ 4.50/cy)</td>
<td></td>
<td>$1,825,875</td>
</tr>
<tr>
<td>Access Channel</td>
<td></td>
<td>$112,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$3,943,275</td>
<td>$0</td>
<td>$2,200,750</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td>$0</td>
<td>$4,929,219</td>
<td>$0</td>
<td>$2,750,938</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>State Costs</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$98,585</td>
<td>$55,019</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eng Survey</td>
<td></td>
<td></td>
<td>$3,230 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Inspection</td>
<td></td>
<td></td>
<td>$1,200 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Federal Costs**

<table>
<thead>
<tr>
<th>Federal Costs</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$255,583</td>
<td>$148,334</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$98,585</td>
<td>$55,019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td></td>
<td></td>
<td>$3,230 per day</td>
<td>$38,760</td>
<td>$38,760</td>
<td></td>
</tr>
<tr>
<td>Inspection</td>
<td></td>
<td></td>
<td>$1,200 per day</td>
<td>$240,000</td>
<td>$240,000</td>
<td></td>
</tr>
</tbody>
</table>

**Annual Project Costs**:

| Corps Administration             | $700   |        |        |        |        |        |
| Monitoring *                     | $0     | (Dependent upon type of project) |        |        |        |        |
* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

**Construction Schedule**

- Planning & Design Start: March-07
- Planning & Design End: December-08  (Minimum of one year to complete this phase)
- Const. Start: June-10  (Requires 4 months for contracting and advertising)
- Const. End: June-11

---

C-8
## Project Priority List 16

**Project:** Grand Liard Marsh and Ridge Restoration - w/out SW cell  
**Date:** 20-Jul-06  
**Revised:** 31-Jul-06

**Computed by:** Patrick Williams

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization and Demobilization (includes mob/demob for plants)</td>
<td>1</td>
<td>LS</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>2</td>
<td>Highway/road jack &amp; bore (3 crossings at $160,000 each and 3 C-9)</td>
<td>3</td>
<td>EA</td>
<td>$196,000</td>
<td>$588,000</td>
</tr>
<tr>
<td>3</td>
<td>Bucket Dredging (ridge restoration - includes shaping)</td>
<td>293,799</td>
<td>CY</td>
<td>$5.00</td>
<td>$1,468,995</td>
</tr>
<tr>
<td>4</td>
<td>Hydraulic Dredging (marsh creation)</td>
<td>3,530,199</td>
<td>CY</td>
<td>$3.00</td>
<td>$10,590,597</td>
</tr>
<tr>
<td>5</td>
<td>Hydraulic Dredging (marsh nourishment)</td>
<td>331,541</td>
<td>CY</td>
<td>$3.00</td>
<td>$994,622</td>
</tr>
<tr>
<td>6</td>
<td>Primary Containment Dikes</td>
<td>119,228</td>
<td>CY</td>
<td>$2.50</td>
<td>$298,070</td>
</tr>
<tr>
<td>7</td>
<td>Secondary Containment Dikes</td>
<td>56,155</td>
<td>CY</td>
<td>$2.50</td>
<td>$140,388</td>
</tr>
<tr>
<td>8</td>
<td>Vegetative Plantings (half of created acres)</td>
<td>135</td>
<td>AC</td>
<td>$5,000</td>
<td>$675,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST:** $16,255,671  
**ESTIMATED CONSTRUCTION + 25% CONTINGENCY:** $20,319,589

### TOTAL ESTIMATED PROJECT COSTS

#### PHASE I

**Federal Costs**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>1,188,660</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>225,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrologic Modeling</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Collection</td>
<td>200,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>40,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTRW</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>30,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SubTotal:** $1,683,660

| Supervision and Administration | $354,794 |
| Corps Administration           | $3,000   |

**State Costs**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oyster Issues</td>
<td>0 Leases</td>
<td></td>
<td>$32,450</td>
<td></td>
</tr>
<tr>
<td>Land Rights</td>
<td></td>
<td></td>
<td>$200,000</td>
<td></td>
</tr>
</tbody>
</table>

**SubTotal:** $232,450

**Monitoring**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring Plan Development</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring Protocol Cost</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SubTotal:** $0

**Total Phase I Cost Estimate:** $2,628,698

#### PHASE II

**Federal Costs**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost +25% Contingency</td>
<td>$20,319,589</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oyster Issues (0 Leased Acres)</td>
<td>0 Leased</td>
<td>AC</td>
<td>$61,000</td>
<td>$0</td>
</tr>
<tr>
<td>Land Rights</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SubTotal:** $20,380,589

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection Surveys</td>
<td>0 days</td>
<td></td>
<td>$3,111.00</td>
<td>$0</td>
</tr>
<tr>
<td>Supervision and Inspection</td>
<td>248 days</td>
<td></td>
<td>$1,200.00</td>
<td>$297,600</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td></td>
<td></td>
<td></td>
<td>$354,794</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td></td>
<td></td>
<td>$354,794</td>
<td></td>
</tr>
</tbody>
</table>

**Total Phase II Cost Estimate:** $21,387,777

**TOTAL ESTIMATED PROJECT FIRST COST:** $24,016,475
Grand Liard Marsh and Ridge Restoration - w/out SW cell  
Operation & Maintenance and Monitoring  
*Project Priority List 16*

**O&M Cost Considerations:**

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Specific Intermittent Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach containment dikes as needed (1384 CY + 25,000 Mob/Demob)</td>
<td>$29,152</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Planting mob/demob</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Vegetative Plantings (woody/ridge)</td>
<td>$220,720</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$259,872</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td>$0</td>
<td>$324,840</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>State Costs</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$25,195</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$6,497</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>2 days</td>
<td>$3,230 per day</td>
<td>$6,460</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Inspection</td>
<td>14 days</td>
<td>$1,200 per day</td>
<td>$0</td>
<td>$16,800</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$75,000</td>
<td>$54,952</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

**Federal Costs**

| Administrative Cost                                                         | $500       | $6,497     | $500       | $500       | $500       |

**Total** $75,500 $386,289 $75,500 $75,500 $75,500

**Construction Schedule:**

<table>
<thead>
<tr>
<th>Planning &amp; Design Start</th>
<th>March-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design End</td>
<td>March-09</td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
</tr>
<tr>
<td>Const. End</td>
<td>January-11</td>
</tr>
</tbody>
</table>

(All dates intended to be completed within the given month)
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization and Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>2</td>
<td>Marsh Creation</td>
<td>4,531,000</td>
<td>CY</td>
<td>$3.00</td>
<td>$13,593,000</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Nourishment</td>
<td>627,000</td>
<td>CY</td>
<td>$3.00</td>
<td>$1,881,000</td>
</tr>
<tr>
<td>4</td>
<td>Terraces Site 1 (small) (USACE ppl15 est)</td>
<td>185,867</td>
<td>CY</td>
<td>$3.00</td>
<td>$557,601</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>339,213</td>
<td>CY</td>
<td>$2.50</td>
<td>$848,033</td>
</tr>
<tr>
<td>6</td>
<td>Vegetative Plantings (1/2 creation acres only)</td>
<td>208</td>
<td>AC</td>
<td>$3,500.00</td>
<td>$728,000</td>
</tr>
<tr>
<td>7</td>
<td>Vegetative Plantings Terraces</td>
<td>21,085</td>
<td>EA</td>
<td>$4.00</td>
<td>$84,340</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST** $18,691,974  
**ESTIMATED CONSTRUCTION + 25% CONTINGENCY** $23,364,968  

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*
- Engineering: $1,355,559
- Geotechnical Investigation: $155,000
- Hydrologic Modeling: $0
- Data Collection: $100,000
- Cultural Resources: $10,000
- HTRW: $0
- NEPA Compliance: $30,000

**SubTotal:** $1,650,559

<table>
<thead>
<tr>
<th>NMFS</th>
<th>NRCS</th>
<th>Other</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$500,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$3,000</td>
</tr>
</tbody>
</table>

**State Costs**

- Supervision and Administration: $400,000
- Ecological Review Costs: $0

**Easements and Land Rights**

- Oyster Issues (# of Leases): $193,250
- Land Rights: $75,000

**SubTotal:** $268,250

**Monitoring**

- Monitoring Plan Development: $0
- Monitoring Protocol Cost *: $0

**SubTotal:** $0

**Total Phase I Cost Estimate:** $2,821,809

**PHASE II**

**Federal Costs**

- Estimated Construction Cost +25% Contingency: $23,364,968
- Oyster Issues (# of Leased Acres): $695,000
- Land Rights: $0

**SubTotal:** $24,059,968

<table>
<thead>
<tr>
<th>Inspection Surveys</th>
<th>Supervision and Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oyster Issues @ $3,111.00 per day @ 0 days</td>
<td>Oyster Issues @ $1,200.00 per day @ 401 days</td>
</tr>
<tr>
<td>$0</td>
<td>$481,200</td>
</tr>
</tbody>
</table>

**State Costs**

- Supervision and Administration: $400,000

**Total Phase II Cost Estimate:** $25,441,168

**TOTAL ESTIMATED PROJECT FIRST COST** $28,262,977
Madison Bay Marsh Creation and Terracing  
Operation & Maintenance and Monitoring  
Project Priority List 16

O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach containment dikes as needed (2985 CY + 25,000 Mob/Demob)</td>
<td>$33,955</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$33,955</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td>$0</td>
<td>$42,444</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

### State Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$3,921</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$1,274</td>
<td>$1,274</td>
<td>$1,274</td>
<td>$1,274</td>
<td>$1,274</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>2 days @ $3,230 per day</td>
<td>$6,460</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Inspection</td>
<td>6 days @ $1,200 per day</td>
<td>$0</td>
<td>$7,200</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$75,000</td>
<td>$18,855</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

### Federal Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Cost</td>
<td>$500</td>
<td>$1,274</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>Total</td>
<td>$75,500</td>
<td>$62,573</td>
<td>$75,500</td>
<td>$75,500</td>
<td>$75,500</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$700</td>
<td>$700</td>
<td>$700</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring *</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

### Construction Schedule:

- Planning & Design Start: March-07
- Planning & Design End: March-09  
  (Minimum of one year to complete this phase)
- Const. Start: June-10  
  (Requires 4 months for contracting and advertising)
- Const. End: July-11

C-12
## West Belle Pass Barrier Headland Restoration

### Project Priority List 16

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>2</td>
<td>Beach/Dune Fill</td>
<td>1,561,473</td>
<td>CY</td>
<td>$7.50</td>
<td>$11,711,488</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Fill</td>
<td>856,934</td>
<td>CY</td>
<td>$4.50</td>
<td>$3,856,293</td>
</tr>
<tr>
<td>4</td>
<td>Containment Dikes</td>
<td>58,246</td>
<td>CY</td>
<td>$4.50</td>
<td>$262,107</td>
</tr>
<tr>
<td>5</td>
<td>Terminal Structure</td>
<td>300</td>
<td>LF</td>
<td>$1,000.00</td>
<td>$300,000</td>
</tr>
<tr>
<td>6</td>
<td>Vegetative Plantings (35% of dune+ 50% marsh created ac)</td>
<td>125</td>
<td>AC</td>
<td>$5,000.00</td>
<td>$625,000</td>
</tr>
<tr>
<td>7</td>
<td>Vegetative Plantings (woody - 20% of dune ac)</td>
<td>11</td>
<td>AC</td>
<td>$7,120.00</td>
<td>$78,320</td>
</tr>
<tr>
<td>8</td>
<td>Aerial Seeding Dune (not bermuda grass)</td>
<td>108</td>
<td>AC</td>
<td>$100.00</td>
<td>$10,800</td>
</tr>
<tr>
<td>9</td>
<td>Sand Fencing</td>
<td>9300</td>
<td>LF</td>
<td>$10.00</td>
<td>$93,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

<table>
<thead>
<tr>
<th></th>
<th>$18,436,568</th>
</tr>
</thead>
</table>

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

<table>
<thead>
<tr>
<th></th>
<th>$23,045,710</th>
</tr>
</thead>
</table>

**TOTAL ESTIMATED PROJECT COSTS**

### PHASE I

**Federal Costs**

- **Engineering and Design:**
  - Engineering: $1,338,122
  - Geotechnical Investigation: $200,000
  - Hydrologic Modeling: $0
  - Data Collection: $100,000
  - Cultural Resources: $30,000
  - HTRW: $0
  - NEPA Compliance: $30,000

**SubTotal:** $1,698,122

- **Supervision and Administration:**
  - NMFS: $395,686
  - NRCS: $3,000

**State Costs**

- **Supervision and Administration:**
  - $395,686

- **Ecological Review Costs:**
  - $0

- **Easements and Land Rights**
  - Oyster Issues (# of Leases): 0 Leases $0
  - Land Rights: $40,000

**SubTotal:** $40,000

- **Monitoring**
  - Monitoring Plan Development: $0
  - Monitoring Protocol Cost *: $0

**SubTotal:** $0

**Total Phase I Cost Estimate:** $2,532,494

### PHASE II

**Federal Costs**

- **Estimated Construction Cost +25% Contingency**
  - $23,045,710

- **Inspection Surveys**
  - 0 days @ $3,111.00 per day $0

- **Supervision and Inspection**
  - 119 days @ $1,700.00 per day $202,300

**Total Phase II Cost Estimate:** $24,039,382

**TOTAL ESTIMATED PROJECT FIRST COST**

$26,571,876
## O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 1</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
<th>Year 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mob/Demob (tidal features)</td>
<td></td>
<td></td>
<td>$10,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mob/Demob (planting)</td>
<td></td>
<td></td>
<td>$10,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetative Plantings (herbaceous - remaining 35% of dune + 50% of marsh ~125 ac)</td>
<td></td>
<td></td>
<td>$625,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetative Plantings (remaining half of 20% of dune in woody ~11 ac)</td>
<td></td>
<td></td>
<td>$78,320</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tide features and dike gapping (assume 30,000 cy at $3/cy + $100,000 Mob)</td>
<td></td>
<td></td>
<td>$90,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand fencing (install or replace complete additional fence line @ Years 1, 2, 3, 8, and 15)</td>
<td>$93,000</td>
<td></td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal: $93,000 $93,000 $926,320 $0 $93,000 $0 $93,000 $0

Subtotal w/ 25% contingency: $116,250 $116,250 $1,157,900 $0 $116,250 $0 $116,250 $0

### State Costs

| Engineering Monitoring | $82,550 |        | $82,550| $82,550| $93,800| $76,300| $81,300 |
| Engineering and Design Cost | $9,811 |        | $9,811| $81,634| $9,811| $9,811|        |
| Administrative Cost | $2,325 |        | $2,325| $23,158| $2,325| $2,325|        |
| Eng Survey | 3 days | $3,230 per day | $9,690 |        |        |        |        |
| Inspection | 10 days | $1,700 per day | $17,000| $17,000| $59,500| $17,000| $17,000|

Subtotal: $111,606 $111,606 $256,532 $93,800 $29,136 $76,300 $29,136 $81,300

### Federal Costs

| Administrative Cost | $1,651 | $1,651| $5,818| $1,876| $1,526| $1,626 |

Total: $229,587 $229,587 $1,420,250 $145,386 $77,826 $145,386 $82,926

## Annual Project Costs:

- Corps Administration: **$700**
- Monitoring *: **$0** (Independent upon type of project)
- * Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

## Construction Schedule:

- Planning & Design Start: March 07
- Planning & Design End: March 09
- Const. Start: June 10
- Const. End: September 10

Vegetative Plantings (remaining half of 20% of dune in woody ~11 ac)
### Deer Island Pass Sediment Delivery

**Computed by:** Kevin Roy-USFWS; Shannon Haynes-LDNR

**Project Priority List 16**

#### Item No. | Work or Material | Quantity | Unit | Unit Cost | Amount
--- | --- | --- | --- | --- | ---
1 | Mobilization/Demobilization | 1 | LS | $1,000,000 | $1,000,000
2 | Hydraulic Dredging (sediment delivery channel) | 493,000 | CY | $2.50 | $1,232,500
3 | Containment Dikes (bucket dredging) | 74,222 | CY | $2.50 | $185,555

**ESTIMATED CONSTRUCTION COST**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

**Engineering and Design:**

- Engineering: $199,394
- Geotechnical Investigation: $55,000
- Analysis of nav. Channel impacts/sediment delivery: $140,000
- Data Collection: $133,709
- Cultural Resources: $0
- HTRW: $0
- NEPA Compliance: $0

**SubTotal:** $528,103

**Supervision and Administration**

**NMFS**

- Federal: $60,452
- Corps Administration: $3,000

**State Costs**

**Supervision and Administration**

- Federal: $60,452
- Ecological Review Costs: $0

**SubTotal:** $40,000

<table>
<thead>
<tr>
<th>Easements and Land Rights</th>
<th>Oyster Issues (# of Leases)</th>
<th>Land Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Leases</td>
<td>$0</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

**SubTotal:** $40,000

**Monitoring**

- Monitoring Plan Development: $0
- Monitoring Plan Development Cost: $0

**SubTotal:** $0

**Total Phase I Cost Estimate:** $692,007

**PHASE II**

**Federal Costs**

- Estimated Construction Cost +25% Contingency: $3,022,569

<table>
<thead>
<tr>
<th>Oyster Issues (# of Leased Acres)</th>
<th>Oyster Issues (# of Leased Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Leased AC</td>
<td>$0</td>
</tr>
</tbody>
</table>

**SubTotal:** $3,022,569

- Inspection Surveys: $0
- Supervision and Inspection: 128 days @ $1,200.00 per day $153,600
- Supervision and Administration: $60,452

**State Costs**

**Supervision and Administration**

- Federal: $60,452

**Total Phase II Cost Estimate:** $3,297,073

**TOTAL ESTIMATED PROJECT FIRST COST**

$3,989,080
# Deer Island Pass Sediment Delivery

## Operation & Maintenance and Monitoring

### Project Priority List 16

## O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 6</th>
<th>Year 11</th>
<th>Year 16</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization/Demobilization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance Dredging (17% of initial volume at TYs 6, 11, 16; 83,810 cy/event)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Containment Dikes for Marsh Creation (9,170 ft/event; 40,756 cy/event)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### State Costs

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$51,317</td>
<td>$51,317</td>
<td>$51,317</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$14,036</td>
<td>$14,036</td>
<td>$14,036</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>0 days</td>
<td>$3,230 per day</td>
<td>$19,503</td>
<td>$98,470</td>
<td>$98,470</td>
<td>$98,470</td>
<td>$98,470</td>
</tr>
<tr>
<td>Inspection</td>
<td>0 days</td>
<td>$1,200 per day</td>
<td>$0</td>
<td>$87,600</td>
<td>$87,600</td>
<td>$87,600</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Subtotal

|                          | $19,503  | $251,423 | $251,423 | $251,423 | $98,470 | $98,470 | $98,470 |

### Subtotal w/ 25% contingency

|                          | $0       | $701,769 | $701,769 | $701,769 | $0     | $0     | $0     |

### Federal Costs

|                          | $500     | $500    | $500    | $500    | $500    | $500    | $500    |

### Total

|                          | $20,003  | $953,692 | $953,692 | $953,692 | $98,970 | $98,970 | $98,970 |

## Annual Project Costs:

- Corps Administration: $700
- Monitoring: $0 (Dependent upon type of project)

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

### Construction Schedule:

- Planning & Design Start: March-07
- Planning & Design End: March-09 (Minimum of one year to complete this phase)
- Const. Start: June-10 (Requires 4 months for contracting and advertising)
- Const. End: October-10
## Project: Vermilion Bay Shoreline Protection
### Date: 27-Jun-06  Revised: 26-Jul-06

**Computed by:** L. Broussard

### Item No. | Work or Material | Quantity | Unit | Unit Cost | Amount
--- | --- | --- | --- | --- | ---
1 | Mobilization/Demobilization | 1 | LS | $200,000.00 | $200,000
2 | Rock Riprap | 64,857 | TN | $45.00 | $2,918,565
3 | Geotextile | 42,503 | SY | $5.00 | $212,515
4 | Settlement Plates | 11 | EA | $1,000.00 | $11,000
5 | Vegetative Plantings (Year 1) | 26,400 | EA | $4.58 | $120,912
6 | Vegetative Plantings (Year 2) | 13,200 | EA | $4.68 | $61,776
7 | Vegetative Plantings (Year 3) | 13,200 | EA | $4.78 | $63,096
8 | Vegetative Plantings (Year 4) | 6,600 | EA | $4.88 | $32,208
9 | Vegetative Plantings (Year 5) | 2,640 | EA | $4.98 | $13,147
10 | Channel Closure | 1,580 | CY | $3.00 | $4,740

### ESTIMATED CONSTRUCTION COST

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Mobilization/Demobilization | $200,000
| Rock Riprap | $2,918,565
| Geotextile | $212,515
| Settlement Plates | $11,000
| Vegetative Plantings (Year 1) | $120,912
| Vegetative Plantings (Year 2) | $61,776
| Vegetative Plantings (Year 3) | $63,096
| Vegetative Plantings (Year 4) | $32,208
| Vegetative Plantings (Year 5) | $13,147
| Channel Closure | $4,740

### ESTIMATED CONSTRUCTION + 25% CONTINGENCY

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Mobilization/Demobilization | $250,000
| Rock Riprap | $3,647,959
| Geotextile | $265,645
| Settlement Plates | $13,750
| Vegetative Plantings (Year 1) | $151,188
| Vegetative Plantings (Year 2) | $77,191
| Vegetative Plantings (Year 3) | $77,992
| Vegetative Plantings (Year 4) | $40,505
| Vegetative Plantings (Year 5) | $16,556
| Channel Closure | $5,925

### TOTAL ESTIMATED PROJECT COSTS

**PHASE I**

**Federal Costs**

**Engineering and Design:**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Engineering | $291,995
| Geotechnical Investigation | $75,000
| Hydrologic Modeling | $0
| Data Collection | $0
| Cultural Resources | $10,000
| HTRW | $0
| NEPA Compliance | $30,000

**SubTotal:** $406,995

**Supervision and Administration**

- Federal: $90,949
- Corps: $3,000

**State Costs**

**Supervision and Administration**: $90,949

**Ecological Review Costs**: $0

**Easements and Land Rights**

- Oyster Issues (# of Leases): $0
- Land Rights: $75,000

**SubTotal:** $75,000

**Monitoring**

- Monitoring Plan Development: $0
- Monitoring Protocol Cost*: $0

**SubTotal:** $0

**Total Phase I Cost Estimate:** $666,893

**PHASE II**

**Federal Costs**

**Estimated Construction Cost +25% Contingency**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Estimated Construction Cost | $4,547,449
| Oyster Issues (# of Leased Acres): | $0
| Land Rights: | $0

**SubTotal:** $4,547,449

**Inspection Surveys**

- 0 days @ $3,111.00 per day: $0

**Supervision and Inspection**

- 117 days @ $1,200.00 per day: $140,400

**Supervision and Administration**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Supervision and Administration | $90,949

**SubTotal:** $140,400

**State Costs**

**Supervision and Administration**

<table>
<thead>
<tr>
<th>Work or Material</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Supervision and Administration | $90,949

**Total Phase II Cost Estimate:** $4,869,747

### TOTAL ESTIMATED PROJECT FIRST COST

**$5,536,640**
Vermilion Bay Shoreline Protection  
Operation & Maintenance and Monitoring  
Project Priority List 16

### O&M Cost Considerations:

#### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$60,000</td>
<td>$60,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreshore Rock Dike (25% Replace TY3 &amp; TY15)</td>
<td>$729,630</td>
<td>$729,630</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$789,630</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td>$0</td>
<td>$987,038</td>
<td>$0</td>
<td>$0</td>
<td>$789,630</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### State Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$70,393</td>
<td>$70,393</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$19,741</td>
<td>$19,741</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$2,464 per day</td>
<td>$17,248</td>
<td>$124,182</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Inspection</td>
<td>$1,200 per day</td>
<td>$16,800</td>
<td>$16,800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>$10,000</td>
<td>$124,182</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$124,182</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

#### Federal Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Cost</td>
<td>$500</td>
<td>$19,741</td>
<td>$500</td>
<td>$500</td>
<td>$19,741</td>
<td>$500</td>
</tr>
<tr>
<td>Total</td>
<td>$10,500</td>
<td>$1,130,961</td>
<td>$10,500</td>
<td>$10,500</td>
<td>$1,130,961</td>
<td>$10,500</td>
</tr>
</tbody>
</table>

### Construction Schedule:

- **Planning & Design St:** March-07  
  (Minimum of one year to complete this phase)
- **Const. Start:** March-10  
  (Requires 4 months for contracting and advertising)
- **Const. End:** July-10
**Southwest LA Gulf Shoreline Nourishment and Protection**

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$800,000.00</td>
<td>$800,000</td>
</tr>
<tr>
<td>2</td>
<td>Dredging</td>
<td>4,861,000</td>
<td>CY</td>
<td>$2.00</td>
<td>$9,722,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*
- Engineering                      $306,250
- Geotechnical Investigation        $100,000
- Hydrologic Modeling               $120,000
- Data Collection                   $187,500
- Cultural Resources                $20,000
- HTRW                               $0
- NEPA Compliance                    $50,000

Real Estate                        $69,900

**SubTotal:**                        $783,750

**Supervision and Administration**
- NMFS                               $200,000
- NRCS                               $3,000

**State Costs**

**SubTotal:**                        $138,000

**Easements and Land Rights**

- Oyster Issues (# of Leases)        0 Leases       $0
- Land Rights                        $0

**SubTotal:**                        $0

**Monitoring**

- Monitoring Plan Development        $0
- Monitoring Protocol Cost *          $0

**SubTotal:**                        $0

**Total Phase I Cost Estimate:**    $1,194,650

**PHASE II**

**Federal Costs**

*Estimated Construction Cost +25% Contingency*                      $13,152,500

- Oyster Issues (# of Leased Acres)  0 Leased AC  $0
- Land Rights                       $49,000

**SubTotal:**                        $13,201,500

**Inspection Surveys**

- 0 days @ $3,111.00 per day        $0

**Supervision and Inspection**

- 160 days @ $1,700.00 per day      $272,000

**Supervision and Administration**

- $200,000

**State Costs**

**Supervision and Administration**

- $138,000

**Total Phase II Cost Estimate:** $13,811,500

**TOTAL ESTIMATED PROJECT FIRST COST**

$15,006,150
### Project Priority List 16

## O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$3,500</td>
<td>$3,900</td>
<td>$7,400</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 7</th>
<th>Year 9</th>
<th>Year 11</th>
<th>Year 13</th>
<th>Year 15</th>
<th>Year 17</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization and Demobilization</td>
<td>$800,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Dredging ($2.00/cy unit cost)</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
<td>$2,270,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$3,070,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td>$0</td>
<td>$3,837,500</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
</tr>
</tbody>
</table>

### State Costs

| Engineering Monitoring | $47,000 | $47,000 | $47,000 | $47,000 | $47,000 |
| Engineering and Design Cost | $76,750 | $58,625 | $58,625 | $58,625 | $58,625 |
| Inspection             | 0 days  | $3,230 per day | $0 | $0 | $0 |
|                        | 0 days  | $1,200 per day | $0 | $0 | $0 |
| Subtotal               | $47,000 | $76,750 | $47,000 | $58,625 | $47,000 | $58,625 | $47,000 | $58,625 | $47,000 |

### Federal Costs

| Engineering and Design Cost | $145,000 | $145,000 | $145,000 | $145,000 | $0 |
| Administrative Cost         | $0        | $76,750  | $58,625  | $58,625  | $0 |
| Inspection                  | 31 days  | $3,230 per day | $100,130 | $100,130 | $100,130 |
|                            | 90 days  | $1,700 per day | $153,000 | $153,000 | $153,000 |
| Subtotal                   | $0       | $474,180 | $0       | $456,755 | $0       | $456,755 | $0       | $456,755 | $0       |

### Construction Schedule:

**Planning & Design Star:** March-07

**Planning & Design End:** December-08

**Const. Start:** June-09

**Const. End:** October-09

**Corps Administration:** $700

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.*

---

**C-20**
### Item No. | Work or Material | Quantity | Unit | Unit Cost | Amount |
--- | --- | --- | --- | --- | --- |
1 | mobilization - three boats, two 4-wheelers | 4 | LS | $27,750 | $111,000 |
2 | supplies/equipment - sprayers, tank, product, seeds | 1 | LS | $56,000 | $56,000 |
3 | labor ( 30 days, 16 are field days) | 1 | LS | $28,000 | $28,000 |
4 | travel costs (4 trips/4 people/4 days each) | 64 | EA | $275 | $17,600 |
5 | | | | | |
6 | | | | | |
7 | | | | | |
8 | | | | | |

**ESTIMATED CONSTRUCTION COST**
$212,600

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**
$265,750

---

### PHASE I

#### Federal Costs

**Engineering and Design:**
- Engineering: $115,000
- Geotechnical Investigation: $0
- Sampling/analysis: $25,000
- Data Collection: $36,000
- Cultural Resources: $0
- Monitoring Plan Development: $35,000
- NEPA Compliance: $30,000
- **SubTotal:** $241,000

**NMFS**
- $25,000

**NRCS**
- $3,000

**Supervision and Administration**
- $25,000

**Ecological Review Costs**
- $0

**Easements and Land Rights**
- Oyster Issues (# of Leases): $0
- Land Rights: $25,000
- **SubTotal:** $25,000

**Monitoring**
- Monitoring Plan Development: $5,000
- Monitoring Protocol Cost *: $0
- **SubTotal:** $5,000

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

**Total Phase I Cost Estimate:** $324,000

---

### PHASE II

#### Federal Costs

**Estimated Construction Cost + 25% Contingency**
- Estimated Construction Cost: $265,750
- Oyster Issues (# of Leased Acres): $0
- Land Rights: $0
- **SubTotal:** $265,750

**Inspection Surveys**
- 0 days: $0 per day
- 30 days: $1,700.00 per day
- **SubTotal:** $51,000

**Supervision and Administration**
- $25,000

**State Costs**
- Supervision and Administration: $25,000

**Total Phase II Cost Estimate:** $366,750

---

**TOTAL ESTIMATED PROJECT FIRST COST**
$690,750
Enhancement of Barrier Island Vegetation Demo
Operation & Maintenance and Monitoring

Project Priority List 16

O&M Cost Considerations:

Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

State Costs

Engineering Monitoring
Engineering and Design Cost
Administrative Cost

Eng Survey
0 days @ $3,230 per day $0 $0 $0

Inspection
0 days @ $1,200 per day $0 $0 $0 $0

Subtotal $0 $0 $0 $0 $0

Federal Costs

Administrative Cost

Total $0 $0 $0 $0 $0

Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring *</td>
<td>$77,000</td>
<td>$92,000</td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

Construction Schedule:

Planning & Design Start March-07
Planning & Design End March-08 (Minimum of one year to complete this phase)
Const. Start July-08 (Requires 4 months for contracting and advertising)
Const. End August-08

C-22
## Project Priority List 16

### Item No. | Work or Material | Quantity | Unit | Unit Cost | Amount
--- | --- | --- | --- | --- | ---
1 | Mobilization/Demobilization | 1 | LS | $100,000.00 | $100,000
6 | Dredging | 130,680 | CY | $3.00 | $392,040
7 | Containment Dikes | 35,062 | CY | $2.50 | $87,655
8 | Plantings | 1 | LS | $50,000.00 | $50,000

### ESTIMATED CONSTRUCTION COST

$629,695

### ESTIMATED CONSTRUCTION + 25% CONTINGENCY

$787,119

### TOTAL ESTIMATED PROJECT COSTS

### PHASE I

**Federal Costs**

- Engineering and Design:
  - Engineering: $57,071
  - Geotechnical Investigation: $55,000
  - Hydrologic Modeling: $0
  - Data Collection: $23,000
  - Cultural Resources: $0
  - HTRW: $0
  - NEPA Compliance: $0

  **SubTotal:** $135,071

- NMFS: $25,000
- NRCS: $3,000
- Other: $0

**State Costs**

- Supervision and Administration: $25,000
- Ecological Review Costs: $0
- Easements and Land Rights: $25,000

  **SubTotal:** $25,000

- Monitoring Plan Development: $5,000
- Monitoring Protocol Cost *: $0

  **SubTotal:** $5,000

**Total Phase I Cost Estimate:** $218,071

### PHASE II

**Federal Costs**

- Estimated Construction Cost +25% Contingency: $787,119
- Inspection Surveys: 0 days @ $3,111.00 per day: $0
- Supervision and Inspection: 60 days @ $1,200.00 per day: $72,000

  **SubTotal:** $789,119

**State Costs**

- Supervision and Administration: $25,000

**Total Phase II Cost Estimate:** $814,119

### TOTAL ESTIMATED PROJECT FIRST COST

$1,127,190
Nourishment of Permanently Flooded Cypress Swamps Through Dedicated Dredging
Operation & Maintenance and Monitoring

Project Priority List 16

**O&M Cost Considerations:**

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Specific Intermittent Costs**

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contingency</td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**State Costs**

| Engineering Monitoring | $250,000 |
| Engineering and Design Cost |         |
| Administrative Cost |         |
| Eng Survey 0 days @ $3,230 per day | $0 | $0 | $0 |
| Inspection 0 days @ $1,200 per day | $0 | $0 | $0 | $0 |
| Subtotal | $250,000 | $0 | $0 | $0 | $0 |

**Federal Costs**

| Administrative Cost | |
| Total | $250,000 | $0 | $0 | $0 | $0 |

**Annual Project Costs:**

| Corps Administration | $700 |
| Monitoring * | $0 | (Dependent upon type of project) |
| * Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects. |

**Construction Schedule:**

| Planning & Design Start | March-07 |
| Planning & Design End | March-08 | (Minimum of one year to complete this phase) |
| Const. Start | June-08 | (Requires 4 months for contracting and advertising) |
| Const. End | August-08 | |
**Project Priority List 16**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>2</td>
<td>Containment System</td>
<td>6,000</td>
<td>LF</td>
<td>$34.00</td>
<td>$204,000</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation</td>
<td>59,532</td>
<td>CY</td>
<td>$3.00</td>
<td>$178,596</td>
</tr>
<tr>
<td>4</td>
<td>Temporary Navigation Aids</td>
<td>4</td>
<td>Each</td>
<td>$1,000.00</td>
<td>$4,000</td>
</tr>
<tr>
<td>5</td>
<td>Removal of Containment System</td>
<td>1</td>
<td>LS</td>
<td>$10,000.00</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**  
$496,596

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**  
$620,745

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**  
**Federal Costs**

- **Engineering and Design:**
  - Engineering: $45,809  
  - Geotechnical Investigation: $45,000  
  - Hydrologic Modeling: $0  
  - Data Collection: $50,000  
  - Cultural Resources: $10,000  
  - Monitoring Plan Development: $25,000  
  - NEPA Compliance: $30,000  
  
**SubTotal:**  
$205,809

- **NMFS**  
- **NRCS**  
- **Other**  
- **Actual**  
- **Supervision and Administration:**  
  - Corps Administration: $3,000  
  
- **State Costs**
  - **Supervision and Administration:**  
    - Ecological Review Costs: $25,000  
    
**SubTotal:**  
$25,000

- **Easements and Land Rights**
  - Oyster Issues (# of Leases): $0  
  - Land Rights: $25,000  

**SubTotal:**  
$25,000

- **Monitoring**
  - Monitoring Plan Development: $5,000  
  - Monitoring Protocol Cost *: $0  

**SubTotal:**  
$5,000

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

**Total Phase I Cost Estimate:**  
$288,809

**PHASE II**  
**Federal Costs**

- **Estimated Construction Cost + 25% Contingency:**  
  - $620,745  
- **Oyster Issues (# of Leased Acres):**  
  - 0 Leased AC: $0  

**SubTotal:**  
$620,745

- **Inspection Surveys**  
  - 0 days: $0  
- **Supervision and Inspection**  
  - 35 days: $42,000  
- **Supervision and Administration**  
  - $25,000  

**State Costs**

- **Supervision and Administration:**  
  - $25,000  

**Total Phase II Cost Estimate:**  
$712,745

**TOTAL ESTIMATED PROJECT FIRST COST**

$1,001,554
# Sediment Containment System for Marsh Creation Demo

**Operation & Maintenance and Monitoring**

## O&M Cost Considerations:

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Quantity in Year 10</th>
<th>Unit Cost per day</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization (included in cost of removal)</td>
<td></td>
<td></td>
<td>$20,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Removal of Containment System</td>
<td></td>
<td></td>
<td>$20,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Subtotal w/ 25% contingency:

| Subtotal                                                                 | $25,000             | $0                | $0         | $0      | $0      |

### State Costs

- Engineering Monitoring
- Engineering and Design Cost
- Administrative Cost $750
- Eng Survey: 0 days @ $3,230 per day
- Inspection: 0 days @ $1,200 per day

Subtotal: $750

### Federal Costs

- Administrative Cost $750

Total: $26,500

## Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$700</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring *</td>
<td>$5,250</td>
<td>$5,250</td>
<td>$20,751</td>
</tr>
</tbody>
</table>

* Monitoring is now done through CRMS and is a line item in overall planning budget and not included in individual projects.

## Construction Schedule:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning &amp; Design Start</td>
<td>March-07</td>
</tr>
<tr>
<td>Planning &amp; Design End</td>
<td>March-08</td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-08</td>
</tr>
<tr>
<td>Const. End</td>
<td>October-08</td>
</tr>
</tbody>
</table>

*Minimum of one year to complete this phase*

*Requires 4 months for contracting and advertising*
Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix D

Economic Analyses for Candidate Projects
# Appendix D

## Economic Analyses for Candidate Projects

### Table of Contents

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidate Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Alligator Bend Marsh Restoration and Shoreline Protection</td>
<td>D-1</td>
</tr>
<tr>
<td>Violet Siphon Enlargement</td>
<td>D-7</td>
</tr>
<tr>
<td>Breton Landbridge Marsh Restoration</td>
<td>D-25</td>
</tr>
<tr>
<td>Jean Lafitte Shoreline Protection</td>
<td>D-31</td>
</tr>
<tr>
<td>Grand Liard Marsh and Ridge Restoration</td>
<td>D-37</td>
</tr>
<tr>
<td>Madison Bay Marsh Creation and Terracing</td>
<td>D-43</td>
</tr>
<tr>
<td>West Belle Pass Barrier Headland Restoration</td>
<td>D-49</td>
</tr>
<tr>
<td>Deer Island Pass Sediment Delivery</td>
<td>D-55</td>
</tr>
<tr>
<td>Vermilion Bay Shoreline Protection</td>
<td>D-61</td>
</tr>
<tr>
<td>Southwest LA Gulf Shoreline Nourishment and Protection</td>
<td>D-67</td>
</tr>
<tr>
<td><strong>Demonstration Candidate Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Enhancement of Barrier Island Vegetation Demo</td>
<td>D-73</td>
</tr>
<tr>
<td>Nourishment of Permanently Flooded Cypress Swamps Through Dedicated Dredging Demo</td>
<td>D-79</td>
</tr>
<tr>
<td>Sediment Containment System For Marsh Creation Demo</td>
<td>D-85</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Project Priority List 16
Alligator Bend Marsh Restoration and Shoreline Protection

<table>
<thead>
<tr>
<th>Total Charges</th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$18,252,755</td>
<td>$1,480,212</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$337,037</td>
<td>$27,332</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$46,618</td>
<td>$3,780</td>
</tr>
<tr>
<td>Average Annual Cost</td>
<td>$1,511,324</td>
<td>$1,511,324</td>
</tr>
</tbody>
</table>

Average Annual Habitat Units 166
Cost Per Habitat Unit $9,104
Total Net Acres 330
## Coastal Wetlands Conservation and Restoration Plan
### Alligator Bend Marsh Restoration and Shoreline Protection

**Project Costs**

$19,620,813

**Project Priority List 16**

### Phase I

<table>
<thead>
<tr>
<th>Year</th>
<th>Year E&amp;D</th>
<th>Land Rights</th>
<th>Federal</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>Corps S&amp;A</th>
<th>S&amp;A Insp</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2007</td>
<td>$261,814</td>
<td>$31,500</td>
<td>$83,758</td>
<td>$77,402</td>
<td>$875</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$455,349</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>$448,824</td>
<td>$54,000</td>
<td>$143,586</td>
<td>$132,690</td>
<td>$1,500</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$780,599</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>$187,010</td>
<td>$22,500</td>
<td>$59,827</td>
<td>$55,287</td>
<td>$625</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$325,250</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL</strong> 897,648</td>
</tr>
</tbody>
</table>

### Phase II

<table>
<thead>
<tr>
<th>Year</th>
<th>Year</th>
<th>E&amp;D</th>
<th>Land Rights</th>
<th>Federal</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>Corps S&amp;A</th>
<th>S&amp;A Insp</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2010</td>
<td>-</td>
<td>$0</td>
<td>$104,426</td>
<td>$96,501</td>
<td>$233</td>
<td>$0</td>
<td>$125,236</td>
<td>$1,044,259</td>
<td>$4,177,036</td>
<td>$5,547,692</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>-</td>
<td>$0</td>
<td>$182,745</td>
<td>$168,878</td>
<td>$408</td>
<td>-</td>
<td>$219,164</td>
<td>$1,827,453</td>
<td>$7,309,813</td>
<td>$9,708,641</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL</strong> 0</td>
</tr>
</tbody>
</table>

**Total First Costs**

$897,648 $108,000 $265,379 $3,000 $0 $0 $0 $0 $0 $0 $1,561,198

### Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$79,569</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$121,077</td>
<td>$700</td>
<td>$3,647</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$121,077</td>
<td>$700</td>
<td>$3,647</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$46,077</td>
<td>$700</td>
<td>$3,647</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$78,369</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$0</td>
<td>$489,669</td>
<td>$14,000</td>
<td>$57,841</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan  
Alligator Bend Marsh Restoration and Shoreline Protection  
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal</th>
<th>E&amp;D</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>5</td>
<td>2007</td>
<td>2007</td>
<td>$336,142</td>
<td>$40,443</td>
<td>$107,537</td>
<td>$99,376</td>
<td>$1,123</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2008</td>
<td>2009</td>
<td>$548,151</td>
<td>$65,950</td>
<td>$175,362</td>
<td>$162,054</td>
<td>$1,832</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2009</td>
<td>2009</td>
<td>$217,262</td>
<td>$26,140</td>
<td>$69,505</td>
<td>$64,231</td>
<td>$726</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$377,863</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2010</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>$1,101,555</td>
<td>$132,533</td>
<td>$352,404</td>
<td>$325,662</td>
<td>$3,681</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,915,834</td>
</tr>
<tr>
<td>Phase II</td>
<td>2</td>
<td>2010</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$115,404</td>
<td>$106,646</td>
<td>$258</td>
<td>$0</td>
<td>$138,402</td>
<td>$1,154,038</td>
<td>$18,636,410</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$192,111</td>
<td>$177,533</td>
<td>$429</td>
<td>$0</td>
<td>$230,396</td>
<td>$1,921,110</td>
<td>$18,636,410</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2012</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>2013</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$192,111</td>
<td>$177,533</td>
<td>$429</td>
<td>$0</td>
<td>$230,396</td>
<td>$1,921,110</td>
<td>$18,636,410</td>
<td>$18,636,410</td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>2014</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$18,636,410</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$307,515</td>
<td>$284,179</td>
<td>$687</td>
<td>$0</td>
<td>$368,798</td>
<td>$3,075,149</td>
<td>$18,636,410</td>
<td>$18,252,755</td>
</tr>
<tr>
<td>Total First Cost</td>
<td></td>
<td></td>
<td></td>
<td>$1,101,555</td>
<td>$132,533</td>
<td>$659,918</td>
<td>$609,840</td>
<td>$4,369</td>
<td>$0</td>
<td>$368,798</td>
<td>$3,075,149</td>
<td>$12,300,594</td>
<td>$16,336,921</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>O&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$79,569</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$2,624</td>
<td>$633</td>
<td>$2,443</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$59,137</td>
<td>$573</td>
<td>$2,986</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,259</td>
<td>$545</td>
<td>$2,103</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$77,216</td>
<td>$446</td>
<td>$2,326</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$1,759</td>
<td>$425</td>
<td>$1,638</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$22,888</td>
<td>$348</td>
<td>$1,812</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$1,370</td>
<td>$331</td>
<td>$1,276</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$30,320</td>
<td>$271</td>
<td>$1,238</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$337,037</td>
<td>$9,074</td>
<td>$37,544</td>
<td></td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Alligator Bend Marsh Restoration and Shoreline Protection
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Year Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2007</td>
<td>1.043</td>
<td>$273,072</td>
<td>$32,855</td>
<td>$87,360</td>
<td>$80,731</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$474,929</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>1.066</td>
<td>$478,422</td>
<td>$57,561</td>
<td>$153,054</td>
<td>$141,440</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$832,076</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>1.088</td>
<td>$203,529</td>
<td>$24,487</td>
<td>$65,112</td>
<td>$60,171</td>
<td>$680</td>
<td>$0</td>
<td>$0</td>
<td>$353,979</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>1.111</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.135</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL</td>
<td>$955,023</td>
<td>$114,903</td>
<td>$305,526</td>
<td>$282,341</td>
<td>$3,192</td>
<td>$0</td>
<td>$0</td>
<td>$1,660,985</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Year Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2010</td>
<td>1.111</td>
<td>$0</td>
<td>$0</td>
<td>$116,036</td>
<td>$107,231</td>
<td>$259</td>
<td>$0</td>
<td>$139,161</td>
<td>$1,164,517</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.135</td>
<td>$0</td>
<td>$0</td>
<td>$207,328</td>
<td>$191,595</td>
<td>$463</td>
<td>$0</td>
<td>$248,646</td>
<td>$10,014,450</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>1.158</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>1.183</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>1.208</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL</td>
<td>$0</td>
<td>$0</td>
<td>$323,365</td>
<td>$298,826</td>
<td>$723</td>
<td>$0</td>
<td>$387,807</td>
<td>$17,178,967</td>
</tr>
</tbody>
</table>

Total Cost | $955,023 | $114,903 | $628,891 | $581,167 | $3,914 | $387,807 | $12,934,597 | $18,839,952

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$92,168</td>
<td>$811</td>
<td>$3,707</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$3,430</td>
<td>$828</td>
<td>$3,193</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$3,502</td>
<td>$845</td>
<td>$3,260</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$3,575</td>
<td>$863</td>
<td>$3,329</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$152,406</td>
<td>$881</td>
<td>$4,591</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$3,727</td>
<td>$900</td>
<td>$3,470</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$3,805</td>
<td>$919</td>
<td>$3,543</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$3,885</td>
<td>$938</td>
<td>$3,617</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$3,967</td>
<td>$958</td>
<td>$3,693</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$169,095</td>
<td>$978</td>
<td>$5,093</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$4,135</td>
<td>$998</td>
<td>$3,850</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$4,222</td>
<td>$1,019</td>
<td>$3,931</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$4,311</td>
<td>$1,041</td>
<td>$4,013</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$4,401</td>
<td>$1,062</td>
<td>$4,098</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$71,397</td>
<td>$1,085</td>
<td>$5,651</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$4,588</td>
<td>$1,107</td>
<td>$4,272</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$4,684</td>
<td>$1,131</td>
<td>$4,361</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$4,783</td>
<td>$1,154</td>
<td>$4,453</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$4,883</td>
<td>$1,179</td>
<td>$4,546</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$131,961</td>
<td>$1,179</td>
<td>$5,388</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$678,927</td>
<td>$19,874</td>
<td>$82,060</td>
<td></td>
</tr>
</tbody>
</table>
## E&D and Construction Data

<table>
<thead>
<tr>
<th></th>
<th>ESTIMATED CONSTRUCTION COST</th>
<th>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11,486,849</td>
<td>14,358,561</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>TOTAL ESTIMATED PROJECT COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PHASE I</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Costs</strong></td>
<td></td>
</tr>
<tr>
<td>Engineering and Design</td>
<td>$897,648</td>
</tr>
<tr>
<td>Engineering</td>
<td>$857,648</td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>$0</td>
</tr>
<tr>
<td>Hydrologic Modeling</td>
<td>$0</td>
</tr>
<tr>
<td>Data Collection</td>
<td>$0</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>$10,000</td>
</tr>
<tr>
<td>HTRW</td>
<td>$0</td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>$30,000</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$287,171</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>State Costs</strong></td>
<td></td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$265,379</td>
</tr>
<tr>
<td>Ecological Review Costs</td>
<td>$0</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$108,000</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Plan Development</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Protocol Cost</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase I Cost Estimate**: $1,561,198

* Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

<table>
<thead>
<tr>
<th><strong>PHASE II</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Costs</strong></td>
<td></td>
</tr>
<tr>
<td>Estimated Construction Cost + 25% Contingency</td>
<td>$14,358,561</td>
</tr>
<tr>
<td>Lands or Oyster Issues</td>
<td>0 lease acres</td>
</tr>
<tr>
<td>Supervision and Inspection</td>
<td>287 days @ 1200 per day</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$287,171</td>
</tr>
<tr>
<td><strong>State Costs</strong></td>
<td></td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$265,379</td>
</tr>
</tbody>
</table>

**Total Phase II Cost Estimate**: $15,255,511

**TOTAL ESTIMATED PROJECT FIRST COST**: $16,816,709
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>$5,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td></td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Monitoring @ TY1-5, 10, 15, 19</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$0</td>
</tr>
<tr>
<td>Repair Shoreline Plantings (25% replacement)</td>
<td>$0</td>
<td>$15,256</td>
<td>$15,256</td>
<td>$15,256</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$25,256</td>
<td>$25,256</td>
<td>$25,256</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$31,570</td>
<td>$31,570</td>
<td>$31,570</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Engineering, Design & Administrative Costs

| Engineering Monitoring | $75,000| $75,000| $75,000| $0      | $75,000 |
| Engineering and Design Cost | $0     | $3,000 | $3,000 | $3,000 | $0      |
| Administrative Cost    | $409   | $947   | $947   | $947   | $409   |
| Eng Survey              | $3,230 per day | $6,460 | $6,460 | $6,460 | $0      |
| Construction            | $1,200 per day | $1,200 | $1,200 | $1,200 | $0      |
| Subtotal                | $76,669| $86,607| $86,607| $11,607| $75,469 |

#### Federal S&A

|                      | $500   | $947   | $947   | $947   | $500   |
|                      | $75,169| $119,124| $119,124| $44,124| $75,969 |

### Annual Project Costs:

|                      | $700   |       |       |       |       |

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>May-11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan

**Project Priority List 16**

**Violet Siphon Enlargement Project**

<table>
<thead>
<tr>
<th></th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Costs</td>
<td>$48,988,810</td>
<td>$3,972,760</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$1,416,211</td>
<td>$114,848</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$180,159</td>
<td>$14,610</td>
</tr>
<tr>
<td><strong>Average Annual Cost</strong></td>
<td><strong>$4,102,218</strong></td>
<td><strong>$4,102,218</strong></td>
</tr>
<tr>
<td>Average Annual Habitat Units</td>
<td>2,436</td>
<td></td>
</tr>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$1,684</td>
<td></td>
</tr>
<tr>
<td>Total Net Acres</td>
<td>1,609</td>
<td></td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan
**Violet Siphon Enlargement Project**

**Project Costs**

$53,184,577

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency Costs</th>
<th>Construction Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>2007</td>
<td>$522,614</td>
<td>$14,583</td>
<td>$72,917</td>
<td>$58,333</td>
<td>$438</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>8</td>
<td>2008</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>7</td>
<td>2009</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>6</td>
<td>2010</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>$373,296</td>
<td>$10,417</td>
<td>$52,863</td>
<td>$41,667</td>
<td>$313</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase I**

$3,583,639 $100,000 $500,000 $400,000 $3,000 $0 $0 $0 $4,586,639

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency Costs</th>
<th>Construction Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2012</td>
<td>-$388,889</td>
<td>$97,222</td>
<td>$77,778</td>
<td>$408</td>
<td>$0</td>
<td>$255,500</td>
<td>$1,284,981</td>
</tr>
<tr>
<td>3</td>
<td>2013</td>
<td>-$666,667</td>
<td>$166,667</td>
<td>$133,333</td>
<td>$700</td>
<td>-</td>
<td>$438,000</td>
<td>$2,202,825</td>
</tr>
<tr>
<td>2</td>
<td>2014</td>
<td>-$666,667</td>
<td>$166,667</td>
<td>$133,333</td>
<td>$700</td>
<td>-</td>
<td>$438,000</td>
<td>$2,202,825</td>
</tr>
<tr>
<td>1</td>
<td>2015</td>
<td>-$277,778</td>
<td>$69,444</td>
<td>$55,556</td>
<td>$292</td>
<td>-</td>
<td>$182,500</td>
<td>$917,844</td>
</tr>
<tr>
<td>0</td>
<td>2016</td>
<td>- $0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase II**

$0 $2,000,000 $500,000 $400,000 $2,100 $0 $0 $0 $26,433,903 $37,258,479

**Total First Costs**

$3,583,639 $2,100,000 $1,000,000 $800,000 $5,100 $0 $1,314,000 $6,608,476 $26,433,903 $41,845,118

<table>
<thead>
<tr>
<th>Year</th>
<th>FY Discount</th>
<th>Monitoring</th>
<th>I&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$82,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-1</td>
<td>2017</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-2</td>
<td>2018</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-3</td>
<td>2019</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-4</td>
<td>2020</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
<td>$14,575</td>
</tr>
<tr>
<td>-5</td>
<td>2021</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-6</td>
<td>2022</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-7</td>
<td>2023</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-8</td>
<td>2024</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-9</td>
<td>2025</td>
<td>$0</td>
<td>$587,963</td>
<td>$700</td>
<td>$18,950</td>
</tr>
<tr>
<td>-10</td>
<td>2026</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-11</td>
<td>2027</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-12</td>
<td>2028</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-13</td>
<td>2029</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-14</td>
<td>2030</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
<td>$14,575</td>
</tr>
<tr>
<td>-15</td>
<td>2031</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-16</td>
<td>2032</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-17</td>
<td>2033</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-18</td>
<td>2034</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-19</td>
<td>2035</td>
<td>$0</td>
<td>$82,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
</tbody>
</table>

**Total**

$0 $2,188,955 $14,000 $284,000
## Coastal Wetlands Conservation and Restoration Plan
### Violet Siphon Enlargement Project
#### Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1.568</td>
<td>2007</td>
<td>$819,474</td>
<td>$22,867</td>
<td>$114,335</td>
<td>$91,468</td>
<td>$686</td>
<td>$0</td>
</tr>
<tr>
<td>8</td>
<td>1.492</td>
<td>2008</td>
<td>$1,336,326</td>
<td>$37,290</td>
<td>$186,448</td>
<td>$149,159</td>
<td>$1,119</td>
<td>$0</td>
</tr>
<tr>
<td>7</td>
<td>1.419</td>
<td>2009</td>
<td>$1,271,178</td>
<td>$35,472</td>
<td>$177,359</td>
<td>$141,887</td>
<td>$1,064</td>
<td>$0</td>
</tr>
<tr>
<td>6</td>
<td>1.350</td>
<td>2010</td>
<td>$1,209,206</td>
<td>$33,742</td>
<td>$168,712</td>
<td>$134,970</td>
<td>$1,012</td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td>1.284</td>
<td>2011</td>
<td>$479,273</td>
<td>$13,374</td>
<td>$66,670</td>
<td>$53,496</td>
<td>$401</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$5,115,457</td>
<td>$142,745</td>
<td>$713,724</td>
<td>$570,979</td>
<td>$4,282</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.221</td>
<td>2012</td>
<td>$0</td>
<td>$474,952</td>
<td>$118,738</td>
<td>$94,990</td>
<td>$499</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>1.162</td>
<td>2013</td>
<td>$0</td>
<td>$774,510</td>
<td>$193,627</td>
<td>$154,902</td>
<td>$813</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td>2014</td>
<td>$0</td>
<td>$736,751</td>
<td>$184,188</td>
<td>$147,350</td>
<td>$774</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2015</td>
<td>$0</td>
<td>$292,014</td>
<td>$73,003</td>
<td>$58,403</td>
<td>$307</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$0</td>
<td>$2,278,226</td>
<td>$569,557</td>
<td>$455,645</td>
<td>$2,392</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total First Cost</strong></td>
<td>$5,115,457</td>
<td>$2,420,971</td>
<td>$1,283,280</td>
<td>$1,026,624</td>
<td>$6,674</td>
<td>$0</td>
<td>$1,496,795</td>
<td>$7,527,802</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$82,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-1</td>
<td>2017</td>
<td>$0</td>
<td>$69,346</td>
<td>$666</td>
<td>$12,081</td>
</tr>
<tr>
<td>-2</td>
<td>2018</td>
<td>$0</td>
<td>$65,965</td>
<td>$633</td>
<td>$11,492</td>
</tr>
<tr>
<td>-3</td>
<td>2019</td>
<td>$0</td>
<td>$62,749</td>
<td>$603</td>
<td>$10,932</td>
</tr>
<tr>
<td>-4</td>
<td>2020</td>
<td>$0</td>
<td>$139,888</td>
<td>$573</td>
<td>$11,934</td>
</tr>
<tr>
<td>-5</td>
<td>2021</td>
<td>$0</td>
<td>$56,780</td>
<td>$545</td>
<td>$9,892</td>
</tr>
<tr>
<td>-6</td>
<td>2022</td>
<td>$0</td>
<td>$54,012</td>
<td>$519</td>
<td>$9,410</td>
</tr>
<tr>
<td>-7</td>
<td>2023</td>
<td>$0</td>
<td>$51,379</td>
<td>$493</td>
<td>$8,951</td>
</tr>
<tr>
<td>-8</td>
<td>2024</td>
<td>$0</td>
<td>$48,874</td>
<td>$469</td>
<td>$8,514</td>
</tr>
<tr>
<td>-9</td>
<td>2025</td>
<td>$0</td>
<td>$374,869</td>
<td>$446</td>
<td>$12,085</td>
</tr>
<tr>
<td>-10</td>
<td>2026</td>
<td>$0</td>
<td>$44,225</td>
<td>$425</td>
<td>$7,704</td>
</tr>
<tr>
<td>-11</td>
<td>2027</td>
<td>$0</td>
<td>$42,069</td>
<td>$404</td>
<td>$7,329</td>
</tr>
<tr>
<td>-12</td>
<td>2028</td>
<td>$0</td>
<td>$40,018</td>
<td>$384</td>
<td>$6,972</td>
</tr>
<tr>
<td>-13</td>
<td>2029</td>
<td>$0</td>
<td>$38,087</td>
<td>$366</td>
<td>$6,632</td>
</tr>
<tr>
<td>-14</td>
<td>2030</td>
<td>$0</td>
<td>$84,863</td>
<td>$348</td>
<td>$7,240</td>
</tr>
<tr>
<td>-15</td>
<td>2031</td>
<td>$0</td>
<td>$34,446</td>
<td>$331</td>
<td>$6,001</td>
</tr>
<tr>
<td>-16</td>
<td>2032</td>
<td>$0</td>
<td>$32,767</td>
<td>$315</td>
<td>$5,708</td>
</tr>
<tr>
<td>-17</td>
<td>2033</td>
<td>$0</td>
<td>$31,169</td>
<td>$299</td>
<td>$5,430</td>
</tr>
<tr>
<td>-18</td>
<td>2034</td>
<td>$0</td>
<td>$29,650</td>
<td>$285</td>
<td>$5,165</td>
</tr>
<tr>
<td>-19</td>
<td>2035</td>
<td>$0</td>
<td>$32,073</td>
<td>$271</td>
<td>$4,913</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$0</td>
<td>$1,416,211</td>
<td>$9,074</td>
<td>$171,085</td>
<td></td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan
### Violet Siphon Enlargement Project
#### Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Land E&amp;D</th>
<th>Federal E&amp;D</th>
<th>LDNR E&amp;D</th>
<th>Corps E&amp;D</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;A Administration</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First</th>
<th>Fully Funded Costs</th>
<th>Amortized Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1.043</td>
<td>2007</td>
<td>$154,066</td>
<td>$15,210</td>
<td>$76,052</td>
<td>$60,842</td>
<td>$456</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$697,647</td>
<td>$4,313,017</td>
</tr>
<tr>
<td>8</td>
<td>1.066</td>
<td>2008</td>
<td>$954,991</td>
<td>$26,649</td>
<td>$133,243</td>
<td>$106,595</td>
<td>$799</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,222,277</td>
<td>$4,313,017</td>
</tr>
<tr>
<td>7</td>
<td>1.088</td>
<td>2009</td>
<td>$975,046</td>
<td>$27,208</td>
<td>$136,041</td>
<td>$108,833</td>
<td>$816</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,247,945</td>
<td>$4,313,017</td>
</tr>
<tr>
<td>6</td>
<td>1.111</td>
<td>2010</td>
<td>$995,522</td>
<td>$27,780</td>
<td>$138,688</td>
<td>$111,119</td>
<td>$833</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,274,152</td>
<td>$4,313,017</td>
</tr>
<tr>
<td>5</td>
<td>1.135</td>
<td>2011</td>
<td>$423,512</td>
<td>$11,818</td>
<td>$59,090</td>
<td>$47,272</td>
<td>$355</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$542,046</td>
<td>$4,313,017</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>$3,894,158</td>
<td>$108,665</td>
<td>$543,325</td>
<td>$434,660</td>
<td>$3,260</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$4,984,067</td>
<td>$4,313,017</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.158</td>
<td>2012</td>
<td>$0</td>
<td>$450,468</td>
<td>$112,617</td>
<td>$90,094</td>
<td>$473</td>
<td>$0</td>
<td>$295,957</td>
<td>$1,488,453</td>
<td>$5,953,810</td>
<td>$8,391,872</td>
</tr>
<tr>
<td>3</td>
<td>1.163</td>
<td>2013</td>
<td>$0</td>
<td>$786,447</td>
<td>$197,112</td>
<td>$157,689</td>
<td>$828</td>
<td>$0</td>
<td>$518,010</td>
<td>$2,605,217</td>
<td>$10,429,869</td>
<td>$14,688,173</td>
</tr>
<tr>
<td>2</td>
<td>1.208</td>
<td>2014</td>
<td>$0</td>
<td>$805,005</td>
<td>$201,251</td>
<td>$161,001</td>
<td>$845</td>
<td>$0</td>
<td>$528,888</td>
<td>$2,659,927</td>
<td>$10,639,708</td>
<td>$14,966,265</td>
</tr>
<tr>
<td>1</td>
<td>1.233</td>
<td>2015</td>
<td>$0</td>
<td>$342,462</td>
<td>$85,616</td>
<td>$68,492</td>
<td>$360</td>
<td>$0</td>
<td>$224,998</td>
<td>$1,131,577</td>
<td>$4,526,309</td>
<td>$6,379,814</td>
</tr>
<tr>
<td>0</td>
<td>1.259</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>$0</td>
<td>$2,386,382</td>
<td>$596,596</td>
<td>$477,276</td>
<td>$2,506</td>
<td>$0</td>
<td>$1,567,853</td>
<td>$7,885,174</td>
<td>$31,540,696</td>
<td>$44,456,483</td>
</tr>
</tbody>
</table>

**Total Cost**: $3,894,158, $2,495,047, $1,139,920, $911,936, $5,766, $0, $1,567,853, $7,885,174, $31,540,696, $49,440,550

<table>
<thead>
<tr>
<th>Year</th>
<th>D-10 FY</th>
<th>Monitoring</th>
<th>I&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.2588</td>
<td>2016</td>
<td>$0</td>
<td>$104,351</td>
<td>$881</td>
</tr>
<tr>
<td>-1</td>
<td>1.2852</td>
<td>2017</td>
<td>$0</td>
<td>$93,690</td>
<td>$900</td>
</tr>
<tr>
<td>-2</td>
<td>1.3122</td>
<td>2018</td>
<td>$0</td>
<td>$95,658</td>
<td>$919</td>
</tr>
<tr>
<td>-3</td>
<td>1.3397</td>
<td>2019</td>
<td>$0</td>
<td>$97,667</td>
<td>$938</td>
</tr>
<tr>
<td>-4</td>
<td>1.3679</td>
<td>2020</td>
<td>$0</td>
<td>$233,695</td>
<td>$958</td>
</tr>
<tr>
<td>-5</td>
<td>1.3966</td>
<td>2021</td>
<td>$0</td>
<td>$101,812</td>
<td>$978</td>
</tr>
<tr>
<td>-6</td>
<td>1.4259</td>
<td>2022</td>
<td>$0</td>
<td>$103,950</td>
<td>$998</td>
</tr>
<tr>
<td>-7</td>
<td>1.4559</td>
<td>2023</td>
<td>$0</td>
<td>$106,133</td>
<td>$1,019</td>
</tr>
<tr>
<td>-8</td>
<td>1.4864</td>
<td>2024</td>
<td>$0</td>
<td>$108,361</td>
<td>$1,041</td>
</tr>
<tr>
<td>-9</td>
<td>1.5177</td>
<td>2025</td>
<td>$0</td>
<td>$892,324</td>
<td>$1,062</td>
</tr>
<tr>
<td>-10</td>
<td>1.5495</td>
<td>2026</td>
<td>$0</td>
<td>$112,960</td>
<td>$1,085</td>
</tr>
<tr>
<td>-11</td>
<td>1.5821</td>
<td>2027</td>
<td>$0</td>
<td>$115,333</td>
<td>$1,107</td>
</tr>
<tr>
<td>-12</td>
<td>1.6153</td>
<td>2028</td>
<td>$0</td>
<td>$117,755</td>
<td>$1,131</td>
</tr>
<tr>
<td>-13</td>
<td>1.6492</td>
<td>2029</td>
<td>$0</td>
<td>$120,227</td>
<td>$1,154</td>
</tr>
<tr>
<td>-14</td>
<td>1.6838</td>
<td>2030</td>
<td>$0</td>
<td>$287,678</td>
<td>$1,179</td>
</tr>
<tr>
<td>-15</td>
<td>1.6838</td>
<td>2031</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
</tr>
<tr>
<td>-16</td>
<td>1.6838</td>
<td>2032</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
</tr>
<tr>
<td>-17</td>
<td>1.6838</td>
<td>2033</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
</tr>
<tr>
<td>-18</td>
<td>1.6838</td>
<td>2034</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
</tr>
<tr>
<td>-19</td>
<td>1.6838</td>
<td>2035</td>
<td>$0</td>
<td>$139,591</td>
<td>$1,179</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$0</td>
<td>$3,322,192</td>
<td>$21,242</td>
</tr>
</tbody>
</table>
### E&D and Construction Data

<table>
<thead>
<tr>
<th>Estimated Construction Cost</th>
<th>26,433,903</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction + 25% Contingency</td>
<td>33,042,379</td>
</tr>
</tbody>
</table>

**TOTAL ESTIMATED PROJECT COSTS**

### PHASE I

**Federal Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design</td>
<td>$3,583,639</td>
</tr>
<tr>
<td>Engineering</td>
<td>$1,878,639</td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>$390,000</td>
</tr>
<tr>
<td>Hydrologic Modeling &amp; Survey</td>
<td>$960,000</td>
</tr>
<tr>
<td>Data Collection</td>
<td>$180,000</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>$25,000</td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>$50,000</td>
</tr>
<tr>
<td>USACE Coordination</td>
<td>$100,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$500,000</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$400,000</td>
</tr>
<tr>
<td>Ecological Review Costs</td>
<td>$0</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$100,000</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Plan Development</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Protocol Cost *</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase I Cost Estimate**  $4,586,639

* Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

### PHASE II

**Federal Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost + 25% Contingency</td>
<td>$33,042,379</td>
</tr>
<tr>
<td>Lands or Oyster leases</td>
<td>$0</td>
</tr>
<tr>
<td>Supervision and Inspect</td>
<td>1095 days</td>
</tr>
<tr>
<td></td>
<td>1200 per day</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$400,000</td>
</tr>
<tr>
<td>Land Rights</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

**Total Phase II Cost Estimate**  $37,256,379

**TOTAL ESTIMATED PROJECT FIRST COST**  $41,843,018
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$10,000</td>
<td>$65,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$5,000</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Item</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash removal</td>
<td>$0</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$0</td>
</tr>
<tr>
<td>Structure refurbishment</td>
<td>$0</td>
<td>$0</td>
<td>$200,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Structure demolition and removal (see Appendix 3)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$50,000</td>
<td>$250,000</td>
<td>$50,000</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$0</td>
<td>$62,500</td>
<td>$312,500</td>
<td>$62,500</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineering, Design & Administrative Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$5,571</td>
<td>$24,313</td>
<td>$5,571</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$0</td>
</tr>
<tr>
<td>Inspec</td>
<td>$0</td>
<td>$3,230</td>
<td>$0</td>
<td>$3,230</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$144,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Construct</td>
<td>$0</td>
<td>$1,200</td>
<td>$0</td>
<td>$1,200</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$10,000</td>
<td>$35,446</td>
<td>$202,563</td>
<td>$35,446</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

### Federal S&A

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$0</td>
</tr>
</tbody>
</table>

Total                               | $10,000| $99,821| $521,313| $99,821 | $10,000 |

### Annual Project Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Construction Schedule

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>March-07</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Const. Start</td>
<td>March-12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>March-15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Project Priority List 16
Violet Siphon Enlargement Project

<table>
<thead>
<tr>
<th>Present</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worth</td>
</tr>
<tr>
<td>First Costs</td>
<td>$49,559,789</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$5,336,404</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$251,090</td>
</tr>
<tr>
<td></td>
<td>$4,472,183</td>
</tr>
<tr>
<td>Average Annual Cost</td>
<td></td>
</tr>
<tr>
<td>Average Annual Habitat Units</td>
<td>2,436</td>
</tr>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$1,836</td>
</tr>
<tr>
<td>Total Net Acres</td>
<td>1,609</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Violet Siphon Enlargement Project

$70,989,682

Project Priority List 16

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D</th>
<th>Rights</th>
<th>S&amp;A</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>9</td>
<td>2007</td>
<td>$580,947</td>
<td>$14,583</td>
<td>$72,917</td>
<td>$58,333</td>
<td>$438</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$727,218</td>
</tr>
<tr>
<td>8</td>
<td>2008</td>
<td>$995,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$1,246,660</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2009</td>
<td>$995,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$1,246,660</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2010</td>
<td>$995,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$1,246,660</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>$414,962</td>
<td>$10,417</td>
<td>$52,083</td>
<td>$41,667</td>
<td>$313</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$519,442</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$3,983,639</td>
<td>$100,000</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$3,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$4,986,639</td>
<td></td>
</tr>
</tbody>
</table>

Phase II

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D</th>
<th>Rights</th>
<th>S&amp;A</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2012</td>
<td>-</td>
<td>$388,889</td>
<td>$97,222</td>
<td>$77,778</td>
<td>$408</td>
<td>$0</td>
<td>$255,500</td>
<td>$1,284,981</td>
<td>$5,139,926</td>
<td>$7,244,704</td>
</tr>
<tr>
<td>3</td>
<td>2013</td>
<td>-</td>
<td>$666,667</td>
<td>$166,667</td>
<td>$133,333</td>
<td>$700</td>
<td>-</td>
<td>$438,000</td>
<td>$2,202,825</td>
<td>$8,811,301</td>
<td>$12,419,493</td>
</tr>
<tr>
<td>2</td>
<td>2014</td>
<td>-</td>
<td>$666,667</td>
<td>$166,667</td>
<td>$133,333</td>
<td>$700</td>
<td>-</td>
<td>$438,000</td>
<td>$2,202,825</td>
<td>$8,811,301</td>
<td>$12,419,493</td>
</tr>
<tr>
<td>1</td>
<td>2015</td>
<td>-</td>
<td>$277,778</td>
<td>$69,444</td>
<td>$55,556</td>
<td>$292</td>
<td>-</td>
<td>$182,500</td>
<td>$917,844</td>
<td>$3,671,375</td>
<td>$5,174,789</td>
</tr>
<tr>
<td>0</td>
<td>2016</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$2,000,000</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$2,100</td>
<td>$0</td>
<td>$1,314,000</td>
<td>$6,608,476</td>
<td>$26,433,903</td>
<td>$37,258,479</td>
</tr>
</tbody>
</table>

Total First Costs

$3,983,639 | $2,100,000 | $1,000,000 | $800,000 | $5,100 | $0 | $1,314,000 | $6,608,476 | $26,433,903 | $42,245,118

<table>
<thead>
<tr>
<th>Year</th>
<th>FY Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$82,900</td>
<td>$700</td>
</tr>
<tr>
<td>-1</td>
<td>2017</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-2</td>
<td>2018</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-3</td>
<td>2019</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-4</td>
<td>2020</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
</tr>
<tr>
<td>-5</td>
<td>2021</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-6</td>
<td>2022</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-7</td>
<td>2023</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-8</td>
<td>2024</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-9</td>
<td>2025</td>
<td>$0</td>
<td>$587,963</td>
<td>$700</td>
</tr>
<tr>
<td>-10</td>
<td>2026</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-11</td>
<td>2027</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-12</td>
<td>2028</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-13</td>
<td>2029</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-14</td>
<td>2030</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
</tr>
<tr>
<td>-15</td>
<td>2031</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-16</td>
<td>2032</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-17</td>
<td>2033</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-18</td>
<td>2034</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
</tr>
<tr>
<td>-19</td>
<td>2035</td>
<td>$0</td>
<td>$10,215,518</td>
<td>$700</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$12,321,573</td>
<td>$14,000</td>
<td>$447,337</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Violet Siphon Enlargement Project

Project Priority List 16

<table>
<thead>
<tr>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>$55,147,282</th>
<th>Amortized Costs</th>
<th>$4,472,183</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Year</td>
<td>LDNR</td>
<td>Corps</td>
<td>Construction</td>
<td>Total First</td>
</tr>
<tr>
<td>Phase I</td>
<td>Year</td>
<td>E&amp;D Rights</td>
<td>Federal</td>
<td>S&amp;A Admin</td>
</tr>
<tr>
<td>9 2007</td>
<td>1.568</td>
<td>$910,942</td>
<td>$114,335</td>
<td>$1,140,299</td>
</tr>
<tr>
<td>8 2008</td>
<td>1.492</td>
<td>$1,485,484</td>
<td>$136,448</td>
<td>$1,621,932</td>
</tr>
<tr>
<td>7 2009</td>
<td>1.419</td>
<td>$1,413,065</td>
<td>$177,359</td>
<td>$1,590,424</td>
</tr>
<tr>
<td>6 2010</td>
<td>1.350</td>
<td>$1,344,176</td>
<td>$134,970</td>
<td>$1,479,146</td>
</tr>
<tr>
<td>5 2011</td>
<td>1.284</td>
<td>$532,769</td>
<td>$53,496</td>
<td>$586,265</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$5,686,436</td>
<td>$1,287,724</td>
<td>$1,026,624</td>
</tr>
<tr>
<td>Phase II</td>
<td>Year</td>
<td>E&amp;D Rights</td>
<td>Federal</td>
<td>S&amp;A Admin</td>
</tr>
<tr>
<td>4 2012</td>
<td>1.221</td>
<td>$0</td>
<td>$118,738</td>
<td>$94,990</td>
</tr>
<tr>
<td>3 2013</td>
<td>1.602</td>
<td>$0</td>
<td>$193,627</td>
<td>$154,902</td>
</tr>
<tr>
<td>2 2014</td>
<td>1.105</td>
<td>$0</td>
<td>$184,188</td>
<td>$147,350</td>
</tr>
<tr>
<td>1 2015</td>
<td>1.051</td>
<td>$0</td>
<td>$73,003</td>
<td>$58,403</td>
</tr>
<tr>
<td>0 2016</td>
<td>1.000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$0</td>
<td>$2,278,226</td>
<td>$569,557</td>
</tr>
<tr>
<td>Total First Cost</td>
<td>$5,686,436</td>
<td>$2,420,971</td>
<td>$1,283,280</td>
<td>$1,026,624</td>
</tr>
</tbody>
</table>

D-15
Coastal Wetlands Conservation and Restoration Plan
Violet Siphon Enlargement Project
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Year</th>
<th>E&amp;D</th>
<th>Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Costs</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>9</td>
<td>2007</td>
<td>$605,928</td>
<td>$15,210</td>
<td>$76,052</td>
<td>$60,842</td>
<td>$456</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$758,489</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>2008</td>
<td>$1,061,586</td>
<td>$26,649</td>
<td>$133,243</td>
<td>$106,595</td>
<td>$799</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,328,872</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2009</td>
<td>$1,083,879</td>
<td>$27,208</td>
<td>$136,041</td>
<td>$108,833</td>
<td>$816</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,356,778</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2010</td>
<td>$1,106,641</td>
<td>$27,780</td>
<td>$138,898</td>
<td>$111,119</td>
<td>$833</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,385,271</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2011</td>
<td>$470,783</td>
<td>$11,816</td>
<td>$59,090</td>
<td>$47,272</td>
<td>$355</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$589,317</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>$4,328,818</td>
<td>$108,665</td>
<td>$543,325</td>
<td>$434,660</td>
<td>$3,260</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$5,418,727</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td>4</td>
<td>2012</td>
<td>$0</td>
<td>$450,468</td>
<td>$112,617</td>
<td>$90,094</td>
<td>$473</td>
<td>$0</td>
<td>$295,957</td>
<td>$1,488,453</td>
<td>$5,953,810</td>
<td>$8,391,872</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2013</td>
<td>$0</td>
<td>$788,447</td>
<td>$197,112</td>
<td>$157,689</td>
<td>$828</td>
<td>$0</td>
<td>$518,010</td>
<td>$2,605,217</td>
<td>$10,420,869</td>
<td>$14,688,173</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2014</td>
<td>$0</td>
<td>$805,005</td>
<td>$201,251</td>
<td>$161,001</td>
<td>$845</td>
<td>$0</td>
<td>$528,888</td>
<td>$2,859,927</td>
<td>$10,639,708</td>
<td>$14,996,625</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2015</td>
<td>$0</td>
<td>$342,462</td>
<td>$85,616</td>
<td>$68,492</td>
<td>$360</td>
<td>$0</td>
<td>$224,998</td>
<td>$1,131,577</td>
<td>$4,526,309</td>
<td>$6,379,814</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$2,386,382</td>
<td>$596,596</td>
<td>$477,276</td>
<td>$2,506</td>
<td>$0</td>
<td>$1,567,853</td>
<td>$7,885,174</td>
<td>$31,540,696</td>
<td>$44,456,483</td>
<td></td>
</tr>
</tbody>
</table>

Total Cost: $4,328,818 + $2,495,047 + $1,139,920 = $7,963,775 Total Cost: $911,936 + $5,766 + $152,998 = $1,066,691

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$104,351</td>
<td>$861</td>
<td>$15,988</td>
</tr>
<tr>
<td>-1</td>
<td>2017</td>
<td>$0</td>
<td>$93,690</td>
<td>$900</td>
<td>$16,322</td>
</tr>
<tr>
<td>-2</td>
<td>2018</td>
<td>$0</td>
<td>$95,658</td>
<td>$919</td>
<td>$16,666</td>
</tr>
<tr>
<td>-3</td>
<td>2019</td>
<td>$0</td>
<td>$97,667</td>
<td>$938</td>
<td>$17,015</td>
</tr>
<tr>
<td>-4</td>
<td>2020</td>
<td>$0</td>
<td>$233,695</td>
<td>$958</td>
<td>$19,937</td>
</tr>
<tr>
<td>-5</td>
<td>2021</td>
<td>$0</td>
<td>$101,812</td>
<td>$978</td>
<td>$17,737</td>
</tr>
<tr>
<td>-6</td>
<td>2022</td>
<td>$0</td>
<td>$103,950</td>
<td>$998</td>
<td>$18,109</td>
</tr>
<tr>
<td>-7</td>
<td>2023</td>
<td>$0</td>
<td>$106,133</td>
<td>$1,019</td>
<td>$18,489</td>
</tr>
<tr>
<td>-8</td>
<td>2024</td>
<td>$0</td>
<td>$108,361</td>
<td>$1,041</td>
<td>$18,878</td>
</tr>
<tr>
<td>-9</td>
<td>2025</td>
<td>$0</td>
<td>$892,324</td>
<td>$1,062</td>
<td>$28,760</td>
</tr>
<tr>
<td>-10</td>
<td>2026</td>
<td>$0</td>
<td>$112,960</td>
<td>$1,085</td>
<td>$19,679</td>
</tr>
<tr>
<td>-11</td>
<td>2027</td>
<td>$0</td>
<td>$115,333</td>
<td>$1,107</td>
<td>$20,092</td>
</tr>
<tr>
<td>-12</td>
<td>2028</td>
<td>$0</td>
<td>$117,755</td>
<td>$1,131</td>
<td>$20,514</td>
</tr>
<tr>
<td>-13</td>
<td>2029</td>
<td>$0</td>
<td>$120,227</td>
<td>$1,154</td>
<td>$20,945</td>
</tr>
<tr>
<td>-14</td>
<td>2030</td>
<td>$0</td>
<td>$267,678</td>
<td>$1,179</td>
<td>$24,542</td>
</tr>
<tr>
<td>-15</td>
<td>2031</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
<td>$21,385</td>
</tr>
<tr>
<td>-16</td>
<td>2032</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
<td>$21,385</td>
</tr>
<tr>
<td>-17</td>
<td>2033</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
<td>$21,385</td>
</tr>
<tr>
<td>-18</td>
<td>2034</td>
<td>$0</td>
<td>$122,752</td>
<td>$1,179</td>
<td>$21,385</td>
</tr>
<tr>
<td>-19</td>
<td>2035</td>
<td>$0</td>
<td>$17,201,325</td>
<td>$1,179</td>
<td>$330,095</td>
</tr>
</tbody>
</table>

Total: $0 + $20,383,926 + $21,242 = $20,645,168 Total: $709,304
E&D and Construction Data

<table>
<thead>
<tr>
<th></th>
<th>ESTIMATED CONSTRUCTION COST</th>
<th>26,433,903</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>33,042,379</td>
</tr>
</tbody>
</table>

TOTAL ESTIMATED PROJECT COSTS

**PHASE I**

**Federal Costs**

- Engineering and Design: $3,983,639
  - Engineering: $1,878,639
  - Geotechnical Investigation: $390,000
  - Hydrologic Modeling & Survey: $960,000
  - Data Collection: $180,000
  - Cultural Resources: $25,000
  - NEPA Compliance: $50,000
  - USACE Coordination: $500,000
- Supervision and Administration: $500,000
- Corps Administration: $3,000

**State Costs**

- Supervision and Administration: $400,000
- Ecological Review Costs: $0
- Easements and Land Rights: $100,000
- Monitoring: $0
  - Monitoring Plan Development: $0
  - Monitoring Protocol Cost *: $0

Total Phase I Cost Estimate: $4,986,639

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

**PHASE II**

**Federal Costs**

- Estimated Construction Cost + 25% Contingency: $33,042,379
  - Lands or Oyster leases: 0 lease acres: $0
  - Supervision and Inspection: 1095 days @ 1200 per day: $1,314,000
  - Supervision and Administration: $500,000

**State Costs**

- Supervision and Administration: $400,000
- Land Rights: $2,000,000

Total Phase II Cost Estimate: $37,256,379

**TOTAL ESTIMATED PROJECT FIRST COST**: $42,243,018
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$10,000</td>
<td>$65,000</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

## Specific Intermittent Costs:

### Construction Items

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash removal</td>
<td>$0</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$0</td>
</tr>
<tr>
<td>Structure refurbishment</td>
<td>$0</td>
<td>$0</td>
<td>$200,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Structure demolition and removal (see Appendix 3)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$7,333,450</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$50,000</td>
<td>$250,000</td>
<td>$50,000</td>
<td>$7,333,450</td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$0</td>
<td>$62,500</td>
<td>$312,500</td>
<td>$62,500</td>
<td>$9,166,813</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$5,571</td>
<td>$24,313</td>
<td>$5,571</td>
<td>$562,868</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
</tr>
<tr>
<td>Inspecti 120 days @ $3,230 per day</td>
<td>$0</td>
<td>$0</td>
<td>$144,000</td>
<td>$0</td>
<td>$219,000</td>
</tr>
<tr>
<td>Construct 15 days @ $1,200 per day</td>
<td>$0</td>
<td>$18,000</td>
<td>$18,000</td>
<td>$18,000</td>
<td>$18,000</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$10,000</td>
<td>$35,446</td>
<td>$202,563</td>
<td>$35,446</td>
<td>$975,805</td>
</tr>
<tr>
<td>Federal S&amp;A</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
</tr>
<tr>
<td>Total</td>
<td>$10,000</td>
<td>$39,221</td>
<td>$208,813</td>
<td>$39,221</td>
<td>$1,159,142</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>$700</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>March-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>March-15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>36</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan
#### Project Priority List 16
*Violet Siphon Enlargement Project*

<table>
<thead>
<tr>
<th>Project Construction Years:</th>
<th>Total Project Years</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>5.125%</td>
<td>Amortization Factor</td>
</tr>
<tr>
<td>Fully Funded First Costs</td>
<td>$49,440,550</td>
<td>Total Fully Funded Costs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Present Average</th>
<th>Total Charges</th>
<th>Worth</th>
<th>Average Annual Cost</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$48,988,810</td>
<td></td>
<td>$3,972,760</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td></td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$5,336,404</td>
<td></td>
<td>$432,757</td>
<td>$0</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$251,090</td>
<td></td>
<td>$20,362</td>
<td>$0</td>
</tr>
<tr>
<td>Average Annual Cost</td>
<td>$4,425,879</td>
<td></td>
<td>$4,425,879</td>
<td></td>
</tr>
</tbody>
</table>

- Average Annual Habitat Units: 2,436
- Cost Per Habitat Unit: $1,817
- Total Net Acres: 1,609
## Coastal Wetlands Conservation and Restoration Plan
### Violet Siphon Enlargement Project

**Project Costs**

$70,555,022

**Project Priority List 16**

### Project Costs Table

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Land E&amp;D Rights</th>
<th>Federal S&amp;A</th>
<th>LDNR Admin</th>
<th>Corps Monitoring</th>
<th>S&amp;A Contingency</th>
<th>Construction Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2007</td>
<td>$522,614</td>
<td>$14,583</td>
<td>$72,917</td>
<td>$58,333</td>
<td>$438</td>
<td>$0</td>
</tr>
<tr>
<td>8</td>
<td>2008</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
</tr>
<tr>
<td>7</td>
<td>2009</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
</tr>
<tr>
<td>6</td>
<td>2010</td>
<td>$895,910</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$100,000</td>
<td>$750</td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>$373,296</td>
<td>$10,417</td>
<td>$52,083</td>
<td>$41,667</td>
<td>$313</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>$3,583,639</td>
<td>$100,000</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$3,000</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>-</td>
<td>$388,889</td>
<td>$97,222</td>
<td>$77,778</td>
<td>$408</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>2013</td>
<td>-</td>
<td>$666,667</td>
<td>$186,667</td>
<td>$133,333</td>
<td>$700</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>2014</td>
<td>-</td>
<td>$666,667</td>
<td>$186,667</td>
<td>$133,333</td>
<td>$700</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2015</td>
<td>-</td>
<td>$277,778</td>
<td>$69,444</td>
<td>$55,556</td>
<td>$292</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2016</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>$0</td>
<td>$2,000,000</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$2,100</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td><strong>Total First Costs</strong></td>
<td>$3,583,639</td>
<td>$2,100,000</td>
<td>$1,000,000</td>
<td>$800,000</td>
<td>$5,100</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td><strong>Total First Costs</strong></td>
<td>$3,583,639</td>
<td>$2,100,000</td>
<td>$1,000,000</td>
<td>$800,000</td>
<td>$5,100</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Discount Table**

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$82,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-1</td>
<td>2017</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-2</td>
<td>2018</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-3</td>
<td>2019</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-4</td>
<td>2020</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
<td>$14,575</td>
</tr>
<tr>
<td>-5</td>
<td>2021</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-6</td>
<td>2022</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-7</td>
<td>2023</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-8</td>
<td>2024</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-9</td>
<td>2025</td>
<td>$0</td>
<td>$587,963</td>
<td>$700</td>
<td>$18,850</td>
</tr>
<tr>
<td>-10</td>
<td>2026</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-11</td>
<td>2027</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-12</td>
<td>2028</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-13</td>
<td>2029</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-14</td>
<td>2030</td>
<td>$0</td>
<td>$170,846</td>
<td>$700</td>
<td>$14,575</td>
</tr>
<tr>
<td>-15</td>
<td>2031</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-16</td>
<td>2032</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-17</td>
<td>2033</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-18</td>
<td>2034</td>
<td>$0</td>
<td>$72,900</td>
<td>$700</td>
<td>$12,700</td>
</tr>
<tr>
<td>-19</td>
<td>2035</td>
<td>$0</td>
<td>$10,215,518</td>
<td>$700</td>
<td>$196,037</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>$0</td>
<td>$12,321,573</td>
<td>$14,000</td>
<td>$447,337</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Violet Siphon Enlargement Project

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>Land E&amp;D</th>
<th>Federal S&amp;A</th>
<th>LDNR Admin</th>
<th>Corps Monitoring</th>
<th>S&amp;I Contingency</th>
<th>Construction Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>9</td>
<td>2007</td>
<td>$819,474</td>
<td>$22,867</td>
<td>$114,335</td>
<td>$91,468</td>
<td>$686</td>
<td>$0</td>
<td>$1,048,831</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>2008</td>
<td>$1,336,326</td>
<td>$37,290</td>
<td>$186,448</td>
<td>$149,159</td>
<td>$1,119</td>
<td>$0</td>
<td>$1,710,341</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2009</td>
<td>$1,271,178</td>
<td>$35,472</td>
<td>$177,359</td>
<td>$141,887</td>
<td>$1,064</td>
<td>$0</td>
<td>$1,626,959</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2010</td>
<td>$1,209,206</td>
<td>$33,742</td>
<td>$168,712</td>
<td>$134,970</td>
<td>$1,012</td>
<td>$0</td>
<td>$1,547,642</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2011</td>
<td>$479,273</td>
<td>$13,374</td>
<td>$66,870</td>
<td>$53,496</td>
<td>$401</td>
<td>$0</td>
<td>$613,414</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>$5,115,457</td>
<td>$142,745</td>
<td>$713,724</td>
<td>$570,979</td>
<td>$4,282</td>
<td>$0</td>
<td>$6,547,187</td>
</tr>
<tr>
<td>II</td>
<td>4</td>
<td>2012</td>
<td>$0</td>
<td>$474,952</td>
<td>$118,738</td>
<td>$94,990</td>
<td>$499</td>
<td>$0</td>
<td>$1,496,795</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2013</td>
<td>$0</td>
<td>$774,510</td>
<td>$193,627</td>
<td>$154,902</td>
<td>$813</td>
<td>$0</td>
<td>$1,426,557</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2014</td>
<td>$0</td>
<td>$736,751</td>
<td>$184,188</td>
<td>$147,350</td>
<td>$774</td>
<td>$0</td>
<td>$1,273,103</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2015</td>
<td>$0</td>
<td>$292,014</td>
<td>$73,003</td>
<td>$58,403</td>
<td>$307</td>
<td>$0</td>
<td>$1,012,853</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>$0</td>
<td>$2,278,226</td>
<td>$569,557</td>
<td>$455,645</td>
<td>$2,392</td>
<td>$0</td>
<td>$30,111,206</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total First Cost</td>
<td>$5,115,457</td>
<td>$2,420,971</td>
<td>$1,283,280</td>
<td>$1,026,624</td>
<td>$6,674</td>
<td>$0</td>
<td>$48,988,810</td>
</tr>
</tbody>
</table>

### Yearly Breakdown

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Ins</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0</td>
<td>$82,900</td>
<td>$700</td>
<td>$12,700</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>-1</td>
<td>$69,346</td>
<td>$666</td>
<td>$12,081</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>-2</td>
<td>$65,985</td>
<td>$633</td>
<td>$11,492</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>-3</td>
<td>$62,749</td>
<td>$603</td>
<td>$10,932</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>-4</td>
<td>$139,888</td>
<td>$573</td>
<td>$11,934</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>-5</td>
<td>$56,780</td>
<td>$545</td>
<td>$9,892</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>-6</td>
<td>$54,012</td>
<td>$519</td>
<td>$9,410</td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>-7</td>
<td>$51,379</td>
<td>$493</td>
<td>$8,951</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>-8</td>
<td>$48,874</td>
<td>$469</td>
<td>$8,515</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>-9</td>
<td>$374,969</td>
<td>$448</td>
<td>$12,085</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td>-10</td>
<td>$44,225</td>
<td>$425</td>
<td>$7,704</td>
<td></td>
</tr>
<tr>
<td>2027</td>
<td>-11</td>
<td>$42,069</td>
<td>$404</td>
<td>$7,329</td>
<td></td>
</tr>
<tr>
<td>2028</td>
<td>-12</td>
<td>$40,018</td>
<td>$384</td>
<td>$6,972</td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>-13</td>
<td>$38,067</td>
<td>$366</td>
<td>$6,632</td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td>-14</td>
<td>$84,863</td>
<td>$348</td>
<td>$7,240</td>
<td></td>
</tr>
<tr>
<td>2031</td>
<td>-15</td>
<td>$34,446</td>
<td>$331</td>
<td>$6,001</td>
<td></td>
</tr>
<tr>
<td>2032</td>
<td>-16</td>
<td>$32,767</td>
<td>$315</td>
<td>$5,703</td>
<td></td>
</tr>
<tr>
<td>2033</td>
<td>-17</td>
<td>$31,169</td>
<td>$299</td>
<td>$5,430</td>
<td></td>
</tr>
<tr>
<td>2034</td>
<td>-18</td>
<td>$29,650</td>
<td>$285</td>
<td>$5,165</td>
<td></td>
</tr>
<tr>
<td>2035</td>
<td>-19</td>
<td>$3,952,266</td>
<td>$271</td>
<td>$75,844</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$5,336,404</td>
<td>$9,074</td>
<td>$242,015</td>
<td></td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan

#### Violet Siphon Enlargement Project

#### Project Priority List 16

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1.043</td>
<td>2007</td>
<td>$545,086</td>
<td>$15,210</td>
<td>$76,052</td>
<td>$60,842</td>
<td>$456</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$697,647</td>
</tr>
<tr>
<td>8</td>
<td>1.066</td>
<td>2008</td>
<td>$954,991</td>
<td>$26,649</td>
<td>$133,243</td>
<td>$106,595</td>
<td>$799</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,222,277</td>
</tr>
<tr>
<td>7</td>
<td>1.088</td>
<td>2009</td>
<td>$975,046</td>
<td>$27,208</td>
<td>$136,041</td>
<td>$108,833</td>
<td>$816</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,247,945</td>
</tr>
<tr>
<td>6</td>
<td>1.111</td>
<td>2010</td>
<td>$995,522</td>
<td>$27,780</td>
<td>$138,898</td>
<td>$111,119</td>
<td>$833</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,274,152</td>
</tr>
<tr>
<td>5</td>
<td>1.135</td>
<td>2011</td>
<td>$423,512</td>
<td>$11,818</td>
<td>$59,090</td>
<td>$47,272</td>
<td>$355</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$542,046</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOTAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,894,158</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$108,665</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$543,325</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$434,660</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.158</td>
<td>2012</td>
<td>$0</td>
<td>$450,468</td>
<td>$112,617</td>
<td>$90,094</td>
<td>$473</td>
<td>$0</td>
<td>$295,957</td>
<td>$1,488,453</td>
<td>$5,953,810</td>
</tr>
<tr>
<td>3</td>
<td>1.183</td>
<td>2013</td>
<td>$0</td>
<td>$786,447</td>
<td>$197,112</td>
<td>$157,689</td>
<td>$828</td>
<td>$0</td>
<td>$518,010</td>
<td>$2,605,217</td>
<td>$10,420,869</td>
</tr>
<tr>
<td>2</td>
<td>1.208</td>
<td>2014</td>
<td>$0</td>
<td>$805,005</td>
<td>$201,251</td>
<td>$161,001</td>
<td>$845</td>
<td>$0</td>
<td>$528,888</td>
<td>$2,659,927</td>
<td>$10,639,708</td>
</tr>
<tr>
<td>1</td>
<td>1.233</td>
<td>2015</td>
<td>$0</td>
<td>$342,462</td>
<td>$85,616</td>
<td>$68,492</td>
<td>$360</td>
<td>$0</td>
<td>$224,998</td>
<td>$1,131,577</td>
<td>$4,526,309</td>
</tr>
<tr>
<td>0</td>
<td>1.259</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOTAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,386,382</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$596,596</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$477,276</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,506</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOTAL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,386,382</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$596,596</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$477,276</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,506</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,894,158</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,495,047</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,139,920</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$911,936</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,766</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,567,857</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$7,885,174</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$31,540,696</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$44,440,550</td>
</tr>
</tbody>
</table>

### Total Costs

- Fully Funded Costs: $70,555,022
- Amortized Costs: $5,721,677
- Total Cost: $76,276,699
# E&D and Construction Data

## PHASE I

### Federal Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design</td>
<td>$3,583,639</td>
</tr>
<tr>
<td>Engineering</td>
<td>$1,878,639</td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>$390,000</td>
</tr>
<tr>
<td>Hydrologic Modeling &amp; Survey</td>
<td>$960,000</td>
</tr>
<tr>
<td>Data Collection</td>
<td>$180,000</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>$25,000</td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>$50,000</td>
</tr>
<tr>
<td>USACE Coordination</td>
<td>$100,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$500,000</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

### State Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$400,000</td>
</tr>
<tr>
<td>Ecological Review Costs</td>
<td>$0</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$100,000</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Plan Development</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Protocol Cost *</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Total Phase I Cost Estimate

- Total Phase I Cost Estimate: $4,586,639

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

## PHASE II

### Federal Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost + 25% Contingency</td>
<td>$33,042,379</td>
</tr>
<tr>
<td>Lands or Oyster leases</td>
<td>0 lease acres</td>
</tr>
<tr>
<td>Supervision and Inspect</td>
<td>1095 days @ $1200 per day $1,314,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

### State Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$400,000</td>
</tr>
<tr>
<td>Land Rights</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

### Total Phase II Cost Estimate

- Total Phase II Cost Estimate: $37,256,379

## TOTAL ESTIMATED PROJECT FIRST COST

- Total Estimated Project First Cost: $41,843,018
<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$10,000</td>
<td>$85,000</td>
<td>$75,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$5,000</td>
<td>$5,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specific Intermittent Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Year 1</td>
<td>Year 5</td>
<td>Year 10</td>
<td>Year 15</td>
</tr>
<tr>
<td>Trash removal</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Structure refurbishment</td>
<td>$0</td>
<td>$0</td>
<td>$200,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Structure demolition and removal (see Appendix 3)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$7,333,450</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$50,000</td>
<td>$250,000</td>
<td>$50,000</td>
<td>$7,333,450</td>
<td></td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$0</td>
<td>$62,500</td>
<td>$312,500</td>
<td>$62,500</td>
<td>$9,166,813</td>
<td></td>
</tr>
<tr>
<td><strong>Engineer, Design &amp; Administrative Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$5,571</td>
<td>$24,313</td>
<td>$5,571</td>
<td>$562,868</td>
<td></td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
<td></td>
</tr>
<tr>
<td>Inspect 90 days @ $3,200 per day</td>
<td>$0</td>
<td>$0</td>
<td>$144,000</td>
<td>$0</td>
<td>$219,600</td>
<td></td>
</tr>
<tr>
<td>Constructs 50 days @ $1,200 per day</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$35,446</td>
<td>$202,565</td>
<td>$35,446</td>
<td>$975,805</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>$10,000</td>
<td>$35,446</td>
<td>$202,565</td>
<td>$35,446</td>
<td>$975,805</td>
<td></td>
</tr>
<tr>
<td><strong>Federal S&amp;A</strong></td>
<td></td>
<td>$1,875</td>
<td>$6,250</td>
<td>$1,875</td>
<td>$183,337</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$10,000</td>
<td>$98,821</td>
<td>$521,335</td>
<td>$98,821</td>
<td>$10,325,955</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$10,000</td>
<td>$98,821</td>
<td>$521,335</td>
<td>$98,821</td>
<td>$10,325,955</td>
<td></td>
</tr>
</tbody>
</table>

**Construction Schedule:**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-11</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Const. Start</td>
<td>March-12</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Const. End</td>
<td>March-15</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan

### Project Priority List 16

**Breton Landbridge Marsh Restoration**

<table>
<thead>
<tr>
<th>Description</th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Construction Years:</td>
<td>1</td>
<td>Total Project Years 21</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>5.125%</td>
<td>Amortization Factor 0.08110</td>
</tr>
<tr>
<td>Fully Funded First Costs</td>
<td>$12,972,754</td>
<td>Total Fully Funded Costs $13,566,683</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Charges</th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$12,697,658</td>
<td>$1,029,720</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$250,850</td>
<td>$20,343</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$45,496</td>
<td>$3,690</td>
</tr>
<tr>
<td><strong>Average Annual Cost</strong></td>
<td><strong>$1,053,752</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **Average Annual Habitat Units**: 62
- **Cost Per Habitat Unit**: $16,996
- **Total Net Acres**: 176
## Coastal Wetlands Conservation and Restoration Plan
### Breton Landbridge Marsh Restoration

**Project Costs**

$13,566,683

**Project Priority List 16**

### Breton Landbridge Marsh Restoration Project Costs

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land Admin</th>
<th>Federal Admin</th>
<th>LDNR Admin</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2007</td>
<td>$228,392</td>
<td>$63,073</td>
<td>$55,521</td>
<td>$55,521</td>
<td>$875</td>
<td></td>
<td></td>
<td>$403,382</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>$391,530</td>
<td>$106,125</td>
<td>$95,179</td>
<td>$95,179</td>
<td>$1,500</td>
<td></td>
<td></td>
<td>$691,513</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>$163,137</td>
<td>$45,052</td>
<td>$39,658</td>
<td>$39,658</td>
<td>$625</td>
<td></td>
<td></td>
<td>$288,130</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$783,059</td>
<td>$216,250</td>
<td>$190,358</td>
<td>$190,358</td>
<td>$3,000</td>
<td></td>
<td></td>
<td>$1,383,025</td>
<td></td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>-</td>
<td>$889</td>
<td>$84,604</td>
<td>$84,604</td>
<td>$233</td>
<td></td>
<td></td>
<td>$547,173</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>-</td>
<td>$1,111</td>
<td>$105,754</td>
<td>$105,754</td>
<td>$292</td>
<td></td>
<td></td>
<td>$5,689,966</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$0</td>
<td>$2,000</td>
<td>$190,358</td>
<td>$190,358</td>
<td>$525</td>
<td></td>
<td></td>
<td>$10,231,139</td>
<td></td>
</tr>
<tr>
<td><strong>Total First Costs</strong></td>
<td></td>
<td>$783,059</td>
<td>$216,250</td>
<td>$380,716</td>
<td>$380,716</td>
<td>$3,525</td>
<td></td>
<td></td>
<td>$11,614,164</td>
<td></td>
</tr>
</tbody>
</table>

### Yearly Monitoring and Federal Inspections

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>&amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$0</td>
<td>$358,000</td>
<td>$14,000</td>
<td>$56,200</td>
</tr>
</tbody>
</table>

-26
## Breton Landbridge Marsh Restoration

### Project Priority List 16

### Present Valued Costs

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>5</td>
<td>2007</td>
<td>$293,232</td>
<td>$80,979</td>
<td>$71,283</td>
<td>$1,123</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$5,179,901</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2008</td>
<td>$478,177</td>
<td>$132,054</td>
<td>$116,243</td>
<td>$1,832</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$6,445,547</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2009</td>
<td>$189,527</td>
<td>$52,340</td>
<td>$46,073</td>
<td>$726</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$3,347,739</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$5,834,904</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$1,168</td>
<td>$111,174</td>
<td>$111,174</td>
<td>$307</td>
<td>$0</td>
<td>$0</td>
<td>$5,246,973</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$5,025,201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$4,803,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$4,521,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>$960,936</td>
<td>$265,373</td>
<td>$233,599</td>
<td>$233,599</td>
<td>$3,681</td>
<td>$0</td>
<td>$0</td>
<td>$1,697,188</td>
<td></td>
</tr>
</tbody>
</table>

### Phase II

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$6,445,547</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$1,168</td>
<td>$111,174</td>
<td>$111,174</td>
<td>$307</td>
<td>$0</td>
<td>$0</td>
<td>$5,246,973</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$5,025,201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$4,803,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$982</td>
<td>$93,498</td>
<td>$93,498</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$4,521,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$2,150</td>
<td>$204,672</td>
<td>$204,672</td>
<td>$564</td>
<td>$0</td>
<td>$0</td>
<td>$11,000,470</td>
<td></td>
</tr>
</tbody>
</table>

### Total First Cost

<table>
<thead>
<tr>
<th>Total First Cost</th>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>Amortized Costs</th>
<th>$1,053,752</th>
</tr>
</thead>
<tbody>
<tr>
<td>$12,697,658</td>
<td>$12,994,005</td>
<td>$12,994,005</td>
<td>$1,053,752</td>
<td>$1,053,752</td>
</tr>
</tbody>
</table>

### D-27

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>S&amp;I &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;I &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$2,624</td>
<td>$633</td>
<td>$2,443</td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
<td></td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$63,784</td>
<td>$573</td>
<td>$2,620</td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$2,259</td>
<td>$545</td>
<td>$2,103</td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
<td></td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
<td></td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
<td></td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$49,680</td>
<td>$446</td>
<td>$2,041</td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$1,759</td>
<td>$425</td>
<td>$1,638</td>
<td></td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
<td></td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
<td></td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$1,441</td>
<td>$348</td>
<td>$1,341</td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$1,370</td>
<td>$331</td>
<td>$1,276</td>
<td></td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
<td></td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
<td></td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
<td></td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$30,139</td>
<td>$271</td>
<td>$1,238</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$250,850</td>
<td>$9,074</td>
<td>$36,422</td>
<td>$12,697,658</td>
<td></td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Breton Landbridge Marsh Restoration
Project Priority List 16

Fully Funded Costs  | Total Fully Funded Costs  | $13,566,683 | Amortized Costs  | $1,100,194

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase I</th>
<th>Fiscal</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Costs</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>1.043</td>
<td>2007</td>
<td>$238,213</td>
<td>$65,785</td>
<td>$57,908</td>
<td>$57,908</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$420,728</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1.066</td>
<td>2008</td>
<td>$417,349</td>
<td>$115,255</td>
<td>$101,456</td>
<td>$101,456</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$737,115</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1.088</td>
<td>2009</td>
<td>$177,547</td>
<td>$49,032</td>
<td>$43,161</td>
<td>$43,161</td>
<td>$680</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$313,581</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Phase II</td>
<td>TOTAL</td>
<td></td>
<td>$833,110</td>
<td>$230,072</td>
<td>$202,525</td>
<td>$202,525</td>
<td>$3,192</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,471,424</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$988</td>
<td>$94,010</td>
<td>$94,010</td>
<td>$259</td>
<td>$0</td>
<td>$162,974</td>
<td>$940,102</td>
<td>$3,760,410</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$1,261</td>
<td>$119,981</td>
<td>$119,981</td>
<td>$331</td>
<td>$0</td>
<td>$207,995</td>
<td>$1,199,806</td>
<td>$4,799,223</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1.158</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>1.183</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>1.208</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$2,248</td>
<td>$213,991</td>
<td>$213,991</td>
<td>$590</td>
<td>$0</td>
<td>$370,969</td>
<td>$2,139,908</td>
<td>$8,559,633</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1.1583</td>
<td>2012</td>
<td>$0</td>
<td>$90,235</td>
<td>$811</td>
<td>$3,707</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>1.1827</td>
<td>2013</td>
<td>$0</td>
<td>$3,430</td>
<td>$828</td>
<td>$3,193</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>1.2075</td>
<td>2014</td>
<td>$0</td>
<td>$3,502</td>
<td>$845</td>
<td>$3,260</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-3</td>
<td>1.2329</td>
<td>2015</td>
<td>$0</td>
<td>$3,575</td>
<td>$863</td>
<td>$3,329</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-4</td>
<td>1.2588</td>
<td>2016</td>
<td>$0</td>
<td>$96,057</td>
<td>$881</td>
<td>$4,028</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-5</td>
<td>1.2852</td>
<td>2017</td>
<td>$0</td>
<td>$3,727</td>
<td>$900</td>
<td>$3,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-6</td>
<td>1.3122</td>
<td>2018</td>
<td>$0</td>
<td>$3,805</td>
<td>$919</td>
<td>$3,543</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-7</td>
<td>1.3397</td>
<td>2019</td>
<td>$0</td>
<td>$3,885</td>
<td>$938</td>
<td>$3,617</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-8</td>
<td>1.3679</td>
<td>2020</td>
<td>$0</td>
<td>$3,967</td>
<td>$958</td>
<td>$3,693</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-9</td>
<td>1.3966</td>
<td>2021</td>
<td>$0</td>
<td>$108,795</td>
<td>$978</td>
<td>$4,469</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-10</td>
<td>1.4259</td>
<td>2022</td>
<td>$0</td>
<td>$4,135</td>
<td>$998</td>
<td>$3,850</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-11</td>
<td>1.4559</td>
<td>2023</td>
<td>$0</td>
<td>$4,222</td>
<td>$1,019</td>
<td>$3,931</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-12</td>
<td>1.4864</td>
<td>2024</td>
<td>$0</td>
<td>$4,311</td>
<td>$1,041</td>
<td>$4,013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-13</td>
<td>1.5177</td>
<td>2025</td>
<td>$0</td>
<td>$4,401</td>
<td>$1,062</td>
<td>$4,098</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-14</td>
<td>1.5495</td>
<td>2026</td>
<td>$0</td>
<td>$4,494</td>
<td>$1,085</td>
<td>$4,184</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-15</td>
<td>1.5821</td>
<td>2027</td>
<td>$0</td>
<td>$4,588</td>
<td>$1,107</td>
<td>$4,272</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-16</td>
<td>1.6153</td>
<td>2028</td>
<td>$0</td>
<td>$4,684</td>
<td>$1,131</td>
<td>$4,361</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-17</td>
<td>1.6492</td>
<td>2029</td>
<td>$0</td>
<td>$4,783</td>
<td>$1,154</td>
<td>$4,453</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-18</td>
<td>1.6838</td>
<td>2030</td>
<td>$0</td>
<td>$4,883</td>
<td>$1,179</td>
<td>$4,546</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-19</td>
<td>1.6838</td>
<td>2031</td>
<td>$0</td>
<td>$131,171</td>
<td>$1,179</td>
<td>$5,388</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$494,650</td>
<td>$19,874</td>
<td>$79,405</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### E&D and Construction Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION COST</td>
<td>7,614,318</td>
</tr>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>9,517,898</td>
</tr>
</tbody>
</table>

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design</td>
<td>$783,059</td>
</tr>
<tr>
<td>Engineering</td>
<td>$583,059</td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>$100,000</td>
</tr>
<tr>
<td>Hydrologic Modeling</td>
<td>$0</td>
</tr>
<tr>
<td>Data Collection</td>
<td>$100,000</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>$0</td>
</tr>
<tr>
<td>HTRW</td>
<td>$0</td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>$0</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$190,358</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$190,358</td>
</tr>
<tr>
<td>Ecological Review Costs</td>
<td>$0</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$216,250</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Plan Development</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring Protocol Cost</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase I Cost Estimate** $1,383,025

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

**PHASE II**

**Federal Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost +25% Contingency</td>
<td>$9,517,898</td>
</tr>
<tr>
<td>Lands or Oyster issues 0 lease acres</td>
<td>$2,000</td>
</tr>
<tr>
<td>Supervision and Inspection 275 days @</td>
<td>$330,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$190,358</td>
</tr>
</tbody>
</table>

**State Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$190,358</td>
</tr>
</tbody>
</table>

**Total Phase II Cost Estimate** $10,230,614

**TOTAL ESTIMATED PROJECT FIRST COST** $11,613,639
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Inspections</strong></td>
<td>$2,700</td>
<td>$2,900</td>
</tr>
<tr>
<td><strong>Annual Cost for Operations</strong></td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Preventive Maintenance</strong></td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific Intermittent Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Repair Shoreline Plantings (25% replacement)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contiu.</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering and Design Cost</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Administrative Cost</strong></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Eng Survey</strong></td>
<td>0 days</td>
<td>@ $3,230 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>0 days</td>
<td>@ $1,200 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Engineering Monitoring</strong></td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>Federal S&amp;A</strong></td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$75,500</td>
<td>$75,500</td>
<td>$75,500</td>
<td>$0</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corps Administration</strong></td>
<td>$700</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>$0</td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan &amp; Design Start</strong></td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Plan &amp; Design End</strong></td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Const. Start</strong></td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Const. End</strong></td>
<td>March-11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Project Priority List 16
Jean Lafitte Shoreline Protection Project

<table>
<thead>
<tr>
<th></th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Costs</td>
<td>$17,815,341</td>
<td>$1,444,740</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$192,121</td>
<td>$15,580</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$7,180,281</td>
<td>$582,287</td>
</tr>
</tbody>
</table>

| Average Annual Cost      | $2,042,606    |                |
| Average Annual Habitat Units | 157      |                |
| Cost Per Habitat Unit    | $13,010       |                |
| Total Net Acres          | 462           |                |
### Coastal Wetlands Conservation and Restoration Plan
#### Jean Lafitte Shoreline Protection Project

**Project Costs**: $29,836,540

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Year</th>
<th>Federal E&amp;D</th>
<th>Land Rights</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2007</td>
<td>$593,250</td>
<td>$54,600</td>
<td>$87,500</td>
<td>$184,100</td>
<td>$2,100</td>
<td>$0</td>
<td>$0</td>
<td>$921,550</td>
<td>$921,550</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>$254,250</td>
<td>$23,400</td>
<td>$37,500</td>
<td>$79,900</td>
<td>$900</td>
<td>$0</td>
<td>$0</td>
<td>$394,950</td>
<td>$394,950</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$847,500</td>
<td>$78,000</td>
<td>$125,000</td>
<td>$263,000</td>
<td>$3,000</td>
<td>$0</td>
<td>$0</td>
<td>$1,316,500</td>
<td>$1,313,500</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td></td>
<td>$56,667</td>
<td>$41,667</td>
<td>$87,667</td>
<td>$233</td>
<td>$0</td>
<td>$0</td>
<td>$114,000</td>
<td>$5,034,817</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td></td>
<td>$113,333</td>
<td>$83,333</td>
<td>$175,333</td>
<td>$467</td>
<td>$0</td>
<td>$0</td>
<td>$228,000</td>
<td>$15,103,750</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$0</td>
<td>$170,000</td>
<td>$125,000</td>
<td>$263,000</td>
<td>$700</td>
<td>$0</td>
<td>$0</td>
<td>$2,840,750</td>
<td>$15,103,750</td>
</tr>
<tr>
<td><strong>Total First Costs</strong></td>
<td></td>
<td>$847,500</td>
<td>$248,000</td>
<td>$250,000</td>
<td>$526,000</td>
<td>$3,700</td>
<td>$0</td>
<td>$0</td>
<td>$11,363,000</td>
<td>$16,420,950</td>
</tr>
</tbody>
</table>

### Discount Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Discount 2012</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-1</td>
<td>Discount 2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-2</td>
<td>Discount 2014</td>
<td>$0</td>
<td>$101,485</td>
<td>$700</td>
<td>$5,664,847</td>
</tr>
<tr>
<td>-3</td>
<td>Discount 2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4</td>
<td>Discount 2016</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-5</td>
<td>Discount 2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-6</td>
<td>Discount 2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7</td>
<td>Discount 2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8</td>
<td>Discount 2020</td>
<td>$0</td>
<td>$57,919</td>
<td>$700</td>
<td>$3,139,751</td>
</tr>
<tr>
<td>-9</td>
<td>Discount 2021</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-10</td>
<td>Discount 2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-11</td>
<td>Discount 2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12</td>
<td>Discount 2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13</td>
<td>Discount 2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14</td>
<td>Discount 2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-15</td>
<td>Discount 2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16</td>
<td>Discount 2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17</td>
<td>Discount 2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18</td>
<td>Discount 2030</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19</td>
<td>Discount 2031</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$0</td>
<td>$251,604</td>
<td>$14,000</td>
<td>$8,753,197</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan

### Jean Lafitte Shoreline Protection Project

#### Project Priority List 16

<table>
<thead>
<tr>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>$25,187,742</th>
<th>Amortized Costs</th>
<th>$2,042,606</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal</td>
<td>Land</td>
<td>Federal</td>
<td>LDNR</td>
<td>Corps</td>
</tr>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.284</td>
<td>2007</td>
<td>$761,672</td>
<td>$70,101</td>
</tr>
<tr>
<td>4</td>
<td>1.221</td>
<td>2008</td>
<td>$310,517</td>
<td>$28,579</td>
</tr>
<tr>
<td>3</td>
<td>1.162</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$1,072,188</td>
<td>$98,679</td>
</tr>
</tbody>
</table>

| Phase II | |
| 5  | 2 | 2010 | $0 | $62,624 | $46,047 | $96,883 | $258 | $0 | $125,984 | $1,046,463 | $4,185,851 | $5,564,110 |
| 4  | 1.051 | 2011 | $0 | $119,142 | $87,604 | $184,319 | $491 | $0 | $239,685 | $1,990,892 | $7,963,569 | $10,585,702 |
| 3  | 1.000 | 2012 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 2  | 0.951 | 2013 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| 1  | 0.905 | 2014 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Total | | | $0 | $181,766 | $133,651 | $281,202 | $748 | $0 | $365,669 | $3,037,355 | $12,149,420 | $16,149,812 |

### Total First Cost

| $1,072,188 | $280,445 | $291,791 | $613,928 | $4,544 | $0 | $365,669 | $3,037,355 | $12,149,420 | $17,815,341 |

<table>
<thead>
<tr>
<th>D-33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>-1</td>
</tr>
<tr>
<td>-2</td>
</tr>
<tr>
<td>-3</td>
</tr>
<tr>
<td>-4</td>
</tr>
<tr>
<td>-5</td>
</tr>
<tr>
<td>-6</td>
</tr>
<tr>
<td>-7</td>
</tr>
<tr>
<td>-8</td>
</tr>
<tr>
<td>-9</td>
</tr>
<tr>
<td>-10</td>
</tr>
<tr>
<td>-11</td>
</tr>
<tr>
<td>-12</td>
</tr>
<tr>
<td>-13</td>
</tr>
<tr>
<td>-14</td>
</tr>
<tr>
<td>-15</td>
</tr>
<tr>
<td>-16</td>
</tr>
<tr>
<td>-17</td>
</tr>
<tr>
<td>-18</td>
</tr>
<tr>
<td>-19</td>
</tr>
</tbody>
</table>

<p>| Total | $0 | $192,121 | $9,074 | $7,171,206 |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>E&amp;D Rights</th>
<th>Land Administration</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps Administration</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Costs</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.043</td>
<td>2007</td>
<td>$618,760</td>
<td>$56,948</td>
<td>$91,263</td>
<td>$192,016</td>
<td>$2,190</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>4</td>
<td>1.066</td>
<td>2008</td>
<td>$271,017</td>
<td>$24,943</td>
<td>$39,973</td>
<td>$84,103</td>
<td>$959</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>1.088</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$62,967</td>
<td>$46,299</td>
<td>$97,414</td>
<td>$259</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$128,579</td>
<td>$94,543</td>
<td>$198,919</td>
<td>$529</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.158</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.183</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>1.208</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$889,777</td>
<td>$81,891</td>
<td>$131,235</td>
<td>$276,119</td>
<td>$3,150</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Year</td>
<td>FY Monitoring</td>
<td>J&amp;M &amp; State Inspect</td>
<td>Corps Administration</td>
<td>Fed S&amp;A &amp; Inspect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1.1583</td>
<td>2012</td>
<td>$14,943</td>
<td>$811</td>
<td>$3,128</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>1.1827</td>
<td>2013</td>
<td>$3,430</td>
<td>$828</td>
<td>$3,193</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>1.2075</td>
<td>2014</td>
<td>$122,544</td>
<td>$845</td>
<td>$6,719,591</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>1.2329</td>
<td>2015</td>
<td>$3,575</td>
<td>$863</td>
<td>$3,329</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4</td>
<td>1.2588</td>
<td>2016</td>
<td>$16,238</td>
<td>$881</td>
<td>$3,399</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td>1.2852</td>
<td>2017</td>
<td>$3,727</td>
<td>$900</td>
<td>$3,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>1.3122</td>
<td>2018</td>
<td>$3,805</td>
<td>$919</td>
<td>$3,543</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-7</td>
<td>1.3397</td>
<td>2019</td>
<td>$3,885</td>
<td>$938</td>
<td>$3,617</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-8</td>
<td>1.3679</td>
<td>2020</td>
<td>$79,226</td>
<td>$958</td>
<td>$4,294,763</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-9</td>
<td>1.3966</td>
<td>2021</td>
<td>$18,016</td>
<td>$978</td>
<td>$3,771</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td>1.4259</td>
<td>2022</td>
<td>$4,135</td>
<td>$998</td>
<td>$3,850</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-11</td>
<td>1.4559</td>
<td>2023</td>
<td>$4,222</td>
<td>$1,019</td>
<td>$3,931</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>1.4864</td>
<td>2024</td>
<td>$4,311</td>
<td>$1,041</td>
<td>$4,013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-13</td>
<td>1.5177</td>
<td>2025</td>
<td>$4,401</td>
<td>$1,062</td>
<td>$4,098</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-14</td>
<td>1.5495</td>
<td>2026</td>
<td>$4,494</td>
<td>$1,085</td>
<td>$4,184</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td>1.5821</td>
<td>2027</td>
<td>$4,588</td>
<td>$1,107</td>
<td>$4,272</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-16</td>
<td>1.6153</td>
<td>2028</td>
<td>$4,684</td>
<td>$1,131</td>
<td>$4,361</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-17</td>
<td>1.6492</td>
<td>2029</td>
<td>$4,783</td>
<td>$1,154</td>
<td>$4,453</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-18</td>
<td>1.6838</td>
<td>2030</td>
<td>$4,883</td>
<td>$1,179</td>
<td>$4,546</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-19</td>
<td>1.6838</td>
<td>2031</td>
<td>$21,722</td>
<td>$1,179</td>
<td>$4,546</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$331,611</td>
<td>$19,874</td>
<td>$11,084,058</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## E&D and Construction Data

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost</td>
<td>11,363,000</td>
</tr>
<tr>
<td>Estimated Construction + 25% Contingency</td>
<td>14,203,750</td>
</tr>
</tbody>
</table>

### TOTAL ESTIMATED PROJECT COSTS

#### PHASE I - Federal Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design</td>
<td>$847,500</td>
</tr>
<tr>
<td>Engineering</td>
<td>$317,500</td>
</tr>
<tr>
<td>Geotechnical Investigation</td>
<td>$250,000</td>
</tr>
<tr>
<td>Surveying</td>
<td>$150,000</td>
</tr>
<tr>
<td>Data Collection</td>
<td>$0</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>$80,000</td>
</tr>
<tr>
<td>HTRW</td>
<td>$0</td>
</tr>
<tr>
<td>NEPA Compliance</td>
<td>$50,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$125,000</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

#### PHASE I - State Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$263,000</td>
</tr>
<tr>
<td>Ecological Review Costs</td>
<td>$0</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Total Phase I Cost Estimate $1,316,500

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

#### PHASE II - Federal Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction Cost + 25% Contingency</td>
<td>$14,203,750</td>
</tr>
<tr>
<td>Lands or Oyster Isles</td>
<td>0 lease acres $170,000</td>
</tr>
<tr>
<td>Supervision and In</td>
<td>285 days @ 1200 per day $342,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$125,000</td>
</tr>
</tbody>
</table>

#### PHASE II - State Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision and Administration</td>
<td>$263,000</td>
</tr>
</tbody>
</table>

### Total Phase II Cost Estimate $15,103,750

### TOTAL ESTIMATED PROJECT FIRST COST $16,420,250
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Federal Construction Items</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>#REF!</th>
<th>#REF!</th>
<th>#REF!</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td>$115,000</td>
<td>$0</td>
<td>$115,000</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
<tr>
<td>25% replace (i) TY 10% replace (ii) TY 9</td>
<td>$0</td>
<td>$1,090,000</td>
<td>$0</td>
<td>$760,000</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
<tr>
<td>Plantation Channel (TY 13.75% and TY 9.50% of original (i) 4.50%)(ii)</td>
<td>$0</td>
<td>$1,825,875</td>
<td>$0</td>
<td>$1,217,250</td>
<td>$0</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
</tbody>
</table>

### State Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>#REF!</th>
<th>#REF!</th>
<th>#REF!</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$98,385</td>
<td>$0</td>
<td>$55,019</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey 0 days @ $2,320 per day</td>
<td>$0</td>
<td>$2,320</td>
<td>$0</td>
<td>$2,320</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
<tr>
<td>Construction 0 days @ $1,200 per day</td>
<td>$0</td>
<td>$1,200</td>
<td>$0</td>
<td>$1,200</td>
<td>$0</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td>#REF!</td>
<td>#REF!</td>
<td>#REF!</td>
<td>$10,000</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
<th>Year 16</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start-March-07</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Plan &amp; Design End-December-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>June-11</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Project Priority List 16
Grand Liard Marsh and Ridge Restoration

<table>
<thead>
<tr>
<th></th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Costs</td>
<td>$26,368,623</td>
<td>$2,138,370</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$594,514</td>
<td>$48,212</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$51,375</td>
<td>$4,166</td>
</tr>
<tr>
<td></td>
<td>$26,776,860</td>
<td>$2,190,749</td>
</tr>
<tr>
<td>Average Annual Cost</td>
<td>$2,190,749</td>
<td>$2,190,749</td>
</tr>
<tr>
<td>Average Annual Habitat Units</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$13,118</td>
<td></td>
</tr>
<tr>
<td>Total Net Acres</td>
<td>285</td>
<td></td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Grand Liard Marsh and Ridge Restoration - w/out SW cell

Project Costs
$27,837,237
Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction Costs</th>
<th>Total First Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2007</td>
<td>$491,068</td>
<td>$67,798</td>
<td>$103,482</td>
<td>$103,482</td>
<td>$875</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$766,704</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>$841,830</td>
<td>$116,225</td>
<td>$177,397</td>
<td>$177,397</td>
<td>$1,500</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$1,314,349</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>$350,763</td>
<td>$48,427</td>
<td>$73,915</td>
<td>$73,915</td>
<td>$625</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$547,645</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$1,683,660</td>
<td>$232,450</td>
<td>$354,794</td>
<td>$354,794</td>
<td>$3,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$2,628,698</td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>-</td>
<td>$34,857</td>
<td>$202,739</td>
<td>$202,739</td>
<td>$233</td>
<td>$0</td>
<td>$170,057</td>
<td>$2,322,239</td>
<td>$9,288,955</td>
<td>$21,388,185</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>-</td>
<td>$26,143</td>
<td>$152,055</td>
<td>$152,055</td>
<td>$175</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,741,679</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$61,000</td>
<td>$354,794</td>
<td>$354,794</td>
<td>$408</td>
<td>$0</td>
<td>$297,600</td>
<td>$4,063,918</td>
<td>$16,255,671</td>
<td>$21,388,185</td>
<td></td>
</tr>
<tr>
<td>Total First Costs</td>
<td>$1,683,660</td>
<td>$293,450</td>
<td>$709,588</td>
<td>$709,588</td>
<td>$3,408</td>
<td>$0</td>
<td>$0</td>
<td>$297,600</td>
<td>$4,063,918</td>
<td>$16,255,671</td>
<td>$24,016,883</td>
<td></td>
</tr>
</tbody>
</table>

Discounts Details:

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$382,692</td>
<td>$700</td>
</tr>
<tr>
<td>-4</td>
<td>2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-5</td>
<td>2016</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
</tr>
<tr>
<td>-6</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9</td>
<td>2020</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-10</td>
<td>2021</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
</tr>
<tr>
<td>-11</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14</td>
<td>2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-15</td>
<td>2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19</td>
<td>2030</td>
<td>$0</td>
<td>$2,900</td>
<td>$2,700</td>
</tr>
<tr>
<td>-20</td>
<td>2031</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$373,792</td>
<td>$14,000</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan

### Grand Liard Marsh and Ridge Restoration - w/out SW cell

#### Project Priority List 16

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Land</th>
<th>Fiscal Federal</th>
<th>Land LDNR Corps</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2007</td>
<td>1.284</td>
<td>$603,480</td>
<td>$87,046</td>
<td>$132,860</td>
<td>$1,123</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$984,368</td>
<td>$2,190,749</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>1.221</td>
<td>$1,028,131</td>
<td>$141,946</td>
<td>$216,656</td>
<td>$1,832</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,805,221</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>1.162</td>
<td>$407,503</td>
<td>$56,261</td>
<td>$85,872</td>
<td>$726</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$636,235</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>1.105</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.051</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,225,824</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.051</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>1.000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$9,636,141</td>
</tr>
<tr>
<td>-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$23,142,799</td>
</tr>
</tbody>
</table>

**Total First Cost:**
- **Present Valued Costs:** $27,014,512
- **Total Discounted Costs:** $28,014,512
- **Amortized Costs:** $2,190,749
- **Construction Cost:** $26,366,263

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>O&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$348,288</td>
<td>$633</td>
<td>$8,322</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$63,784</td>
<td>$573</td>
<td>$2,620</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,259</td>
<td>$545</td>
<td>$2,103</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$49,680</td>
<td>$446</td>
<td>$2,041</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$1,759</td>
<td>$425</td>
<td>$1,638</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$1,411</td>
<td>$348</td>
<td>$1,341</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$1,370</td>
<td>$331</td>
<td>$1,276</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$30,139</td>
<td>$271</td>
<td>$1,238</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$594,514</td>
<td>$9,074</td>
<td>$42,301</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan

**Grand Liard Marsh and Ridge Restoration - w/out SW cell**

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fully Funded Costs</th>
<th>Total Fully Funded Costs</th>
<th>Amortized Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$27,837,237</td>
<td>$2,257,468</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Land E&amp;D Rights</th>
<th>Federal $107,931</th>
<th>LDNR $107,931</th>
<th>Corps Admin $913</th>
<th>Monitoring $0</th>
<th>S&amp;A $0</th>
<th>Contingency Cost $0</th>
<th>Construction Cost $0</th>
<th>Total First Cost $799,672</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1.043 2007</td>
<td>$512,183</td>
<td>$70,713</td>
<td>$107,931</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$799,672</td>
</tr>
<tr>
<td>4</td>
<td>1.066 2008</td>
<td>$697,345</td>
<td>$123,890</td>
<td>$189,096</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$1,401,025</td>
</tr>
<tr>
<td>3</td>
<td>1.088 2009</td>
<td>$361,746</td>
<td>$52,705</td>
<td>$80,444</td>
<td>$880</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$596,019</td>
</tr>
<tr>
<td>2</td>
<td>1.111 2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.135 2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Phase II**

<table>
<thead>
<tr>
<th>Year</th>
<th>Land E&amp;D Rights</th>
<th>Federal $172,509</th>
<th>LDNR $172,509</th>
<th>Corps Admin $199</th>
<th>Monitoring $188,965</th>
<th>S&amp;A $0</th>
<th>Contingency Cost $333,665</th>
<th>Construction Cost $4,556,410</th>
<th>Total First Cost $23,980,144</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.111 2010</td>
<td>$0</td>
<td>$38,733</td>
<td>$225,281</td>
<td>$259</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$2,796,716</td>
</tr>
<tr>
<td>1</td>
<td>1.135 2011</td>
<td>$0</td>
<td>$29,660</td>
<td>$172,509</td>
<td>$199</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$10,399,431</td>
</tr>
<tr>
<td>0</td>
<td>1.158 2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.183 2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>1.208 2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th>Land E&amp;D Rights</th>
<th>Federal $397,790</th>
<th>LDNR $397,790</th>
<th>Corps Admin $468</th>
<th>Monitoring $333,665</th>
<th>S&amp;A $0</th>
<th>Contingency Cost $4,556,410</th>
<th>Construction Cost $18,225,639</th>
<th>Total First Cost $26,776,860</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.1583 2012</td>
<td>$0</td>
<td>$90,235</td>
<td>$811</td>
<td>$3,707</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-1</td>
<td>1.1827 2013</td>
<td>$0</td>
<td>$3,430</td>
<td>$828</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-2</td>
<td>1.2075 2014</td>
<td>$0</td>
<td>$462,103</td>
<td>$845</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-3</td>
<td>1.2329 2015</td>
<td>$0</td>
<td>$3,575</td>
<td>$863</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-4</td>
<td>1.2588 2016</td>
<td>$0</td>
<td>$98,057</td>
<td>$881</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-5</td>
<td>1.2852 2017</td>
<td>$0</td>
<td>$3,727</td>
<td>$900</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-6</td>
<td>1.3122 2018</td>
<td>$0</td>
<td>$3,805</td>
<td>$919</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-7</td>
<td>1.3397 2019</td>
<td>$0</td>
<td>$3,885</td>
<td>$938</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-8</td>
<td>1.3679 2020</td>
<td>$0</td>
<td>$3,967</td>
<td>$958</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
<td>$3,193</td>
</tr>
<tr>
<td>-9</td>
<td>1.3966 2021</td>
<td>$0</td>
<td>$108,795</td>
<td>$978</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-10</td>
<td>1.4259 2022</td>
<td>$0</td>
<td>$4,135</td>
<td>$998</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-11</td>
<td>1.4559 2023</td>
<td>$0</td>
<td>$4,222</td>
<td>$1,019</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-12</td>
<td>1.4864 2024</td>
<td>$0</td>
<td>$4,311</td>
<td>$1,041</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-13</td>
<td>1.5177 2025</td>
<td>$0</td>
<td>$4,401</td>
<td>$1,062</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-14</td>
<td>1.5495 2026</td>
<td>$0</td>
<td>$4,494</td>
<td>$1,085</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-15</td>
<td>1.5821 2027</td>
<td>$0</td>
<td>$4,588</td>
<td>$1,107</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-16</td>
<td>1.6153 2028</td>
<td>$0</td>
<td>$4,684</td>
<td>$1,131</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-17</td>
<td>1.6492 2029</td>
<td>$0</td>
<td>$4,783</td>
<td>$1,154</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-18</td>
<td>1.6838 2030</td>
<td>$0</td>
<td>$4,883</td>
<td>$1,179</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
<td>$4,469</td>
</tr>
<tr>
<td>-19</td>
<td>1.6838 2031</td>
<td>$0</td>
<td>$131,171</td>
<td>$1,179</td>
<td>$5,388</td>
<td>$5,388</td>
<td>$5,388</td>
<td>$5,388</td>
</tr>
</tbody>
</table>

Total | $0 | $953,252 | $19,874 | $87,251 |
E&D and Construction Data

<table>
<thead>
<tr>
<th>ESTIMATED CONSTRUCTION COST</th>
<th>16,255,671</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>20,319,589</td>
</tr>
</tbody>
</table>

TOTAL ESTIMATED PROJECT COSTS

PHASE I

Federal Costs

Engineering and Design $1,683,660

- Engineering $1,188,660
- Geotechnical Investigation $225,000
- Hydrologic Modeling $0
- Data Collection $200,000
- Cultural Resources $40,000
- HTRW $0
- NEPA Compliance $30,000

Supervision and Administration $354,794

Containment $3,000

State Costs

- Supervision and Administration $354,794
- Ecological Review Costs $0
- Easements and Land Rights $232,450
- Monitoring $0

Total Phase I Cost Estimate $2,628,698

* Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

PHASE II

Federal Costs

Estimated Construction Cost +25% Contingency $20,319,589

- Lands or Oyster leases 0 lease acres $61,000
- Supervision and Inspection 248 days $297,600
- Supervision and Administration $354,794

Total Phase II Cost Estimate $21,387,777

State Costs

- Supervision and Administration $354,794

Total Estimated Project First Cost $24,016,475
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

#### Construction Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach containment dikes as needed (1304 CY + 25,000 Mob/Demob)</td>
<td>$0</td>
<td>$29,152</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Planning mob/demob</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Vegetative Plantings (woody/ridge)</td>
<td>$0</td>
<td>$220,720</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Construction</td>
<td>$0</td>
<td>$6,460</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Inspection</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td>$259,872</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contin.</strong></td>
<td>$0</td>
<td>$324,840</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineering, Design & Administrative Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$25,195</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$5,497</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$0</td>
<td>$3,230</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Construction</td>
<td>$0</td>
<td>$1,200</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Inspection</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$75,000</td>
<td>$54,952</td>
<td>$75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

### Federal S&A

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$75,500</td>
<td>$386,289</td>
<td>$75,500</td>
<td>$75,500</td>
<td>$75,500</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th>Item</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Const. Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Const. End</td>
<td>March-09</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan

**Project Priority List 16**

**Madison Bay Marsh Creation and Terracing**

<table>
<thead>
<tr>
<th></th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Charges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Costs</td>
<td>$30,630,387</td>
<td>$2,483,979</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$306,318</td>
<td>$24,841</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$46,649</td>
<td>$3,783</td>
</tr>
<tr>
<td><strong>Average Annual Cost</strong></td>
<td>$2,512,603</td>
<td>$2,512,603</td>
</tr>
<tr>
<td>Average Annual Habitat Units</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$10,383</td>
<td></td>
</tr>
<tr>
<td><strong>Total Net Acres</strong></td>
<td>372</td>
<td></td>
</tr>
</tbody>
</table>
# Coastal Wetlands Conservation and Restoration Plan

## Madison Bay Marsh Creation and Terracing

### Project Costs

**Project Priority List 16**

```
<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Land</th>
<th>Development of Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2007</td>
<td>$481,413</td>
<td>$78,240</td>
<td>$145,833</td>
<td>$116,667</td>
<td>$875</td>
<td>$0</td>
<td></td>
<td>$823,028</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>$825,280</td>
<td>$134,125</td>
<td>$250,000</td>
<td>$200,000</td>
<td>$1,500</td>
<td>$0</td>
<td></td>
<td>$1,410,905</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>$343,866</td>
<td>$55,885</td>
<td>$104,167</td>
<td>$83,333</td>
<td>$625</td>
<td>$0</td>
<td></td>
<td>$587,877</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$1,650,559</td>
<td>$268,250</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$3,000</td>
<td>$0</td>
<td></td>
<td>$2,821,809</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>-</td>
<td>$213,846</td>
<td>$153,846</td>
<td>$123,077</td>
<td>$233</td>
<td>$0</td>
<td></td>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>-</td>
<td>$481,154</td>
<td>$346,154</td>
<td>$276,923</td>
<td>$525</td>
<td>$0</td>
<td></td>
<td>$7,828,285</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$0</td>
<td>$695,000</td>
<td>$500,000</td>
<td>$400,000</td>
<td>$758</td>
<td>$0</td>
<td></td>
<td>$25,441,926</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>TOTAL First Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$28,263,735</td>
</tr>
</tbody>
</table>
```

### Total First Costs

```
<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Inspect</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Inspect</th>
<th>$D-44</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$64,199</td>
<td>$700</td>
<td>$3,974</td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
<td></td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$0</td>
<td>$419,299</td>
<td>$14,000</td>
<td>$57,274</td>
<td></td>
</tr>
</tbody>
</table>
```
### Coastal Wetlands Conservation and Restoration Plan

**Madison Bay Marsh Creation and Terracing**

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase I</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Construction</th>
<th>Total Contingency</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2007</td>
<td>1.284</td>
<td>$618,085</td>
<td>$100,452</td>
<td>$187,235</td>
<td>$149,788</td>
<td>$1,123</td>
<td>$0</td>
<td>$0</td>
<td>$1,056,682</td>
</tr>
<tr>
<td>4</td>
<td>2008</td>
<td>1.221</td>
<td>$1,007,918</td>
<td>$163,807</td>
<td>$305,326</td>
<td>$244,261</td>
<td>$1,832</td>
<td>$0</td>
<td>$0</td>
<td>$1,723,144</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>1.162</td>
<td>$398,492</td>
<td>$64,926</td>
<td>$121,017</td>
<td>$96,814</td>
<td>$726</td>
<td>$0</td>
<td>$0</td>
<td>$682,974</td>
</tr>
<tr>
<td>2</td>
<td>2010</td>
<td>1.055</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.055</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase I**

- Present Valued Costs: $2,025,494
- Total Discounted Costs: $329,185
- Total Costs: $613,578
- Total Contingency Costs: $3,681
- Present Valued Costs: $490,863
- Total Discounted Costs: $6,881
- Total Contingency Costs: $0

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase II</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Construction</th>
<th>Total Contingency</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2010</td>
<td>1.105</td>
<td>$0</td>
<td>$236,327</td>
<td>$170,019</td>
<td>$136,016</td>
<td>$258</td>
<td>$0</td>
<td>$0</td>
<td>$1,589,000</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>1.051</td>
<td>$0</td>
<td>$555,813</td>
<td>$363,894</td>
<td>$291,115</td>
<td>$552</td>
<td>$0</td>
<td>$0</td>
<td>$3,400,951</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>1.000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>0.951</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>0.905</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total Phase II**

- Total First Cost: $2,025,494
- Total Discounted Costs: $1,071,325
- Total Costs: $1,147,492
- Total Contingency Costs: $4,491
- Total First Cost: $490,863
- Total Discounted Costs: $427,131
- Total Contingency Costs: $810

### Total First Cost

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed &amp; S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$77,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$56,092</td>
<td>$633</td>
<td>$3,596</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$63,784</td>
<td>$573</td>
<td>$2,620</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$2,259</td>
<td>$545</td>
<td>$2,103</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$49,680</td>
<td>$446</td>
<td>$2,041</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$1,759</td>
<td>$425</td>
<td>$1,638</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$1,441</td>
<td>$348</td>
<td>$1,341</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$1,370</td>
<td>$331</td>
<td>$1,276</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$30,139</td>
<td>$271</td>
<td>$1,238</td>
</tr>
</tbody>
</table>

**Total**

- $306,318
- $9,074
- $37,575
Coastal Wetlands Conservation and Restoration Plan
Madison Bay Marsh Creation and Terracing
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal Admin</th>
<th>LDNR Admin</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Costs</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>5</td>
<td>2007</td>
<td>$502,114</td>
<td>$81,604</td>
<td>$152,104</td>
<td>$121,683</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2008</td>
<td>$879,703</td>
<td>$142,870</td>
<td>$266,487</td>
<td>$213,189</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2009</td>
<td>$374,240</td>
<td>$60,622</td>
<td>$113,368</td>
<td>$90,894</td>
<td>$680</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$1,756,058</td>
<td>$285,396</td>
<td>$531,958</td>
<td>$425,567</td>
<td>$3,192</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Phase II

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal Admin</th>
<th>LDNR Admin</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Costs</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2010</td>
<td>$0</td>
<td>$237,623</td>
<td>$170,952</td>
<td>$136,761</td>
<td>$259</td>
<td>$0</td>
<td>$164,524</td>
<td>$3,192</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$545,879</td>
<td>$392,719</td>
<td>$314,175</td>
<td>$596</td>
<td>$0</td>
<td>$377,952</td>
<td>$3,192</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$0</td>
<td>$783,502</td>
<td>$563,670</td>
<td>$450,936</td>
<td>$855</td>
<td>$0</td>
<td>$424,476</td>
<td>$3,192</td>
</tr>
</tbody>
</table>

Total Cost

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring S&amp;A &amp; Insp</th>
<th>Corps Admin Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2012</td>
<td>$0</td>
<td>$90,235</td>
</tr>
<tr>
<td>-1</td>
<td>2013</td>
<td>$0</td>
<td>$3,430</td>
</tr>
<tr>
<td>-2</td>
<td>2014</td>
<td>$0</td>
<td>$77,520</td>
</tr>
<tr>
<td>-3</td>
<td>2015</td>
<td>$0</td>
<td>$3,575</td>
</tr>
<tr>
<td>-4</td>
<td>2016</td>
<td>$0</td>
<td>$96,057</td>
</tr>
<tr>
<td>-5</td>
<td>2017</td>
<td>$0</td>
<td>$3,727</td>
</tr>
<tr>
<td>-6</td>
<td>2018</td>
<td>$0</td>
<td>$3,805</td>
</tr>
<tr>
<td>-7</td>
<td>2019</td>
<td>$0</td>
<td>$3,885</td>
</tr>
<tr>
<td>-8</td>
<td>2020</td>
<td>$0</td>
<td>$3,967</td>
</tr>
<tr>
<td>-9</td>
<td>2021</td>
<td>$0</td>
<td>$108,795</td>
</tr>
<tr>
<td>-10</td>
<td>2022</td>
<td>$0</td>
<td>$4,135</td>
</tr>
<tr>
<td>-11</td>
<td>2023</td>
<td>$0</td>
<td>$4,222</td>
</tr>
<tr>
<td>-12</td>
<td>2024</td>
<td>$0</td>
<td>$4,311</td>
</tr>
<tr>
<td>-13</td>
<td>2025</td>
<td>$0</td>
<td>$4,401</td>
</tr>
<tr>
<td>-14</td>
<td>2026</td>
<td>$0</td>
<td>$4,494</td>
</tr>
<tr>
<td>-15</td>
<td>2027</td>
<td>$0</td>
<td>$4,588</td>
</tr>
<tr>
<td>-16</td>
<td>2028</td>
<td>$0</td>
<td>$4,684</td>
</tr>
<tr>
<td>-17</td>
<td>2029</td>
<td>$0</td>
<td>$4,763</td>
</tr>
<tr>
<td>-18</td>
<td>2030</td>
<td>$0</td>
<td>$4,883</td>
</tr>
<tr>
<td>-19</td>
<td>2031</td>
<td>$0</td>
<td>$113,171</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$568,669</td>
</tr>
</tbody>
</table>
E&D and Construction Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION COST</td>
<td>$18,691,974</td>
</tr>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>$23,364,968</td>
</tr>
<tr>
<td>TOTAL ESTIMATED PROJECT COSTS</td>
<td></td>
</tr>
</tbody>
</table>

**PHASE I**

**Federal Costs**

Engineering and Design: $1,650,559
- Engineering: $1,355,559
- Geotechnical Investigation: $155,000
- Hydrologic Modeling: $0
- Data Collection: $100,000
- Cultural Resources: $10,000
- HTRW: $0
- NEPA Compliance: $30,000

Supervision and Administration: $500,000

**State Costs**

Supervision and Administration: $400,000

**Total Phase I Cost Estimate**: $2,821,809

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

**PHASE II**

**Federal Costs**

Estimated Construction Cost + 25% Contingency: $23,364,968
- Lands or Oyster Issues: 0 lease acres
- Supervision and Inspection: 401 days @ 1200 per day

Supervision and Administration: $500,000

**State Costs**

Supervision and Administration: $400,000

**Total Phase II Cost Estimate**: $25,441,168

**TOTAL ESTIMATED PROJECT FIRST COST**: $28,262,977
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 20</th>
<th>Year 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach containment dikes as needed (2985 CY = 25,000 Mob/ Demob)</td>
<td>$0</td>
<td>$33,955</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$0</td>
<td>$33,955</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Subtotal w/ 25% contin.</strong></td>
<td>$0</td>
<td>$42,444</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$3,921</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$1,274</td>
</tr>
<tr>
<td>Eng Survey 2 days @ $3,230 per day</td>
<td>$0</td>
<td>$6,460</td>
</tr>
<tr>
<td>Construction 6 days @ $1,200 per day</td>
<td>$0</td>
<td>$7,200</td>
</tr>
<tr>
<td>Engineering Monitoring $75,000</td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td></td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td></td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>Federal S&amp;A</strong></td>
<td>$75,000</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$75,500</td>
<td>$62,573</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

- Corps Administration: $700
- Monitoring: $0

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>July-11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan
### Project Priority List 16
#### West Belle Pass Barrier Headland Restoration

<table>
<thead>
<tr>
<th>Description</th>
<th>Present Worth</th>
<th>Average Annual Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$28,227,842</td>
<td>$2,289,144</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$2,093,835</td>
<td>$169,000</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$55,699</td>
<td>$4,517</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$32,563,747</strong></td>
<td><strong>$2,463,461</strong></td>
</tr>
</tbody>
</table>

- Total Net Acres: 299
- Cost Per Habitat Unit: $13,686
- Average Annual Habitat Units: 180
- Total Project Years: 21
- Interest Rate: 5.125%
- Amortization Factor: 0.08110
- Fully Funded First Costs: $29,406,778
- Total Fully Funded Costs: $32,563,747
Coastal Wetlands Conservation and Restoration Plan
West Belle Pass Barrier Headland Restoration

Project Costs
$32,563,747
Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2007</td>
<td>$495,286</td>
<td>$11,667</td>
<td>$115,408</td>
<td>$115,408</td>
<td>$875</td>
<td>-</td>
<td>$738,644</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>$849,061</td>
<td>$20,000</td>
<td>$197,843</td>
<td>$197,843</td>
<td>$1,500</td>
<td>-</td>
<td>$1,266,247</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>$353,775</td>
<td>$6,333</td>
<td>$82,435</td>
<td>$82,435</td>
<td>$625</td>
<td>-</td>
<td>$527,063</td>
</tr>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$1,698,122</td>
<td>$40,000</td>
<td>$395,686</td>
<td>$395,686</td>
<td>$3,000</td>
<td>-</td>
<td>$2,532,494</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2010</td>
<td>-</td>
<td>$0</td>
<td>$395,686</td>
<td>$395,686</td>
<td>$175</td>
<td>-</td>
<td>$202,300</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$395,686</td>
<td>$395,686</td>
<td>$175</td>
<td>-</td>
<td>$24,039,557</td>
</tr>
</tbody>
</table>

Total First Costs $1,698,122 $40,000 $791,372 $791,372 $3,175 $0 $202,300 $4,609,142 $18,436,568 $26,572,051

<table>
<thead>
<tr>
<th>Year</th>
<th>D-50</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Discount</td>
<td>2011</td>
<td>$0</td>
<td>$230,836</td>
<td>$700</td>
<td>$4,351</td>
</tr>
<tr>
<td>-1 Discount</td>
<td>2012</td>
<td>$0</td>
<td>$230,836</td>
<td>$700</td>
<td>$4,351</td>
</tr>
<tr>
<td>-2 Discount</td>
<td>2013</td>
<td>$0</td>
<td>$1,417,332</td>
<td>$700</td>
<td>$8,518</td>
</tr>
<tr>
<td>-3 Discount</td>
<td>2014</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4 Discount</td>
<td>2015</td>
<td>$0</td>
<td>$96,700</td>
<td>$700</td>
<td>$4,576</td>
</tr>
<tr>
<td>-5 Discount</td>
<td>2016</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-6 Discount</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7 Discount</td>
<td>2018</td>
<td>$0</td>
<td>$148,286</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8 Discount</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9 Discount</td>
<td>2020</td>
<td>$0</td>
<td>$79,200</td>
<td>$700</td>
<td>$4,226</td>
</tr>
<tr>
<td>-10 Discount</td>
<td>2021</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-11 Discount</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12 Discount</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13 Discount</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14 Discount</td>
<td>2025</td>
<td>$0</td>
<td>$148,286</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-15 Discount</td>
<td>2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16 Discount</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17 Discount</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18 Discount</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19 Discount</td>
<td>2030</td>
<td>$0</td>
<td>$84,200</td>
<td>$700</td>
<td>$4,326</td>
</tr>
</tbody>
</table>

Total $0 $2,470,476 $14,000 $66,148
## Coastal Wetlands Conservation and Restoration Plan

### West Belle Pass Barrier Headland Restoration

#### Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Federal</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.221</td>
<td></td>
<td>2007</td>
<td>$604,895</td>
<td>$14,249</td>
<td>$140,949</td>
<td>$140,949</td>
<td>$1,069</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>1.162</td>
<td></td>
<td>2008</td>
<td>$986,409</td>
<td>$23,235</td>
<td>$229,847</td>
<td>$229,847</td>
<td>$1,743</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td></td>
<td>2009</td>
<td>$390,867</td>
<td>$9,209</td>
<td>$91,101</td>
<td>$91,101</td>
<td>$691</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td></td>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td></td>
<td>2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>$1,982,270</td>
<td>$46,693</td>
<td>$461,896</td>
<td>$461,896</td>
<td>$3,502</td>
<td>$0</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td></td>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td></td>
<td>2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td></td>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td></td>
<td>2013</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td></td>
<td>2014</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total First Cost</td>
<td>$1,982,270</td>
<td>$46,693</td>
<td>$877,861</td>
<td>$877,861</td>
<td>$3,686</td>
<td>$0</td>
<td>$212,668</td>
<td>$4,845,361</td>
<td>$19,381,442</td>
</tr>
</tbody>
</table>

### Additional Costs

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.000</td>
<td>2011</td>
<td>$230,836</td>
<td>$700</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2012</td>
<td>$219,562</td>
<td>$666</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2013</td>
<td>$1,282,507</td>
<td>$633</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2014</td>
<td>$2,496</td>
<td>$603</td>
</tr>
<tr>
<td>-4</td>
<td>0.819</td>
<td>2015</td>
<td>$79,178</td>
<td>$573</td>
</tr>
<tr>
<td>-5</td>
<td>0.779</td>
<td>2016</td>
<td>$2,259</td>
<td>$545</td>
</tr>
<tr>
<td>-6</td>
<td>0.741</td>
<td>2017</td>
<td>$2,149</td>
<td>$519</td>
</tr>
<tr>
<td>-7</td>
<td>0.705</td>
<td>2018</td>
<td>$104,510</td>
<td>$493</td>
</tr>
<tr>
<td>-8</td>
<td>0.670</td>
<td>2019</td>
<td>$1,944</td>
<td>$469</td>
</tr>
<tr>
<td>-9</td>
<td>0.638</td>
<td>2020</td>
<td>$50,509</td>
<td>$446</td>
</tr>
<tr>
<td>-10</td>
<td>0.607</td>
<td>2021</td>
<td>$1,759</td>
<td>$425</td>
</tr>
<tr>
<td>-11</td>
<td>0.577</td>
<td>2022</td>
<td>$1,674</td>
<td>$404</td>
</tr>
<tr>
<td>-12</td>
<td>0.549</td>
<td>2023</td>
<td>$1,592</td>
<td>$384</td>
</tr>
<tr>
<td>-13</td>
<td>0.522</td>
<td>2024</td>
<td>$1,514</td>
<td>$366</td>
</tr>
<tr>
<td>-14</td>
<td>0.497</td>
<td>2025</td>
<td>$73,657</td>
<td>$348</td>
</tr>
<tr>
<td>-15</td>
<td>0.473</td>
<td>2026</td>
<td>$1,370</td>
<td>$331</td>
</tr>
<tr>
<td>-16</td>
<td>0.449</td>
<td>2027</td>
<td>$1,303</td>
<td>$315</td>
</tr>
<tr>
<td>-17</td>
<td>0.428</td>
<td>2028</td>
<td>$1,240</td>
<td>$299</td>
</tr>
<tr>
<td>-18</td>
<td>0.407</td>
<td>2029</td>
<td>$1,179</td>
<td>$285</td>
</tr>
<tr>
<td>-19</td>
<td>0.387</td>
<td>2030</td>
<td>$32,576</td>
<td>$271</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$2,093,835</td>
<td>$9,074</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
West Belle Pass Barrier Headland Restoration
Project Priority List 16

Fully Funded Costs

<table>
<thead>
<tr>
<th>Fiscal</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Construction</th>
<th>Total First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>E&amp;D</td>
<td>Rights</td>
<td>S&amp;A</td>
<td>S&amp;A</td>
<td>Admin</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Phase I</td>
<td>Year</td>
<td>2007</td>
<td>$516,583</td>
<td>$12,168</td>
<td>$120,371</td>
<td>$120,371</td>
</tr>
<tr>
<td>4</td>
<td>1.043</td>
<td>2007</td>
<td>$516,583</td>
<td>$12,168</td>
<td>$120,371</td>
<td>$120,371</td>
</tr>
<tr>
<td>3</td>
<td>1.066</td>
<td>2008</td>
<td>$905,053</td>
<td>$21,319</td>
<td>$210,890</td>
<td>$210,890</td>
</tr>
<tr>
<td>2</td>
<td>1.088</td>
<td>2009</td>
<td>$385,025</td>
<td>$9,069</td>
<td>$89,716</td>
<td>$89,716</td>
</tr>
<tr>
<td>1</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,806,661</td>
<td>$42,557</td>
<td>$420,977</td>
<td>$420,977</td>
<td>$3,192</td>
<td>$0</td>
</tr>
</tbody>
</table>

Phase II

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$439,681</td>
</tr>
<tr>
<td>0</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.158</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>1.183</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>1.208</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$0</td>
<td>$0</td>
<td>$439,681</td>
<td>$439,681</td>
<td>$194</td>
</tr>
</tbody>
</table>

Total Cost

<table>
<thead>
<tr>
<th>Fully Funded Costs</th>
<th>$32,563,747</th>
<th>Amortized Costs</th>
<th>$2,640,765</th>
<th>D-52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>$1,806,661</td>
<td>$42,557</td>
<td>$860,658</td>
<td>$860,658</td>
</tr>
<tr>
<td>Phase II</td>
<td>$0</td>
<td>$0</td>
<td>$439,681</td>
<td>$439,681</td>
</tr>
<tr>
<td>Total</td>
<td>$1,806,661</td>
<td>$42,557</td>
<td>$860,658</td>
<td>$860,658</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.1345</td>
<td>2011</td>
<td>$0</td>
<td>$261,888</td>
<td>$794</td>
</tr>
<tr>
<td>-1</td>
<td>1.1583</td>
<td>2012</td>
<td>$0</td>
<td>$267,388</td>
<td>$811</td>
</tr>
<tr>
<td>-2</td>
<td>1.1827</td>
<td>2013</td>
<td>$0</td>
<td>$1,676,237</td>
<td>$828</td>
</tr>
<tr>
<td>-3</td>
<td>1.2075</td>
<td>2014</td>
<td>$0</td>
<td>$3,502</td>
<td>$845</td>
</tr>
<tr>
<td>-4</td>
<td>1.2329</td>
<td>2015</td>
<td>$0</td>
<td>$119,218</td>
<td>$863</td>
</tr>
<tr>
<td>-5</td>
<td>1.2586</td>
<td>2016</td>
<td>$0</td>
<td>$3,650</td>
<td>$881</td>
</tr>
<tr>
<td>-6</td>
<td>1.2852</td>
<td>2017</td>
<td>$0</td>
<td>$3,727</td>
<td>$900</td>
</tr>
<tr>
<td>-7</td>
<td>1.3122</td>
<td>2018</td>
<td>$0</td>
<td>$194,578</td>
<td>$919</td>
</tr>
<tr>
<td>-8</td>
<td>1.3397</td>
<td>2019</td>
<td>$0</td>
<td>$3,865</td>
<td>$938</td>
</tr>
<tr>
<td>-9</td>
<td>1.3679</td>
<td>2020</td>
<td>$0</td>
<td>$105,335</td>
<td>$956</td>
</tr>
<tr>
<td>-10</td>
<td>1.3966</td>
<td>2021</td>
<td>$0</td>
<td>$4,050</td>
<td>$978</td>
</tr>
<tr>
<td>-11</td>
<td>1.4259</td>
<td>2022</td>
<td>$0</td>
<td>$4,135</td>
<td>$998</td>
</tr>
<tr>
<td>-12</td>
<td>1.4559</td>
<td>2023</td>
<td>$0</td>
<td>$4,222</td>
<td>$1,019</td>
</tr>
<tr>
<td>-13</td>
<td>1.4864</td>
<td>2024</td>
<td>$0</td>
<td>$4,311</td>
<td>$1,041</td>
</tr>
<tr>
<td>-14</td>
<td>1.5177</td>
<td>2025</td>
<td>$0</td>
<td>$225,047</td>
<td>$1,062</td>
</tr>
<tr>
<td>-15</td>
<td>1.5496</td>
<td>2026</td>
<td>$0</td>
<td>$4,494</td>
<td>$1,085</td>
</tr>
<tr>
<td>-16</td>
<td>1.5821</td>
<td>2027</td>
<td>$0</td>
<td>$4,588</td>
<td>$1,107</td>
</tr>
<tr>
<td>-17</td>
<td>1.6153</td>
<td>2028</td>
<td>$0</td>
<td>$4,684</td>
<td>$1,131</td>
</tr>
<tr>
<td>-18</td>
<td>1.6492</td>
<td>2029</td>
<td>$0</td>
<td>$4,783</td>
<td>$1,154</td>
</tr>
<tr>
<td>-19</td>
<td>1.6838</td>
<td>2030</td>
<td>$0</td>
<td>$141,780</td>
<td>$1,179</td>
</tr>
<tr>
<td>Total</td>
<td>$3,044,502</td>
<td>$19,489</td>
<td>$92,978</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
E&D and Construction Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION COST</td>
<td>18,436,568</td>
</tr>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>23,045,710</td>
</tr>
<tr>
<td>TOTAL ESTIMATED PROJECT COSTS</td>
<td></td>
</tr>
</tbody>
</table>

PHASE I

Federal Costs

Engineering and Design $1,698,122
  Engineering $1,338,122
  Geotechnical Investigation $200,000
  Hydrologic Modeling $0
  Data Collection $100,000
  Cultural Resources $30,000
  HTRW $0
  NEPA Compliance $30,000

Supervision and Administration $395,686
  Corps Administration $3,000

State Costs

Supervision and Administration $395,686
  Ecological Review Costs $0
  Easements and Land Rights $40,000
  Monitoring $0

Monitoring Plan Development $0
Monitoring Protocol Cost * $0

Total Phase I Cost Estimate $2,532,494

* Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

PHASE II

Federal Costs

Estimated Construction Cost + 25% Contingency $23,045,710
  Lands or Oyster leases 0 lease acres $0
  Supervision and Inspection 119 days @ 1700 per day $202,300
  Supervision and Administration $395,686

State Costs

Supervision and Administration $395,686

Total Phase II Cost Estimate $24,039,382

TOTAL ESTIMATED PROJECT FIRST COST $26,571,876
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Inspections</strong></td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td><strong>Annual Cost for Operations</strong></td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td><strong>Preventive Maintenance</strong></td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
<th>Year 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mob/Demob (tidal features)</td>
<td>$0</td>
<td>$0</td>
<td>$30,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Mob/Demob (planting)</td>
<td>$0</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Vegetative Plantings (barbarea - remaining 35% of dune + 50% of marsh =125 ac)</td>
<td>$0</td>
<td>$0</td>
<td>$62,500</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Vegetative Plantings (remaining half of 20% of dune in woody = 11 ac)</td>
<td>$0</td>
<td>$0</td>
<td>$78,220</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Tidal fencing and dike gapping (assume 30,000 cy at $3/cy = $90,000 Mob)</td>
<td>$0</td>
<td>$0</td>
<td>$90,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Sand fencing (install or replace complete additional fence line (l) at Years 1, 2, 3, 8, and 15)</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
<td>$93,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Subtotal**

|                              | $116,250| $116,250| $1,157,900| $0     | $93,000  | $0     | $93,000  | $0     | $93,000  | $0     |

**Subtotal w/ 25% contin.**

|                              | $116,250| $116,250| $1,157,900| $0     | $93,000  | $0     | $93,000  | $0     | $93,000  | $0     |

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
<th>Year 13</th>
<th>Year 14</th>
<th>Year 15</th>
<th>Year 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineering and Design Cost</strong></td>
<td>$9,811</td>
<td>$9,811</td>
<td>$81,634</td>
<td>$0</td>
<td>$9,811</td>
<td>$0</td>
<td>$9,811</td>
<td>$0</td>
<td>$9,811</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Administrative Cost</strong></td>
<td>$2,325</td>
<td>$2,325</td>
<td>$23,158</td>
<td>$0</td>
<td>$2,325</td>
<td>$0</td>
<td>$2,325</td>
<td>$0</td>
<td>$2,325</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construct</strong></td>
<td>10 days</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
<td>$1,700</td>
</tr>
<tr>
<td><strong>Engineering Monitoring</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal**

|                              | $111,686| $111,686| $256,532| $93,800| $29,136| $76,300| $29,136| $81,300| $81,300 |

**Total**

|                              | $229,587| $229,587| $1,420,250| $95,676| $145,386| $77,826| $145,386| $82,926 |

### Federal S&A

|                              | $1,651  | $1,651  | $8,818  | $1,876  | $1,526  | $0      | $1,526  | $0      |

**Total**

|                              | $229,587| $229,587| $1,420,250| $95,676| $145,386| $77,826| $145,386| $82,926 |

### Annual Project Costs:

|                              | $700    |

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan &amp; Design Start</strong></td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td><strong>Plan &amp; Design End</strong></td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Const. Start</strong></td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Const. End</strong></td>
<td>September-10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan
#### Project Priority List 16
##### Deer Island Pass Sediment Delivery

<table>
<thead>
<tr>
<th>Project Construction Years:</th>
<th>1</th>
<th>Total Project Years</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>5.125%</td>
<td>Amortization Factor</td>
<td>0.08110</td>
</tr>
<tr>
<td>Fully Funded First Costs</td>
<td>$4,400,158</td>
<td>Total Fully Funded Costs</td>
<td>$8,775,058</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Charges</th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$4,274,094</td>
<td>$346,609</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$1,866,262</td>
<td>$151,345</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$45,697</td>
<td>$3,706</td>
</tr>
<tr>
<td><strong>Average Annual Cost</strong></td>
<td><strong>$501,660</strong></td>
<td><strong>$501,660</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Annual Habitat Units</th>
<th>68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$7,377</td>
</tr>
<tr>
<td>Total Net Acres</td>
<td>216</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Deer Island Pass Sediment Delivery

### Project Costs

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Land E&amp;D Rights</th>
<th>Land S&amp;A</th>
<th>Federal Land S&amp;A</th>
<th>LDNR Corps Admin</th>
<th>Monitoring S&amp;I</th>
<th>Contingency Costs</th>
<th>Construction Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$154,030</td>
<td>$11,667</td>
<td>$17,632</td>
<td>$17,632</td>
<td>$875</td>
<td>$0</td>
<td>$0</td>
<td>$201,835</td>
</tr>
<tr>
<td>2008</td>
<td>$264,052</td>
<td>$20,000</td>
<td>$30,226</td>
<td>$30,226</td>
<td>$1,500</td>
<td>$0</td>
<td>$0</td>
<td>$346,004</td>
</tr>
<tr>
<td>2009</td>
<td>$110,021</td>
<td>$8,333</td>
<td>$12,594</td>
<td>$12,594</td>
<td>$625</td>
<td>$0</td>
<td>$0</td>
<td>$144,168</td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$528,103</strong></td>
<td><strong>$40,000</strong></td>
<td><strong>$60,452</strong></td>
<td><strong>$60,452</strong></td>
<td><strong>$233</strong></td>
<td><strong>$0</strong></td>
<td><strong>$0</strong></td>
<td><strong>$692,007</strong></td>
</tr>
</tbody>
</table>

### Phase II

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Disc</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$60,452</td>
<td>$60,452</td>
<td>$233</td>
<td>$0</td>
<td>$153,600</td>
<td>$604,514</td>
<td>$2,418,055</td>
<td>$3,297,306</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$0</strong></td>
<td><strong>$0</strong></td>
<td><strong>$60,452</strong></td>
<td><strong>$60,452</strong></td>
<td><strong>$233</strong></td>
<td><strong>$0</strong></td>
<td><strong>$153,600</strong></td>
<td><strong>$604,514</strong></td>
<td><strong>$2,418,055</strong></td>
<td><strong>$3,297,306</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total First Costs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Disc</td>
<td>-</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$120,904</td>
<td>$120,904</td>
<td>$3,233</td>
<td>$0</td>
<td>$153,600</td>
<td>$604,514</td>
<td>$2,418,055</td>
<td>$3,989,313</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Year FY Monitoring & State Insp Corps Admin Fed S&A & Insp

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2011</td>
<td>$0</td>
<td>$22,403</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1 Discount</td>
<td>2012</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-2 Discount</td>
<td>2013</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-3 Discount</td>
<td>2014</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4 Discount</td>
<td>2015</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-5 Discount</td>
<td>2016</td>
<td>$0</td>
<td>$956,092</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-6 Discount</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7 Discount</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8 Discount</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9 Discount</td>
<td>2020</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-10 Discount</td>
<td>2021</td>
<td>$0</td>
<td>$956,092</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-11 Discount</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12 Discount</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13 Discount</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14 Discount</td>
<td>2025</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-15 Discount</td>
<td>2026</td>
<td>$0</td>
<td>$956,092</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-16 Discount</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17 Discount</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18 Discount</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19 Discount</td>
<td>2030</td>
<td>$0</td>
<td>$101,370</td>
<td>$700</td>
<td>$3,200</td>
</tr>
</tbody>
</table>

| Total | $0 | $3,035,548 | $14,000 | $56,500 |
## Coastal Wetlands Conservation and Restoration Plan
### Deer Island Pass Sediment Delivery
### Project Priority List 16

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
<th>First Cost</th>
<th>Federal</th>
<th>State</th>
<th>Corps</th>
<th>Land</th>
<th>E&amp;D</th>
<th>Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phase I</td>
<td></td>
<td>$6,186,053</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$501,660</td>
</tr>
</tbody>
</table>

### Present Valued Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2007</td>
<td>$188,118</td>
<td>$14,249</td>
<td>$21,534</td>
<td>$1,069</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>$306,766</td>
<td>$23,235</td>
<td>$35,115</td>
<td>$1,743</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>$121,588</td>
<td>$8,209</td>
<td>$13,918</td>
<td>$691</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$616,471</td>
<td>$46,693</td>
<td>$70,567</td>
<td>$3,502</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Phase II

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$63,550</td>
<td>$245</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$0</td>
<td>$0</td>
<td>$63,550</td>
<td>$245</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Total First Cost

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$22,403</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$2,624</td>
<td>$633</td>
<td>$2,443</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
</tr>
<tr>
<td>-4</td>
<td>2015</td>
<td>$0</td>
<td>$2,375</td>
<td>$573</td>
<td>$2,211</td>
</tr>
<tr>
<td>-5</td>
<td>2016</td>
<td>$0</td>
<td>$744,680</td>
<td>$545</td>
<td>$2,492</td>
</tr>
<tr>
<td>-6</td>
<td>2017</td>
<td>$0</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
</tr>
<tr>
<td>-7</td>
<td>2018</td>
<td>$0</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
</tr>
<tr>
<td>-8</td>
<td>2019</td>
<td>$0</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
</tr>
<tr>
<td>-9</td>
<td>2020</td>
<td>$0</td>
<td>$1,849</td>
<td>$446</td>
<td>$1,722</td>
</tr>
<tr>
<td>-10</td>
<td>2021</td>
<td>$0</td>
<td>$580,015</td>
<td>$425</td>
<td>$1,941</td>
</tr>
<tr>
<td>-11</td>
<td>2022</td>
<td>$0</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
</tr>
<tr>
<td>-12</td>
<td>2023</td>
<td>$0</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
</tr>
<tr>
<td>-13</td>
<td>2024</td>
<td>$0</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
</tr>
<tr>
<td>-14</td>
<td>2025</td>
<td>$0</td>
<td>$1,441</td>
<td>$348</td>
<td>$1,341</td>
</tr>
<tr>
<td>-15</td>
<td>2026</td>
<td>$0</td>
<td>$451,762</td>
<td>$331</td>
<td>$1,512</td>
</tr>
<tr>
<td>-16</td>
<td>2027</td>
<td>$0</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
</tr>
<tr>
<td>-17</td>
<td>2028</td>
<td>$0</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
</tr>
<tr>
<td>-18</td>
<td>2029</td>
<td>$0</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
</tr>
<tr>
<td>-19</td>
<td>2030</td>
<td>$0</td>
<td>$39,219</td>
<td>$271</td>
<td>$1,238</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$0</td>
<td>$1,866,262</td>
<td>$9,074</td>
<td>$36,623</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan
### Deer Island Pass Sediment Delivery
#### Project Priority List 16

<table>
<thead>
<tr>
<th>Fully Funded Costs</th>
<th>Total Fully Funded Costs</th>
<th>$8,775,058</th>
<th>Amortized Costs</th>
<th>$711,616</th>
</tr>
</thead>
</table>

### Phase I

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land Admin</th>
<th>Federal S&amp;A</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Construction Total First Year FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2007</td>
<td>$160,653</td>
<td>$12,168</td>
<td>$18,390</td>
<td>$18,390</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$210,514</td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$281,465</td>
<td>$21,319</td>
<td>$32,219</td>
<td>$32,219</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$368,821</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>$119,740</td>
<td>$9,069</td>
<td>$13,707</td>
<td>$13,707</td>
<td>$680</td>
<td>$0</td>
<td>$0</td>
<td>$156,903</td>
</tr>
<tr>
<td>3</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>4</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**TOTAL** $561,858 $42,557 $64,316 $64,316 $3,192 $0 $0 $0 $0 $736,238

### Phase II

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land Admin</th>
<th>Federal S&amp;A</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Construction Total First Year FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$67,173</td>
<td>$67,173</td>
<td>$259</td>
<td>$0</td>
<td>$0</td>
<td>$170,678</td>
</tr>
<tr>
<td>1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>4</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**TOTAL** $0 $0 $67,173 $67,173 $259 $0 $0 $0 $0 $170,678

**Total Cost** $561,858 $42,557 $131,489 $131,489 $3,451 $0 $170,678 $671,727 $2,686,908 $4,400,158

### Yearly Monitoring Costs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$25,417</td>
<td>$3,359</td>
<td>$3,430</td>
<td>$3,502</td>
<td>$3,575</td>
<td>$1,203,485</td>
<td>$3,727</td>
<td>$3,805</td>
<td>$3,885</td>
<td>$3,967</td>
<td>$1,335,271</td>
<td>$4,105</td>
<td>$4,222</td>
<td>$4,311</td>
<td>$4,401</td>
<td>$1,481,488</td>
<td>$4,588</td>
<td>$4,684</td>
<td>$4,783</td>
<td>$170,691</td>
<td></td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$794</td>
<td></td>
<td>$811</td>
<td></td>
<td>$845</td>
<td>$978</td>
<td>$998</td>
<td>$1,019</td>
<td>$1,041</td>
<td>$1,062</td>
<td>$1,085</td>
<td>$1,107</td>
<td></td>
<td>$1,131</td>
<td></td>
<td>$5,388</td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total** $4,278,726 $19,489 $78,685
<table>
<thead>
<tr>
<th>PHASE I</th>
<th>TOTAL ESTIMATED PROJECT COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Costs</strong></td>
<td>$692,007</td>
</tr>
<tr>
<td><strong>State Costs</strong></td>
<td>$3,000</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$60,452</td>
</tr>
<tr>
<td>Corps Administration</td>
<td>$3,000</td>
</tr>
<tr>
<td>Easements and Land Rights</td>
<td>$40,000</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
</tr>
<tr>
<td>Total Phase I Cost Estimate</td>
<td>$692,007</td>
</tr>
</tbody>
</table>

* Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

<table>
<thead>
<tr>
<th>PHASE II</th>
<th>TOTAL ESTIMATED PROJECT FIRST COST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Costs</strong></td>
<td>$3,022,569</td>
</tr>
<tr>
<td>Estimated Construction Cost +25% Contingency</td>
<td>$3,022,569</td>
</tr>
<tr>
<td>Lands or Oyster leases</td>
<td>$0</td>
</tr>
<tr>
<td>Supervision and Inspectio</td>
<td>128 days 1200 per day</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$60,452</td>
</tr>
<tr>
<td><strong>State Costs</strong></td>
<td>$3,297,073</td>
</tr>
<tr>
<td>Supervision and Administration</td>
<td>$60,452</td>
</tr>
<tr>
<td><strong>Total Phase II Cost Estimate</strong></td>
<td>$3,297,073</td>
</tr>
<tr>
<td><strong>TOTAL ESTIMATED PROJECT FIRST COST</strong></td>
<td>$3,989,080</td>
</tr>
</tbody>
</table>
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>O&amp;M Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 6</th>
<th>Year 11</th>
<th>Year 16</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization/Demobilization</td>
<td>$0</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$250,000</td>
<td>$0</td>
</tr>
<tr>
<td>Maintenance Dredging (17% of initial volume at TYs 6, 11, 16; 3,810 cy/event)</td>
<td>$0</td>
<td>$209,525</td>
<td>$209,525</td>
<td>$209,525</td>
<td>$0</td>
</tr>
<tr>
<td>Containment Dikes for Marsh Creation (9,170 ft/event; 40,756 cy/event)</td>
<td>$0</td>
<td>$101,890</td>
<td>$101,890</td>
<td>$101,890</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 6</th>
<th>Year 11</th>
<th>Year 16</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$51,317</td>
<td>$51,317</td>
<td>$51,317</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$14,036</td>
<td>$14,036</td>
<td>$14,036</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$19,503</td>
<td>$98,470</td>
<td>$98,470</td>
<td>$98,470</td>
<td>$98,470</td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>October-10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan
### Project Priority List 16
#### Vermilion Bay Shoreline Protection

<table>
<thead>
<tr>
<th>Description</th>
<th>Present Worth</th>
<th>Average Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Costs</td>
<td>$5,898,051</td>
<td>$478,304</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$1,623,511</td>
<td>$131,659</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$73,165</td>
<td>$5,998</td>
</tr>
<tr>
<td>Average Annual Cost</td>
<td>$615,896</td>
<td>$615,896</td>
</tr>
</tbody>
</table>

Average Annual Habitat Units: 44
Cost Per Habitat Unit: $13,998
Total Net Acres: 132

- Project Construction Years: 1
- Total Project Years: 21
- Interest Rate: 5.125%
- Amortization Factor: 0.08110
- Fully Funded First Costs: $6,120,972
- Total Fully Funded Costs: $9,407,238
Coastal Wetlands Conservation and Restoration Plan
Vermilion Bay Shoreline Protection

Project Costs $9,407,238
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Project Year</th>
<th>E&amp;D Rights</th>
<th>Land Rights</th>
<th>Federal Admin</th>
<th>LDM &amp; State Insp</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2007</td>
<td>$118,707</td>
<td>$21,875</td>
<td>$26,527</td>
<td>$875</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$194,510</td>
<td>$194,510</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>$203,498</td>
<td>$37,500</td>
<td>$45,475</td>
<td>$1,500</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$333,447</td>
<td>$333,447</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>$84,791</td>
<td>$15,625</td>
<td>$18,948</td>
<td>$625</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$138,936</td>
<td>$138,936</td>
</tr>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$406,995</td>
<td>$75,000</td>
<td>$90,949</td>
<td>$3,000</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$666,893</td>
<td>$666,893</td>
</tr>
</tbody>
</table>

Phase II

<table>
<thead>
<tr>
<th>Project Year</th>
<th>E&amp;D Rights</th>
<th>Land Rights</th>
<th>Federal Admin</th>
<th>Corps Admin</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010</td>
<td>$90,949</td>
<td>$90,949</td>
<td>$233</td>
<td>$0</td>
<td>$140,400</td>
<td>$4,869,980</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$90,949</td>
<td>$233</td>
<td>$0</td>
<td>$4,869,980</td>
</tr>
</tbody>
</table>

**Total First Costs** $406,995 $75,000 $181,898 $181,898 $3,233 $0 $140,400 $909,490 $3,637,959 $5,536,873

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>LDM &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$1,114,120</td>
<td>$700</td>
<td>$22,441</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-4</td>
<td>2015</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-5</td>
<td>2016</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-6</td>
<td>2017</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-7</td>
<td>2018</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-8</td>
<td>2019</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-9</td>
<td>2020</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td>-10</td>
<td>2021</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-11</td>
<td>2022</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-12</td>
<td>2023</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-13</td>
<td>2024</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-14</td>
<td>2025</td>
<td>$0</td>
<td>$1,114,120</td>
<td>$700</td>
<td>$22,441</td>
</tr>
<tr>
<td>-15</td>
<td>2026</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-16</td>
<td>2027</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-17</td>
<td>2028</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-18</td>
<td>2029</td>
<td>$0</td>
<td>$2,900</td>
<td>$700</td>
<td>$2,700</td>
</tr>
<tr>
<td>-19</td>
<td>2030</td>
<td>$0</td>
<td>$12,900</td>
<td>$700</td>
<td>$3,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$0</td>
<td>$2,320,439</td>
<td>$14,000</td>
<td>$95,482</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Vermilion Bay Shoreline Protection
Project Priority List 16

<table>
<thead>
<tr>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>$7,594,728</th>
<th>Amortized Costs</th>
<th>$615,896</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Year</td>
<td>E&amp;D</td>
<td>Land Rights</td>
<td>Federal</td>
<td>LDNR</td>
</tr>
<tr>
<td>Year</td>
<td>2007</td>
<td>$144,977</td>
<td>$26,716</td>
<td>$32,397</td>
</tr>
<tr>
<td>2008</td>
<td>$236,416</td>
<td>$43,566</td>
<td>$52,831</td>
<td>$52,831</td>
</tr>
<tr>
<td>2009</td>
<td>$93,704</td>
<td>$17,268</td>
<td>$20,940</td>
<td>$20,940</td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$475,098</td>
<td>$87,550</td>
<td>$106,168</td>
<td>$106,168</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$95,610</td>
<td>$95,610</td>
</tr>
<tr>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$0</td>
<td>$95,610</td>
<td>$95,610</td>
</tr>
<tr>
<td>Total First Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>2007</td>
<td>$144,977</td>
<td>$26,716</td>
<td>$32,397</td>
</tr>
<tr>
<td>2008</td>
<td>$236,416</td>
<td>$43,566</td>
<td>$52,831</td>
<td>$52,831</td>
</tr>
<tr>
<td>2009</td>
<td>$93,704</td>
<td>$17,268</td>
<td>$20,940</td>
<td>$20,940</td>
</tr>
<tr>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$475,098</td>
<td>$87,550</td>
<td>$106,168</td>
<td>$106,168</td>
</tr>
<tr>
<td>Total</td>
<td>$475,098</td>
<td>$87,550</td>
<td>$201,778</td>
<td>$201,778</td>
</tr>
<tr>
<td>Total</td>
<td>$475,098</td>
<td>$87,550</td>
<td>$201,778</td>
<td>$201,778</td>
</tr>
</tbody>
</table>

D-63

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$12,900</td>
<td>$700</td>
<td>$3,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>$2,759</td>
<td>$666</td>
<td>$2,568</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>$1,008,137</td>
<td>$633</td>
<td>$20,306</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>$2,496</td>
<td>$603</td>
<td>$2,324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>$10,562</td>
<td>$573</td>
<td>$2,620</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>$2,259</td>
<td>$545</td>
<td>$2,103</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>$2,149</td>
<td>$519</td>
<td>$2,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>$2,044</td>
<td>$493</td>
<td>$1,903</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>$1,944</td>
<td>$469</td>
<td>$1,810</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>$8,227</td>
<td>$573</td>
<td>$2,041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>$1,759</td>
<td>$425</td>
<td>$1,638</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>$1,674</td>
<td>$404</td>
<td>$1,558</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>$1,592</td>
<td>$384</td>
<td>$1,482</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>$1,514</td>
<td>$366</td>
<td>$1,410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>$553,411</td>
<td>$348</td>
<td>$11,147</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td>$1,370</td>
<td>$331</td>
<td>$1,276</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2027</td>
<td>$1,303</td>
<td>$315</td>
<td>$1,214</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2028</td>
<td>$1,240</td>
<td>$299</td>
<td>$1,154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>$1,179</td>
<td>$285</td>
<td>$1,098</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td>$4,991</td>
<td>$271</td>
<td>$1,238</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$1,623,511</td>
<td>$9,074</td>
<td>$64,091</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Vermillion Bay Shoreline Protection

**Project Priority List 16**

**Coastal Wetlands Conservation and Restoration Plan**

**Total Fully Funded Costs**: $9,407,238

**Amortized Costs**: $762,882

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2007</td>
<td>$123,811</td>
<td>$22,816</td>
<td>$27,667</td>
<td>$27,667</td>
<td>$913</td>
<td>$0</td>
<td>$0</td>
<td>$202,874</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>$216,917</td>
<td>$39,973</td>
<td>$48,473</td>
<td>$48,473</td>
<td>$1,599</td>
<td>$0</td>
<td>$0</td>
<td>$355,436</td>
</tr>
<tr>
<td>2</td>
<td>2009</td>
<td>$92,280</td>
<td>$17,005</td>
<td>$20,621</td>
<td>$20,621</td>
<td>$680</td>
<td>$0</td>
<td>$0</td>
<td>$151,208</td>
</tr>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$433,009</td>
<td>$79,794</td>
<td>$96,762</td>
<td>$96,762</td>
<td>$3,192</td>
<td>$0</td>
<td>$0</td>
<td>$709,519</td>
</tr>
</tbody>
</table>

**Phase II**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$101,061</td>
<td>$101,061</td>
<td>$259</td>
<td>$0</td>
<td>$0</td>
<td>$1,010,612</td>
</tr>
<tr>
<td>0</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$101,061</td>
<td>$101,061</td>
<td>$259</td>
<td>$0</td>
<td>$0</td>
<td>$1,010,612</td>
</tr>
</tbody>
</table>

**Total Cost**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>S&amp;A Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$14,635</td>
<td>$794</td>
<td>$3,630</td>
<td>$3,630</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>$3,359</td>
<td>$811</td>
<td>$3,128</td>
<td>$3,128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>$1,317,637</td>
<td>$828</td>
<td>$26,540</td>
<td>$26,540</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>$3,502</td>
<td>$845</td>
<td>$3,260</td>
<td>$3,260</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4</td>
<td>$15,904</td>
<td>$863</td>
<td>$3,945</td>
<td>$3,945</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td>$3,650</td>
<td>$881</td>
<td>$3,399</td>
<td>$3,399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>$3,727</td>
<td>$900</td>
<td>$3,470</td>
<td>$3,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-7</td>
<td>$3,805</td>
<td>$919</td>
<td>$3,543</td>
<td>$3,543</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-8</td>
<td>$3,885</td>
<td>$938</td>
<td>$3,617</td>
<td>$3,617</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-9</td>
<td>$17,645</td>
<td>$958</td>
<td>$4,377</td>
<td>$4,377</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-10</td>
<td>$4,050</td>
<td>$978</td>
<td>$3,771</td>
<td>$3,771</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-11</td>
<td>$4,135</td>
<td>$998</td>
<td>$3,850</td>
<td>$3,850</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-12</td>
<td>$4,222</td>
<td>$1,019</td>
<td>$3,931</td>
<td>$3,931</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-13</td>
<td>$4,311</td>
<td>$1,041</td>
<td>$4,013</td>
<td>$4,013</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-14</td>
<td>$1,690,846</td>
<td>$1,062</td>
<td>$34,058</td>
<td>$34,058</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td>$4,494</td>
<td>$1,085</td>
<td>$4,184</td>
<td>$4,184</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-16</td>
<td>$4,588</td>
<td>$1,107</td>
<td>$4,272</td>
<td>$4,272</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-17</td>
<td>$4,684</td>
<td>$1,131</td>
<td>$4,361</td>
<td>$4,361</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-18</td>
<td>$4,783</td>
<td>$1,154</td>
<td>$4,453</td>
<td>$4,453</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-19</td>
<td>$21,722</td>
<td>$1,179</td>
<td>$5,388</td>
<td>$5,388</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>$3,135,567</td>
<td>$19,489</td>
<td>$131,190</td>
<td>$131,190</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## E&D and Construction Data

<table>
<thead>
<tr>
<th>ESTIMATED CONSTRUCTION COST</th>
<th>3,637,959</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>4,547,449</td>
</tr>
</tbody>
</table>

### TOTAL ESTIMATED PROJECT COSTS

#### PHASE I

**Federal Costs**

- **Engineering and Design**
  - Engineering: $291,995
  - Geotechnical Investigation: $75,000
  - Hydrologic Modeling: $0
  - Data Collection: $0
  - Cultural Resources: $10,000
  - HTRW: $0
  - NEPA Compliance: $30,000
- **Supervision and Administration**: $90,949

**State Costs**

- **Supervision and Administration**: $90,949
- **Ecological Review Costs**: $0
- **Easements and Land Rights**: $75,000
- **Monitoring**: $0
  - Monitoring Plan Development: $0
  - Monitoring Protocol Cost*: $0

**Total Phase I Cost Estimate**: $666,893

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.

#### PHASE II

**Federal Costs**

- **Estimated Construction Cost + 25% Contingency**: $4,547,449
- **Lands or Oyster issues**: 0 lease acres: $0
- **Supervision and Inspectio**: 117 days @ 1200 per day: $140,400
- **Supervision and Administration**: $90,949

**State Costs**

- **Supervision and Administration**: $90,949

**Total Phase II Cost Estimate**: $4,869,747

**TOTAL ESTIMATED PROJECT FIRST COST**: $5,536,640
### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$2,700</td>
<td>$2,900</td>
<td>$5,600</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

#### Construction Items

<table>
<thead>
<tr>
<th>Construction Item</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization</td>
<td>$0</td>
<td>$60,000</td>
<td>$0</td>
<td>$0</td>
<td>$60,000</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Foreshore Rock Dike (25% Replace TY3 &amp; TY15)</td>
<td>$0</td>
<td>$729,630</td>
<td>$0</td>
<td>$0</td>
<td>$729,630</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$789,630</td>
<td>$0</td>
<td>$0</td>
<td>$789,630</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>$0</td>
<td>$789,630</td>
<td>$0</td>
<td>$0</td>
<td>$789,630</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

#### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$7 days</td>
<td>$2,464</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>$54 days</td>
<td>$1,200</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Subtotal:</td>
<td>$10,000</td>
<td>$124,182</td>
<td>$0</td>
<td>$10,000</td>
<td>$0</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Federal S&amp;A</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>$10,500</td>
<td>$130,501</td>
<td>$0</td>
<td>$10,500</td>
<td>$0</td>
<td>$10,500</td>
<td></td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>March-07</td>
<td>7</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>March-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>July-10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan  
Project Priority List 16  
Southwest LA Gulf Shoreline Nourishment and Protection

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worth</td>
<td>Annual</td>
</tr>
<tr>
<td>First Costs</td>
<td>$15,856,248</td>
<td>$1,285,866</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$358,629</td>
<td>$29,083</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$9,239,461</td>
<td>$749,276</td>
</tr>
<tr>
<td></td>
<td>$2,064,226</td>
<td>$2,064,226</td>
</tr>
</tbody>
</table>

Average Annual Habitat Units 311

Cost Per Habitat Unit $6,837

Total Net Acres 888
Coastal Wetlands Conservation and Restoration Plan
Southwest LA Gulf Shoreline Nourishment and Protection

**Project Costs** $36,922,487

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land &amp; Permits</th>
<th>LDNR Admin</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;A &amp; Insp</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2007</td>
<td>$261,250</td>
<td>$23,300</td>
<td>$66,667</td>
<td>$46,000</td>
<td>$1,000</td>
<td>-</td>
<td>$0</td>
<td>$398,217</td>
</tr>
<tr>
<td>2</td>
<td>2008</td>
<td>$447,857</td>
<td>$39,943</td>
<td>$114,286</td>
<td>$78,857</td>
<td>$1,714</td>
<td>-</td>
<td>$0</td>
<td>$682,657</td>
</tr>
<tr>
<td>1</td>
<td>2009</td>
<td>$74,643</td>
<td>$6,657</td>
<td>$19,048</td>
<td>$13,143</td>
<td>$286</td>
<td>-</td>
<td>$0</td>
<td>$113,776</td>
</tr>
<tr>
<td>0</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$783,750</td>
<td>$69,900</td>
<td>$200,000</td>
<td>$138,000</td>
<td>$3,000</td>
<td>-</td>
<td>$0</td>
<td>$1,194,650</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2009</td>
<td>$0</td>
<td>$49,000</td>
<td>$200,000</td>
<td>$138,000</td>
<td>$233</td>
<td>$0</td>
<td>$272,000</td>
<td>$2,630,500</td>
</tr>
<tr>
<td>0</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$49,000</td>
<td>$200,000</td>
<td>$138,000</td>
<td>$233</td>
<td>$0</td>
<td>$272,000</td>
<td>$2,630,500</td>
</tr>
</tbody>
</table>

**Total First Costs** $783,750 $118,900 $400,000 $276,000 $3,233 $0 $272,000 $2,630,500 $10,522,000 $13,811,733

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>&amp;M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-1</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-2</td>
<td></td>
<td>$0</td>
<td>$50,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-3</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-4</td>
<td></td>
<td>$0</td>
<td>$80,650</td>
<td>$700</td>
<td>$4,315,880</td>
</tr>
<tr>
<td>-5</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-6</td>
<td></td>
<td>$0</td>
<td>$50,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-7</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-8</td>
<td></td>
<td>$0</td>
<td>$62,525</td>
<td>$700</td>
<td>$3,391,505</td>
</tr>
<tr>
<td>-9</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-10</td>
<td></td>
<td>$0</td>
<td>$50,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-11</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-12</td>
<td></td>
<td>$0</td>
<td>$62,525</td>
<td>$700</td>
<td>$3,391,505</td>
</tr>
<tr>
<td>-13</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-14</td>
<td></td>
<td>$0</td>
<td>$50,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-15</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-16</td>
<td></td>
<td>$0</td>
<td>$62,525</td>
<td>$700</td>
<td>$3,391,505</td>
</tr>
<tr>
<td>-17</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-18</td>
<td></td>
<td>$0</td>
<td>$3,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>-19</td>
<td></td>
<td>$0</td>
<td>$50,900</td>
<td>$700</td>
<td>$3,500</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$565,625</td>
<td>$14,000</td>
<td>$14,546,395</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Southwest LA Gulf Shoreline Nourishment and Protection
Project Priority List 16

<table>
<thead>
<tr>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>$25,454,339</th>
<th>Amortized Costs</th>
<th>$2,064,226</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fiscal</th>
<th>Year</th>
<th>E&amp;D Rights</th>
<th>State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
<th>Corps</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.162</td>
<td>2007</td>
<td>$303,511</td>
<td>$27,069</td>
<td>$77,451</td>
<td>$53,441</td>
<td>$1,162</td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td>2008</td>
<td>$494,539</td>
<td>$44,142</td>
<td>$126,300</td>
<td>$87,147</td>
<td>$1,895</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2009</td>
<td>$76,468</td>
<td>$6,998</td>
<td>$20,024</td>
<td>$13,816</td>
<td>$300</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$876,918</td>
<td>$78,209</td>
<td>$223,775</td>
<td>$154,405</td>
<td>$3,357</td>
</tr>
<tr>
<td>Phase II</td>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2009</td>
<td>$0</td>
<td>$51,511</td>
<td>$210,250</td>
<td>$145,073</td>
<td>$245</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$0</td>
<td>$51,511</td>
<td>$210,250</td>
<td>$145,073</td>
<td>$245</td>
</tr>
<tr>
<td>Total First Cost</td>
<td></td>
<td></td>
<td>$876,918</td>
<td>$129,721</td>
<td>$434,025</td>
<td>$299,477</td>
<td>$3,602</td>
</tr>
</tbody>
</table>

Year FY Monitoring &M & State Ins Corps Admin Fed S&A & Insp
0 1.000 2010 $0 $3,900 $700 $3,500
-1 0.951 2011 $0 $3,710 $666 $3,329
-2 0.905 2012 $0 $46,058 $633 $3,167
-3 0.861 2013 $0 $3,357 $603 $3,013
-4 0.819 2014 $0 $66,036 $573 $3,533,827
-5 0.779 2015 $0 $3,038 $545 $2,726
-6 0.741 2016 $0 $37,712 $519 $2,593
-7 0.705 2017 $0 $2,749 $493 $2,487
-8 0.670 2018 $0 $41,918 $469 $2,273,759
-9 0.638 2019 $0 $2,487 $446 $2,232
-10 0.607 2020 $0 $30,879 $425 $2,123
-11 0.577 2021 $0 $2,251 $404 $2,020
-12 0.549 2022 $0 $34,323 $384 $1,861,746
-13 0.522 2023 $0 $2,037 $366 $1,828
-14 0.497 2024 $0 $25,283 $348 $1,739
-15 0.473 2025 $0 $1,843 $331 $1,654
-16 0.449 2026 $0 $28,103 $315 $1,524,391
-17 0.428 2027 $0 $1,667 $299 $1,496
-18 0.407 2028 $0 $1,586 $285 $1,424
-19 0.387 2029 $0 $19,693 $271 $1,354

Total $0 $358,629 $9,074 $9,230,387
## Coastal Wetlands Conservation and Restoration Plan
### Southwest LA Gulf Shoreline Nourishment and Protection
#### Project Priority List 16

<table>
<thead>
<tr>
<th>Year</th>
<th>Fully Funded Costs</th>
<th>Total Fully Funded Costs</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Construction</th>
<th>Total First Year Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.043</td>
<td>2007</td>
<td>$272,484</td>
<td>$24,302</td>
<td>$69,533</td>
<td>$47,978</td>
<td>$1,043</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>1.066</td>
<td>2008</td>
<td>$477,392</td>
<td>$42,577</td>
<td>$121,822</td>
<td>$84,057</td>
<td>$1,827</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.088</td>
<td>2009</td>
<td>$81,236</td>
<td>$7,245</td>
<td>$20,730</td>
<td>$14,304</td>
<td>$311</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.111</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.135</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$831,111</td>
<td>$74,124</td>
<td>$212,086</td>
<td>$146,339</td>
<td>$3,181</td>
<td>$0</td>
</tr>
</tbody>
</table>

| Phase II |                   |                          |      |         |      |       |             |                      |
| 1    | 1.088              | 2009                     | $0      | $53,328 | $217,666 | $150,190 | $254   | $0 | $296,026 | $2,862,854 | $11,451,417 | $15,031,736 |
| 0    | 1.111              | 2010                     | $0      | $0      | $0      | $0      | $0     | $0 | $0 | $0 | $0 | $0 |
| -1   | 1.135              | 2011                     | $0      | $0      | $0      | $0      | $0     | $0 | $0 | $0 | $0 | $0 |
| -2   | 1.158              | 2012                     | $0      | $0      | $0      | $0      | $0     | $0 | $0 | $0 | $0 | $0 |
| -3   | 1.183              | 2013                     | $0      | $0      | $0      | $0      | $0     | $0 | $0 | $0 | $0 | $0 |
| TOTAL |                   |                          | $0      | $53,328 | $217,666 | $150,190 | $254   | $0 | $296,026 | $2,862,854 | $11,451,417 | $15,031,736 |

Total Cost: $831,111 $127,452 $429,752 $296,529 $3,435 $0 $296,026 $2,862,854 $11,451,417 $16,298,577

<table>
<thead>
<tr>
<th>Year</th>
<th>FY Monitoring</th>
<th>&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.1112</td>
<td>2010</td>
<td>$0</td>
<td>$4,334</td>
</tr>
<tr>
<td>-1</td>
<td>1.1345</td>
<td>2011</td>
<td>$0</td>
<td>$4,425</td>
</tr>
<tr>
<td>-2</td>
<td>1.1583</td>
<td>2012</td>
<td>$0</td>
<td>$5,980</td>
</tr>
<tr>
<td>-3</td>
<td>1.1827</td>
<td>2013</td>
<td>$0</td>
<td>$4,612</td>
</tr>
<tr>
<td>-4</td>
<td>1.2075</td>
<td>2014</td>
<td>$0</td>
<td>$97,385</td>
</tr>
<tr>
<td>-5</td>
<td>1.2329</td>
<td>2015</td>
<td>$0</td>
<td>$4,808</td>
</tr>
<tr>
<td>-6</td>
<td>1.2588</td>
<td>2016</td>
<td>$0</td>
<td>$64,071</td>
</tr>
<tr>
<td>-7</td>
<td>1.2852</td>
<td>2017</td>
<td>$0</td>
<td>$5,012</td>
</tr>
<tr>
<td>-8</td>
<td>1.3122</td>
<td>2018</td>
<td>$0</td>
<td>$82,044</td>
</tr>
<tr>
<td>-9</td>
<td>1.3397</td>
<td>2019</td>
<td>$0</td>
<td>$5,225</td>
</tr>
<tr>
<td>-10</td>
<td>1.3679</td>
<td>2020</td>
<td>$0</td>
<td>$69,624</td>
</tr>
<tr>
<td>-11</td>
<td>1.3966</td>
<td>2021</td>
<td>$0</td>
<td>$5,447</td>
</tr>
<tr>
<td>-12</td>
<td>1.4259</td>
<td>2022</td>
<td>$0</td>
<td>$59,156</td>
</tr>
<tr>
<td>-13</td>
<td>1.4559</td>
<td>2023</td>
<td>$0</td>
<td>$5,678</td>
</tr>
<tr>
<td>-14</td>
<td>1.4864</td>
<td>2024</td>
<td>$0</td>
<td>$75,660</td>
</tr>
<tr>
<td>-15</td>
<td>1.5177</td>
<td>2025</td>
<td>$0</td>
<td>$5,919</td>
</tr>
<tr>
<td>-16</td>
<td>1.5495</td>
<td>2026</td>
<td>$0</td>
<td>$96,884</td>
</tr>
<tr>
<td>-17</td>
<td>1.5821</td>
<td>2027</td>
<td>$0</td>
<td>$6,170</td>
</tr>
<tr>
<td>-18</td>
<td>1.6153</td>
<td>2028</td>
<td>$0</td>
<td>$6,300</td>
</tr>
<tr>
<td>-19</td>
<td>1.6492</td>
<td>2029</td>
<td>$0</td>
<td>$83,945</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$775,858</td>
<td>$19,089</td>
<td>$19,829,163</td>
</tr>
</tbody>
</table>
**E&D and Construction Data**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED CONSTRUCTION COST</td>
<td>$10,522,000</td>
</tr>
<tr>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>$13,152,500</td>
</tr>
</tbody>
</table>

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**
- **Engineering and Design**
  - Engineering: $306,250
  - Geotechnical Investigation: $100,000
  - Hydrologic Modeling: $120,000
  - Data Collection: $187,500
  - Cultural Resources: $20,000
  - HTRW: $0
  - NEPA Compliance: $50,000
- **Supervision and Administration**: $200,000
- **Corps Administration**: $3,000

**State Costs**
- **Supervision and Administration**: $138,000
- **Ecological Review Costs**: $0
- **Easements and Land Rights**: $0
- **Monitoring**: $0

**Total Phase I Cost Estimate**: $1,194,650

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

**PHASE II**

**Federal Costs**
- **Estimated Construction Cost + 25% Contingency**: $13,152,500
- **Lands or Oyster leases**: 0 lease acres, $49,000
- **Supervision and I**: 160 days @ 1700 per day, $272,000
- **Supervision and Administration**: $200,000

**State Costs**
- **Supervision and Administration**: $138,000

**Total Phase II Cost Estimate**: $13,811,500

**TOTAL ESTIMATED PROJECT FIRST COST**: $15,006,150
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$3,500</td>
<td>$3,000</td>
<td>$6,500</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

## Specific Intermittent Costs:

### Construction Items

<table>
<thead>
<tr>
<th></th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 7</th>
<th>Year 9</th>
<th>Year 11</th>
<th>Year 13</th>
<th>Year 15</th>
<th>Year 17</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization and Demobilization</td>
<td>$0</td>
<td>$800,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$0</td>
<td>$75,000</td>
<td>$0</td>
</tr>
<tr>
<td>Dredging ($2.00/cy unit cost)</td>
<td>$0</td>
<td>$2,270,000</td>
<td>$0</td>
<td>$2,270,000</td>
<td>$0</td>
<td>$2,270,000</td>
<td>$0</td>
<td>$2,270,000</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$0</td>
<td>$3,070,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
<td>$2,345,000</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$0</td>
<td>$3,837,500</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
<td>$2,931,250</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 7</th>
<th>Year 9</th>
<th>Year 11</th>
<th>Year 13</th>
<th>Year 15</th>
<th>Year 17</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$76,750</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$76,750</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
</tr>
<tr>
<td>0 days @ $3,230/day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0 days @ $1,200/day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
<td>$47,000</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$47,000</td>
<td>$124,750</td>
<td>$47,000</td>
<td>$116,625</td>
<td>$47,000</td>
<td>$116,625</td>
<td>$47,000</td>
<td>$116,625</td>
<td>$47,000</td>
</tr>
<tr>
<td>Federal S&amp;A</td>
<td>$0</td>
<td>$76,750</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
<td>$58,625</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$145,000</td>
<td>$0</td>
<td>$145,000</td>
<td>$0</td>
<td>$145,000</td>
<td>$0</td>
<td>$145,000</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$0</td>
<td>$100,130</td>
<td>$0</td>
<td>$100,130</td>
<td>$0</td>
<td>$100,130</td>
<td>$0</td>
<td>$100,130</td>
<td>$0</td>
</tr>
<tr>
<td>Construction Inspection</td>
<td>$0</td>
<td>$153,000</td>
<td>$0</td>
<td>$153,000</td>
<td>$0</td>
<td>$153,000</td>
<td>$0</td>
<td>$153,000</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$47,000</td>
<td>$4,389,130</td>
<td>$47,000</td>
<td>$3,446,630</td>
<td>$47,000</td>
<td>$3,446,630</td>
<td>$47,000</td>
<td>$3,446,630</td>
<td>$47,000</td>
</tr>
</tbody>
</table>

### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Corps Administration</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$700</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design St-March-07</td>
<td>7</td>
<td>12</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Plan &amp; Design End December-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>October-09</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

O&M Data
Coastal Wetlands Conservation and Restoration Plan
Project Priority List 16
Enhancement of Barrier Island Vegetation Demo

<table>
<thead>
<tr>
<th></th>
<th>Present</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worth</td>
<td>Annual</td>
</tr>
<tr>
<td>First Costs</td>
<td>$736,395</td>
<td>$59,718</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$164,515</td>
<td>$13,341</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$1,366</td>
<td>$111</td>
</tr>
<tr>
<td><strong>Total Charges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average Annual Cost</strong></td>
<td>$73,170</td>
<td>$73,170</td>
</tr>
<tr>
<td>Average Annual Habitat Units</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Cost Per Habitat Unit</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Total Net Acres</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan
### Enhancement of Barrier Island Vegetation Demo

#### Project Priority List 16

**Project Costs**: $919,599

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Fiscal Year</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I Contingency</th>
<th>Construction Total</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>2007</td>
<td>$140,583</td>
<td>$14,583</td>
<td>$14,583</td>
<td>$1,750</td>
<td>$2,917</td>
<td>-</td>
<td>$0</td>
<td>$189,000</td>
</tr>
<tr>
<td>Year 2</td>
<td>2008</td>
<td>$100,417</td>
<td>$10,417</td>
<td>$10,417</td>
<td>$1,250</td>
<td>$2,883</td>
<td>-</td>
<td>$0</td>
<td>$135,000</td>
</tr>
</tbody>
</table>

| Year 3  | 2009        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |
| Year 4  | 2010        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |
| Year 5  | 2011        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |

**Phase II**

| Year 1  | 2008        | $0          | $0       | $25,000   | $58         | $0         | $51,000         | $53,150            | $212,600          |
| Year 2  | 2009        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |
| Year 3  | 2010        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |
| Year 4  | 2011        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |
| Year 5  | 2012        | $0          | $0       | $0        | $0          | $0         | -               | $0                 | $0               |

**Total First Costs**: $241,000

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Discount</th>
<th>Monitoring</th>
<th>Corps Admin</th>
<th>Fed S&amp;I &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$77,000</td>
<td>$700</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$92,000</td>
<td>$700</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

| Total | $0   | $169,000 | $1,400    | $0          |
Coastal Wetlands Conservation and Restoration Plan
Enhancement of Barrier Island Vegetation Demo
Project Priority List 16

<table>
<thead>
<tr>
<th>Present Valued Costs</th>
<th>Total Discounted Costs</th>
<th>$902,276</th>
<th>Amortized Costs</th>
<th>$73,170</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal Year</td>
<td>E&amp;D Rights</td>
<td>Federal</td>
<td>LDNR Corps</td>
<td>Admin</td>
</tr>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td>2007</td>
<td>$155,362</td>
<td>$16,116</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2008</td>
<td>$105,563</td>
<td>$10,951</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$260,925</td>
<td>$27,067</td>
<td>$27,067</td>
<td>$27,067</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2008</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td>$26,281</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>O&amp;M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$77,000</td>
<td>$700</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$87,515</td>
<td>$666</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>0.819</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>0.779</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>0.741</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>0.706</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>0.670</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>0.638</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>0.607</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>0.577</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>0.549</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>0.522</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>0.497</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>0.473</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>0.449</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>0.428</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>0.407</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>0.387</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$0</td>
<td>$164,515</td>
<td>$1,366</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan

**Enhancement of Barrier Island Vegetation Demo**

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Construction Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Year</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.043</td>
<td>$146,628</td>
<td>$15,210</td>
<td>$15,210</td>
<td>$1,825</td>
<td>$3,042</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>1.066</td>
<td>$107,039</td>
<td>$11,104</td>
<td>$11,104</td>
<td>$1,332</td>
<td>$2,221</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>1.088</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.111</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>1.135</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$253,667</td>
<td>$26,314</td>
<td>$26,314</td>
<td>$62</td>
<td>$5,263</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Phase II**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>S&amp;A</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Construction Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.066</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$62</td>
<td>$0</td>
<td>$54,363</td>
<td>$56,655</td>
</tr>
<tr>
<td>0</td>
<td>1.088</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>1.111</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>1.135</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>1.158</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$62</td>
<td>$0</td>
<td>$54,363</td>
<td>$56,655</td>
</tr>
</tbody>
</table>

**Total Cost**

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>M &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$63,801</td>
<td>$762</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$102,229</td>
<td>$778</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$186,031</td>
<td>$1,540</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Fully Funded Costs**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Fully Funded Costs</th>
<th>Amortized Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$919,599</td>
<td>$74,575</td>
</tr>
</tbody>
</table>

**D-76**
## E&D and Construction Data

<table>
<thead>
<tr>
<th></th>
<th>ESTIMATED CONSTRUCTION COST</th>
<th>212,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Estimated Project Costs</td>
<td>ESTIMATED CONSTRUCTION + 25% CONTINGENCY</td>
<td>265,750</td>
</tr>
</tbody>
</table>

### PHASE I

#### Federal Costs

- **Engineering and Design:** $241,000
  - Engineering: $115,000
  - Geotechnical Investigation: $0
  - Sampling/analysis: $25,000
  - Data Collection: $36,000
  - Cultural Resources: $0
  - Monitoring Plan Development: $25,000
  - NEPA Compliance: $30,000

- **Supervision and Administration:** $25,000
- **Corps Administration:** $3,000

#### State Costs

- **Supervision and Administration:** $25,000
- **Ecological Review Costs:** $0
- **Easements and Land Rights:** $25,000
- **Monitoring:** $5,000
  - Monitoring Plan Development: $5,000
  - Monitoring Protocol Cost: $0

**Total Phase I Cost Estimate:** $324,000

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

### PHASE II

#### Federal Costs

- **Estimated Construction Cost + 25% Contingency:** $265,750
  - Lands or Oyster leases: $0
  - Supervision and Inspections: 30 days @ $1,700 per day: $51,000
  - Supervision and Administration: $25,000

#### State Costs

- **Supervision and Administration:** $25,000

**Total Phase II Cost Estimate:** $366,750

**TOTAL ESTIMATED PROJECT FIRST COST:** $690,750
### O&M Data

#### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

#### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Subtotal

<table>
<thead>
<tr>
<th></th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Subtotal

<table>
<thead>
<tr>
<th></th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Federal S&A

<table>
<thead>
<tr>
<th></th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal S&amp;A</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Total

<table>
<thead>
<tr>
<th></th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$77,000</td>
<td>$92,000</td>
</tr>
</tbody>
</table>

#### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>July-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>August-08</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Conservation and Restoration Plan

### Project Priority List 16

**Nourishment of Permanently Flooded Cypress Swamps**

<table>
<thead>
<tr>
<th>Description</th>
<th>Present Total Charges</th>
<th>Average Annual Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Construction Years: 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Project Years: 21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Rate: 5.125%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amortization Factor: 0.08110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully Funded First Costs: $1,198,729</td>
<td></td>
<td>Total Fully Funded Costs: $1,474,785</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Charges</th>
<th>Worth</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$1,191,934</td>
<td>$96,660</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$250,000</td>
<td>$20,274</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$3,175</td>
<td>$257</td>
</tr>
</tbody>
</table>

| Average Annual Cost            | $117,192    |             |

| Average Annual Habitat Units   | 0           |             |
| Cost Per Habitat Unit          | $0          |             |
| Total Net Acres                | 0           |             |
### Coastal Wetlands Conservation and Restoration Plan

**Nourishment of Permanently Flooded Cypress Swamps**

**Project Costs** $1,474,785

#### Project Priority List 16

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D</th>
<th>Land Rights</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Construction</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>2</td>
<td>2007</td>
<td>$78,791</td>
<td>$14,583</td>
<td>$14,583</td>
<td>$1,750</td>
<td>$2,917</td>
<td>-</td>
<td>0</td>
<td>$127,208</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2008</td>
<td>$56,280</td>
<td>$10,417</td>
<td>$10,417</td>
<td>$1,250</td>
<td>$2,083</td>
<td>-</td>
<td>0</td>
<td>$90,863</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>$135,071</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$3,000</td>
<td>$5,000</td>
<td>$0</td>
<td>$0</td>
<td>$218,071</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Phase II | 1 | 2008 | - | $0 | $25,000 | $25,000 | $117 | - | $0 | $72,000 | $157,424 | $629,695 | $909,235 |
| -1 | 2010 | - | $0 | $0 | $0 | $0 | - | 0 | $0 | $0 | $0 | $0 |
| -2 | 2011 | - | $0 | $0 | $0 | $0 | - | 0 | $0 | $0 | $0 | $0 |
| -3 | 2012 | - | $0 | $0 | $0 | $0 | - | 0 | $0 | $0 | $0 | $0 |
| TOTAL |      |     | $0 | $0 | $25,000 | $25,000 | $117 | - | $0 | $72,000 | $157,424 | $629,695 | $909,235 |

#### Total First Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>Corps Admin</th>
<th>Fed S&amp;I &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Discount</td>
<td>2009</td>
<td>$0</td>
<td>$250,000</td>
<td>$700</td>
</tr>
<tr>
<td>-1 Discount</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$700</td>
</tr>
<tr>
<td>-2 Discount</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$700</td>
</tr>
<tr>
<td>-3 Discount</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$700</td>
</tr>
<tr>
<td>-4 Discount</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$700</td>
</tr>
<tr>
<td>-5 Discount</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6 Discount</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7 Discount</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8 Discount</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9 Discount</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10 Discount</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11 Discount</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12 Discount</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13 Discount</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14 Discount</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15 Discount</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16 Discount</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17 Discount</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18 Discount</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19 Discount</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$250,000</td>
<td>$3,500</td>
</tr>
</tbody>
</table>

D-80
Coastal Wetlands Conservation and Restoration Plan
Nourishment of Permanently Flooded Cypress Swamps
Project Priority List 16

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal Land</th>
<th>LDNR Corps</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Costs</th>
<th>Total First</th>
<th>Present Valued Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,445,109</td>
</tr>
<tr>
<td>2</td>
<td>1.105</td>
<td>2007</td>
<td>$87,074</td>
<td>$16,116</td>
<td>$16,116</td>
<td>$1,934</td>
<td>$3,223</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$140,581</td>
</tr>
<tr>
<td>1</td>
<td>1.051</td>
<td>2008</td>
<td>$59,164</td>
<td>$10,951</td>
<td>$10,951</td>
<td>$1,314</td>
<td>$2,190</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$95,520</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$146,238</td>
<td>$27,067</td>
</tr>
</tbody>
</table>

Phase II

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal Land</th>
<th>LDNR Corps</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;A</th>
<th>S&amp;A</th>
<th>Contingency</th>
<th>Costs</th>
<th>Total First</th>
<th>Present Valued Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.051</td>
<td>2008</td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td>$123</td>
<td>$0</td>
<td>$0</td>
<td>$75,690</td>
<td>$661,967</td>
<td>$955,834</td>
</tr>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$26,281</td>
<td>$26,281</td>
</tr>
</tbody>
</table>

Total First Cost

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.000</td>
<td>2009</td>
<td>$0</td>
<td>$250,000</td>
</tr>
<tr>
<td>-1</td>
<td>0.951</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>0.905</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>0.861</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>0.819</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>0.779</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>0.741</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>0.706</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>0.670</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>0.638</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>0.607</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>0.577</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>0.549</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>0.522</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>0.497</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>0.473</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>0.449</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>0.428</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>0.407</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>0.387</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$0</td>
<td>$250,000</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Nourishment of Permanently Flooded Cypress Swamps
Project Priority List 16

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Year</th>
<th>E&amp;D Rights</th>
<th>Federal</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>2</td>
<td>2007</td>
<td>1.043</td>
<td>$82,179</td>
<td>$15,210</td>
<td>$15,210</td>
<td>$1,825</td>
<td>$3,042</td>
<td>$132,678</td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td>2008</td>
<td>1.066</td>
<td>$59,991</td>
<td>$11,104</td>
<td>$11,104</td>
<td>$1,332</td>
<td>$2,221</td>
<td>$96,855</td>
</tr>
<tr>
<td>I</td>
<td>0</td>
<td>2009</td>
<td>1.088</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>I</td>
<td>-1</td>
<td>2010</td>
<td>1.111</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>I</td>
<td>-2</td>
<td>2011</td>
<td>1.135</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>I</td>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>I</td>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
<tr>
<td>II</td>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$124</td>
<td>$0</td>
<td>$229,533</td>
</tr>
</tbody>
</table>

Total: $1,474,785
Amortized Costs: $119,598

Year | FY | Monitoring | J&M & State Insp | Corps Admin | Fed S&A & Insp |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$272,083</td>
<td>$762</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$778</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$794</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$811</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$828</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

Total: $272,083
### E&D and Construction Data

**ESTIMATED CONSTRUCTION COST** 629,695

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY** 787,119

**TOTAL ESTIMATED PROJECT COSTS**

#### PHASE I

**Federal Costs**

- **Engineering and Design** $135,071
  - Engineering $57,071
  - Geotechnical Investigation $55,000
  - Hydrologic Modeling $0
  - Data Collection $23,000
  - Cultural Resources $0
  - HTRW $0
  - NEPA Compliance $0

- **Supervision and Administration** $25,000

**State Costs**

- **Supervision and Administration** $25,000

**Total Phase I Cost Estimate** $218,071

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

#### PHASE II

**Federal Costs**

- **Estimated Construction Cost + 25% Contingency** $787,119
  - Lands or Oyster leases $0
  - Supervision and Inspectio 60 days @ 1200 per day $72,000

- **Supervision and Administration** $25,000

**State Costs**

- **Supervision and Administration** $25,000

**Total Phase II Cost Estimate** $909,119

**TOTAL ESTIMATED PROJECT FIRST COST** 1,127,190
## O&M Data

### Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td></td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

<table>
<thead>
<tr>
<th>Construction Item</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Construction Items</th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Engineer, Design & Administrative Costs

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Survey</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$250,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Federal S&A

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Total

|                      | $250,000 | $0 | $0 | $0 | $0 |

### Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-08</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-08</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Const. End</td>
<td>August-08</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan  
Project Priority List 16  
Sediment Containment System for Marsh Creation Demo

<table>
<thead>
<tr>
<th>Project Construction Years:</th>
<th>1</th>
<th>Total Project Years</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>5.125%</td>
<td>Amortization Factor</td>
<td>0.08110</td>
</tr>
<tr>
<td>Fully Funded First Costs</td>
<td>$1,063,985</td>
<td>Total Fully Funded Costs</td>
<td>$1,132,576</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Charges</th>
<th>Present Worth</th>
<th>Average Annual Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Costs</td>
<td>$1,062,206</td>
<td>$86,140</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>State O &amp; M Costs</td>
<td>$53,299</td>
<td>$4,322</td>
</tr>
<tr>
<td>Other Federal Costs</td>
<td>$2,678</td>
<td>$217</td>
</tr>
</tbody>
</table>

Average Annual Cost: $90,679

Average Annual Habitat Units: 0

Cost Per Habitat Unit: $0

Total Net Acres: 0
## Coastal Wetlands Conservation and Restoration Plan

### Sediment Containment System for Marsh Creation Demo

**Project Costs**

$1,132,576

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>Land E&amp;D Rights</th>
<th>Federal S&amp;A</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Construction Costs</th>
<th>Total First Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2007</td>
<td>$120,055</td>
<td>$14,583</td>
<td>$14,583</td>
<td>$14,583</td>
<td>$1,750</td>
<td>-</td>
<td>$0</td>
<td>$168,472</td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$85,754</td>
<td>$10,417</td>
<td>$10,417</td>
<td>$10,417</td>
<td>$1,250</td>
<td>-</td>
<td>$0</td>
<td>$120,337</td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$205,809</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$233</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>Land E&amp;D Rights</th>
<th>Federal S&amp;A</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring S&amp;A</th>
<th>S&amp;I Contingency</th>
<th>Construction Costs</th>
<th>Total First Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>-</td>
<td>$0</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$233</td>
<td>$0</td>
<td>$42,000</td>
<td>$124,149</td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>-</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$25,000</td>
<td>$25,000</td>
<td>$233</td>
<td>$0</td>
<td>$42,000</td>
<td>$124,149</td>
</tr>
</tbody>
</table>

**Total First Costs**

$205,809 | $25,000 | $50,000 | $50,000 | $3,233 | $50,000 | $233 | $0 | $42,000 | $124,149 | $496,596 | $1,001,787

### D-86

<table>
<thead>
<tr>
<th>Year</th>
<th>FY Monitoring</th>
<th>&amp; M &amp; State Insp</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Discount</td>
<td>2009</td>
<td>$0</td>
<td>$5,751</td>
<td>$700</td>
</tr>
<tr>
<td>-1 Discount</td>
<td>2010</td>
<td>$0</td>
<td>$5,751</td>
<td>$700</td>
</tr>
<tr>
<td>-2 Discount</td>
<td>2011</td>
<td>$0</td>
<td>$46,501</td>
<td>$700</td>
</tr>
<tr>
<td>-3 Discount</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4 Discount</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5 Discount</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6 Discount</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7 Discount</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8 Discount</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9 Discount</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10 Discount</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11 Discount</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12 Discount</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13 Discount</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14 Discount</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15 Discount</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16 Discount</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17 Discount</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18 Discount</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19 Discount</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$58,003</td>
<td>$2,100</td>
<td>$750</td>
</tr>
</tbody>
</table>
### Coastal Wetlands Conservation and Restoration Plan
#### Sediment Containment System for Marsh Creation Demo

**Project Priority List 16**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
<th>Costs</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2007</td>
<td>$132,676</td>
<td>$16,116</td>
<td>$16,116</td>
<td>$16,116</td>
<td>$1,934</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$186,183</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$90,149</td>
<td>$10,951</td>
<td>$10,951</td>
<td>$10,951</td>
<td>$1,314</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$126,504</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$222,825</td>
<td>$27,067</td>
<td>$27,067</td>
<td>$27,067</td>
<td>$3,493</td>
<td>$5,413</td>
<td>$0</td>
<td>$0</td>
<td>$312,687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td>$26,281</td>
<td>$245</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td>$26,281</td>
<td>$245</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$26,281</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total First Cost</td>
<td></td>
<td>$222,825</td>
<td>$27,067</td>
<td>$53,348</td>
<td>$53,348</td>
<td>$3,493</td>
<td>$5,413</td>
<td>$0</td>
<td>$0</td>
<td>$522,047</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Present Valued Costs**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Land</th>
<th>Federal</th>
<th>LDNR</th>
<th>Corps</th>
<th>Admin</th>
<th>Monitoring</th>
<th>S&amp;I</th>
<th>Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>2</td>
<td>2007</td>
<td>$132,676</td>
<td>$16,116</td>
<td>$16,116</td>
<td>$1,934</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$186,183</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$90,149</td>
<td>$10,951</td>
<td>$10,951</td>
<td>$1,314</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$126,504</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$222,825</td>
<td>$27,067</td>
<td>$27,067</td>
<td>$3,493</td>
<td>$5,413</td>
<td>$0</td>
<td>$0</td>
<td>$312,687</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Amortized Costs**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>J&amp;M &amp; State Inspect</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Inspector</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$5,751</td>
<td>$700</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$5,471</td>
<td>$666</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$42,078</td>
<td>$633</td>
<td>$679</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$53,299</td>
<td>$1,999</td>
<td>$679</td>
</tr>
</tbody>
</table>
Coastal Wetlands Conservation and Restoration Plan
Sediment Containment System for Marsh Creation Demo
Project Priority List 16

Fully Funded Costs: $1,132,576
Amortized Costs: $91,847

<table>
<thead>
<tr>
<th>Year</th>
<th>Fiscal Year</th>
<th>E&amp;D Rights</th>
<th>Federal</th>
<th>LDNR S&amp;A</th>
<th>Corps Admin</th>
<th>Monitoring</th>
<th>S&amp;I Contingency</th>
<th>Total First Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2007</td>
<td>$125,218</td>
<td>$15,210</td>
<td>$15,210</td>
<td>$1,825</td>
<td>$3,042</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$91,409</td>
<td>$11,104</td>
<td>$11,104</td>
<td>$1,332</td>
<td>$2,221</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$216,626</td>
<td>$26,314</td>
<td>$26,314</td>
<td>$3,158</td>
<td>$5,263</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2008</td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$249</td>
<td>$0</td>
<td>$44,770</td>
</tr>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$0</td>
<td>$0</td>
<td>$26,649</td>
<td>$26,649</td>
<td>$249</td>
<td>$0</td>
<td>$44,770</td>
</tr>
<tr>
<td>Total Cost</td>
<td></td>
<td>$216,626</td>
<td>$26,314</td>
<td>$52,963</td>
<td>$52,963</td>
<td>$3,406</td>
<td>$5,263</td>
<td>$44,770</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>FY</th>
<th>Monitoring</th>
<th>Fed &amp; State Ins</th>
<th>Corps Admin</th>
<th>Fed S&amp;A &amp; Insp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2009</td>
<td>$0</td>
<td>$6,259</td>
<td>$762</td>
<td>$0</td>
</tr>
<tr>
<td>-1</td>
<td>2010</td>
<td>$0</td>
<td>$6,390</td>
<td>$778</td>
<td>$0</td>
</tr>
<tr>
<td>-2</td>
<td>2011</td>
<td>$0</td>
<td>$52,756</td>
<td>$794</td>
<td>$851</td>
</tr>
<tr>
<td>-3</td>
<td>2012</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-4</td>
<td>2013</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-5</td>
<td>2014</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-6</td>
<td>2015</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-7</td>
<td>2016</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-8</td>
<td>2017</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-9</td>
<td>2018</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-10</td>
<td>2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-11</td>
<td>2020</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-12</td>
<td>2021</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-13</td>
<td>2022</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-14</td>
<td>2023</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-15</td>
<td>2024</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-16</td>
<td>2025</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-17</td>
<td>2026</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-18</td>
<td>2027</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-19</td>
<td>2028</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$0</td>
<td>$65,406</td>
<td>$2,334</td>
<td>$851</td>
</tr>
</tbody>
</table>
### E&D and Construction Data

<table>
<thead>
<tr>
<th>Estimated Construction Cost</th>
<th>496,596</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Construction + 25% Contingency</td>
<td>620,745</td>
</tr>
</tbody>
</table>

#### Total Estimated Project Costs

##### Phase I

**Federal Costs**
- **Engineering and Design**: $205,809
  - Engineering: $45,809
  - Geotechnical Investigation: $45,000
  - Hydrologic Modeling: $0
  - Data Collection: $50,000
  - Cultural Resources: $10,000
  - Monitoring Plan Development: $25,000
  - NEPA Compliance: $30,000
- **Supervision and Administration**: $25,000
- **Corps Administration**: $3,000

**State Costs**
- **Supervision and Administration**: $25,000
- **Ecological Review Costs**: $0
- **Easements and Land Rights**: $25,000
- **Monitoring**: $5,000
- **Monitoring Plan Development**: $5,000
- **Monitoring Protocol Cost**: $0

**Total Phase I Cost Estimate**: $288,809

*Monitoring Protocol requires a minimum of one year pre-construction monitoring at a specified cost based on project type and area.*

##### Phase II

**Federal Costs**
- **Estimated Construction Cost + 25% Contingency**: $620,745
  - Lands or Oyster leases: 0 acres
  - Supervision and Inspectio: 35 days @ $1200 per day = $42,000
  - Supervision and Administration: $25,000

**State Costs**
- **Supervision and Administration**: $25,000

**Total Phase II Cost Estimate**: $712,745

### Total Estimated Project First Cost

**1,001,554**
## Annual Costs

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>State</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Inspections</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Cost for Operations</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Specific Intermittent Costs:

#### Construction Items

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 2</th>
<th>Year 5</th>
<th>Year 10</th>
<th>Year 15</th>
<th>Year 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Mobilization/Demobilization (included in cost of removal)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Removal of Containment System</td>
<td>$20,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineer, Design &amp; Administrative Costs</td>
<td>$750</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering and Design Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrative Cost</td>
<td>$750</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Eng Survey</td>
<td>$3,230 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Construction</td>
<td>$1,200 per day</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Engineering Monitoring</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>$20,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Subtotal w/ 25% contin.</td>
<td>$25,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

### Federal S&A

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Administration</td>
<td>$700</td>
<td>$700</td>
<td>$700</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$5,751</td>
<td>$5,751</td>
<td>$20,751</td>
</tr>
</tbody>
</table>

### Total Annual Project Costs:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$26,500</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

## Construction Schedule:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan &amp; Design Start</td>
<td>March-07</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plan &amp; Design End</td>
<td>March-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. Start</td>
<td>June-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Const. End</td>
<td>October-08</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix E

Wetland Value Assessment for Candidate Projects
## Appendix E

### Wetland Value Assessment for Candidate Projects

#### Table of Contents

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidate Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Alligator Bend Marsh Restoration and Shoreline Protection</td>
<td>E-1</td>
</tr>
<tr>
<td>Violet Siphon Enlargement</td>
<td>E-7</td>
</tr>
<tr>
<td>Breton Landbridge Marsh Restoration</td>
<td>E-21</td>
</tr>
<tr>
<td>Jean Lafitte Shoreline Protection</td>
<td>E-25</td>
</tr>
<tr>
<td>Grand Liard Marsh and Ridge Restoration</td>
<td>E-30</td>
</tr>
<tr>
<td>Madison Bay Marsh Creation and Terracing</td>
<td>E-34</td>
</tr>
<tr>
<td>West Belle Pass Barrier Headland Restoration</td>
<td>E-39</td>
</tr>
<tr>
<td>Deer Island Pass Sediment Delivery</td>
<td>E-44</td>
</tr>
<tr>
<td>Vermilion Bay Shoreline Protection</td>
<td>E-50</td>
</tr>
<tr>
<td>Southwest LA Gulf Shoreline Nourishment and Protection</td>
<td>E-53</td>
</tr>
</tbody>
</table>
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Alligator Bend Marsh Restoration and Shoreline Protection

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsh Creation Area</td>
<td>152</td>
</tr>
<tr>
<td>Shoreline Protection Area</td>
<td>13</td>
</tr>
</tbody>
</table>

TOTAL BENEFITS = 166 AAHUS
## WETLAND VALUE ASSESSMENT COMMUNITY MODEL

### Brackish Marsh

**Project:** Alligator Bend Marsh Restoration and Shoreline Protection  
**Project Area:** 90 Shoreline Protection Area

**Condition:** Future Without Project

### Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>100</td>
<td>1.00</td>
<td>96</td>
<td>0.96</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
<td>100</td>
<td>0.60</td>
<td>67</td>
<td>0.96</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 1.00**  
**EM HSI = 0.98**  
**EM HSI = 0.25**

**Open Water HSI = 0.39**  
**OW HSI = 0.39**  
**OW HSI = 0.35**

---

### Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>100</td>
<td>1.00</td>
<td>98</td>
<td>0.98</td>
<td>50</td>
<td>0.55</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
<td>100</td>
<td>0.60</td>
<td>67</td>
<td>0.96</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 1.00**  
**EM HSI = 0.99**  
**EM HSI = 0.60**

**Open Water HSI = 0.39**  
**OW HSI = 0.39**  
**OW HSI = 0.34**

---

E-2
### AAHU Calculation - Emergent Marsh

**Project:** Alligator Bend Marsh Restoration and Shoreline Protection  
**Shoreline Protection Area**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>90</td>
<td>1.00</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>86</td>
<td>0.98</td>
<td>84.14</td>
<td>87.06</td>
</tr>
<tr>
<td>20</td>
<td>45</td>
<td>0.60</td>
<td>27.10</td>
<td>103.70</td>
</tr>
</tbody>
</table>

AAHUs = 34.46

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>90</td>
<td>1.00</td>
<td>90.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>88</td>
<td>0.99</td>
<td>87.05</td>
<td>88.52</td>
</tr>
<tr>
<td>20</td>
<td>45</td>
<td>0.60</td>
<td>27.10</td>
<td>103.70</td>
</tr>
</tbody>
</table>

AAHUs = 56.01

#### Net Change in AAHUs Due to Project

A. Future With Project Emergent Marsh AAHUs = 56.01  
B. Future Without Project Emergent Marsh AAHUs = 34.46  
Net Change (FWP - FWOP) = 21.55

### AAHU Calculation - Open Water

**Project:** Alligator Bend Marsh Restoration and Shoreline Protection  
**Shoreline Protection Area**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.39</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>0.39</td>
<td>1.55</td>
<td>3.05</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
<td>0.35</td>
<td>31.07</td>
<td>321.55</td>
</tr>
</tbody>
</table>

AAHUs = 16.12

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0.39</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>0.39</td>
<td>0.78</td>
<td>0.78</td>
</tr>
<tr>
<td>20</td>
<td>45</td>
<td>0.34</td>
<td>15.33</td>
<td>159.45</td>
</tr>
</tbody>
</table>

AAHUs = 7.99

#### Net Change in AAHUs Due to Project

A. Future With Project Open Water AAHUs = 7.99  
B. Future Without Project Open Water AAHUs = 16.12  
Net Change (FWP - FWOP) = -8.12

#### Total Benefits in AAHUs Due to Project

A. Emergent Marsh Habitat Net AAHUs = 21.55  
B. Open Water Habitat Net AAHUs = -8.12  
Net Benefits = (2.6xEMAAHUs+OWAAHUs)/3.6 = 13.31
WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Alligator Bend Marsh Restoration and Shoreline Protection  Project Area: 494
Marsh Creation Area
Condition: Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>36</td>
<td>0.42</td>
<td>36</td>
<td>0.42</td>
<td>25</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>40</td>
<td>0.46</td>
<td>40</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td></td>
<td>%</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td>0.30</td>
<td>0.30</td>
<td>0.30</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>80</td>
<td>1.00</td>
<td>80</td>
<td>1.00</td>
<td>80</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.55  EM HSI = 0.55  EM HSI = 0.46
Open Water HSI = 0.66  OW HSI = 0.66  OW HSI = 0.65

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Alligator Bend Marsh Restoration and Shoreline Protection  Project Area: 494
Marsh Creation Area
Condition: Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 3</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>36</td>
<td>0.42</td>
<td>36</td>
<td>0.41</td>
<td>97</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>40</td>
<td>0.10</td>
<td>65</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td></td>
<td>%</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td>0.30</td>
<td>0.00</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>80</td>
<td>1.00</td>
<td>80</td>
<td>0.10</td>
<td>100</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.61  EM HSI = 0.61  EM HSI = 0.61
Open Water HSI = 0.66  OW HSI = 0.35  OW HSI = 0.65
### AAHU CALCULATION - EMERGENT MARSH

**Project:** Alligator Bend Marsh Restoration and Shoreline Protection

**Marsh Creation Area**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY Marsh Acres x HSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0  179 x 0.55</td>
<td>97.81</td>
<td></td>
</tr>
<tr>
<td>1  170 x 0.55</td>
<td>96.17</td>
<td>96.99</td>
</tr>
<tr>
<td>20 122 x 0.46</td>
<td>56.24</td>
<td>1433.27</td>
</tr>
</tbody>
</table>

**AAHUs** = 76.51

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY Marsh Acres x HSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0  179 x 0.55</td>
<td>97.81</td>
<td></td>
</tr>
<tr>
<td>1  168 x 0.61</td>
<td>102.65</td>
<td>100.35</td>
</tr>
<tr>
<td>20 407 x 0.75</td>
<td>303.45</td>
<td>6543.94</td>
</tr>
</tbody>
</table>

**AAHUs** = 359.02

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Emergent Marsh AAHUs = 359.02
B. Future Without Project Emergent Marsh AAHUs = 76.51

Net Change (FWP - FWOP) = 282.51
## AHAHU CALCULATION - OPEN WATER

**Project:**

Alligator Bend Marsh Restoration and Shoreline Protection
Marsh Creation Area

### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>315</td>
<td>0.66</td>
<td>207.42</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>318</td>
<td>0.66</td>
<td>209.38</td>
<td>208.41</td>
</tr>
<tr>
<td>20</td>
<td>372</td>
<td>0.66</td>
<td>242.20</td>
<td>4291.37</td>
</tr>
</tbody>
</table>

\[ \text{AAHUs} = 224.99 \]

### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>315</td>
<td>0.35</td>
<td>0.00</td>
<td>87.56</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>0.81</td>
<td>11.37</td>
<td>9.22</td>
</tr>
<tr>
<td>20</td>
<td>87</td>
<td>0.78</td>
<td>67.80</td>
<td>679.85</td>
</tr>
</tbody>
</table>

\[ \text{AAHUs} = 38.83 \]

### Net Change in AAHUs Due to Project

A. Future With Project Open Water AHAHUs = 38.83
B. Future Without Project Open Water AAHUs = 224.99
Net Change (FWP - FWOP) = -186.16

### Total Benefits In AAHUs Due To Project

A. Emergent Marsh Habitat Net AAHUs = 282.51
B. Open Water Habitat Net AAHUs = -186.16
Net Benefits= \( \frac{2.6 \times \text{EMAAHUs} + \text{OWAAHUs})}{3.6} \) = 152.32
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Violet Siphon Enlargement

The WVA for this project included 7 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Fresh</td>
<td>3738.16</td>
</tr>
<tr>
<td>A - Intermediate</td>
<td>39.63</td>
</tr>
<tr>
<td>A - Brackish</td>
<td>-2784.43</td>
</tr>
<tr>
<td>B - Fresh Frequently Inundated</td>
<td>1810.43</td>
</tr>
<tr>
<td>B - Brackish Frequently Inundated</td>
<td>-1140.81</td>
</tr>
<tr>
<td>B - Fresh Infrequently Inundated</td>
<td>2179.80</td>
</tr>
<tr>
<td>B - Brackish Infrequently Inundated</td>
<td>-1406.59</td>
</tr>
</tbody>
</table>

**TOTAL BENEFITS = 2,436 AAHUS**
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Fresh/Intermediate Marsh**

**Project:** Violet Siphon Enlargement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Ty 5</th>
<th>Ty 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>68</td>
<td>0.71</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>70</td>
<td>0.73</td>
</tr>
</tbody>
</table>
| V3 Interspersion | % | % | % |%
| Class 1 | 50  | 0.50  | 50  | 0.50  |
| Class 2 | 50  | 50    | 50  | 50    |
| Class 3 | 50  | 50    | 50  | 50    |
| Class 4 | 50  | 50    | 50  | 50    |
| V4 %OW <= 1.5 ft | 44  | 0.60  | 44  | 0.60  |
| V5 Salinity (ppt) | Fresh | 0.00  | 0.00  |
| Inter | 1.00 | 1.00  | 1.00 | 1.00  |
| V6 Access Value | Fresh | 1.00  | 1.00  |
| Intermediate | 1.00 | 1.00  | 1.00 | 1.00  |

**AAHU CALCULATION - EMERGENT MARSH**

**Project:** Violet Siphon Enlargement

**Area A - Fresh**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ty</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

AAHUs = 0.00

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ty</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>6444</td>
<td>0.75</td>
</tr>
<tr>
<td>20</td>
<td>6520</td>
<td>0.76</td>
</tr>
</tbody>
</table>

AAHUs = 4514.69

**Net Change in AAHUs Due to Project**

A. Future With Project Emergent Marsh AAHUs = 4514.69
B. Future Without Project Emergent Marsh AAHUs = 0.00

Net Change (FWP - FWOP) = 4514.69
**AAHU CALCULATION - OPEN WATER**

**Project:** Violet Siphon Enlargement  
**Area A - Fresh**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

AAHUs = 0.00

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>3000</td>
<td>0.77</td>
</tr>
<tr>
<td>20</td>
<td>2315</td>
<td>0.77</td>
</tr>
</tbody>
</table>

AAHUs = 2107.42

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Open Water AAHUs = 2107.42  
B. Future Without Project Open Water AAHUs = 0.00  
Net Change (FWP - FWOP) = 2107.42

**TOTAL BENEFITS IN AAHUs DUE TO PROJECT**

A. Emergent Marsh Habitat Net AAHUs = 4514.69  
B. Open Water Habitat Net AAHUs = 2107.42  
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1 = 3738.16

**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Fresh/Intermediate Marsh**

**Project:** Violet Siphon Enlargement  
**Project Area:** Fresh/Intermediate Marsh  
**Area A - Intermediate**  
**Condition:** Future Without Project  
**Intermediate**  
**736**

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>St</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>78</td>
<td>0.80</td>
<td>78</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>50</td>
<td>0.55</td>
<td>50</td>
</tr>
<tr>
<td>V3 Level</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>60</td>
<td>0.52</td>
<td>0.52</td>
</tr>
<tr>
<td>Class 2</td>
<td>60</td>
<td>0.52</td>
<td>0.52</td>
</tr>
<tr>
<td>Class 3</td>
<td>40</td>
<td>0.40</td>
<td>0.30</td>
</tr>
<tr>
<td>Class 4</td>
<td>40</td>
<td>0.40</td>
<td>0.30</td>
</tr>
<tr>
<td>Class 5</td>
<td>40</td>
<td>0.40</td>
<td>0.30</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.60</td>
<td>44</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>fresh</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>intermediate</td>
<td>6</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 0.74**  
**EM HSI = 0.74**  
**OW HSI = 0.64**

**Open Water HSI = 0.60**  
**OW HSI = 0.60**
**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Fresh/Intermediate Marsh**

**Project:** Violet Siphon Enlargement  
**Area A - Intermediate**  
**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>78</td>
<td>0.80</td>
<td>78</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>50</td>
<td>0.55</td>
<td>70</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>60</td>
<td>0.52</td>
<td>60</td>
</tr>
<tr>
<td>Class 2</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Class 3</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.60</td>
<td>44</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>6</td>
<td>0.30</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.74  
**EM HSI** = 0.82  
**OW HSI** = 0.77

**Future Without Project**

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>577</td>
<td>0.74</td>
<td>425.97</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>577</td>
<td>0.74</td>
<td>421.34</td>
<td>421.34</td>
</tr>
<tr>
<td>2</td>
<td>577</td>
<td>0.74</td>
<td>303.07</td>
<td>624.41</td>
</tr>
</tbody>
</table>

**AAHUs** = 363.88

**Future With Project**

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>577</td>
<td>0.74</td>
<td>425.97</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>577</td>
<td>0.82</td>
<td>470.85</td>
<td>444.81</td>
</tr>
<tr>
<td>2</td>
<td>576</td>
<td>0.82</td>
<td>470.03</td>
<td>914.84</td>
</tr>
<tr>
<td>3</td>
<td>576</td>
<td>0.77</td>
<td>393.60</td>
<td>1308.44</td>
</tr>
<tr>
<td>4</td>
<td>529</td>
<td>0.78</td>
<td>387.38</td>
<td>1695.82</td>
</tr>
</tbody>
</table>

**AAHUs** = 405.46

---

**AAHU CALCULATION - EMERGENT MARSH**

**Project:** Violet Siphon Enlargement  
**Area A - Intermediate**

---

**E-10**
### NET CHANGE IN AAHUs DUE TO PROJECT

A. Future With Project Emergent Marsh AAHUs = 405.46
B. Future Without Project Emergent Marsh AAHUs = 363.88
Net Change (FWP - FWOP) = 41.59

### AAHU CALCULATION - OPEN WATER

**Project:** Violet Siphon Enlargement  
**Area A - Intermediate**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>159</td>
<td>0.60</td>
</tr>
<tr>
<td>1</td>
<td>145</td>
<td>0.60</td>
</tr>
</tbody>
</table>

AAHUs = 127.09

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>159</td>
<td>0.60</td>
</tr>
<tr>
<td>1</td>
<td>149</td>
<td>0.77</td>
</tr>
<tr>
<td>3</td>
<td>160</td>
<td>0.77</td>
</tr>
<tr>
<td>5</td>
<td>223</td>
<td>0.77</td>
</tr>
</tbody>
</table>

AAHUs = 162.61

### NET CHANGE IN AAHUs DUE TO PROJECT

A. Future With Project Open Water AAHUs = 162.61
B. Future Without Project Open Water AAHUs = 127.09
Net Change (FWP - FWOP) = 35.52

### TOTAL BENEFITS IN AAHUs DUE TO PROJECT

A. Emergent Marsh Habitat Net AAHUs = 41.59
B. Open Water Habitat Net AAHUs = 35.52
Net Benefits = (2.1xEMAAHUs + OWAAHUs) / 3.1 = 39.63

### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Brackish Marsh**

**Project:** Violet Siphon Enlargement  
**Project Area:** 10,002

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>67</td>
<td>0.70</td>
<td>64</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>67</td>
<td>0.46</td>
<td>44</td>
</tr>
<tr>
<td>V3 % Interspersion</td>
<td>50</td>
<td>0.50</td>
<td>50</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>67</td>
<td>1.00</td>
<td>67</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.76  
EM HSI = 0.75  
EM HSI = 0.68

Open Water HSI = 0.65  
OW HSI = 0.65  
OW HSI = 0.64
WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh

Project: Violet Siphon Enlargement
Area A - Brackish
Condition: Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0 Value</th>
<th>SI</th>
<th>TY 1 Value</th>
<th>SI</th>
<th>TY 3 Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>67</td>
<td>0.70</td>
<td>67</td>
<td>0.70</td>
<td>67</td>
<td>0.70</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>70</td>
<td>0.73</td>
<td>70</td>
<td>0.73</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>0.50</td>
<td>Class 1</td>
<td>0.50</td>
<td>Class 2</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 3</td>
<td>50</td>
<td>Class 4</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 5</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
<td>0.67</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>4</td>
<td>1.00</td>
<td>4</td>
<td>1.00</td>
<td>4</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.76
OW HSI = 0.80

AAHU CALCULATION - EMERGENT MARSH
Project: Violet Siphon Enlargement
Area A - Brackish

Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6682</td>
<td>0.76</td>
<td>5076.77</td>
<td>5076.77</td>
</tr>
<tr>
<td>20</td>
<td>5459</td>
<td>0.68</td>
<td>3697.05</td>
<td>82219.38</td>
</tr>
</tbody>
</table>

AAHUs = 4362.56

Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6682</td>
<td>0.76</td>
<td>5076.77</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6685</td>
<td>0.76</td>
<td>5086.65</td>
<td>5086.65</td>
</tr>
<tr>
<td>2</td>
<td>6720</td>
<td>0.76</td>
<td>5105.64</td>
<td>10192.29</td>
</tr>
<tr>
<td>3</td>
<td>383</td>
<td>0.77</td>
<td>280.21</td>
<td>5398.25</td>
</tr>
<tr>
<td>20</td>
<td>383</td>
<td>0.77</td>
<td>277.91</td>
<td>4155.92</td>
</tr>
</tbody>
</table>

AAHUs = 1242.91

Net Change in AAHUs Due to Project
A. Future With Project Emergent Marsh AAHUs = 1242.91
B. Future Without Project Emergent Marsh AAHUs = 4362.56
Net Change (FWP - FWOP) = -3119.66

E-12
### AAHU Calculation - Open Water

**Project:** Violet Siphon Enlargement  
**Area A - Brackish**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3320</td>
<td>0.65</td>
<td>2153.13</td>
</tr>
<tr>
<td>1</td>
<td>3387</td>
<td>0.65</td>
<td>2196.59</td>
</tr>
<tr>
<td>20</td>
<td>4543</td>
<td>0.64</td>
<td>2912.64</td>
</tr>
</tbody>
</table>

**AAHUs = 2536.98**

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3320</td>
<td>0.65</td>
<td>2153.13</td>
</tr>
<tr>
<td>1</td>
<td>3268</td>
<td>0.80</td>
<td>2628.71</td>
</tr>
<tr>
<td>20</td>
<td>174</td>
<td>0.80</td>
<td>2081.33</td>
</tr>
</tbody>
</table>

**AAHUs = 624.14**

**Net Change in AAHUs Due to Project**

- Future With Project Open Water AAHUs = 624.14
- Future Without Project Open Water AAHUs = 2536.98
- Net Change (FWP - FWOP) = -1912.84

**Total Benefits in AAHUs Due to Project**

- Emergent Marsh Habitat Net AAHUs = -3119.66
- Open Water Habitat Net AAHUs = -1912.84
- Net Benefits = (2.6xEMAAHUs + OWAAHUs)/3.6 = -2784.43

### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Fresh/Intermediate Marsh**

**Project:** Violet Siphon Enlargement  
**Project Area:** Fresh/Intermediate  
**Condition:** Future With Project  
**Area B - frequently inundated**

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>91</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>70</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>V3 % Interspersion</td>
<td>%</td>
<td>%</td>
<td>100 1.00</td>
</tr>
<tr>
<td>Class 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>fresh</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>2.00</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = EM HSI = 0.95**

**Open Water HSI = OW HSI = 0.81**
### AAHU CALCULATION - EMERGENT MARSH

**Project:** Violet Siphon Enlargement  
**Area:** B - frequently inundated - Fresh

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Future With Project**

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3151</td>
<td>0.947134</td>
<td>2984.42</td>
</tr>
<tr>
<td>1</td>
<td>3151</td>
<td>0.947134</td>
<td>2984.42</td>
</tr>
<tr>
<td>20</td>
<td>3151</td>
<td>0.947134</td>
<td>4885.13</td>
</tr>
</tbody>
</table>

**AAHUs =** 2570.04

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Emergent Marsh AAHUs = 2570.04  
B. Future Without Project Emergent Marsh AAHUs = 0.00  
Net Change (FWP - FWOP) = 2570.04

### AAHU CALCULATION - OPEN WATER

**Project:** Violet Siphon Enlargement  
**Area:** B - frequently inundated - Fresh

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Future With Project**

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3151</td>
<td>0.806476</td>
<td>254.85</td>
</tr>
<tr>
<td>1</td>
<td>3151</td>
<td>0.806476</td>
<td>254.85</td>
</tr>
<tr>
<td>20</td>
<td>3151</td>
<td>0.806476</td>
<td>3750.11</td>
</tr>
</tbody>
</table>

**AAHUs =** 215.26
NET CHANGE IN AAHUs DUE TO PROJECT

A. Future With Project Open Water AAHUs = 215.26
B. Future Without Project Open Water AAHUs = 0.00
Net Change (FWP - FWOP) = 215.26

TOTAL BENEFITS IN AAHUs DUE TO PROJECT

A. Emergent Marsh Habitat Net AAHUs = 2570.04
B. Open Water Habitat Net AAHUs = 215.26
Net Benefits = (2.1xEMAAHUs + OWAAHUs) / 3.1 = 1810.43

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh
Project: Violet Siphon Enlargement
Area B - frequently inundated - Brackish
Condition: Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>91</td>
<td>0.92</td>
<td>91</td>
<td>0.92</td>
<td>89</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>40</td>
<td>0.46</td>
<td>35</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>3</td>
<td>1.00</td>
<td>3</td>
<td>1.00</td>
<td>3</td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.95
Open Water HSI = 0.69

WETLAND VALUE ASSESSMENT COMMUNITY MODEL
Brackish Marsh
Project: Violet Siphon Enlargement
Area B - frequently inundated - Brackish
Condition: Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 5</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>91</td>
<td>0.92</td>
<td>91</td>
<td>0.92</td>
<td>95</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>70</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
<td>0.67</td>
<td>44</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>3</td>
<td>1.00</td>
<td>0</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.95
Open Water HSI = 0.69
### AAHU Calculation - Emergent Marsh

**Project:** Violet Siphon Enlargement  
**Area B - frequently inundated - Brackish**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Total Marsh Acres</th>
<th>Total HU's</th>
<th>Cumulative HU's</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3147</td>
<td>2993.02</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3144</td>
<td>2999.21</td>
<td>2991.11</td>
</tr>
<tr>
<td>20</td>
<td>3085</td>
<td>2654.37</td>
<td>57604.94</td>
</tr>
</tbody>
</table>

**AAHUs = 2929.80**

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Total Marsh Acres</th>
<th>Total HU's</th>
<th>Cumulative HU's</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3147</td>
<td>2993.02</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3148</td>
<td>2993.97</td>
<td>2993.49</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
<td>3991.96</td>
</tr>
</tbody>
</table>

**AAHUs = 1397.09**

#### Net Change in AAHUs Due to Project

A. Future With Project Emergent Marsh AAHUs = 1397.09  
B. Future Without Project Emergent Marsh AAHUs = 2929.80  
**Net Change (FWP - FWOP) = -1532.71**

### AAHU Calculation - Open Water

**Project:** Violet Siphon Enlargement  
**Area B - frequently inundated - Brackish**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Total Water Acres</th>
<th>Total HU's</th>
<th>Cumulative HU's</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>320</td>
<td>219.38</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>324</td>
<td>222.13</td>
<td>441.51</td>
</tr>
<tr>
<td>20</td>
<td>452</td>
<td>263.85</td>
<td>4623.95</td>
</tr>
</tbody>
</table>

**AAHUs = 242.24**

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Total Water Acres</th>
<th>Total HU's</th>
<th>Cumulative HU's</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>320</td>
<td>219.38</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>319</td>
<td>268.41</td>
<td>243.92</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
<td>357.88</td>
</tr>
</tbody>
</table>

**AAHUs = 120.36**

#### Net Change in AAHUs Due to Project

A. Future With Project Open Water AAHUs = 120.36  
B. Future Without Project Open Water AAHUs = 242.24  
**Net Change (FWP - FWOP) = -121.87**

### Total Benefits in AAHUs Due to Project

A. Emergent Marsh Habitat Net AAHUs = -1532.71  
B. Open Water Habitat Net AAHUs = -121.87  
**Net Benefits= (2.6xEMAAHUs+OWAAHUs)/3.6 = -1140.81**
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Fresh/Intermediate Marsh**

**Project:** Violet Siphon Enlargement  
**Area B - infrequently inundated - Fresh**

**Future With Project**  
**Condition:** Intermediate

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>100</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>50</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>75</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>fresh</td>
<td>0</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI =**  
**Open Water HSI =**

**AAHU CALCULATION - EMERGENT MARSH**

**Project:** Violet Siphon Enlargement  
**Area B - infrequently inundated - Fresh**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres x HSI</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**AAHUs =** 0.00
<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>3759</td>
<td>1.00</td>
</tr>
<tr>
<td>20</td>
<td>3721</td>
<td>0.99</td>
</tr>
</tbody>
</table>

**AAHUs = 3207.82**

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Emergent Marsh AAHUs = 3207.82
B. Future Without Project Emergent Marsh AAHUs = 0.00
Net Change (FWP - FWOP) = **3207.82**

**AAHU CALCULATION - OPEN WATER**

**Project:** Violet Siphon Enlargement
Area B - infrequently inundated - Fresh

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**AAHUs = 0.00**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>17</td>
<td>0.71</td>
</tr>
<tr>
<td>20</td>
<td>55</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**AAHUs = 20.96**

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Open Water AAHUs = 20.96
B. Future Without Project Open Water AAHUs = 0.00
Net Change (FWP - FWOP) = **20.96**

**TOTAL BENEFITS IN AAHUs DUE TO PROJECT**

A. Emergent Marsh Habitat Net AAHUs = 3207.82
B. Open Water Habitat Net AAHUs = 20.96
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1 = **2179.80**
**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Brackish Marsh**

**Project:** Violet Siphon Enlargement  
**Project Area:** 3,776

**Area B - infrequently inundated - Brackish**

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>40</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td></td>
<td></td>
<td>Class 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 5</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
<td>100</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>3</td>
<td>1.00</td>
<td>3</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 1.00  
OW HSI = 0.68

**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Brackish Marsh**

**Project:** Violet Siphon Enlargement  
**Project Area:** 3,776

**Area B - infrequently inundated - Brackish**

**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>40</td>
<td>0.46</td>
<td>50</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td></td>
<td></td>
<td>Class 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Class 5</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
<td>100</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>3</td>
<td>1.00</td>
<td>3</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 1.00  
OW HSI = 0.74

**AAHU CALCULATION - EMERGENT MARSH**

**Project:** Violet Siphon Enlargement  
**Area B - infrequently inundated - Brackish**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>3771</td>
<td>1.00</td>
</tr>
<tr>
<td>1</td>
<td>3765</td>
<td>1.00</td>
</tr>
<tr>
<td>20</td>
<td>3672</td>
<td>0.68</td>
</tr>
</tbody>
</table>

**AAHUs = 3692.97**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>3771</td>
<td>1.00</td>
</tr>
<tr>
<td>1</td>
<td>3769</td>
<td>1.00</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**AAHUs = 1759.07**

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Emergent Marsh AAHUs = 1793.97  
B. Future Without Project Emergent Marsh AAHUs = 3692.97

Net Change (FWP - FWOP) = -1933.90
## AAHU Calculation - Open Water

**Project:** Violet Siphon Enlargement  
**Area:** B - infrequently inundated - Brackish

### Future Without Project Total Cummulative

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>HSI</th>
<th>HUs</th>
<th>HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0.68</td>
<td>3.76</td>
<td>5.18</td>
</tr>
<tr>
<td>20</td>
<td>104</td>
<td>0.70</td>
<td>72.88</td>
<td>751.08</td>
</tr>
</tbody>
</table>

**AAHUs = 37.81**

### Future With Project Total Cummulative

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>HSI</th>
<th>HUs</th>
<th>HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0.68</td>
<td>3.40</td>
<td>4.06</td>
</tr>
<tr>
<td>1.7</td>
<td>7</td>
<td>0.74</td>
<td>5.15</td>
<td>4.26</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**AAHUs = 2.23**

### Net Change in AAHUs Due to Project

A. Future With Project Open Water AAHUs = 2.23
B. Future Without Project Open Water AAHUs = 37.81

Net Change (FWP - FWOP) = -35.58

### Total Benefits in AAHUs Due to Project

A. Emergent Marsh Habitat Net AAHUs = -1933.90
B. Open Water Habitat Net AAHUs = -35.58

Net Benefits = (2.6xEMAHAHUs+OWAAHUs)/3.6 = -1406.59
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Breton Landbridge Marsh Restoration

The WVA for this project included 1 area. Total benefits for this project are as follows:

TOTAL BENEFITS = 62 AAHUS
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

#### Fresh/Intermediate Marsh

**Project:** Breton Landbridge Marsh Restoration  
**Project Area:** Fresh/Intermediate

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 20</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>46</td>
<td>0.51</td>
<td>44</td>
<td>0.50</td>
<td>26</td>
<td>0.33</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>70</td>
<td>0.73</td>
<td>70</td>
<td>0.73</td>
<td>70</td>
<td>0.73</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>0.40</td>
<td></td>
<td>0.27</td>
<td></td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td>65</td>
<td></td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>0.89</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>fresh</td>
<td>1.00</td>
<td></td>
<td>1.00</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td></td>
<td>1.00</td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 0.60**  
**Open Water HSI = 0.78**

### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

#### Fresh/Intermediate Marsh

**Project:** Breton Landbridge Marsh Restoration  
**Project Area:** Fresh/Intermediate

**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>46</td>
<td>0.51</td>
<td>46</td>
<td>0.50</td>
<td>29</td>
<td>0.36</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>70</td>
<td>0.73</td>
<td>70</td>
<td>0.73</td>
<td>70</td>
<td>1.00</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>0.40</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>Class 2</td>
<td>100</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>Class 3</td>
<td>100</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>Class 4</td>
<td>65</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>Class 5</td>
<td>100</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>1.00</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>fresh</td>
<td>1.00</td>
<td></td>
<td>1.00</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td></td>
<td>1.00</td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 0.60**  
**Open Water HSI = 0.78**
<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 5</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>93</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>85</td>
</tr>
</tbody>
</table>
| V3       | Interspersion %
|          | Class 1 | 100 | 1.00 |
|          | Class 2 |     | 100  |
|          | Class 3 |     |  | 0.60 |
|          | Class 4 |  |  |  |
|          | Class 5 |  |  |  |
| V4       | %OW <= 1.5ft | 100 | 0.60 | 95  | 1.00 |
| V5       | Salinity (ppt)
|          | fresh | 1.00 |
|          | intermediate |  | 1.00 |
| V6       | Access Value
|          | fresh | 1.00 |
|          | intermediate |  | 1.00 |

<table>
<thead>
<tr>
<th></th>
<th>EM HSI =</th>
<th>OW HSI =</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM HSI = 0.96</td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>OW HSI = 0.94</td>
<td>0.89</td>
<td></td>
</tr>
</tbody>
</table>

### AAHUs Calculation - Emergent Marsh

**Project:** Breton Landbridge Marsh Restoration

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>163</td>
<td>0.60</td>
</tr>
<tr>
<td>1</td>
<td>158</td>
<td>0.57</td>
</tr>
<tr>
<td>20</td>
<td>92</td>
<td>0.45</td>
</tr>
</tbody>
</table>

**AAHUs = 65.96**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>163</td>
<td>0.60</td>
</tr>
<tr>
<td>1</td>
<td>35</td>
<td>0.42</td>
</tr>
<tr>
<td>3</td>
<td>102</td>
<td>0.55</td>
</tr>
<tr>
<td>5</td>
<td>332</td>
<td>0.96</td>
</tr>
<tr>
<td>20</td>
<td>268</td>
<td>0.81</td>
</tr>
</tbody>
</table>

**AAHUs = 222.47**

**Net Change in AAHUs Due to Project**

A. Future With Project Emergent Marsh AAHUs = 222.47
B. Future Without Project Emergent Marsh AAHUs = 65.96

**Net Change (FWP - FWOP) = 156.52**

### AAHUs Calculation - Open Water

**Project:** Breton Landbridge Marsh Restoration

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>191</td>
<td>0.78</td>
</tr>
<tr>
<td>1</td>
<td>199</td>
<td>0.77</td>
</tr>
<tr>
<td>20</td>
<td>264</td>
<td>0.77</td>
</tr>
</tbody>
</table>

**AAHUs = 176.89**
## Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>193</td>
<td>0.76</td>
<td>151.25</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.29</td>
<td>0.00</td>
<td>59.87</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>0.97</td>
<td>9.70</td>
<td>7.45</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>0.94</td>
<td>18.88</td>
<td>28.07</td>
</tr>
<tr>
<td>20</td>
<td>87</td>
<td>0.89</td>
<td>77.45</td>
<td>731.46</td>
</tr>
</tbody>
</table>

**AAHUs** 41.37

## NET CHANGE IN AAHUs DUE TO PROJECT

- **A.** Future With Project Open Water AAHUs = 41.37
- **B.** Future Without Project Open Water AAHUs = 176.89

**Net Change (FWP - FWOP) = -135.51**

## TOTAL BENEFITS IN AAHUs DUE TO PROJECT

- **A.** Emergent Marsh Habitat Net AAHUs = 156.52
- **B.** Open Water Habitat Net AAHUs = -135.51

**Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1 = 62.31**
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Jean Lafitte Shoreline Protection

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>30.60</td>
</tr>
<tr>
<td>B</td>
<td>126.17</td>
</tr>
</tbody>
</table>

TOTAL BENEFITS = 157 AAHUS
## WETLAND VALUE ASSESSMENT COMMUNITY MODEL
### Fresh/Intermediate Marsh

**Project:** Jean Lafitte Shoreline Protection  
**Area:** A

**Condition:** Future Without Project

### Variable Values

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Sl</td>
<td>Value</td>
</tr>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>79</td>
<td>0.81</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>15</td>
<td>0.24</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.88  
**EM HSI** = 0.85  
**EM HSI** = 0.24

**Open Water HSI** = 0.46  
**OW HSI** = 0.46  
**OW HSI** = 0.24

---

## Fresh/Intermediate Marsh

**Project:** Jean Lafitte Shoreline Protection  
**Area:** A

**Condition:** Future With Project

### Variable Values

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Sl</td>
<td>Value</td>
</tr>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>79</td>
<td>0.81</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>15</td>
<td>0.24</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.60</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.88  
**EM HSI** = 0.88  
**EM HSI** = 0.88

**Open Water HSI** = 0.46  
**OW HSI** = 0.46  
**OW HSI** = 0.49

---

E-26
### AAHU CALCULATION - EMERGENT MARSH

**Project:** Jean Lafitte Shoreline Protection  
**Area A**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td><strong>Marsh Acres</strong></td>
<td><strong>x</strong></td>
</tr>
<tr>
<td>0</td>
<td>99</td>
<td>0.88</td>
</tr>
<tr>
<td>1</td>
<td>85</td>
<td>0.85</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.24</td>
</tr>
</tbody>
</table>

\[
\text{AAHUs} = 29.87
\]

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td><strong>Marsh Acres</strong></td>
<td><strong>x</strong></td>
</tr>
<tr>
<td>0</td>
<td>99</td>
<td>0.88</td>
</tr>
<tr>
<td>1</td>
<td>90</td>
<td>0.88</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
<td>0.88</td>
</tr>
</tbody>
</table>

\[
\text{AAHUs} = 78.79
\]

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Emergent Marsh AAHUs = 78.79  
B. Future Without Project Emergent Marsh AAHUs = 29.87  
Net Change (FWP - FWOP) = 48.92

### AAHU CALCULATION - OPEN WATER

**Project:** Jean Lafitte Shoreline Protection  
**Area A**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td><strong>Water Acres</strong></td>
<td><strong>x</strong></td>
</tr>
<tr>
<td>0</td>
<td>24</td>
<td>0.46</td>
</tr>
<tr>
<td>1</td>
<td>29</td>
<td>0.46</td>
</tr>
<tr>
<td>20</td>
<td>90</td>
<td>0.24</td>
</tr>
</tbody>
</table>

\[
\text{AAHUs} = 19.20
\]

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td><strong>Water Acres</strong></td>
<td><strong>x</strong></td>
</tr>
<tr>
<td>0</td>
<td>24</td>
<td>0.46</td>
</tr>
<tr>
<td>1</td>
<td>24</td>
<td>0.46</td>
</tr>
<tr>
<td>20</td>
<td>24</td>
<td>0.46</td>
</tr>
</tbody>
</table>

\[
\text{AAHUs} = 11.34
\]

**NET CHANGE IN AAHUs DUE TO PROJECT**

A. Future With Project Open Water AAHUs = 11.34  
B. Future Without Project Open Water AAHUs = 19.20  
Net Change (FWP - FWOP) = -7.86

**TOTAL BENEFITS IN AAHUs DUE TO PROJECT**

A. Emergent Marsh Habitat Net AAHUs = 48.92  
B. Open Water Habitat Net AAHUs = -7.86  
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1 = 30.60
**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Fresh/Intermediate Marsh**

| Project: Jean Lafitte Shoreline Protection | Project Area: Area B |
| Condition: Future Without Project | Indoor.. |
| Area: Fresh............ | Intermediate.. |

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>86</td>
<td>0.87</td>
<td>82</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>15</td>
<td>0.24</td>
<td>15</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
<td>100</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>90</td>
<td>1.00</td>
<td>90</td>
</tr>
<tr>
<td>V5 Salinity (ppt) fresh</td>
<td>3</td>
<td>1.00</td>
<td>3</td>
</tr>
<tr>
<td>V6 Access Value fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Emergent Marsh HSI = 0.92</td>
<td>EM HSI = 0.89</td>
<td>EM HSI = 0.24</td>
<td></td>
</tr>
<tr>
<td>Open Water HSI = 0.48</td>
<td>OW HSI = 0.48</td>
<td>OW HSI = 0.23</td>
<td></td>
</tr>
</tbody>
</table>

**E-28**
### AAHU Calculation - Emergent Marsh

**Project:** Jean Lafitte Shoreline Protection  
**Area B**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>372</td>
<td>0.92</td>
</tr>
<tr>
<td>1</td>
<td>353</td>
<td>0.89</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.24</td>
</tr>
</tbody>
</table>

**AAHUs = 129.50**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>372</td>
<td>0.92</td>
</tr>
<tr>
<td>1</td>
<td>372</td>
<td>0.92</td>
</tr>
<tr>
<td>20</td>
<td>372</td>
<td>0.92</td>
</tr>
</tbody>
</table>

**AAHUs = 341.28**

**Net Change in AAHUs Due to Project**

- A. Future With Project Emergent Marsh AAHUs = 341.28
- B. Future Without Project Emergent Marsh AAHUs = 129.50
- Net Change (FWP - FWOP) = 211.78

### AAHU Calculation - Open Water

**Project:** Jean Lafitte Shoreline Protection  
**Area B**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>60</td>
<td>0.48</td>
</tr>
<tr>
<td>1</td>
<td>79</td>
<td>0.48</td>
</tr>
<tr>
<td>20</td>
<td>432</td>
<td>0.23</td>
</tr>
</tbody>
</table>

**AAHUs = 82.01**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TY</strong></td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>60</td>
<td>0.48</td>
</tr>
<tr>
<td>1</td>
<td>69</td>
<td>0.46</td>
</tr>
<tr>
<td>20</td>
<td>69</td>
<td>0.49</td>
</tr>
</tbody>
</table>

**AAHUs = 28.40**

**Net Change in AAHUs Due to Project**

- A. Future With Project Open Water AAHUs = 28.40
- B. Future Without Project Open Water AAHUs = 82.01
- Net Change (FWP - FWOP) = -53.61

**Total Benefits in AAHUs Due to Project**

- A. Emergent Marsh Habitat Net AAHUs = 211.78
- B. Open Water Habitat Net AAHUs = -53.61
- Net Benefits = (2.1xEMAAHUs+OWAAHUs)/3.1 = 126.17
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Grand Liard Marsh and Ridge Restoration

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsh</td>
<td>146</td>
</tr>
<tr>
<td>Ridge</td>
<td>21</td>
</tr>
</tbody>
</table>

TOTAL BENEFITS = 167 AAHUS
### Saline Marsh

**Project**: Grand Liard Marsh and Ridge Restoration  
**Condition**: Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>30</td>
<td>0.37</td>
<td>29</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>0.31</td>
<td>1</td>
</tr>
<tr>
<td>V3 % Interspersion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>0</td>
<td>1</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 2</td>
<td>1</td>
<td>0.00</td>
<td>1</td>
</tr>
<tr>
<td>Class 3</td>
<td>1</td>
<td>0.00</td>
<td>1</td>
</tr>
<tr>
<td>Class 4</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Class 5</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>V4 % OW &lt;= 1.5 ft</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>0</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.50  
**Open Water HSI** = 0.67

---

### Saline Marsh

**Project**: Grand Liard Marsh and Ridge Restoration  
**Condition**: Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>30</td>
<td>0.37</td>
<td>29</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>0.31</td>
<td>1</td>
</tr>
<tr>
<td>V3 % Interspersion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>0</td>
<td>1</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 2</td>
<td>1</td>
<td>1</td>
<td>0.00</td>
</tr>
<tr>
<td>Class 3</td>
<td>1</td>
<td>1</td>
<td>0.00</td>
</tr>
<tr>
<td>Class 4</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Class 5</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>V4 % OW &lt;= 1.5 ft</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>0</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.50  
**Open Water HSI** = 0.67

---

### Project: Grand Liard Marsh and Ridge Restoration

**FWP**

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 5</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>90</td>
<td>0.91</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>0.31</td>
</tr>
<tr>
<td>V3 % Interspersion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 2</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 3</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 4</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>Class 5</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4 % OW &lt;= 1.5 ft</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>16</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>100</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**EM HSI** = 0.95  
**OW HSI** = 0.74

---

*E-31*
## AAHU Calculation - Emergent Marsh

**Project:** Grand Liard Marsh and Ridge Restoration  
**Marsh Area**

### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres x HSI</th>
<th>Total HUs</th>
<th>HUs Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>148</td>
<td>0.50</td>
<td>73.34</td>
</tr>
<tr>
<td>20</td>
<td>69</td>
<td>0.38</td>
<td>26.26</td>
</tr>
</tbody>
</table>

\[AAHUs = 49.65\]

### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres x HSI</th>
<th>Total HUs</th>
<th>HUs Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>155</td>
<td>0.50</td>
<td>77.86</td>
</tr>
<tr>
<td>1</td>
<td>130</td>
<td>0.42</td>
<td>54.38</td>
</tr>
<tr>
<td>20</td>
<td>323</td>
<td>0.77</td>
<td>250.30</td>
</tr>
</tbody>
</table>

\[AAHUs = 294.50\]

**Net Change in AAHUs Due to Project**

- A. Future With Project Emergent Marsh AAHUs = 294.50
- B. Future Without Project Emergent Marsh AAHUs = 49.65
- Net Change (FWP - FWOP) = 244.85

## AAHU Calculation - Open Water

**Project:** Grand Liard Marsh and Ridge Restoration  
**Marsh Area**

### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres x HSI</th>
<th>Total HUs</th>
<th>HUs Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>358</td>
<td>0.67</td>
<td>238.29</td>
</tr>
<tr>
<td>1</td>
<td>365</td>
<td>0.67</td>
<td>242.95</td>
</tr>
<tr>
<td>20</td>
<td>444</td>
<td>0.66</td>
<td>293.42</td>
</tr>
</tbody>
</table>

\[AAHUs = 266.87\]

### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres x HSI</th>
<th>Total HUs</th>
<th>HUs Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>358</td>
<td>0.67</td>
<td>238.29</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.29</td>
<td>96.88</td>
</tr>
<tr>
<td>20</td>
<td>159</td>
<td>0.75</td>
<td>118.87</td>
</tr>
</tbody>
</table>

\[AAHUs = 65.65\]

**Net Change in AAHUs Due to Project**

- A. Future With Project Open Water AAHUs = 65.65
- B. Future Without Project Open Water AAHUs = 266.87
- Net Change (FWP - FWOP) = -201.22

**Total Benefits in AAHUs Due to Project**

- A. Emergent Marsh Habitat Net AAHUs = 244.85
- B. Open Water Habitat Net AAHUs = -201.22
- Net Benefits= (3.5xEAAHUs+OWAAHUs)/4.5 = 145.72

---

E-32
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Migratory Landbird - Forested Coastal Habitat**

**Project:** Grand Liard Marsh and Ridge Restoration  
**Project Area:** 31

**Condition:** Future With Project

#### TY 0

<table>
<thead>
<tr>
<th>Variable</th>
<th>Class/Value SI</th>
<th>Class/Value SI</th>
<th>Class/Value SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>Tree Canopy Cover</td>
<td>Percent Cover</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>V2</td>
<td>Shrub/ Midstory Cover</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>V3</td>
<td>Species Diversity</td>
<td>0.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HSI</th>
<th>SI</th>
<th>HSI</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.10</td>
<td>0.22</td>
<td>0.10</td>
<td>0.22</td>
</tr>
</tbody>
</table>

#### TY 8

<table>
<thead>
<tr>
<th>Variable</th>
<th>Class/Value SI</th>
<th>Class/Value SI</th>
<th>Class/Value SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>Tree Canopy Cover</td>
<td>Percent Cover</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>V2</td>
<td>Shrub/ Midstory Cover</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>V3</td>
<td>Species Diversity</td>
<td>1.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HSI</th>
<th>SI</th>
<th>HSI</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.72</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

#### AAHUA CALCULATION

**Project:** Grand Liard Marsh and Ridge Restoration  
**Ridge Area**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total CHUs = 0.00**  
**AAHUs = 0.00**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>31</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>31</td>
<td>0.10</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>0.22</td>
</tr>
<tr>
<td>8</td>
<td>31</td>
<td>0.72</td>
</tr>
<tr>
<td>15</td>
<td>31</td>
<td>1.00</td>
</tr>
<tr>
<td>20</td>
<td>31</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Total CHUs = 425.73**  
**AAHUs = 21.29**

**NET CHANGE IN AAHUs DUE TO PROJECT**

| A. Future With Project AAHUs | 21.29 |
| B. Future Without Project AAHUs | 0.00 |
| Net Change (FWP - FWOP) | 21.29 |
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Madison Bay Marsh Creation and Terracing

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsh Creation Area</td>
<td>225</td>
</tr>
<tr>
<td>Terrace Area</td>
<td>17</td>
</tr>
</tbody>
</table>

TOTAL BENEFITS = 242 AAHUS
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Brackish Marsh**

**Project:** Madison Bay Marsh Creation and Terracing  
**Project Area:** 675  
**Marsh Creation Area**

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>38</td>
<td>37</td>
<td>21</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>0.30</td>
<td>0.30</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 2</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 3</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 4</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 5</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>9</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 0.56**  
**Open Water HSI = 0.32**

**Brackish Marsh**

**Project:** Madison Bay Marsh Creation and Terracing  
**Project Area:** 675  
**Marsh Creation Area**

**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>93</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>30</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>75</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>Class 2</td>
<td>25</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>Class 3</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 4</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 5</td>
<td>50</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI = 0.56**  
**Open Water HSI = 0.32**

**Brackish Marsh**

**Project:** Madison Bay Marsh Creation and Terracing  
**Project Area:** 675  
**Marsh Creation Area**

**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 5</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>93</td>
<td>75</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>75</td>
<td>90</td>
</tr>
<tr>
<td>Class 2</td>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>Class 3</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Class 4</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Class 5</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**EM HSI = 0.95**  
**OW HSI = 0.61**

---

E-35
# AAHU CALCULATION - EMERGENT MARSH

**Project:** Madison Bay Marsh Creation and Terracing  
**Marsh Creation Area**

## Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>258</td>
<td>0.56</td>
<td>144.35</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>251</td>
<td>0.55</td>
<td>138.80</td>
<td>145.57</td>
</tr>
<tr>
<td>20</td>
<td>142</td>
<td>0.43</td>
<td>51.87</td>
<td>197.44</td>
</tr>
</tbody>
</table>

**AAHUs** = **100.34**

## Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>258</td>
<td>0.56</td>
<td>144.35</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>202</td>
<td>0.44</td>
<td>87.88</td>
<td>114.95</td>
</tr>
<tr>
<td>3</td>
<td>447</td>
<td>0.81</td>
<td>361.83</td>
<td>419.14</td>
</tr>
<tr>
<td>5</td>
<td>627</td>
<td>0.95</td>
<td>596.22</td>
<td>949.36</td>
</tr>
<tr>
<td>20</td>
<td>503</td>
<td>0.82</td>
<td>410.89</td>
<td>7512.60</td>
</tr>
</tbody>
</table>

**AAHUs** = **449.81**

## NET CHANGE IN AAHUs DUE TO PROJECT

| A. Future With Project Emergent Marsh AAHUs | 449.81 |
| B. Future Without Project Emergent Marsh AAHUs | 100.34 |

Net Change (FWP - FWOP) = **349.47**

---

# AAHU CALCULATION - OPEN WATER

**Project:** Madison Bay Marsh Creation and Terracing  
**Marsh Creation Area**

## Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>427</td>
<td>0.32</td>
<td>133.61</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>424</td>
<td>0.32</td>
<td>135.24</td>
<td>168.85</td>
</tr>
<tr>
<td>20</td>
<td>532</td>
<td>0.31</td>
<td>165.75</td>
<td>2861.95</td>
</tr>
</tbody>
</table>

**AAHUs** = **149.80**

## Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>427</td>
<td>0.32</td>
<td>133.61</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>0.62</td>
<td>18.01</td>
<td>46.29</td>
</tr>
<tr>
<td>5</td>
<td>48</td>
<td>0.61</td>
<td>29.45</td>
<td>75.74</td>
</tr>
<tr>
<td>20</td>
<td>172</td>
<td>0.39</td>
<td>60.55</td>
<td>926.85</td>
</tr>
</tbody>
</table>

**AAHUs** = **52.41**

## NET CHANGE IN AAHUs DUE TO PROJECT

| A. Future With Project Open Water AAHUs | 52.41 |
| B. Future Without Project Open Water AAHUs | 149.80 |

Net Change (FWP - FWOP) = **-97.39**

## TOTAL BENEFITS IN AAHUs DUE TO PROJECT

A. Emergent Marsh Habitat Net AAHUs = **349.47**

B. Open Water Habitat Net AAHUs = **-97.39**

Net Benefits = \( \frac{2.6 \times \text{EMAHNUs} + \text{OWAHUs}}{3.6} \) = **225.34**

---

E-36
**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Brackish Marsh**

**Project:** Madison Bay Marsh Creation and Terracing  
**Terrace Area**  
**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>6</td>
<td>0.15</td>
<td>6</td>
<td>0.15</td>
<td>3</td>
<td>0.13</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>0.11</td>
<td>1</td>
<td>0.11</td>
<td>1</td>
<td>0.11</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>0.20</td>
<td>%</td>
<td>0.20</td>
<td>%</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td></td>
<td>Class 2</td>
<td>100</td>
<td></td>
<td>Class 3</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class 5</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>5</td>
<td>0.16</td>
<td>5</td>
<td>0.16</td>
<td>5</td>
<td>0.16</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>9</td>
<td>1.00</td>
<td>9</td>
<td>1.00</td>
<td>10</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.32  
Open Water HSI = 0.31

---

**Brackish Marsh**

**Project:** Madison Bay Marsh Creation and Terracing  
**Terrace Area**  
**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>SI</th>
<th>TY 1</th>
<th>SI</th>
<th>TY 3</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>6</td>
<td>0.15</td>
<td>6</td>
<td>0.15</td>
<td>6</td>
<td>0.18</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>1</td>
<td>0.11</td>
<td>1</td>
<td>0.19</td>
<td>25</td>
<td>0.33</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>0.20</td>
<td>%</td>
<td>0.22</td>
<td>%</td>
<td>0.22</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td></td>
<td>Class 2</td>
<td>10</td>
<td></td>
<td>Class 3</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class 5</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>5</td>
<td>0.16</td>
<td>5</td>
<td>0.18</td>
<td>5</td>
<td>0.18</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>9</td>
<td>1.00</td>
<td>9</td>
<td>1.00</td>
<td>9</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.32  
Open Water HSI = 0.31

---

**Project:** Madison Bay Marsh Creation and Terracing  
**FWP**

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>%</td>
<td>0.16</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>20</td>
<td>0.28</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>0.22</td>
</tr>
<tr>
<td>Class 1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>6</td>
<td>0.18</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>10</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

EM HSI = 0.33  
OW HSI = 0.47

---

E-37
## AAHU Calculation - Emergent Marsh

**Project:** Madison Bay Marsh Creation and Terracing

<table>
<thead>
<tr>
<th>Terrace Area</th>
<th>Future Without Project Total Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total HUs</td>
</tr>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>11</td>
</tr>
</tbody>
</table>

**AAHUs =** 4.67

<table>
<thead>
<tr>
<th>Terrace Area</th>
<th>Future With Project Total Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total HUs</td>
</tr>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>23</td>
</tr>
</tbody>
</table>

**AAHUs =** 8.78

### Net Change in AAHUs Due to Project

A. Future With Project Emergent Marsh AAHUs = **8.78**

B. Future Without Project Emergent Marsh AAHUs = **4.67**

Net Change (FWP - FWOP) = **4.11**

## AAHU Calculation - Open Water

**Project:** Madison Bay Marsh Creation and Terracing

<table>
<thead>
<tr>
<th>Terrace Area</th>
<th>Future Without Project Total Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total HUs</td>
</tr>
<tr>
<td>TY</td>
<td>Water Acres</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>325</td>
</tr>
<tr>
<td>1</td>
<td>325</td>
</tr>
<tr>
<td>20</td>
<td>333</td>
</tr>
</tbody>
</table>

**AAHUs =** 100.57

<table>
<thead>
<tr>
<th>Terrace Area</th>
<th>Future With Project Total Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total HUs</td>
</tr>
<tr>
<td>TY</td>
<td>Water Acres</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>325</td>
</tr>
<tr>
<td>1</td>
<td>332</td>
</tr>
<tr>
<td>3</td>
<td>325</td>
</tr>
<tr>
<td>20</td>
<td>325</td>
</tr>
</tbody>
</table>

**AAHUs =** 149.77

### Net Change in AAHUs Due to Project

A. Future With Project Open Water AAHUs = **149.77**

B. Future Without Project Open Water AAHUs = **100.57**

Net Change (FWP - FWOP) = **48.89**

### Total Benefits in AAHUs Due to Project

A. Emergent Marsh Habitat Net AAHUs = **4.11**

B. Open Water Habitat Net AAHUs = **48.89**

Net Benefits = (2.6xEMAHUs + OWAAHUs)/3.6 = **16.55**
**WETLAND VALUE ASSESSMENT**

Benefits Summary Sheet

Project: West Belle Pass Barrier Headland Restoration

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsh Area</td>
<td>104.50</td>
</tr>
<tr>
<td>Headland Area</td>
<td>75.37</td>
</tr>
</tbody>
</table>

**TOTAL BENEFITS = 180 AAHUS**
# WETLAND VALUE ASSESSMENT COMMUNITY MODEL

## Barrier Headland

**Project:** West Belle Pass Barrier Headland Restoration  
**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Dune</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V2 % Supratidal</td>
<td>100</td>
<td>0.50</td>
<td>100</td>
<td>0.50</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V3 % Vegetative Cover</td>
<td>5</td>
<td>0.17</td>
<td>5</td>
<td>0.17</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V4 % Woody Cover</td>
<td>2</td>
<td>0.22</td>
<td>2</td>
<td>0.22</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V5 Beach/surf Zone</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>

| HSI = 0.387 | HSI = 0.387 | HSI = 0.262 |

**Project:** West Belle Pass Barrier Headland Restoration  
**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 10</th>
<th></th>
<th>TY 20</th>
<th></th>
<th>TY 30</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Dune</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V2 % Supratidal</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V3 % Vegetative Cover</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V4 % Woody Cover</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
</tr>
<tr>
<td>V5 Beach/surf Zone</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>

| HSI = 0.262 | HSI = 0.262 | HSI = 0.553 |

## Barrier Headland

**Project:** West Belle Pass Barrier Headland Restoration  
**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Dune</td>
<td>56</td>
<td>0.10</td>
<td>50</td>
<td>0.28</td>
<td>49</td>
<td>0.32</td>
</tr>
<tr>
<td>V2 % Supratidal</td>
<td>44</td>
<td>0.67</td>
<td>50</td>
<td>0.75</td>
<td>51</td>
<td>0.76</td>
</tr>
<tr>
<td>V3 % Vegetative Cover</td>
<td>5</td>
<td>0.17</td>
<td>15</td>
<td>0.30</td>
<td>40</td>
<td>0.62</td>
</tr>
<tr>
<td>V4 % Woody Cover</td>
<td>2</td>
<td>0.22</td>
<td>2</td>
<td>0.22</td>
<td>7</td>
<td>0.52</td>
</tr>
<tr>
<td>V5 Beach/surf Zone</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>

| HSI = 0.387 | HSI = 0.732 | HSI = 0.553 |

**Project:** West Belle Pass Barrier Headland Restoration  
**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 5</th>
<th></th>
<th>TY 9</th>
<th></th>
<th>TY 10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Dune</td>
<td>64</td>
<td>0.10</td>
<td>50</td>
<td>0.28</td>
<td>49</td>
<td>0.32</td>
</tr>
<tr>
<td>V2 % Supratidal</td>
<td>44</td>
<td>0.67</td>
<td>50</td>
<td>0.75</td>
<td>51</td>
<td>0.76</td>
</tr>
<tr>
<td>V3 % Vegetative Cover</td>
<td>5</td>
<td>0.17</td>
<td>15</td>
<td>0.30</td>
<td>40</td>
<td>0.62</td>
</tr>
<tr>
<td>V4 % Woody Cover</td>
<td>2</td>
<td>0.22</td>
<td>2</td>
<td>0.22</td>
<td>7</td>
<td>0.52</td>
</tr>
<tr>
<td>V5 Beach/surf Zone</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
<td>1</td>
<td>1.00</td>
</tr>
</tbody>
</table>

| HSI = 0.695 | HSI = 0.766 | HSI = 0.778 |
Project: West Belle Pass Barrier Headland Restoration

### AAHU CALCULATION

**Project:** West Belle Pass Barrier Headland Restoration

**AAHU CALCULATION**

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total Acres</th>
<th>x HSI</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>35.7</td>
<td>0.387</td>
<td>13.83</td>
</tr>
<tr>
<td>1</td>
<td>27.9</td>
<td>0.387</td>
<td>10.81</td>
</tr>
<tr>
<td>2</td>
<td>43.4</td>
<td>0.553</td>
<td>25.39</td>
</tr>
<tr>
<td>3</td>
<td>19.3</td>
<td>0.695</td>
<td>137.23</td>
</tr>
<tr>
<td>4</td>
<td>107.3</td>
<td>0.766</td>
<td>297.82</td>
</tr>
<tr>
<td>5</td>
<td>93.7</td>
<td>0.778</td>
<td>73.46</td>
</tr>
<tr>
<td>6</td>
<td>66.7</td>
<td>0.990</td>
<td>703.92</td>
</tr>
</tbody>
</table>

**Total AAHUs:** 2.54

**Future With Project**

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total Acres</th>
<th>x HSI</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>35.7</td>
<td>0.387</td>
<td>13.83</td>
</tr>
<tr>
<td>1</td>
<td>27.9</td>
<td>0.732</td>
<td>199.81</td>
</tr>
<tr>
<td>2</td>
<td>43.4</td>
<td>0.553</td>
<td>252.60</td>
</tr>
<tr>
<td>3</td>
<td>19.3</td>
<td>0.695</td>
<td>137.23</td>
</tr>
<tr>
<td>4</td>
<td>107.3</td>
<td>0.766</td>
<td>297.82</td>
</tr>
<tr>
<td>5</td>
<td>93.7</td>
<td>0.778</td>
<td>73.46</td>
</tr>
<tr>
<td>6</td>
<td>66.7</td>
<td>0.990</td>
<td>703.92</td>
</tr>
</tbody>
</table>

**Total AAHUs:** 77.91

**Net Change in AAHU's Due to Project**

A. Future With Project AAHUs = 77.91
B. Future Without Project AAHUs = 2.54
C. Net Change (FWP - FWOP) = 75.37

### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Saline Marsh**

**Project:** West Belle Pass Barrier Headland Restoration

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>47</td>
<td>0.52</td>
<td>47</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 % Interspension</td>
<td>23</td>
<td>0.38</td>
<td>23</td>
</tr>
<tr>
<td>Class 1</td>
<td></td>
<td></td>
<td>Class 2</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td>Class 4</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 % OW &lt;= 1.5ft</td>
<td>96</td>
<td>0.60</td>
<td>96</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.63
**EM HSI** = 0.63
**EM HSI** = 0.50

**Open Water HSI** = 0.70
**OW HSI** = 0.70
**OW HSI** = 0.72
### West Belle Pass Barrier Headland Restoration

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 10</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>22</td>
<td>0.30</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td>14</td>
<td>0.31</td>
</tr>
<tr>
<td>Class 1</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>55</td>
<td>0.81</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>23</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

EM HSI = 0.46
OW HSI = 0.71

### Saline Marsh

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>47</td>
<td>0.52</td>
<td>41</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td>23</td>
<td>0.38</td>
<td>100</td>
</tr>
<tr>
<td>Class 1</td>
<td></td>
<td>0.92</td>
<td>100</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td>0.92</td>
<td>100</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td>0.92</td>
<td>100</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td>0.92</td>
<td>100</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td>0.92</td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>96</td>
<td>0.60</td>
<td>100</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>23</td>
<td>1.00</td>
<td>23</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>0.44</td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.63
Open Water HSI = 0.70

### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 5</th>
<th>TY 9</th>
<th>TY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>94</td>
<td>0.95</td>
<td>94</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td>90</td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>Class 1</td>
<td></td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td>0.92</td>
<td>90</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>100</td>
<td>0.50</td>
<td>100</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>23</td>
<td>1.00</td>
<td>23</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

EM HSI = 0.96
OW HSI = 0.73
### Project: West Belle Pass Barrier Headland Restoration

#### Variable Values

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Emergent (V1)</td>
<td>86</td>
</tr>
<tr>
<td>% Aquatic (V2)</td>
<td>0</td>
</tr>
<tr>
<td>% Interspersion (V3)</td>
<td>80</td>
</tr>
<tr>
<td>% Class 1</td>
<td>80</td>
</tr>
<tr>
<td>% Class 2</td>
<td>20</td>
</tr>
<tr>
<td>% Class 3</td>
<td>20</td>
</tr>
<tr>
<td>% Class 4</td>
<td>20</td>
</tr>
<tr>
<td>% Class 5</td>
<td>20</td>
</tr>
<tr>
<td>% OW &lt;= 1.5ft (V4)</td>
<td>90</td>
</tr>
<tr>
<td>Salinity (ppt) (V5)</td>
<td>20</td>
</tr>
<tr>
<td>Access Value (V6)</td>
<td>2.00</td>
</tr>
</tbody>
</table>

#### EM HSI = 0.91

#### OW HSI = 0.74

### AAHUs Calculation - Emergent Marsh

#### Future Without Project

<table>
<thead>
<tr>
<th>Ty</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>127.3</td>
<td>0.63</td>
<td>80.47</td>
<td>80.47</td>
</tr>
<tr>
<td>1</td>
<td>125.8</td>
<td>0.63</td>
<td>79.52</td>
<td>79.52</td>
</tr>
<tr>
<td>3</td>
<td>74.8</td>
<td>0.59</td>
<td>43.78</td>
<td>43.78</td>
</tr>
<tr>
<td>10</td>
<td>59.8</td>
<td>0.66</td>
<td>32.34</td>
<td>32.34</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.26</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**AAHUs = 34.43**

#### Future With Project

<table>
<thead>
<tr>
<th>Ty</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>127.3</td>
<td>0.63</td>
<td>80.47</td>
<td>80.47</td>
</tr>
<tr>
<td>1</td>
<td>108.0</td>
<td>0.59</td>
<td>63.37</td>
<td>71.78</td>
</tr>
<tr>
<td>3</td>
<td>180.9</td>
<td>0.82</td>
<td>148.22</td>
<td>265.99</td>
</tr>
<tr>
<td>5</td>
<td>253.8</td>
<td>0.98</td>
<td>243.49</td>
<td>507.39</td>
</tr>
<tr>
<td>9</td>
<td>248.1</td>
<td>0.95</td>
<td>235.38</td>
<td>507.39</td>
</tr>
<tr>
<td>10</td>
<td>246.7</td>
<td>0.95</td>
<td>234.05</td>
<td>234.05</td>
</tr>
<tr>
<td>20</td>
<td>232.4</td>
<td>0.91</td>
<td>210.90</td>
<td>210.90</td>
</tr>
</tbody>
</table>

**AAHUs = 204.11**

#### Net Change in AAHUs Due to Project

A. Future Without Project Emergent Marsh AAHUs = 34.43
B. Future With Project Emergent Marsh AAHUs = 204.11
C. Net Change (FWP - FWOP) = 169.68

### AAHUs Calculation - Open Water

#### Future Without Project

<table>
<thead>
<tr>
<th>Ty</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>141.3</td>
<td>0.70</td>
<td>98.68</td>
<td>98.68</td>
</tr>
<tr>
<td>1</td>
<td>142.8</td>
<td>0.70</td>
<td>100.25</td>
<td>198.93</td>
</tr>
<tr>
<td>3</td>
<td>193.1</td>
<td>0.70</td>
<td>139.47</td>
<td>537.40</td>
</tr>
<tr>
<td>9</td>
<td>218.2</td>
<td>0.63</td>
<td>147.98</td>
<td>685.38</td>
</tr>
<tr>
<td>10</td>
<td>209.6</td>
<td>0.67</td>
<td>180.90</td>
<td>806.28</td>
</tr>
</tbody>
</table>

**AAHUs = 142.38**

#### Future With Project

<table>
<thead>
<tr>
<th>Ty</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>141.3</td>
<td>0.70</td>
<td>98.68</td>
<td>98.68</td>
</tr>
<tr>
<td>1</td>
<td>122.7</td>
<td>0.62</td>
<td>68.80</td>
<td>68.80</td>
</tr>
<tr>
<td>3</td>
<td>13.3</td>
<td>0.74</td>
<td>9.80</td>
<td>16.60</td>
</tr>
<tr>
<td>5</td>
<td>15.5</td>
<td>0.73</td>
<td>11.33</td>
<td>27.93</td>
</tr>
<tr>
<td>9</td>
<td>21.2</td>
<td>0.73</td>
<td>15.48</td>
<td>43.41</td>
</tr>
<tr>
<td>10</td>
<td>22.5</td>
<td>0.73</td>
<td>16.51</td>
<td>60.02</td>
</tr>
<tr>
<td>20</td>
<td>36.3</td>
<td>0.74</td>
<td>27.43</td>
<td>219.99</td>
</tr>
</tbody>
</table>

**AAHUs = 18.76**

#### Net Change in AAHUs Due to Project

A. Future Without Project Open Water AAHUs = 142.38
B. Future With Project Open Water AAHUs = 18.76
C. Net Change (FWP - FWOP) = -123.62
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Deer Island Pass Sediment Delivery

The WVA for this project included 2 subareas. Total benefits for this project are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>AAHUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39.79</td>
</tr>
<tr>
<td>2</td>
<td>27.92</td>
</tr>
</tbody>
</table>

TOTAL BENEFITS = 68 AAHUS
## WETLAND VALUE ASSESSMENT COMMUNITY MODEL

### Fresh/Intermediate Marsh

#### Project: Deer Island Pass Sediment Delivery

**Area 1**

**Condition:** Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>33</td>
<td>0.40</td>
<td>32</td>
<td>0.39</td>
<td>0</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>30</td>
<td>0.44</td>
<td>30</td>
<td>0.44</td>
<td>73</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.40</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>18</td>
<td>0.30</td>
<td>18</td>
<td>0.30</td>
<td>73</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Access Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.52  
EM HSI = 0.55  
EM HSI = 0.77

Open Water HSI = 0.27  
OW HSI = 0.29  
OW HSI = 0.29

### Fresh/Intermediate Marsh

#### Project: Deer Island Pass Sediment Delivery

**Area 1**

**Condition:** Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th></th>
<th>TY 1</th>
<th></th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>33</td>
<td>0.40</td>
<td>38</td>
<td>0.44</td>
<td>73</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>30</td>
<td>0.44</td>
<td>40</td>
<td>0.40</td>
<td>73</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.40</td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>18</td>
<td>0.30</td>
<td>52</td>
<td>0.67</td>
<td>45</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Access Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.52  
EM HSI = 0.55  
EM HSI = 0.77

Open Water HSI = 0.27  
OW HSI = 0.29  
OW HSI = 0.29

---

E-45
### Project: Deer Island Pass Sediment Delivery

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 6</th>
<th>SI</th>
<th>TY 8</th>
<th>SI</th>
<th>TY 11</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>68</td>
<td>0.71</td>
<td>71</td>
<td>0.74</td>
<td>67</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>Class 2</td>
<td>100</td>
<td>Class 3</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>% OW &lt;= 1.5 ft</td>
<td>49</td>
<td>0.65</td>
<td>42</td>
<td>0.57</td>
<td>45</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td>0.24</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EM HSI = 0.74, EM HSI = 0.76, EM HSI = 0.74**

**OW HSI = 0.29, OW HSI = 0.28, OW HSI = 0.29**

### Project: Deer Island Pass Sediment Delivery

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 13</th>
<th>SI</th>
<th>TY 16</th>
<th>SI</th>
<th>TY 18</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>70</td>
<td>0.73</td>
<td>65</td>
<td>0.69</td>
<td>68</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>Class 2</td>
<td>100</td>
<td>Class 3</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>% OW &lt;= 1.5 ft</td>
<td>49</td>
<td>0.55</td>
<td>43</td>
<td>0.58</td>
<td>36</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td>0.24</td>
<td>1.00</td>
<td>1+H61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>intermediate</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EM HSI = 0.75, EM HSI = 0.72, EM HSI = 0.74**

**OW HSI = 0.28, OW HSI = 0.29, OW HSI = 0.28**

### Project: Deer Island Pass Sediment Delivery

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 20</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>65</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>0</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td>Class 2</td>
</tr>
<tr>
<td>V4</td>
<td>% OW &lt;= 1.5 ft</td>
<td>34</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
</tr>
<tr>
<td>intermediate</td>
<td>intermediate</td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
</tr>
<tr>
<td>intermediate</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

**EM HSI = 0.72, EM HSI = 0.71, EM HSI = 0.72**

**OW HSI = 0.28, OW HSI = 0.28, OW HSI = 0.28**

E-46
## AAHU CALCULATION - EMERGENT MARSH

**Project:** Deer Island Pass Sediment Delivery  
**Area:** 1

### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0.52</td>
<td>26.01</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>48</td>
<td>0.51</td>
<td>24.64</td>
<td>25.32</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.24</td>
<td>0.00</td>
<td>191.99</td>
</tr>
</tbody>
</table>

**AAHUs = 10.87**

### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>0.52</td>
<td>26.01</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>57</td>
<td>0.55</td>
<td>31.32</td>
<td>28.63</td>
</tr>
<tr>
<td>3</td>
<td>110</td>
<td>0.77</td>
<td>84.95</td>
<td>112.33</td>
</tr>
<tr>
<td>6</td>
<td>102</td>
<td>0.74</td>
<td>75.64</td>
<td>240.77</td>
</tr>
<tr>
<td>8</td>
<td>107</td>
<td>0.76</td>
<td>81.33</td>
<td>156.94</td>
</tr>
<tr>
<td>11</td>
<td>100</td>
<td>0.74</td>
<td>73.54</td>
<td>232.21</td>
</tr>
<tr>
<td>13</td>
<td>105</td>
<td>0.75</td>
<td>79.16</td>
<td>152.67</td>
</tr>
<tr>
<td>16</td>
<td>97</td>
<td>0.72</td>
<td>70.13</td>
<td>223.94</td>
</tr>
<tr>
<td>18</td>
<td>102</td>
<td>0.74</td>
<td>75.64</td>
<td>145.74</td>
</tr>
<tr>
<td>20</td>
<td>97</td>
<td>0.72</td>
<td>70.13</td>
<td>280.53</td>
</tr>
</tbody>
</table>

**AAHUs = 78.68**

### NET CHANGE IN AAHUs DUE TO PROJECT

- Future With Project Emergent Marsh AAHUs = 78.68
- Future Without Project Emergent Marsh AAHUs = 10.87

Net Change (FWP - FWOP) = 67.82

## AAHU CALCULATION - OPEN WATER

**Project:** Deer Island Pass Sediment Delivery  
**Area:** 1

### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
<td>0.27</td>
<td>26.74</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>102</td>
<td>0.27</td>
<td>27.27</td>
<td>27.01</td>
</tr>
<tr>
<td>20</td>
<td>150</td>
<td>0.24</td>
<td>35.58</td>
<td>601.69</td>
</tr>
</tbody>
</table>

**AAHUs = 31.43**

### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
<td>0.27</td>
<td>26.74</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>35</td>
<td>0.29</td>
<td>10.22</td>
<td>18.74</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>0.29</td>
<td>11.48</td>
<td>21.70</td>
</tr>
<tr>
<td>6</td>
<td>37</td>
<td>0.29</td>
<td>10.74</td>
<td>33.33</td>
</tr>
<tr>
<td>8</td>
<td>43</td>
<td>0.28</td>
<td>12.63</td>
<td>22.98</td>
</tr>
<tr>
<td>11</td>
<td>40</td>
<td>0.29</td>
<td>11.48</td>
<td>35.56</td>
</tr>
<tr>
<td>13</td>
<td>45</td>
<td>0.28</td>
<td>12.72</td>
<td>24.21</td>
</tr>
<tr>
<td>16</td>
<td>42</td>
<td>0.29</td>
<td>11.96</td>
<td>37.06</td>
</tr>
<tr>
<td>18</td>
<td>48</td>
<td>0.28</td>
<td>13.49</td>
<td>25.48</td>
</tr>
<tr>
<td>20</td>
<td>53</td>
<td>0.28</td>
<td>14.72</td>
<td>28.22</td>
</tr>
</tbody>
</table>

**AAHUs = 12.36**

### NET CHANGE IN AAHUs DUE TO PROJECT

- Future With Project Open Water AAHUs = 12.36
- Future Without Project Open Water AAHUs = 31.43

Net Change (FWP - FWOP) = -19.07

### TOTAL BENEFITS IN AAHUs DUE TO PROJECT

- Emergent Marsh Habitat Net AAHUs = 67.82
- Open Water Habitat Net AAHUs = -19.07

Net Benefits = (2.1xEMAAHUs + OWAAHUs) / 3.1 = 39.79
### Fresh/Intermediate Marsh

#### Project: Deer Island Pass Sediment Delivery

#### Project Area: Area 2

#### Condition: Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>1</td>
<td>0.11</td>
<td>2</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>24</td>
<td>0.32</td>
<td>24</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>24</td>
<td>0.37</td>
<td>24</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Salinity (ppt)</td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.26

**Intermediate Marsh HSI** = 0.26

**Open Water HSI** = 0.44

### Fresh/Intermediate Marsh

#### Project: Deer Island Pass Sediment Delivery

#### Project Area: Area 2

#### Condition: Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>SI</td>
<td>Value</td>
<td>SI</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>1</td>
<td>0.11</td>
<td>2</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>24</td>
<td>0.32</td>
<td>24</td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td>0.20</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>Class 1</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>24</td>
<td>0.37</td>
<td>24</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>0.24</td>
<td>1.00</td>
<td>0.24</td>
</tr>
<tr>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Salinity (ppt)</td>
<td>intermediate</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.26

**Intermediate Marsh HSI** = 0.26

**Open Water HSI** = 0.44
### AAHU Calculation - Emergent Marsh

**Project:** Deer Island Pass Sediment Delivery

**Area 2**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>16</td>
<td>0.26</td>
<td>4.23</td>
<td>3.13</td>
</tr>
<tr>
<td>20</td>
<td>145</td>
<td>0.36</td>
<td>51.99</td>
<td>49.63</td>
</tr>
</tbody>
</table>

**AAHUs = 24.94**

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>21</td>
<td>0.26</td>
<td>5.55</td>
<td>3.78</td>
</tr>
<tr>
<td>20</td>
<td>264</td>
<td>0.44</td>
<td>115.08</td>
<td>101.79</td>
</tr>
</tbody>
</table>

**AAHUs = 51.09**

**Net Change in AAHUs Due to Project**

A. Future With Project Emergent Marsh AAHUs = 51.09
B. Future Without Project Emergent Marsh AAHUs = 24.94
Net Change (FWP - FWOP) = 26.15

### AAHU Calculation - Open Water

**Project:** Deer Island Pass Sediment Delivery

**Area 2**

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1044</td>
<td>0.44</td>
<td>463.55</td>
<td>461.87</td>
</tr>
<tr>
<td>20</td>
<td>907</td>
<td>0.49</td>
<td>444.88</td>
<td>8614.24</td>
</tr>
</tbody>
</table>

**AAHUs = 453.81**

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1031</td>
<td>0.44</td>
<td>457.87</td>
<td>460.76</td>
</tr>
<tr>
<td>20</td>
<td>788</td>
<td>0.63</td>
<td>500.14</td>
<td>9247.83</td>
</tr>
</tbody>
</table>

**AAHUs = 485.43**

**Net Change in AAHUs Due to Project**

A. Future With Project Open Water AAHUs = 485.43
B. Future Without Project Open Water AAHUs = 453.81
Net Change (FWP - FWOP) = 31.62

**Total Benefits in AAHUs Due to Project**

A. Emergent Marsh Habitat Net AAHUs = 26.15
B. Open Water Habitat Net AAHUs = 31.62
Net Benefits=(2.1xEMAAHUs+OWAAHUs)/3.1 = 27.92
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Vermilion Bay Shoreline Protection

The WVA for this project included 1 area. Total benefits for this project are as follows:

TOTAL BENEFITS = 44 AAHUS
### WETLAND VALUE ASSESSMENT COMMUNITY MODEL

**Fresh/Intermediate Marsh**

**Project:** Vermilion Bay Shoreline Protection  
**Project Area:** Fresh/Intermediate  
**Condition:** Future Without Project  
**Value:** 166

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>87</td>
<td>0.88</td>
<td>83</td>
<td>0.85</td>
<td>0</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>10</td>
<td>0.19</td>
<td>10</td>
<td>0.19</td>
<td>0</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>90</td>
<td>0.94</td>
<td>90</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td></td>
<td>90</td>
<td>0.94</td>
<td>90</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td></td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>0.89</td>
<td>0</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>4</td>
<td>1.00</td>
<td>4</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.92  
Emergent Marsh HSI = 0.92  
Emergent Marsh HSI = 0.87

Open Water HSI = 0.43  
Open Water HSI = 0.43  
Open Water HSI = 0.44

---

**WETLAND VALUE ASSESSMENT COMMUNITY MODEL**

**Fresh/Intermediate Marsh**

**Project:** Vermilion Bay Shoreline Protection  
**Project Area:** Fresh/Intermediate  
**Condition:** Future With Project  
**Value:** 166

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>% Emergent</td>
<td>87</td>
<td>0.88</td>
<td>87</td>
<td>0.88</td>
<td>80</td>
</tr>
<tr>
<td>V2</td>
<td>% Aquatic</td>
<td>10</td>
<td>0.19</td>
<td>10</td>
<td>0.19</td>
<td>10</td>
</tr>
<tr>
<td>V3</td>
<td>Interspersion</td>
<td>%</td>
<td>90</td>
<td>0.94</td>
<td>90</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>Class 1</td>
<td></td>
<td>90</td>
<td>0.94</td>
<td>90</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>Class 2</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 3</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 4</td>
<td></td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Class 5</td>
<td></td>
<td>100</td>
<td>1.00</td>
<td>100</td>
<td>1.00</td>
</tr>
<tr>
<td>V4</td>
<td>%OW &lt;= 1.5ft</td>
<td>70</td>
<td>0.89</td>
<td>70</td>
<td>0.89</td>
<td>80</td>
</tr>
<tr>
<td>V5</td>
<td>Salinity (ppt)</td>
<td>fresh</td>
<td>4</td>
<td>1.00</td>
<td>4</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>Access Value</td>
<td>fresh</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emergent Marsh HSI = 0.92  
Emergent Marsh HSI = 0.92  
Emergent Marsh HSI = 0.87

Open Water HSI = 0.43  
Open Water HSI = 0.43  
Open Water HSI = 0.44

---

E-51
### AAHU Calculation - Emergent Marsh

**Project:** Vermilion Bay Shoreline Protection

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>145</td>
<td>0.92</td>
<td>132.93</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>138</td>
<td>0.89</td>
<td>123.21</td>
<td>128.04</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.24</td>
<td>0.00</td>
<td>883.62</td>
</tr>
</tbody>
</table>

**AAHUs** = 50.58

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Marsh Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>145</td>
<td>0.92</td>
<td>132.93</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>144</td>
<td>0.92</td>
<td>132.01</td>
<td>132.47</td>
</tr>
<tr>
<td>20</td>
<td>133</td>
<td>0.87</td>
<td>115.47</td>
<td>2349.46</td>
</tr>
</tbody>
</table>

**AAHUs** = 124.10

#### Net Change in AAHUs Due to Project

A. Future With Project Emergent Marsh AAHUs = 124.10
B. Future Without Project Emergent Marsh AAHUs = 50.58
Net Change (FWP - FWOP) = 73.51

### AAHU Calculation - Open Water

**Project:** Vermilion Bay Shoreline Protection

#### Future Without Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21</td>
<td>0.43</td>
<td>9.10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28</td>
<td>0.43</td>
<td>12.13</td>
<td>10.62</td>
</tr>
<tr>
<td>20</td>
<td>166</td>
<td>0.23</td>
<td>37.72</td>
<td>563.60</td>
</tr>
</tbody>
</table>

**AAHUs** = 28.71

#### Future With Project

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21</td>
<td>0.43</td>
<td>9.10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>0.43</td>
<td>9.53</td>
<td>9.32</td>
</tr>
<tr>
<td>20</td>
<td>34</td>
<td>0.44</td>
<td>15.01</td>
<td>232.88</td>
</tr>
</tbody>
</table>

**AAHUs** = 12.11

#### Net Change in AAHUs Due to Project

A. Future With Project Open Water AAHUs = 12.11
B. Future Without Project Open Water AAHUs = 28.71
Net Change (FWP - FWOP) = -16.60

#### Total Benefits in AAHUs Due to Project

A. Emergent Marsh Habitat Net AAHUs = 73.51
B. Open Water Habitat Net AAHUs = -16.60
Net Benefits = \( \frac{(2.1 \times EMAAHUs + OWAAHUs)}{3.1} \) = 44.44
WETLAND VALUE ASSESSMENT

Benefits Summary Sheet

Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

The WVA for this project included 1 area. Total benefits for this project are as follows:

TOTAL BENEFITS = 311 AAHUS
### Saline Marsh

**Project:** Southwest Louisiana Gulf Shoreline Nourishment and Protection  
**Project Area:** 1,244

#### Future Without Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>55</td>
<td>0.60</td>
<td>52</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>Class 1</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>Class 2</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>Class 3</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>Class 4</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>Class 5</td>
<td>50</td>
<td>0.60</td>
<td>50</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.70  
**Open Water HSI** = 0.68

#### Future With Project

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 0</th>
<th>TY 1</th>
<th>TY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>65</td>
<td>0.71</td>
<td>58</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>Class 1</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>Class 2</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>Class 3</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>Class 4</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>Class 5</td>
<td>50</td>
<td>0.60</td>
<td>45</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.70  
**Open Water HSI** = 0.68

#### FWP

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 4</th>
<th>TY 5</th>
<th>TY 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>SI</td>
<td>Value</td>
</tr>
<tr>
<td>V1 % Emergent</td>
<td>68</td>
<td>0.71</td>
<td>72</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>Class 1</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>Class 2</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>Class 3</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>Class 4</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>Class 5</td>
<td>65</td>
<td>0.72</td>
<td>70</td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Emergent Marsh HSI** = 0.79  
**Open Water HSI** = 0.73
### Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

#### FWP

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 8 Value</th>
<th>SI</th>
<th>TY 8 Value</th>
<th>SI</th>
<th>TY 9 Value</th>
<th>SI</th>
<th>TY 11 Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>71</td>
<td>0.74</td>
<td>72</td>
<td>0.75</td>
<td>72</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>92</td>
<td>0.70</td>
<td>97</td>
<td>0.58</td>
<td>93</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EM HSI** = 0.82  
**OW HSI** = 0.73

### Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

#### FWP

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 12 Value</th>
<th>SI</th>
<th>TY 13 Value</th>
<th>SI</th>
<th>TY 15 Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>71</td>
<td>0.74</td>
<td>72</td>
<td>0.75</td>
<td>72</td>
<td>0.75</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>92</td>
<td>0.70</td>
<td>97</td>
<td>0.58</td>
<td>93</td>
<td>0.68</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**EM HSI** = 0.82  
**OW HSI** = 0.73

### Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

#### FWP

<table>
<thead>
<tr>
<th>Variable</th>
<th>TY 16 Value</th>
<th>SI</th>
<th>TY 17 Value</th>
<th>SI</th>
<th>TY 19 Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>71</td>
<td>0.74</td>
<td>72</td>
<td>0.75</td>
<td>72</td>
<td>0.75</td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
<td>0</td>
<td>0.30</td>
</tr>
<tr>
<td>V3 Interspersion</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Class 1</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
<td>70</td>
<td>0.76</td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>92</td>
<td>0.70</td>
<td>97</td>
<td>0.58</td>
<td>93</td>
<td>0.68</td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
<td>20</td>
<td>1.00</td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**EM HSI** = 0.82  
**OW HSI** = 0.73
Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

FWP

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
<th>Value</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 % Emergent</td>
<td>71</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2 % Aquatic</td>
<td>0</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V3 Interspersion %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>70</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4 %OW &lt;= 1.5ft</td>
<td>92</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V5 Salinity (ppt)</td>
<td>20</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Access Value</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EM HSI = 0.82  EM HSI = 0.73  OW HSI =

AAHU CALCULATION - EMERGENT MARSH

Project: Southwest Louisiana Gulf Shoreline Nourishment and Protection

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>685</td>
<td>0.70</td>
</tr>
<tr>
<td>1</td>
<td>651</td>
<td>0.69</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0.26</td>
</tr>
</tbody>
</table>

AAHUs = 191.65

<table>
<thead>
<tr>
<th>Future With Project</th>
<th>Total</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Marsh Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>685</td>
<td>0.70</td>
</tr>
<tr>
<td>1</td>
<td>716</td>
<td>0.73</td>
</tr>
<tr>
<td>3</td>
<td>754</td>
<td>0.75</td>
</tr>
<tr>
<td>4</td>
<td>847</td>
<td>0.79</td>
</tr>
<tr>
<td>5</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>7</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>8</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>9</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>11</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>12</td>
<td>888</td>
<td>0.82</td>
</tr>
<tr>
<td>13</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>14</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>15</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>17</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>19</td>
<td>898</td>
<td>0.82</td>
</tr>
<tr>
<td>20</td>
<td>888</td>
<td>0.82</td>
</tr>
</tbody>
</table>

AAHUs = 696.29

<table>
<thead>
<tr>
<th>Future Without Project</th>
<th>Total</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td>Water Acres</td>
<td>x HSI</td>
</tr>
<tr>
<td>0</td>
<td>559</td>
<td>0.68</td>
</tr>
<tr>
<td>1</td>
<td>593</td>
<td>0.68</td>
</tr>
<tr>
<td>20</td>
<td>1248</td>
<td>0.64</td>
</tr>
</tbody>
</table>

AAHUs = 594.10

E-56
### Future With Project Total Cumulative

<table>
<thead>
<tr>
<th>TY</th>
<th>Water Acres</th>
<th>x HSI</th>
<th>Total HUs</th>
<th>Cumulative HUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>559</td>
<td>0.68</td>
<td>380.22</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>254</td>
<td>0.72</td>
<td>181.73</td>
<td>282.77</td>
</tr>
<tr>
<td>3</td>
<td>322</td>
<td>0.73</td>
<td>233.72</td>
<td>415.21</td>
</tr>
<tr>
<td>4</td>
<td>354</td>
<td>0.73</td>
<td>260.11</td>
<td>246.89</td>
</tr>
<tr>
<td>5</td>
<td>254</td>
<td>0.72</td>
<td>183.99</td>
<td>221.94</td>
</tr>
<tr>
<td>7</td>
<td>322</td>
<td>0.73</td>
<td>235.63</td>
<td>419.45</td>
</tr>
<tr>
<td>8</td>
<td>354</td>
<td>0.73</td>
<td>261.17</td>
<td>248.39</td>
</tr>
<tr>
<td>9</td>
<td>254</td>
<td>0.72</td>
<td>183.99</td>
<td>222.42</td>
</tr>
<tr>
<td>11</td>
<td>322</td>
<td>0.73</td>
<td>235.63</td>
<td>419.45</td>
</tr>
<tr>
<td>12</td>
<td>354</td>
<td>0.73</td>
<td>261.17</td>
<td>248.39</td>
</tr>
<tr>
<td>13</td>
<td>254</td>
<td>0.72</td>
<td>183.99</td>
<td>222.42</td>
</tr>
<tr>
<td>15</td>
<td>322</td>
<td>0.73</td>
<td>235.63</td>
<td>419.45</td>
</tr>
<tr>
<td>16</td>
<td>354</td>
<td>0.73</td>
<td>261.17</td>
<td>248.39</td>
</tr>
<tr>
<td>17</td>
<td>254</td>
<td>0.72</td>
<td>183.99</td>
<td>222.42</td>
</tr>
<tr>
<td>19</td>
<td>322</td>
<td>0.73</td>
<td>235.63</td>
<td>419.45</td>
</tr>
<tr>
<td>20</td>
<td>354</td>
<td>0.73</td>
<td>261.17</td>
<td>248.39</td>
</tr>
</tbody>
</table>

**AAHUs** 225.27

### NET CHANGE IN AAHUs DUE TO PROJECT

A. Future With Project Open Water AAHUs = 225.27

B. Future Without Project Open Water AAHUs = 594.10

Net Change (FWP - FWOP) = -368.83

### TOTAL BENEFITS IN AAHUs DUE TO PROJECT

A. Emergent Marsh Habitat Net AAHUs = 504.64

B. Open Water Habitat Net AAHUs = -368.83

Net Benefits = (3.5xEMAAHUs+OWAAHUs)/4.5 = 310.53
Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix F

CWPPRA Prioritization Criteria
PRIORITIZATION CRITERIA

PRIORITIZATION CRITERIA FOR UNCONSTRUCTED CWPPRA PROJECTS
8 Oct 2003

I. Cost-effectiveness
Scoring for this criterion should be based on current estimated total fully funded project cost and net acres created/protected/restored at Target Year (TY) 20. See appendix for calculation of swamp net acres. The fully funded cost estimate (100%) must be reviewed and approved by the Engineering and Economics Workgroups. Monitoring costs should be removed from the fully funded cost estimate, unless the project has a project-specific monitoring cost not covered by CRMS. The net acreage figure must be derived from the official WVA conducted for the project and any new figures must be reviewed and approved by the Environmental Workgroup.

<table>
<thead>
<tr>
<th>Cost/Net Acre</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $20,000/ net acre</td>
<td>10</td>
</tr>
<tr>
<td>Between $20,000 and $40,000/ net acre</td>
<td>7.5</td>
</tr>
<tr>
<td>Between $40,000 and $60,000/ net acre</td>
<td>5</td>
</tr>
<tr>
<td>Between $60,000 and $80,000/ net acre</td>
<td>2.5</td>
</tr>
<tr>
<td>More than $80,000/ net acre</td>
<td>1</td>
</tr>
</tbody>
</table>

Alternate Net Acres for Swamps: The “cost/net acre” approach used above does not work for swamp projects because the wetland loss rates estimated for Louisiana coastal wetlands using historical and recent aerial photography have not detected losses for swamps. However, future loss rates for swamps have been estimated by Coast 2050 mapping unit. This information, combined with other information regarding project details/benefits can be used to provide an “alternate net acres” estimate for swamp projects. Attachment 1 contains a description of how alternate net acres will be derived for the purposes of assessing the cost-effectiveness of swamp projects, along with the assessment of alternate net acres for two listed swamp projects.

II. Address area of need, high loss area
The purpose of this criterion is to encourage the funding of projects that are located in basins undergoing the greatest loss. Additionally, projects should be located, to the maximum extent practicable, in localized “hot spots” of loss when they are likely to substantially reduce or reverse that loss. The appropriate basin determination on the following table should be selected based on the location of the majority of the project benefits, and the project’s Future Without Project (FWOP) loss rates should be applied. Either table or a combination of both tables (pro-rating) may be used for scoring depending upon what type of loss rates were developed for use in the WVA. Specific basins are assigned to high, medium, low, and stable/gain categories based on recent basin-wide loss rates (1990 to 2001).

For projects with sub-areas affected by varying land loss or erosion rates, the score shall be a weighted average which reflects the proportion of the total project area affected by each loss rate. Example: Project located in Calcasieu/Sabine basin. Project area of 1,000 acres of which sub-area 1 is 200 acres and experiences a shoreline internal loss rate of 3%/yr, and 800-acre subarea 2 has an internal loss rate of 1%/yr. The project would receive a score of 

\[(0.2*7.5)+(0.8*5) = 5.5\]
For project areas affected by both internal wetlands loss and shoreline loss, the score shall be a weighted average which reflects the proportion of the total project area affected by each loss rate. *Example*: Project located in Calcasieu/Sabine basin. Project area of 1,000 acres of which sub-area 1 is 200 acres and experiences a shoreline erosion rate of 30 feet/yr, and 800-acre subarea 2 has an internal loss rate of 0.1%/yr. The project would receive a score of (0.2*7.5)+(0.8*4) = 4.7

**FOR NON-SHORELINE PROTECTION PROJECTS**

<table>
<thead>
<tr>
<th>Basin</th>
<th>High (≥2.0%/yr)</th>
<th>Medium (&lt;2.0% to ≥0.5%/yr)</th>
<th>Low (&lt;0.5%/yr to ≥0.01%/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barataria and Terrebonne</td>
<td>10</td>
<td>7.5</td>
<td>5</td>
</tr>
<tr>
<td>Calcasieu/Sabine, Mermentau, and Pontchartrain</td>
<td>7.5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Breton, Mississippi River</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Atchafalaya and Teche/Vermilion</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

**FOR SHORELINE PROTECTION AND BARRIER ISLAND PROJECTS**

<table>
<thead>
<tr>
<th>Basin</th>
<th>High (≥25 ft/yr)</th>
<th>Medium (≥10 to &lt; 25 ft/yr)</th>
<th>Low (0 to &lt; 10 ft/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barataria Terrebonne</td>
<td>10</td>
<td>7.5</td>
<td>5</td>
</tr>
<tr>
<td>Calcasieu/Sabine Mermentau Pontchartrain</td>
<td>7.5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Breton Mississippi River</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Atchafalaya Teche/Vermilion</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

**III. Implementability**

Implementability is defined as the expectation that a project has no serious impediment(s) precluding its timely implementation. Impediments include issues such as design related issues, land rights, infrastructure relocations, and major public concerns. The Workgroups will, by consensus or vote, agree on impediments which will warrant a point score deduction. Other issues which sponsoring agencies believe may significantly affect implementability may also be identified.

The predominant land rights issue affecting implementability is identified as non-participating landowners (i.e., demonstrated unwilling to execute required servitudes, rights-of-way, etc.) of tracts critical to major project features, unless the project is sponsored by an agency with condemnation authority which has confirmed its willingness to use such authority. Other difficult or time-consuming land rights issues (e.g., reclamation issues, tracts with many...
owners/undivided interests) are not defined as issues affecting implementability unless identified as such by the agency procuring land rights for the project.

Infrastructure issues are generally limited to modifications/relocations for which project-specific funding is not included in estimated project costs, or if the infrastructure operator/owner has confirmed its unwillingness to have its operations/structures relocated/modified.

Significant concerns include issues such as large-scale flooding increases, significant navigation impacts, basin-wide ecological changes which would significantly affect productivity or distribution of economically- or socially-important coastal resources.

The project has no obvious issues affecting implementability 10 pts

Subtract 3 points for each identified implementability issue, negative scores are possible.

IV. Certainty of benefits
The Adaptive Management review showed that some types of projects are more effective in producing the anticipated benefits. Factors that influence the certainty of benefits include soil substrate, operational problems, lack of understanding of causative factors of loss, success of engineering and design as well as construction, etc. Scoring for this criterion should be based on selecting project types which reflect the planned project features. If a project contains more than one type of feature, the relative contribution of each type should be weighed in the scoring, as in the example below.

Example: A project in the Chenier plain with two major project components: inland shoreline protection and hydrologic restoration. Approximately 80% of the anticipated benefits (i.e., net acres at TY20) are expected to result from shoreline protection features and approximately 20% of the benefits (i.e., net acres at TY 20) are anticipated to result from hydrologic restoration. Scoring for this project should generally be (0.8*10)+(0.2*5) = 9

Certainty of Benefits – Project Type Table

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inland shoreline protection - chenier plain</td>
<td>10</td>
</tr>
<tr>
<td>River diversions- deltaic plain</td>
<td>9</td>
</tr>
<tr>
<td>Terracing - chenier plain</td>
<td>8</td>
</tr>
<tr>
<td>Inland shoreline protection - deltaic plain</td>
<td>8</td>
</tr>
<tr>
<td>Marsh creation - chenier plain</td>
<td>7</td>
</tr>
<tr>
<td>Marsh creation - deltaic plain</td>
<td>7</td>
</tr>
<tr>
<td>Barrier island projects*</td>
<td>7</td>
</tr>
<tr>
<td>Gulf shoreline protection - chenier plain**</td>
<td>6</td>
</tr>
<tr>
<td>Gulf shoreline protection - deltaic plain**</td>
<td>5</td>
</tr>
<tr>
<td>Freshwater diversion -chenier plain</td>
<td>5</td>
</tr>
<tr>
<td>Freshwater diversion - deltaic plain</td>
<td>5</td>
</tr>
<tr>
<td>Hydrologic restoration - chenier plain</td>
<td>5</td>
</tr>
<tr>
<td>Vegetative plantings (low energy area)</td>
<td>5</td>
</tr>
<tr>
<td>Terracing - deltaic plain</td>
<td>3</td>
</tr>
<tr>
<td>Hydrologic restoration - deltaic plain</td>
<td>2</td>
</tr>
<tr>
<td>Vegetative plantings (high energy area)</td>
<td>2</td>
</tr>
</tbody>
</table>
* Refers to traditional barrier island projects creating marsh and dune habitats by dedicated dredging. If shoreline protection is a project component, then the score should be weighted by apportioning the benefits between shoreline protection (score of 5) and traditional dedicated dredging techniques (score of 7).

** Gulf shoreline protection means typical structures currently being used around the state and nation such as breakwaters, revetments, concrete mats, etc. Does not include experimental structures being tested at various locations.

V. Sustainability of benefits
This criterion should be scored as follows:

The net acres (i.e., TY20 FWP acres – TY20 FWOP acres) benefited at TY 20 should be projected through TY 30 based on application of FWOP conditions (i.e., internal loss) to the TY20 net acres. The net acres benefited at TY 20 and the percent decrease in net acres from TY20 to TY30 are combined in the matrix below to produce an indicator of sustainability. Assume that, after year 20, project features such as water control structures would be locked open, controlled diversions and siphons would be closed, and shoreline protection structures only would provide full protection until the next projected maintenance event would be necessary (i.e., future with project (FWP) conditions would continue from TY20 until the next maintenance event would be required.

For shoreline protection projects in the Deltaic Plain, shoreline protection effectiveness will be reduced by 50% from the year the next scheduled maintenance event is required to TY30. For shoreline protection projects in the Chenier Plain, shoreline protection effectiveness will be reduced by 25% from the year the next scheduled maintenance event is required to TY30. The effectiveness of shoreline protection projects utilizing concrete panels will be reduced by 10%. A 50% reduction in effectiveness will also be applied to barrier island projects using rock shoreline protection. Vegetative plantings used for shoreline protection return to FWOP erosion rates after TY20. For all shoreline protection projects, it is critical that information be provided to substantiate when the next projected maintenance event would occur.

Selected project types (e.g., uncontrolled sediment diversions) may be considered for continued application of FWP conditions provided that a valid rationale is provided.
VI. Consistent with hydrogeomorphic objective of increasing riverine input in the deltaic plain or freshwater input and saltwater penetration limiting in the Chenier plain

DELTAIC PLAIN PROJECTS

The project would significantly increase direct riverine input into the benefitted wetlands (structure capable of diverting > 2,500 cfs) 10

The project would result in the direct riverine input of between 2,500 cfs and 1,000 cfs into benefitted wetlands 7

The project would result in some minor increases of direct riverine flows into the benefitted wetlands (structure or diversion <1,000 cfs) 4

The project would result in an increase of indirect riverine flows into the benefitted wetlands 2

The project will not result in increases in riverine flows 0

CHENIER PLAIN PROJECTS

The project will divert freshwater from an area where excess water adversely impacts wetland health to an area which would be benefited from freshwater inputs OR the project will provide a significant level of salinity control to an area where it is in need 6

The project will result in increases in freshwater inflow to an area where it is in need OR the project may provide some minor and/or local salinity control benefits 3

The project will not affect freshwater inflow or salinity 0

VII. Consistent with hydrogeomorphic objective of increased sediment input

The purpose of this criterion is to encourage projects that bring in sediment from exterior sources (i.e., Atchafalaya River north of the delta, Mississippi River, Ship Shoal, or other exterior sources). Therefore, for projects to score on this criterion at all, they must have some outside sediment sources as project components. Large river diversions similar to Benny’s Bay (i.e. >= 12 ft bottom elevation) and large marsh creation projects (i.e. >= 5 million cubic yards) can be expected to input a substantial amount of sediment into areas of need and should rank higher than diversions and marsh creation projects of smaller magnitude. Quantities of sediment deposited by river diversions must be reviewed and approved by the Engineering Workgroup. Mining sediment from outside systems should receive emphasis. Large scale mining of river sediments such as proposed in the Sediment Trap project represent a major input of sediment from outside the system. Major mining of Ship Shoal for use on barrier islands also should be considered to be more beneficial than dredging minor volumes of sediment for placement on barrier islands. Mining ebb tidal deltas also should receive less emphasis than major mining of Ship Shoal due to the limited quantity of high quality sand available from ebb tidal deltas. Ebb
tidal deltas are sediment sinks disconnected from input into the system and should be emphasized over flood tidal deltas or other similar interior bay borrow sites. In all cases, to receive any points, the source of the sediment should be considered to be exterior to, and have no natural sediment input into, the basin in which the project is located. Because of the recognized differences in logistics between river-source marsh creation projects/diversions and barrier island projects, a separate scoring category is used for barrier island projects. Projects which do not supply sediment from external sources cannot receive points for this criterion.

Scoring categories for diversions and marsh creation projects utilizing the Mississippi River or Atchafalaya River as a sediment source:

- The project will result in the significant placement of sediment (> 5 million cubic yards) from exterior sources 10
- The project will input some sediment (< 5 million cubic yards) from external sources 5
- The project will not increase sediment input over that presently occurring 0

Scoring categories for barrier island projects utilizing offshore and ebb tidal delta sediment sources:

- The project will result in the significant placement of sediment (> 1 million cubic yards) from an offshore sediment source 10
- The project will input some sediment (> 2 million cubic yards) from an ebb tidal delta source 5
- The project will not increase sediment input over that presently occurring 0

VIII. **Consistent with hydrogeomorphic objective of maintaining or establishing landscape features critical to a sustainable ecosystem structure and function**

Certain landscape features provide critical benefits to maintaining the integrity of the coastal ecosystem. Such features include barrier islands, lake and bay rims/shorelines, cheniers, landbridges, and natural levee ridges. Projects which do not maintain or establish at least one of those features cannot receive points for this criterion.

The project serves to protect, for at least the 20 year life of the project, landscape features which are critical to maintaining the integrity of the mapping unit in which they are found or are part of an ongoing effort to restore a landscape feature deemed critical to a basin (e.g., Barataria land bridge, Grand and White Lake land bridge) or the coast in general (e.g., barrier islands) 10

The project serves to protect, for at least the 20 year life of the project, any landscape feature described above. 5

The project does not meet the above criteria 0
Once all the projects have been evaluated and scored by the Environmental and Engineering Work Groups, each score will be weighted using the following table and the following formula to create one final score. A maximum of 100 points is possible.

Weighting per criteria:
1. Cost-Effectiveness 20
2. Area of Need 15
3. Implementability 15
4. Certainty of Benefits 10
5. Sustainability 10
6. HGM Riverine Input 10
7. HGM Sediment Input 10
8. HGM Structure and Function 10

TOTAL 100%

\[(C1*2.0) + (C2*1.5) + (C3*1.5) + (C4*1.0) + (C5*1.0) + (C6*1.0) + (C7*1.0) + (C8*1.0)\]

Attachment 1

**COST / “ALTERNATE NET ACRES” (SWAMP)**

“COST / NET ACRE” does not work for swamp projects because the wetland loss rates estimated for Louisiana coastal wetlands using historical and recent aerial photography, have not detected losses for swamps. In spite of this, swamp ecologists and others know that the condition of many of swamps is very poor, and that the trend is for rapid decline. They also know that the ultimate result of this trend will be conversion of the swamps to open water. This conversion is expected to happen very quickly when swamp health reaches some critical low threshold. Because of this, it is not possible to estimate “net acres” as is done for marsh projects. However, future loss rates for swamps have been estimated by Coast 2050 mapping unit (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority 1998). This information, combined with other information regarding project details/benefits can be used to provide an “alternate net acres” estimate for swamp projects.

**EXAMPLES**

**Maurepas Diversion Project:** Wetland loss rates for the Coast 2050 Amite/Blind Rivers mapping unit for 1974-90 were estimated by USACE to be 0.83% per year for the swamps, and 0.02% per year for fresh marsh. Based on these rates, about 50% of the swamp, and 1.2% of the fresh marsh will be lost in 60 years (LCWCRTF 1998. Appendix C). For the purposes of this example, in order to be consistent with other approaches, one can estimate the acres that would be lost in the project area in 20 years without the project. The project area is 36,121 acres (Lee Wilson & Associates 2001). The Amite/Blind Rivers mapping unit consisted of 138,900 acres of swamp and 3,440 acres of fresh marsh in 1990 (LCWCRTF 1998. Appendix C). Since we don’t have an estimate of the proportion of swamp and fresh marsh in our study area, we will assume the same proportions as in the Amite/Blind Rivers mapping unit, 98% swamp, 2% fresh marsh.
Applying these proportions and the loss rates for the mapping unit, to the project area, about 17,699 acres of swamp and about 9 acres of fresh marsh will be lost in 60 years in the Maurepas project area, without the project. With the project, we assume none of this will be lost. Assuming a linear rate of loss (not really the case for swamps), 5,900 acres of swamp and 3 acres of fresh marsh will be lost in 20 years without the project. With the project, we assume none of this will be lost, so the “alternate net acres” for this project are 5,903. COST / “ALTERNATE NET ACRES” is equal to the project cost estimate, $57,500,000, divided by 5,903 = $9,741. This then would fall within the “Less than $20,000 / net acre” category for a score of 10.

**Small Diversion into NW Barataria Basin:** This project is in the Coast 2050 Des Allemands mapping unit. It is estimated that 60% of the swamp and 30% of the marsh in this unit will be lost in 60 years (LCWCRTF 1998, Appendix D). The project area includes 4,057 acres of swamp and 20 acres of fresh marsh (USGS & LDNR 2000). Applying the estimated future loss rates from Coast 2050 to this project area, we estimate that 2,434 acres of swamp and 6 acres of fresh marsh will be lost in 60 years without the project. Assuming a linear rate of loss (not really the case for swamps), we estimate that 811 acres of swamp and 2 acres of fresh marsh will be lost in 20 years without the project. With the project, we assume none of this will be lost. In addition, this project will restore 200 acres of existing open water to swamp (U.S. EPA 2000), for a total “alternate net acres” for this project of 1,013 acres. COST / “ALTERNATE NET ACRES” is equal to the project cost estimate, $7,913,519, divided by 1,013 = $7,812. This then would fall within the “Less than $20,000 / net acre” category for a score of 10.

**REFERENCES**


Coastal Wetlands Planning, Protection, and Restoration Act

16th Priority Project List Report

Appendix G

Public Support for Candidate Projects
Public Support for Candidate Projects  
for the  
16th Priority Project List  

Letters of Support  

Alligator Bend Marsh Protection and Shoreline Restoration  

- Mary L. Landrieu, United States Senator, letter of support dated 7 Sep 06
- William J. Jefferson, United States Congress, letter of support dated 8 Sep 06
- Col. Terry Ebbert, USMC (ret), Director, Homeland Security & Public Safety (City of New Orleans)
- Kenneth L. Odinet, Sr., Louisiana House of Representatives, letter of support dated 31 Aug 06
- Austin J. Badon, Jr. Louisiana House of Representatives, letter of support dated 12 Sep 06
- Richard W. Bryan, Jr. Louisiana Wildlife Federation, letter of support dated 12 Sep 06
- Aaron F. Broussard, President, Jefferson Parish, letter of support dated 6 Sep 06
- John F. Young, Jr., Chairman, Jefferson Parish, letter of support dated 6 Sep 06
- Ray C. Nagin, Mayor, City of New Orleans, letter of support dated 1 Sep 06
- Arnie D. Fielkow, Councilmember at Large, Council of the City of New Orleans, letter of support dated 6 Sep 06
- Cynthia Willard-Lewis, Councilmember, Council of the City of New Orleans, letter of support dated 12 Sep 06
- Oliver M. Thomas, Jr. President, Council of the City of New Orleans, letter of support dated 6 Sep 06
- Page McCranie, ADA Administer, Mayor’s Advisory Council for Citizen’s with Disabilities, letter of support dated 5 Sep 06
- R.L. Smith, Director, New Orleans Office of the Trust for Public Land, letter of support dated 11 Sep 06
- Albertha Hasten, President and Advocacy Commissioner, Louisiana Environmental Justice Community Organizations Coalition, letter of support dated 8 Sep 06
- Beverly Wright, Ph.D., Executive Director, Deep South Center for Environmental Justice, Dillard University, letter of support dated 8 Sep 06
- Quintus Jett, Ph.D. Associate Professor, Thayer School of Engineering-Dartmouth College, letter of support dated 13 Sep 06
- Sandy Rosenthal, Levees.org, letter of support dated 10 Sep 06
- Jerald L. White, Charitable Film Network, letter of support dated 11 Sep 06
- Charlotte Burnell, President, Strategic Planning Associates, LLC., letter of support dated 5 Sep 06
- Michael P. Lockwood, Jordan, Jones & Goulding, letter of support dated 8 Sep 06
- Leo F. Richardson II, Board Member, Lake Catherine Camp and Landowners Civic Organization, Inc., letter of support dated 6 Sep 06
- Doug Daigle, Lower River Program Director, Mississippi River Basin Alliance, letter of support dated 6 Sep 06
- Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06
• John Lopez, Director-Coastal Sustainability Program, Lake Pontchartrain Basin Foundation, letter of support dated 1 Sep 06
• Lea Young, President, League of Women Voters of New Orleans, letter of support dated 9 Sep 06
• Ellen M. Fitzsimmons, Senior Vice President, CSX Corporation, letter of support dated 12 Sep 06
• Wynecta Fisher, Deputy Director, Mayor’s Office of Environmental Affairs, Office of Economic Development (for Cheryl Francois-Smith, citizen) letter of support dated 7 Sep 06
• Marilyn Wolf, citizen, letter of support dated 6 Sept 06
• Claude Cutitto, citizen, letter of support dated 6 Sept 06
• Trudi Briede, citizen, letter of support dated 5 Sept 06 and resent 11 Sep 06
• Marilyn M. and Nicholas J. Stoltz, citizen, letter of support dated 4 Sept 06
• John M. Barry, citizen, letter of support dated 4 Sept 06
• Robert Coussou, citizen, letter of support dated 4 Sept 06
• Wanda Jensen, citizen, letter of support dated 3 Sept 06
• Leo F. Richardson II, Board Member, Lake Catherine Camp and Landowners Civic Organization, Inc., letter of support dated 12 Sep 06
• Lisa Richardson, citizen, letter of support dated 2 Sept 06
• Megan Nelson, citizen, letter of support dated 29 Aug 06
• William Howard Thompson, citizen, citizen, letter of support dated 29 Aug 06
• Candace A. Cutrone MD and Ted C. Strickland III MD, letter of support dated 29 Aug 06
• Jerry D. Brodnax, Jr., citizen, letter of support dated 29 Aug 06
• John Schackai, III, citizen, letter of support dated 28 Aug 06
• David Frady, citizen, letter of support dated 28 Aug 06
• Nancy Dozier Murray and Erik K. Schwarz, citizens, letter of support dated 28 Aug 06
• Albert E. Briede, IV, citizen, letter of support dated 28 Aug 06
• Kathleen Fos, citizen, letter of support dated 8 Sep, 06
• Comberrel, Vincent, citizen, letter of support dated 8 Sep 06
• Melissa Newell, citizen, letter of support dated 8 Sep 06
• Donald Regan, citizen, letter of support dated 9 Sep 06
• Nick Capace, citizen, letter of support dated 8 Sep 06
• Kathy Capace, citizen, letter of support dated 8 Sep 06
• Chris Bucher, citizen, letter of support dated 8 Sep 06
• Barbara McArthur, citizen, letter of support dated 12 Sep 06
• Karen S. DeBlieux, citizen, letter of support dated 11 Sep 06
• Dr. Ronald Giardina, citizen, letter of support dated 10 Sep 06
• Prahngar V. Draper, citizen, letter of support dated 10 Sep 06
• Steve Trice, citizen, letter of support dated 10 Sep 06
• David Cartwright, Old Metairie Townhomes Association, letter of support dated 9 Sept 06
• Matthew Burnell, citizen, letter of support dated 5 Sep 06
• Shawn Norden, citizen, letter of support dated 3 Sep 06
• Jennifer Day, citizen, letter of support dated 3 Sep 06
• Telley Madina, citizen, letter of support dated 3 Sep 06
• Ann Garcia, citizen, letter of support dated 3 Sep 06
• Ernest Collins, citizen, letter of support dated 3 Sep 06
• Tammi Washington, citizen, letter of support dated 3 Sep 06
• Ian Fisch, citizen, letter of support dated 3 Sep 06
• Lovan Wright, citizen, letter of support dated 3 Sep 06
• 5334 Vermillion Blvd, citizen, letter of support dated 3 Sep 06
• Ronald Carrere, citizen, letter of support dated 3 Sep 06
• Ernest Gethers, citizen, letter of support dated 3 Sep 06
• Patricia A. Smith, citizen, letter of support dated 3 Sep 06
• Cheryl Mendy, citizen, letter of support dated 3 Sep 06
• Michelle Duroncelet, letter of support dated 3 Sep 06
• Gerald R. Bluckwanc, letter of support dated 3 Sep 06
• Patricia Sceau, letter of support dated 3 Sep 06
• Sharon Hillard, letter of support dated 3 Sep 06
• Albert E/ Briede, IV, citizen, letter of support dated 28 Aug 06
• Brandi Smith, citizen, letter of support dated 3 Aug 06
• Wanda Wells, citizen, letter of support dated 3 Sep 06
• Simone Simon, citizen, letter of support dated 3 Sep 06
• Pamela R. Bingham, citizen, letter of support dated 3 Sep 06
• Theodore, F. Graff, citizen, letter of support dated 11 Sep 06
• Nina Reins, citizen, letter of support dated 8 Sep 06
• Dorian Hastings, citizen, letter of support dated 8 Sep 06
• Linda M. Resor, citizen, letter of support dated 11 Sep 06
• Patti Lapeyre, citizen, letter of support dated 12 Sep 06

**Violet Siphon Enlargement**

• Henry J. Rodriguez, President, St. Bernard Parish, letter of support dated 6 Sep 06
• Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06
• Doug Daigle, Lower River Program Director, Mississippi River Basin Alliance, letter of support dated 6 Sep 06
• John Lopez, Director-Coastal Sustainability Program, Lake Pontchartrain Basin Foundation, letter of support dated 1 Sep 06

**Breton Landbridge Marsh Restoration**

• Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06
• Doug Daigle, Lower River Program Director, Mississippi River Basin Alliance, letter of support dated 6 Sep 06
• John Lopez, Director-Coastal Sustainability Program, Lake Pontchartrain Basin Foundation, letter of support dated 1 Sep 06

**Jean Lafitte Shoreline Protection Project**

• David P. Muth, Acting Superintendent, National Parks Service, letter of support dated 5 Sep 06
• Aaron F. Broussard, Parish President, Jefferson Parish, letter of support dated 6 Sep 06
• Jason Smith, Board Coordinator, Jefferson Parish Marine Fisheries Advisory Board, letter of support dated 6 Sep 06
• John F. Young 
• .0 Jr., Chairman, Jefferson Parish Council, letter of support dated 6 Sep 06
• Vickie Duffourc, Bayou Segnette Community and Boaters Association, Inc., letter of support dated 6 Sep 06

**Grand Liard Marsh and Ridge Restoration**

• Benny Rousselle, President, Plaquemines Parish, letter of support dated 10 Sep 06

**Madison Bay Marsh Creation and Terracing**

• Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06

**West Belle Pass Barrier Headland Restoration Project**

• Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06
• Lin Kiger, President and CEO Chamber of Commerce of Lafourche Parish and the Bayou Region, Resolution adopted in support of project dated 6 Sep 06
• David A. Bourgeois, LSU, AgCenter, letter of support dated 2 Sep 06
• Ted M. Falgout, Executive Director, Greater Lafourche Port Commission, letter of support dated 29 Aug 06

**Deer Island Pass Sediment Delivery**

No letters of support

**Vermilion Bay Shoreline Protection Project**

No letters of support

**Southwest Louisiana Gulf Shoreline Nourishment and Protection Project**

• Ernest Girouard, Chairman, Vermilion Soil & Water Conservation District, letter of support dated 13 Sep 06
• W.P. “Judge” Edwards II, Chairman and Sherrill Sagrera, Vice President, Vermilion Parish Coastal Restoration Advisory Committee, letter of support dated 13 Sep 06

**Enhancement of Barrier Island Vegetation Demo**

No letters of support

**Nourishment of Permanently Flooded Cypress Swamps through Dedicated Dredging Demo**

• Matt Rota, Water Resources Program Director, Gulf Restoration Network, letter of support dated 6 Sep 06

**Sediment Containment System for Marsh Creation Demo**

No letters of support
Appendix H

Project Status Summary Report from 1st through 16th Priority Project Lists

By Lead Agency, Basin and Priority List

Table of Contents

<table>
<thead>
<tr>
<th>Department of the Army, Corps of Engineers</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Barataria Bay Waterway Marsh Creation</td>
<td>1</td>
</tr>
<tr>
<td>Bayou Labranche Wetland Marsh Creation</td>
<td>1</td>
</tr>
<tr>
<td>Lake Salvador Shoreline Protection at Jean Lafitte NHP&amp;P</td>
<td>1</td>
</tr>
<tr>
<td>Vermilion River Cutoff Bank Protection</td>
<td>2</td>
</tr>
<tr>
<td>West Bay Sediment Diversion</td>
<td>2</td>
</tr>
<tr>
<td>2nd Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Clear Marais Bank Protection</td>
<td>3</td>
</tr>
<tr>
<td>West Belle Pass Headland Restoration</td>
<td>4</td>
</tr>
<tr>
<td>3rd Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Channel Armor Gap Crevasse</td>
<td>5</td>
</tr>
<tr>
<td>MRGO Disposal Area Marsh Protection</td>
<td>5</td>
</tr>
<tr>
<td>Pass-a-Loutre Crevasse (deauthorized)</td>
<td>5</td>
</tr>
<tr>
<td>4th Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Beneficial Use of Hopper Dredged Material Demo. (deauthorized)</td>
<td>6</td>
</tr>
<tr>
<td>Grand Bay Crevasse (deauthorized)</td>
<td>6</td>
</tr>
<tr>
<td>5th Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Bayou Chevey Shoreline Protection</td>
<td>7</td>
</tr>
<tr>
<td>6th Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Flexible Dustpan Demo at Head of Passes (Demo.)</td>
<td>8</td>
</tr>
<tr>
<td>Marsh Creation East of Atchafalaya River – Avoca Island (deauthorized)</td>
<td>8</td>
</tr>
<tr>
<td>Marsh Island Hydrologic Restoration</td>
<td>8</td>
</tr>
<tr>
<td>7th Priority Project List</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n/a</td>
</tr>
<tr>
<td>8th Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Sabine Refuge Marsh Creation Cycles 1-5</td>
<td>9</td>
</tr>
<tr>
<td>9th Priority Project List</td>
<td></td>
</tr>
<tr>
<td>Freshwater Bayou Bank Stabilization - Belle Isle Canal to Lock</td>
<td>11</td>
</tr>
</tbody>
</table>
Opportunistic Use of the Bonnet Carre Spillway ................................................. 12
Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites (Demo.) …… 12
Weeks Bay MC and SP/Commercial Canal/Freshwater Redirection .................................. 12

10th Priority Project List
Benneys Bay Diversion ..................................................................................... 13
Delta Building Diversion at Myrtle Grove ..................................................... 13
Delta Building Diversion North of Fort St. Philip ........................................... 13

11th Priority Project List
Grand Lake Shoreline Protection ..................................................................... 14

12th Priority Project List
Avoca Island Diversion & Land Building ....................................................... 15
Lake Borgne and MRGO Shoreline Protection ............................................. 15
Mississippi River Sediment Trap ..................................................................... 15
South White Lake Shoreline Protection ......................................................... 15

13th Priority Project List
Shoreline Protection Foundation Improvements (Demo.) .............................. 16
Spanish Pass Diversion .................................................................................. 16

14th Priority Project List

15th Priority Project List
Bayou Lamoque Freshwater Diversion .......................................................... 17
Venice Ponds Marsh Creation and Crevasses ................................................ 17

16th Priority Project List
Alligator Bend Marsh Restoration and Shoreline Protection ......................... 17
Southwest LA Gulf Shoreline Nourishment and Protection ......................... 17

ENVIRONMENTAL PROTECTION AGENCY, REGION 6

1st Priority Project List
Isles Dernieres Restoration Eastern Island ................................................... 19

2nd Priority Project List
Isles Dernieres Island Restoration Trinity Island .......................................... 20

3rd Priority Project List
Red Mud Demonstration (deauthorized) ....................................................... 21
Whiskey Island Restoration ........................................................................ 21

4th Priority Project List
Compost Demonstration (deauthorized) ....................................................... 22
5th Priority Project List

Bayou Lafourche Siphon..........................................................................................23
Mississippi River Reintroduction into Bayou Lafourche........................................24

6th Priority Project List

Bayou Bouef Pump Station (deauthorized)...........................................................24

7th Priority Project List

n/a

8th Priority Project List

n/a

9th Priority Project List

LA Highway 1 Marsh Creation (deauthorized) .......................................................25
New Cut Dune and Marsh Restoration.................................................................25
Timbalier Island Dune and Marsh Restoration.....................................................25

10th Priority Project List

Lake Borgne Shoreline Protection........................................................................26
Small Freshwater Diversion to the NW Barataria Basin........................................26

11th Priority Project List

River Reintroduction into Maurepas Swamp.........................................................27
Ship Shoal: Whiskey West Flank Restoration.......................................................27

12th Priority Project List

Bayou Dupont Sediment Delivery System...........................................................27

13th Priority Project List

Whiskey Island Back Barrier Marsh Creation......................................................28

14th Priority Project List

East Marsh Island Marsh Creation.......................................................................28

15th Priority Project List

n/a

16th Priority Project List

Enhancement of Barrier Island Vegetation Demonstration....................................29

DEPARTMENT OF THE INTERIOR, FISH & WILDLIFE SERVICE

1st Priority Project List

Bayou Sauvage NWR Hydrologic Restoration Phase I........................................32
Cameron Creole Plugs............................................................................................33
Cameron Prairie Refuge NWR Shoreline Protection..............................................33
Sabine NWR Erosion Protection...........................................................................33

2nd Priority Project List

Bayou Sauvage NWR Hydrologic Restoration......................................................33
3rd Priority Project List

Sabine Refuge Structure Replacement (Hog Island) ......................................................... 35

4th Priority Project List

n/a

5th Priority Project List

Grand Bayou/GIWW Freshwater Diversion ................................................................. 37

6th Priority Project List

Lake Boudreaux Basin FW Introduction & Hydrologic Mgmt ............................... 37

Nutria Harvest for Wetland Restoration (Demo.) ...................................................... 38

7th Priority Project List

n/a

8th Priority Project List

n/a

9th Priority Project List

Freshwater Introduction South of Hwy. 82 ................................................................. 39

Mandalay Bank Protection Demonstration .............................................................. 40

10th Priority Project List

Delta Management at Fort St. Phillip ................................................................. 40

East Sabine Lake Hydrologic Restoration ............................................................... 41

Grand-White Lakes Landbridge Project ................................................................. 43

North Lake Mechant Landbridge Restoration ......................................................... 43

Terrebonne Bay Shore Protection Demonstration ................................................. 44

11th Priority Project List

Dedicated Dredging on the Barataria Basin Landbridge ......................................... 44

South Grand Chenier Hydrologic Restoration ......................................................... 45

West Lake Boudreaux Shoreline Protection and Marsh Creation ......................... 45

12th Priority Project List

n/a

13th Priority Project List

Goose Point/Point Platte Marsh Creation ................................................................. 46

14th Priority Project List

n/a

15th Priority Project List

Lake Hermitage Marsh Creation ............................................................................. 46

DEPARTMENT OF COMMERCE, NATIONAL MARINE FISHERIES SERVICE

1st Priority Project List

Fourchon Hydrologic Restoration (deauthorized) .................................................... 48

Lower Bayou LaCache Wetland Hydrologic Restoration (deauthorized) ............... 48
2nd Priority Project List

Atchafalaya Sediment Delivery ........................................................................... .49
Big Island Mining ................................................................................................... .49
Pointe Au Fer Canal Plugs .................................................................................... .49

3rd Priority Project List

Bayou Perot/Bayou Rigolettes Marsh Restoration (deauthorized) ......................... .50
East Timbalier Sediment Restoration Phase I ................................................................ .50
Lake Chapeau Sediment Input and Hydrologic Restoration .................................... .50
Lake Salvador Shoreline Protection Demonstration ............................................... .50

4th Priority Project List

East Timbalier Barrier Island Sediment Restoration Phase 2 .................................. .51
Eden Isles Marsh Sediment Restoration (deauthorized) ........................................... .51

5th Priority Project List

Little Vermilion Bay Sediment Trapping ............................................................... .52
Myrtle Grove Siphon ......................................................................................... .52

6th Priority Project List

Black Bayou Hydrologic Restoration ................................................................... .53
Delta Wide Crevasses ....................................................................................... .53
Sediment Trapping at the Jaws ............................................................................ .53

7th Priority Project List

Grande Terre Vegetative Plantings ...................................................................... .53
Pecan Island Terracing ...................................................................................... .54

8th Priority Project List

Bayou Bienvenue Pump Station Diversion and Terracing (deauthorized) ............. .54
Hopedale Hydrologic Restoration ...................................................................... .54

9th Priority Project List

Castille Pass Channel Sediment Delivery ............................................................ .55
Chandeleur Islands Marsh Restoration ............................................................... .55
East/West Grand Terre Islands Restoration ......................................................... .55
Four Mile Canal Terracing and Sediment Trapping ............................................. .56
LaBranche Wetlands Terracing, Planting, and Shoreline Protection ..................... .56

10th Priority Project List

Rockefeller Refuge Gulf Shoreline Stabilization ............................................... .56
11th Priority Project List

Barataria Barrier Island: Pelican Island and Pass La Mer to Chaland Pass..................57
Little Lake Shoreline Protection/Dedicated Dredging near Round Lake......................57
Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration..............................57

12th Priority Project List

n/a

13th Priority Project List

n/a

14th Priority Project List

Riverine Sand Mining/Scofield Island Restoration Project........................................58

15th Priority Project List

South Pecan Island Freshwater Introduction..........................................................58

16th Priority Project List

Madison Bay Marsh Creation and Terracing.........................................................59
West Belle Pass Barrier Headland Restoration......................................................59

DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE

1st Priority Project List

GIWW to Clovelly Hydrologic Restoration .........................................................61
Vegetative Plantings - Dewitt-Rollover Planting Demonstration (deauthorized).........61
Vegetative Plantings - Falgout Canal Planting Demonstration..................................61
Vegetative Plantings Timbalier Island Planting Demonstration...............................61
Vegetative Plantings West Hackberry Demonstration..........................................61

2nd Priority Project List

Brown Lake Hydrologic Restoration.................................................................62
Caernarvon Diversion Outfall Management .........................................................62
East Mud Lake Marsh Management........................................................................62
Freshwater Bayou Wetland Protection ..................................................................63
Fritchie Marsh Restoration....................................................................................63
Hwy. 384 Hydrologic Restoration............................................................................63
Jonathan Davis Wetlands Protection......................................................................63
Vermilion Bay/Boston Canal Shore Stabilization......................................................63

3rd Priority Project List

Brady Canal Hydrologic Restoration ...................................................................64
Cameron-Creole Maintenance ..............................................................................64
Cote Blanche Hydrologic Restoration..................................................................64
Southwest Shore White Lake Demonstration (deauthorized)..................................65
Violet Freshwater Distribution (deauthorized) .................................................. 65
West Pointe-a-la-Hache Outfall Management .................................................. 65
White’s Ditch Outfall Management (deauthorized) ........................................... 65

4th Priority Project List

Barataria Bay Waterway West Side Shoreline Protection .................................. 66
Bayou L’Ours Ridge Hydrologic Restoration (deauthorized) ............................ 66
Flotant Marsh Fencing Demonstration (deauthorized) ..................................... 66
Perry Ridge Shore Protection ........................................................................ 66
Plowed Terraces Demonstration ................................................................... 66

5th Priority Project List

Freshwater Bayou Bank Stabilization ............................................................... 67
Naomi Outfall Management .......................................................................... 67
Raccoon Island Breakwaters Demonstration .................................................. 67
Sweet Lake/Willow Lake Hydrologic Restoration ............................................ 68

6th Priority Project List

Barataria Bay Waterway East Side Shoreline Protection ................................. 68
Cheniere au Tigre Sediment Trapping Demonstration .................................... 68
Oaks/Avery Canal Hydrologic Restoration, Increment I ................................. 69
Pendant Basin Natural Resources Plan Increment I ......................................... 69

7th Priority Project List

Barataria Basin Landbridge, Shoreline Stabilization – Phase 1 and 2 .............. 69
Thin Mat Flotant Marsh Enhancement Demonstration ................................... 69

8th Priority Project List

Humble Canal Hydrologic Restoration .......................................................... 70
Lake Portage Land Bridge .............................................................................. 70
Upper Oak River Freshwater Siphon (deauthorized) ....................................... 70

9th Priority Project List

Barataria Basin Landbridge Shoreline Protection, Phase 3 ............................. 71
Black Bayou Culverts Hydrologic Restoration ............................................... 71
Little Pecan Bayou Hydrologic Restoration .................................................. 71
Perry Ridge West Bank Stabilization .............................................................. 71
South Lake DeCade Freshwater Introduction ............................................... 72

10th Priority Project List

GIWW Bank Restoration of Critical Areas in Terrebonne .............................. 72
11th Priority Project List

Barataria Basin Landbridge Shoreline Protection (Phase 4).................................73
Coastwide Nutria Control Program.......................................................................74
Raccoon Island Shoreline Protection/Marsh Creation (Phase 2).............................75
Holly Beach Sand Management...........................................................................75

12th Priority Project List

Floating Marsh Creation Demonstration.................................................................76

13th Priority Project List

Bayou Sale Shoreline Protection...........................................................................77

14th Priority Project List

South Shore of the Pen Shoreline and Marsh Creation.........................................77
White Ditch Resurrection......................................................................................77

PROJECT STATUS SUMMARY REPORT BY BASIN...........................................1
(Basin Summary follows the Project Status Summary by Lead Agency)

PROJECT STATUS SUMMARY REPORT BY PRIORITY LIST..............................1
(Project Summary follows the Project Status Summary by Basin)
Summary report on the status of CWPPRA projects prepared for the Louisiana Coastal Wetlands Conservation and Restoration Task Force.

Reports enclosed:
- Project Details by Lead Agency
- Project Summary by Basin
- Project Summary by Priority List

Information based on data furnished by the Federal Lead Agencies and collected by the Corps of Engineers

Prepared by:
Planning, Programs and Project Management Division
Coastal Restoration Branch
U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, LA  70160-0267
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

**Priority List  1**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/ Expenditures</th>
</tr>
</thead>
</table>

**Status:** The enlargement of Queen Bess Island was incorporated into the project and the construction of a 9-acre cell was completed in October 1996, at a cost of $945,678. Remaining funds may be used to clear marsh creation sites of oyster leases. If oyster-related conflicts are removed from the remaining marsh creation sites, these areas will be incorporated into the Corp's O&M disposal plan for the next three maintenance cycles. The USACE, LADNR, and LDWF are currently pursuing an administrative process to identify and prioritize beneficial use sites along the BBWW. Additional monitoring of the Queen Bess site was discontinued in 2002 on the recommendation of the local sponsor and monitoring team.


**Status:** Contract awarded to T. L. James Co. (Dredge "Tom James") for dredging approximately 2,500,000 cy of Lake Pontchartrain sediments and placing in marsh creation area. Contract final inspection was performed on April 7, 1994. Site visit by Task Force took place on April 13, 1994.

The project is being monitored.


**Status:** This project was added to Priority List 1 at the March 1995 Task Force meeting. The Task Force approved the expenditure of up to $45,000 in Federal funds and non-Federal funds of $15,000 (25%) for the design of the project.

A design review meeting was held with Jean Lafitte Park personnel in May 1996 to resolve design comments prior to advertisement for the construction contract. The contract was awarded December 4, 1996 for $610,000 to Bertucci Contracting Corp. The contract was completed in March 1997.

Complete. This project was design only.
COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT
Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Vermilion River Cutoff Bank Protection</td>
<td>TECHE</td>
<td>VERMI</td>
<td>65</td>
<td>17-Apr-1993 A</td>
<td>10-Jan-1996 A</td>
<td>11-Feb-1996 A</td>
</tr>
</tbody>
</table>

**Status:** The project was modified by moving the dike from the west to the east bank of the cutoff to better protect the wetlands. The need for the sediment retention fence on the west bank is still undetermined. The Task Force approved a revised project estimate of $2,500,000; however, current estimate is less.

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

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

Complete.


**Status:** Post-construction aerial photographs and surveys indicate that 186 acres of new marsh were created with the beneficial use of the diversion channel dredged material. LDNR surveyed the area in March 2004 and found ~70% vegetative coverage from natural colonization of the marsh creation site. Flow measurements taken in December 2004 recorded a discharge of 27,000 cfs of Mississippi River water through the diversion channel.

Project construction began in September 2003 and construction was completed in November 2003. An advertisement for construction of the project opened 08 July 2003 and bids were opened on 11 August 2003. Chevron-Texaco relocated a major oil pipeline in May 2003 under a reimbursable construction agreement. A real estate plan for the project was completed in October 2002 and execution of the plan will be completed in July 2003. The project Cost Sharing Agreement was signed August 29, 2002. A 95% design review was held May 17, 2002. A Record of Decision finalizing the EIS was signed on March 18, 2002. The Task Force, by fax vote, approved a revised project description and reauthorized the project to comply with CWPPRA Section 3952 in April 2002. At the January 10, 2001 Task Force meeting, approval was granted to proceed with the project at the current price of $22 million due to the increased costs of maintaining the anchorage area. A VE study on the project was undertaken the week of August 21, 2000.
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>1</td>
<td>10,544</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$16,323,624</td>
<td>$29,380,261</td>
<td>180.0</td>
<td>$22,965,568</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$21,682,287</td>
</tr>
</tbody>
</table>

5 Project(s)
5 Cost Sharing Agreements Executed
5 Construction Started
5 Construction Completed
0 Project(s) Deferred/Deauthorized

#### Priority List  2

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Status: The original construction estimate was low, based on the proposed plan in that the rock quantity estimate was less than half of the quantity needed (based on the original design), and the estimate did not include a floatation channel needed for construction. This accounts for most of the cost increase shown. The current estimate is based on the original rock dike design and costs about $89/foot.</td>
<td>Complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Const Start</strong></td>
<td><strong>Const End</strong></td>
<td>Baseline</td>
</tr>
<tr>
<td>West Belle Pass Headland Restoration</td>
<td>TERRE</td>
<td>LAFOU</td>
<td>474</td>
<td>27-Dec-1996 A</td>
<td>30-Sep-2005 *</td>
<td>$4,854,102</td>
</tr>
</tbody>
</table>


**Problems:**

Construction of the original project started in February 1998, and pumping of dredged material into the project area for wetland creation began in May 1998. Project area conditions were sub-optimal at the time of disposal due to unforeseen weather patterns. In 1998, the area experienced frequent storm activity with sustained winds, high-energy waves, and large amounts of rainfall. Southerly winds heightened tides and raised water levels in the project area to such an extent that dewatering of the dredged material was greatly inhibited. Slurry heights were difficult to determine and therefore, estimates of the amount and height of the material placed in the project area were uncertain at best. In addition, winds from the west battered the project area making the integrity of dike between Timbalier Bay and Bay Toulouse extremely difficult to maintain. The material for the dike had to be layered in geotextile to hold it together and, shortly after disposal was discontinued, the dike breached from the high water and waves affecting the project area. As a result, once the project’s disposal areas dewatered and settled shallow open water still remained in much of the project area where emergent wetlands were anticipated. Therefore, with the 2006 scheduled maintenance of the inland portion of Bayou Lafourche and Belle Pass upcoming, CEMVN plans to once again deposit maintenance material from these channels into the West Belle Pass project area in an effort to complete the wetland restoration anticipated under the original project.

All the dredged material containment features and rock protection of the project were constructed during the original construction. However, refurbishment of the westernmost retainment dike and reconstruction of the closure between Timbalier Bay and Bay Toulouse would be necessary to achieve a second disposal into the project area.

**Restoration Strategy:** Dredged material from Bayou Lafourche and Belle Pass would be deposited in the bays and canals of the project area to an elevation between +3.5 to +4.0 feet (ft) MLG, so that the settled elevation would be approximately the same as nearby healthy marsh, which occurs between +2.0 and +2.5 ft MLG.

**Progress to Date:** Supplemental Environmental Assessment # 271B is currently out on public review. Construction of the project is anticipated to begin in mid September.
## Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

### Priority List  3

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Armor Gap</td>
<td>DELTA</td>
<td>PLAQ</td>
<td>936</td>
<td>13-Jan-1997 A</td>
<td>22-Sep-1997 A</td>
<td>02-Nov-1997 A</td>
<td>$808,397</td>
<td>$888,985</td>
<td>110.0</td>
<td>$860,674</td>
</tr>
<tr>
<td>Status: Cost increase was due to additional project management costs, by both Federal and Local Sponsor. Surveys identified a pipeline in the crevasse area which would be negatively impacted by the project. US Fish &amp; Wildlife Service reviewed their permit for the pipeline and determined that Shell Pipeline was required to lower it at their own cost. USFWS requested a modification to the alignment on USFWS-owned lands. Construction complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status: Completed scope of work greatly reduced. Work was to be performed via a simplified acquisition contract as estimated construction cost is under $100,000. Bids received were higher than Government estimate by 25%. Subsequently received an in-house labor estimate from Vicksburg District. Vicksburg District completed construction on 29 January 1999. Cost increase was due to additional project management costs, environmental investigations and local sponsor activities not included in the baseline estimate. Further title research indicates that private ownership titles are unclear, requiring condemnation. This accounts for the long period between CSA execution and project construction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pass-a-Loutre Crevasse</td>
<td>DELTA</td>
<td>PLAQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,857,790</td>
<td>$119,835</td>
<td>4.2</td>
<td>$119,835</td>
</tr>
<tr>
<td>Status: Two pipelines and two power poles are in the area of the crevasse, increasing relocation costs by approximately $2.15 million. LA DNR asked that the Corps investigate alternative locations to avoid or minimize impacts to the pipelines, but there are no more suitable locations for the cut. The Corps has also reviewed the design to determine whether relocations cost-savings could be achieved. Reducing the bottom width of the crevasse from 430 feet as originally proposed to 200 feet reduced the relocation cost only marginally. A draft memorandum dated December 5, 1997 was sent to the CWPPRA Technical Committee Chairman requesting the Task Force to deauthorize the project. COE requested deauthorization at the January 16, 1998 Task Force meeting. Task Force formally deauthorized project July 23, 1998.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


## Priority List 4

### Beneficial Use of Hopper Dredge Material Demonstration (DEMO) [DEAUTHORIZED]
- **BASIN**: DELTA
- **PARISH**: PLAQ
- **ACRES**: 30-Jun-1997 A
- **Current Expenditures**: $300,000
- **Estimated Expenditures**: $58,310
- **Status**: Current scheme was found to be non-implementable due to inability of the hopper dredge to get close enough to the disposal area to spray over the bank of the Mississippi River.


### Grand Bay Crevasse [DEAUTHORIZED]
- **BASIN**: BRET
- **PARISH**: PLAQ
- **ACRES**: $2,468,908
- **Current Expenditures**: $65,747
- **Status**: The major landowner has indicated non-support of the project and has withheld ROE because of concern about sedimentation negatively impacting oil and gas interests within the deposition area.

A draft memorandum dated December 5, 1997 was sent to the CWPPRA Technical Committee Chairman requesting the Task Force to deauthorize the project. COE requested deauthorization at the January 16, 1998 Task Force meeting. Project deauthorized July 23, 1998.
### PROJECT STATUS SUMMARY REPORT - LEAD AGENCY: DEPT. OF THE ARMY (COE)

#### Total Priority List

<table>
<thead>
<tr>
<th>Project</th>
<th>Baseline</th>
<th>Current</th>
<th>% Expenditures</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$2,768,908</td>
<td>$124,057</td>
<td>4.5</td>
<td>$124,057</td>
</tr>
</tbody>
</table>

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

#### Priority List

**Priority List 5**

- **Bayou Chevee Shoreline Protection**
- **PONT ORL 75**
- **01-Feb-2001 A**
- **25-Aug-2001 A**
- **17-Dec-2001 A**
- **$2,555,029**
- **$2,589,403**
- **101.3**
- **$2,552,951**

**Status:** Approval of model CSA for PPL 5, 6, and 8 projects granted on November 13, 2000. Construction began August 2001 and completed December 2001.

Revised project consisted of constructing a 2,870-foot rock dike across the mouth of the north cove and a 2,820-foot rock dike tying into and extending an existing USFWS rock dike, across the south cove. Approximately 75 acres of brackish marsh will be protected by the project.

---

<table>
<thead>
<tr>
<th>Project</th>
<th>Baseline</th>
<th>Current</th>
<th>% Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>$2,555,029</td>
<td>$2,589,403</td>
<td>101.3</td>
</tr>
</tbody>
</table>

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

#### Priority List 6
### PROJECTS

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th><em><strong><strong>SCHEDULES</strong></strong></em>*</th>
<th><em><strong><strong>ESTIMATES</strong></strong></em></th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible Dustpan Demo at Head of Passes (DEMO)</td>
<td>DELTA</td>
<td>PLAQ</td>
<td></td>
<td>CSA 31-May-2002 A 03-Jun-2002 A 21-Jun-2002 A</td>
<td>Baseline $1,600,000 Current $1,911,487 % 119.5</td>
<td>$1,906,489 119.5 $1,906,489</td>
</tr>
<tr>
<td>Status: CSA executed May 31, 2002. Construction completed June 21, 2002. The Dustpan/Cutterhead Marsh Creation Demonstration project as originally approved, no longer involves the use of a cutterhead dredge. At the October 25, 2001 Task Force meeting, it was approved the motion to use the authorized funds for a &quot;flexible dustpan&quot; demonstration project and approved changing the name of the project to &quot;Flexible Dustpan Demo at Head of Passes&quot;. The project was completed as an operations and maintenance task order through an ERDC research and development IDC contract. The project identified some minor areas of concern with regard to the dredge plants effectiveness as a maintenance tool. The dredge was effective in its performance for the beneficial placement of material. The final surveys and quantities have not yet been reported.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh Creation East of the Atchafalaya River-Avoca Island [DEAUTHORIZED]</td>
<td>TERRE</td>
<td>STMRY</td>
<td></td>
<td>$6,438,400 $66,869</td>
<td>1.0 $66,869 $66,869</td>
<td></td>
</tr>
<tr>
<td>Status: A draft memorandum dated December 5, 1997 was sent to the Technical Committee Chairman requesting the Task Force to deauthorize the project. COE requested deauthorization at the January 16, 1998 Task Force meeting. Project deauthorized July 23, 1998.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh Island Hydrologic Restoration</td>
<td>TECHE</td>
<td>IBERI</td>
<td>408</td>
<td>01-Feb-2001 A 25-Jul-2001 A 12-Dec-2001 A</td>
<td>$4,094,900 $5,143,288 125.6</td>
<td>$5,030,571 125.6 $4,012,276</td>
</tr>
</tbody>
</table>

| Total Priority List | 6 | 408 | $12,133,300 | $7,121,644 | 58.7 | $7,003,929 |

3 Project(s)
2 Cost Sharing Agreements Executed
2 Construction Started
2 Construction Completed
1 Project(s) Deferred/Deauthorized
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

#### Priority List 8

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabine Refuge Marsh Creation, Cycle 1</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>214</td>
<td>This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million. The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River. On January 28, 2004 the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed in 2005. Cycle 3 would be constructed in 2006.</td>
</tr>
<tr>
<td>Sabine Refuge Marsh Creation, Cycle 2</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>261</td>
<td>This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million. The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River. On January 28, 2004, the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed in the summer of 2007. Cycle 3 would be constructed in 2008. Upon completion of Cycle 2, the COE and LDNR will ask the Task Force for construction approval for Cycles 4 and 5.</td>
</tr>
<tr>
<td>PROJECT</td>
<td>BASIN</td>
<td>PARISH</td>
<td>ACRES</td>
<td>*********** SCHEDULES ***********</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td></td>
<td></td>
<td></td>
<td>This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million. The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River. On January 28, 2004, the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed at the end of 2006. Cycle 3 would be constructed in 2007. Upon completion of Cycle 2, the COE and LDNR will ask the Task Force for construction approval for Cycles 4 and 5.</td>
</tr>
<tr>
<td>Sabine Refuge Marsh Creation, Cycle 4</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>163</td>
<td>$0 $0 #Num! #   $0</td>
</tr>
<tr>
<td><strong>Status:</strong></td>
<td></td>
<td></td>
<td></td>
<td>This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million. The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River. On January 28, 2004, the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed at the end of 2006. Cycle 3 would be constructed in 2007. Upon completion of Cycle 2, the COE and LDNR will ask the Task Force for construction approval for Cycles 4 and 5.</td>
</tr>
</tbody>
</table>
**Sabine Refuge Marsh Creation, Cycle 5**

**Status:** This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million.

The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River.

On January 28, 2004, the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed at the end of 2006. Cycle 3 would be constructed in 2007. Upon completion of Cycle 2, the COE and LDNR will ask the Task Force for construction approval for Cycles 4 and 5.

### Priority List

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabine Refuge Marsh Creation, Cycle 5</td>
<td>This project was approved by the Task Force as a part of Priority Project List 8. The project consists of constructing 5 marsh creation sites within the Sabine National Wildlife Refuge using material dredged out of the Calcasieu River Ship Channel. The current estimated project cost to construct all cycles is approximately $21.4 million. The first cycle was completed on February 26, 2002. The total project cost for dredging cycle 1 was $3,412,415. The project was advertised for bid as a component of the Calcasieu River and Pass Maintenance Dredging contract on February 16, 2001. Construction initiation was advanced in conjunction with an accelerated maintenance dredging schedule for the Calcasieu River. On January 28, 2004, the CWPPRA Task Force provided additional funding and construction approval for Cycles 2 and 3. Cycle 2 is currently scheduled to be constructed at the end of 2006. Cycle 3 would be constructed in 2007. Upon completion of Cycle 2, the COE and LDNR will ask the Task Force for construction approval for Cycles 4 and 5.</td>
</tr>
</tbody>
</table>
## Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

### Opportunistic Use of the Bonnet Carre Spillway

**Basin:** PONT  
**Parish:** STCHA  
**Acres:** 177  
**CSA:** 31-Jan-2007  
**Const Start:** 01-May-2008  
**Const End:** 01-Nov-2008  
**Baseline Costs:** $150,706  
**Actual Costs:** $188,383  
**% Expenditures:** 125.0  
**Obligations/Expenditures:** $106,932  

**Status:** A draft operations plan for opportunistic use of the spillway has been developed and is under review. Impacts to the environment, recreation, and economy are being looked at. The team is currently scheduled to ask for construction approval at the January 2007 Task Force meeting. A draft model CSA is in review.

Lake Pontchartrain Basin Foundation has partnered with the LSU Coastal Ecology Institute in the development of a nutrient budget model for Lake Pontchartrain. The nutrient budget report was approved by EPA on June 28, 2001.

This project involves no physical construction.

### Periodic Intro of Sediment and Nutrients at Selected Diversion Sites Demo (DEMO)

**Basin:** COAST  
**Parish:** VARY  
**Acres:** 15-May-2006  
**CSA:** 01-Apr-2007  
**Const Start:** 01-Apr-2008  
**Const End:**  
**Baseline Costs:** $1,502,817  
**Actual Costs:** $1,502,817  
**% Expenditures:** 100.0  
**Obligations/Expenditures:** $31,726  

**Status:** Field site investigations have been completed. Sediment capacities of the Carnearvon Diversion Outfall Canal have been developed. Several methods of introducing the sediment into the diversion are being investigated by the team.

### Weeks Bay MC and SP/Commercial Canal/Freshwater Redirection

**Basin:** TECHE  
**Parish:** IBERI  
**Acres:** 278  
**Const Start:** 01-Apr-2007  
**Const End:**  
**Baseline Costs:** $1,229,337  
**Actual Costs:** $1,229,337  
**% Expenditures:** 100.0  
**Obligations/Expenditures:** $530,918  

**Status:** Fully funded Phase 1 cost for this project is $1,229,337. The project area includes approximately 2,900 acres of fresh to brackish marsh habitat.

The project kick-off was in April 2001 with the COE and DNR. Surveys, soils investigations, gage data, and environmental data are presently being gathered for assessment. A hydrologic model is being developed to assist in the understanding of water movement in this part of the basin. Shore protection alternatives are under evaluation.

### Total Priority List

<table>
<thead>
<tr>
<th>Project(s)</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Sharing Agreements Executed</td>
<td>0</td>
</tr>
<tr>
<td>Construction Started</td>
<td>0</td>
</tr>
<tr>
<td>Construction Completed</td>
<td>0</td>
</tr>
<tr>
<td>Project(s) Deferred/Deauthorized</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Priority List Costs:** $4,381,827  
**Actual Costs:** $4,419,504  
**% Expenditures:** 100.9  
**Obligations/Expenditures:** $1,742,456  

<table>
<thead>
<tr>
<th>Total Priority List</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres</td>
<td>696</td>
</tr>
<tr>
<td>Obligations/Expenditures</td>
<td>$1,704,470</td>
</tr>
</tbody>
</table>
### Priority List 10

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Priority</th>
<th>Status</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benneys Bay Diversion</td>
<td>DELTA PLAQ 5,706</td>
<td>30-Jan-2007 01-Mar-2008 01-Nov-2009</td>
<td>$1,076,328</td>
</tr>
<tr>
<td>Delta Building Diversion at Myrtle Grove</td>
<td>BARA JEFF 8,891</td>
<td>01-Mar-2007 01-Nov-2008</td>
<td>$1,155,200</td>
</tr>
</tbody>
</table>

**Status:**

- **Benneys Bay Diversion**: This project was approved for Phase I design on PPL9 in January 1999. The project work plan for Phase I was submitted to the P&E Subcommittee in May 2001. Right of Entry to perform surveys and geotechnical borings was received in August 2001. Site surveys were performed in October 2001 and geotechnical borings were collected in June 2002. A 30% design review was completed in September 2002. At the design review meeting agreement was reached to proceed further with the proposed design except for one feature (SREDs - sediment retention enhancement devices) which were removed at the request of the local sponsor. A Final Design Report has been developed and is being reviewed by the LDNR. A revised WVA and design cost estimate are in preparation for review at the CWPPRA working groups. The project is scheduled to complete all design work in 2006 in preparation for a Phase II funding request.

- **Delta Building Diversion at Myrtle Grove**: The proposed NMFS/UNO fisheries modeling effort, and its relationship to required EIS input, has been discussed by the principal agencies involved with this project. The current view within the management team is that additional fisheries data collection and analysis will be required over and above the proposed modeling. At this time, it has been decided to begin assembling an inter-agency EIS team and allow them to outline major data and analytic requirements for the NEPA document. The required NEPA scoping meetings have been held and the scoping document is being compiled. An initial Value Engineering study is scheduled for the week of July 22, 2002. WRDA may fund Phase 2.
PROJECT BASIN PARISH ACRES CSA Const Start Const End Baseline Current % Obligations/Expenditures

Total Priority List 10 15,098 $5,233,642 $5,522,442 105.5 $4,137,152 $3,813,037

3 Project(s)
0 Cost Sharing Agreements Executed
0 Construction Started
0 Construction Completed
0 Project(s) Deferred/Deauthorized

Priority List 11

Grand Lake Shoreline Protection MERM CAMER 540 31-Jan-2007 01-Aug-2007 01-Jun-2008 $1,049,029 $1,049,029 100.0 $729,070 $724,586

Status: The Kickoff meeting was held April 2002. A draft CSA is under negotiation. A site visit was conducted in June 2002. The Phase 1 work plan was submitted to the P&E subcommittee in July 2002. Surveys and borings of the project area were completed and a preliminary design was performed and subsequently finalized. Successful 30% and 95% design review meetings were held on May 11, 2004 and August 16, 2004, respectively. The EA for the project was prepared for public review and resulted in a signed FONSI. The project was not selected for construction authorization by the Task Force at the October 2004 meeting or January 2006 meeting. The project will be considered again for construction authorization at the next annual funding approval meeting of the Task Force in January 2007.

Priority List 12
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

**Avoca Island Diversion and Land Building**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Obligations</th>
<th>Current Obligations</th>
<th>%</th>
<th>Actual Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoca Island Diversion and Land Building</td>
<td>TERRE</td>
<td>STMRY</td>
<td>143</td>
<td>01-Jan-2007</td>
<td>15-Jul-2008</td>
<td>15-Jun-2009</td>
<td>$2,229,876</td>
<td>$2,229,876</td>
<td>100.0</td>
<td>$1,411,857</td>
</tr>
</tbody>
</table>

**Status:** This project was approved for Phase I design on PPL12 in January 2003. A kickoff meeting and site visit were held in March 2003. The project work plan for Phase I was submitted to the P&E Subcommittee in May 2003. Right of Entry to perform surveys and geotechnical borings was requested in June 2003 and extended in August 2004. Site surveys began in December 2003 and were completed in May 2004. Initial geotechnical field work completed in April 2004. An initial cultural resources and environmental assessment is complete and final coordination with the SHPO is underway. Field data for hydrologic modeling is complete and model runs have been conducted. A draft Preliminary Design Report was prepared in late 2004 and the LDNR and USACE are working to complete the report incorporating additional data and analysis. The project design team is investigating the addition of a marsh creation component to increase project wetland benefits. Additional surveys and soil borings were collected to refine the proposed designs. A 30% design review is targeted for fall 2006.

**Lake Borgne and MRGO Shoreline Protection**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Obligations</th>
<th>Current Obligations</th>
<th>%</th>
<th>Actual Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Borgne and MRGO Shoreline Protection</td>
<td>PONT</td>
<td>STBER</td>
<td>266</td>
<td>30-Jan-2007</td>
<td>30-Mar-2007</td>
<td>30-Nov-2007</td>
<td>$1,348,345</td>
<td>$1,348,345</td>
<td>100.0</td>
<td>$1,066,754</td>
</tr>
</tbody>
</table>

**Status:** This project was approved for Phase I design on PPL12 in January 2003. A kickoff meeting and site visit were held in April 2003. The project work plan for Phase I was submitted to the P&E Subcommittee in October 2003. Right of Entry to perform surveys and geotechnical borings was requested in June 2003 and received in August 2003. Surveys and geotechnical borings were collected during fall 2003. A preliminary design report was completed in December 2003. A 30% design review was held in August 2004. A 95% design review was held on March 29, 2005. A request for Phase II construction approval from the Task Force is scheduled for January 2007.

**Mississippi River Sediment Trap**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Obligations</th>
<th>Current Obligations</th>
<th>%</th>
<th>Actual Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mississippi River Sediment Trap</td>
<td>DELTA</td>
<td>PLAQ</td>
<td>1,190</td>
<td>30-Jan-2007</td>
<td>01-Aug-2008</td>
<td>01-Mar-2009</td>
<td>$1,880,376</td>
<td>$1,880,376</td>
<td>100.0</td>
<td>$166,657</td>
</tr>
</tbody>
</table>

**Status:** This complex project was approved for Phase I design activities in August 2002. A kickoff meeting was held in September 2002. The project work plan is under development pending a plan reformulation meeting with the LA Dept. of Natural Resources and Corps of Engineers design teams.

**South White Lake Shoreline Protection**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Obligations</th>
<th>Current Obligations</th>
<th>%</th>
<th>Actual Expenditures</th>
</tr>
</thead>
</table>

**Status:** Project construction near complete. Construction of dike and beneficial use of dredge material to construct marsh behind dike going very well.
**PROJECT STATUS SUMMARY REPORT - LEAD AGENCY: DEPT. OF THE ARMY (COE)**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>********** SCHEDULES **********</th>
<th>********** ESTIMATES **********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
<td>Current</td>
<td>%</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>12</td>
<td>2,443</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 Project(s)
1 Cost Sharing Agreements Executed
1 Construction Started
1 Construction Completed
0 Project(s) Deferred/Deauthorized

### Priority List 13

**Shoreline Protection Foundation Improvements**
**DEMO**

- **PROJECT:** COAST COAST
- **SCHEDULE:** 24-Mar-2005 A 01-Nov-2005 A 29-Aug-2006 A
- **ESTIMATES:** $1,000,000 $1,055,000 105.5
- **ACTUAL:** $820,646 $821,862

**Status:** All instruments, dredging, sand, fabric and rock installed. Contractor is monitoring instruments and submitting data.

**Spanish Pass Diversion**

- **PROJECT:** DELTA PLAQ
- **SCHEDULE:** 31-Jan-2007 01-Jun-2008
- **ESTIMATES:** $1,137,344 $1,421,680 125.0
- **ACTUAL:** $236,724 $231,280

**Status:** The Task Force gave Phase 1 approval on January 28, 2004. The project delivery team has been assembled. A kickoff meeting and field trip were held on March 29, 2004. The work plan was developed and submitted to the P&E Subcommittee prior to April 30, 2004. The project delivery team has obtained rights of entry to install gages and conduct surveys in the project area. Gages were installed on November 18, 2004 and the survey work is completed. Modeling is underway.

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>********** SCHEDULES **********</th>
<th>********** ESTIMATES **********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
<td>Current</td>
<td>%</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>13</td>
<td>433</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 Project(s)
1 Cost Sharing Agreements Executed
1 Construction Started
1 Construction Completed
0 Project(s) Deferred/Deauthorized
### Priority List 15

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Expenditures</th>
<th>Current Expenditures</th>
<th>Completion %</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayou Lamoque Freshwater Diversion</td>
<td>BRET</td>
<td>PLAQ</td>
<td>620</td>
<td></td>
<td></td>
<td></td>
<td>$1,205,354</td>
<td>$1,205,354</td>
<td>100.0</td>
<td>$750,143/$3,139</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venice Ponds Marsh Creation and Crevasses</td>
<td>DELTA</td>
<td>PLAQ</td>
<td>511</td>
<td></td>
<td></td>
<td></td>
<td>$1,074,522</td>
<td>$1,074,522</td>
<td>100.0</td>
<td>$639,744/$3,226</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The project received Phase I approval from the Task Force on Priority Project List 15 in February 2006. The Corps of Engineers, the Environmental Protection Agency, and the LA Department of Natural Resources are currently developing a work plan of Phase I activities.

### Priority List 16

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline Expenditures</th>
<th>Current Expenditures</th>
<th>Completion %</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alligator Bend Marsh Restoration and Shoreline Protection</td>
<td>PONT</td>
<td>ORL</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
<td>$1,660,985</td>
<td>$1,660,985</td>
<td>100.0</td>
<td>$0/$0</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Southwest LA Gulf Shoreline Nourishment and Protection | MERM  | CAMER  | 888   |     |             |           | $1,266,842            | $1,266,842           | 100.0        | $0/$0                            |
| Status:                                  |       |        |       |     |             |           |                       |                      |              |                                  |

2 Project(s)
0 Cost Sharing Agreements Executed
0 Construction Started
0 Construction Completed
0 Project(s) Deferred/Deauthorized
### Project Status Summary Report - Lead Agency: DEPT. OF THE ARMY (COE)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIS</th>
<th>PARISH</th>
<th>ACRES</th>
<th>******* SCHEDULES *******</th>
<th>******* ESTIMATES *******</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
<td>Baseline</td>
<td>Current</td>
</tr>
</tbody>
</table>

**Total Priority List**

- 16 Total Priority List
- 1,218 Acres
- $2,927,827 Baseline
- $2,927,827 Current
- 100.0% Percent
- $0 Actual Obligations/Expenditures

**Notes:**

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

**DEPT. OF THE ARMY, CORPS OF ENGINEERS**

- 36,811 Acres
- $116,317,869 Baseline
- $108,180,373 Current
- 93.0% Percent
- $72,888,855 Actual Obligations/Expenditures

- 39 Total Project(s)
- 18 Cost Sharing Agreements Executed
- 16 Construction Started
- 14 Construction Completed
- 4 Project(s) Deferred/Deauthorized

**Notes:**

1. Expenditures based on Corps of Engineers financial data.
2. Date codes: A = Actual date, * = Behind schedule
3. Percent codes: ! = 125% of baseline estimate exceeded
## Priority List  Conservation Plan

**State of Louisiana Wetlands Conservation Plan**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>********** SCHEDULES **********</th>
<th>********** ESTIMATES **********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Status:** The date the MIPR was issued to obligate the Federal funds for the development of the plan is used as the construction start date for reporting purposes.

Complete.

---

Total Priority List  Cons Plan

$238,871  $191,807  80.3  $191,807

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

---

## Priority List  1

**Isles Dernieres Restoration East Island**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>********** SCHEDULES **********</th>
<th>********** ESTIMATES **********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Status:** This phase of the Isles Dernieres restoration project was combined with Isles Dernieres, Phase I (Trinity Island), a priority list 2 project. Additional funds to cover the increased construction cost on lowest bid received were approved at the January 16, 1998 Task Force meeting.

Construction start was January 16, 1998. Hydraulic dredging was completed September 1998. Vegetation planting was completed June 1999.
### Priority List 2

**Isles Dernieres Restoration Trinity Island**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>1</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,345,468</td>
<td>$8,762,416</td>
<td>138.1</td>
<td>$8,751,493</td>
</tr>
</tbody>
</table>

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

**Status:** Costs increased due to construction bids significantly greater than projected in plans and specifications. Additional funds to cover the increased project construction/dredging cost were approved at the January 16, 1998 Task Force meeting.

The 30' hydraulic dredge, the Tom James, mobilized at East Island on about January 27, 1998. Dredging was completed in September 1998. Vegetation plantings was completed June 1999.

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>2</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,907,897</td>
<td>$10,774,974</td>
<td>156.0</td>
<td>$10,788,861</td>
</tr>
</tbody>
</table>

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

### Priority List 3
### Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

#### Red Mud Demonstration (DEMO) [DEAUTHORIZED]
- **Status:** Facility construction is essentially complete; project was put on hold pending resolution of cell contamination by saltwater before planting occurred and has subsequently been deauthorized. Demonstration cells completed; no vegetation installed.
- The Task Force approved the deauthorization of the project on August 7, 2001. Escrowed funds will be returned to Kaiser Aluminum and Chemical Corp.

#### Whiskey Island Restoration
- **Status:** At the January 16, 1998 meeting, the Task Force approved additional funds to cover the increased construction cost on lowest bid received.

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>Current Baseline</th>
<th>Actual Cost Share Obligations</th>
<th>Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)</th>
<th>Actual Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Mud Demonstration (DEMO) [DEAUTHORIZED]</td>
<td>PONT</td>
<td>STJON</td>
<td>03-Nov-1994 A</td>
<td>$350,000</td>
<td>$470,500</td>
<td>134.4</td>
<td>$520,129</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Priority List | 3 | 1,239 | $5,194,274 | $7,577,086 | 145.9 | $7,654,993 | $7,557,689 |

2 Project(s)
2 Cost Sharing Agreements Executed
1 Construction Started
1 Construction Completed
1 Project(s) Deferred/Deauthorized

**Priority List** 4
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compost Demonstration (DEMO)</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>22-Jul-1996</td>
<td>$370,594</td>
<td>$213,645</td>
<td>$213,645</td>
</tr>
<tr>
<td>[DEAUTHORIZED]</td>
<td></td>
<td></td>
<td></td>
<td>Const Start</td>
<td>Const End</td>
<td></td>
</tr>
</tbody>
</table>

**Status:** Plans and specifications have been finalized. All permits and construction approvals have been obtained.

The amount of compost vegetation needed has not yet been supplied. A smaller sized demonstration has been designed. Advertisement for construction bids has been made.


---

**Total Priority List** 4

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

**Priority List** 5
Bayou Lafourche Siphon  
**Status:** Priority List 5 authorized funding in the amount of $1,000,000 for the FY 96 Phase 1 of this project. Priority List 6 authorized $8,000,000 for the FY 97 Phase 2 of this project. In FY 98, Priority List 7 authorized $7,987,000, for a project estimate of $16,987,000. At the January 20, 1999 Task Force meeting for approval of Priority List 8, $7,500,000 completed funding for the project, for a total of $24,487,337. EPA motioned to allow $16,095,883 from project funds be delayed and put to immediate use on PPL 8. The public has been involved in development of the scope of the evaluation phase. EPA proposes an alternative approach for siphoning and pumping 1,000 cfs year-round (versus the 2,000 cfs siphon only at high river times). Addition of pumps increases the estimated cost. Additional engineering is projected to be completed in 2000.

The Cost Sharing Agreement (CSA) was executed February 19, 1997. Preliminary draft report was distributed to Technical Committee members in October 1998. Additional hydrologic work by the U.S. Geological Survey and the COE. Additional geotechnical analysis has been conducted. Review has been conducted of technical reports and estimated costs is in progress.

At the October 25, 2001 meeting, the Task Force agreed to proceed with Phase 1 Engineering and Design, and approved an estimate of $9,700,000, subject to several stipulations. The State of Louisiana will pay 50 percent of the Phase 1 E&D costs of $9.7 million, as agreed to by the State Wetlands Authority. The allocation of CWPPRA funds for Phase 1 E&D does not commit the Task Force to a specific funding level for project construction. A decision to proceed beyond the 30% design review will be made by the Task Force and the State.

---

**Priority List 5.1**

---

### Priority List Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayou Lafourche Siphon</td>
<td>TERRE</td>
<td>IBERV</td>
<td>19-Feb-1997 A</td>
<td>$24,487,337</td>
<td>$1,500,000</td>
<td>6.1</td>
</tr>
</tbody>
</table>
Mississippi River Reintroduction into Bayou Lafourche

**TERRE IBERV** $9,700,000 $9,700,000 100.0 $8,310,772 23-Jul-2003 A

Status: EPA and DNR hosted the 30% E&D review meeting on May 9, 2006. EPA and DNR concur that the project is still viable and recommend that the project move forward to 95% E&D. EPA/DNR will be seeking TF approval to proceed to 95% and will also be seeking additional Phase 1 funding at the July 12, 2006 TF meeting.

Priority List 6

Bayou Boeuf Pump Station

**TERRE STMAR** $150,000 $3,452 2.3 $3,452

This was a 3-phased project. Priority List 6 authorized funding of $150,000; Priority List 7 was scheduled to fund $250,000; and Priority List 8 was scheduled to fund $100,000. Total project cost was estimated to be $500,000. By letter dated November 18, 1997, EPA notified the Technical Committee that they and LA DNR agree to deauthorize the project.

Deauthorization was approved at the July 23, 1998 Task Force meeting.
### Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

#### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>Baseline</th>
<th>%</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Highway 1 Marsh Creation [DEAUTHORIZED]</td>
<td>BARA</td>
<td>LAFOU</td>
<td>05-Oct-2000 A</td>
<td>$1,151,484</td>
<td>$343,551</td>
<td>29.8</td>
<td>$377,520</td>
<td>$243,140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Cut Dune and Marsh Restoration</td>
<td>TERRE</td>
<td>TERRE</td>
<td>102</td>
<td>01-Sep-2000 A</td>
<td>01-Oct-2006 A</td>
<td>01-Oct-2007</td>
<td>$7,393,626</td>
<td>$13,106,520</td>
<td>177.3</td>
<td>$11,509,044</td>
</tr>
</tbody>
</table>

**Priority List** 9

1. Project(s)
0. Cost Sharing Agreements Executed
0. Construction Started
0. Construction Completed
1. Project(s) Deferred/Deauthorized

**Status:**

- The project was deauthorized at the February 17, 2005 Task Force meeting.
- Construction contract awarded. Notice to Proceed issued for October 1, 2006. Dredging work expected to begin in November 2006, with the same dredge currently working on a NMFS sponsored barrier island restoration project.
- Awaiting confirmation from State of Louisiana regarding contract completion activities.
### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>9</td>
<td>375</td>
<td></td>
<td></td>
<td>$24,779,789</td>
<td>$30,107,777</td>
</tr>
</tbody>
</table>

#### Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

**Priority List 10**

**Lake Borgne Shoreline Protection**

- **PROJECT**: PONT STBER
- **ACRES**: 165
- **Const Start**: 02-Oct-2001
- **Const End**: 31-Dec-2007
- **Baseline**: $18,378,900
- **Current**: $18,286,377
- **%**: 99.5
- **Status**: Construction is expected to begin early 2007. Oyster leases in project footprint and complying with dredging window established to protect endangered species delayed construction originally planned for 2006.

**Small Freshwater Diversion to the Northwestern Barataria Basin**

- **PROJECT**: BARA STJAM
- **ACRES**: 941
- **Const Start**: 08-Oct-2001
- **Const End**: 01-May-2012
- **Baseline**: $1,899,834
- **Current**: $2,362,687
- **%**: 124.4
- **Status**: Difficulties with land rights combined with recent cypress logging activity require EPA and LDNR to re-evaluate the future of the current benefit area/potential diversion alignments considered to date. The original project proposal included several alternate benefit areas and alternate diversion alignments. All monitoring gages are being removed.

**Priority List 11**

2 Project(s)
2 Cost Sharing Agreements Executed
0 Construction Started
0 Construction Completed
0 Project(s) Deferred/Deauthorized
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>SCHEDULES</strong></td>
<td><strong>ESTIMATES</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Const Start</strong></td>
<td><strong>Const End</strong></td>
<td><strong>Baseline</strong></td>
</tr>
<tr>
<td>River Reintroduction into</td>
<td>PONT</td>
<td>STJON</td>
<td>5,438</td>
<td>04-Apr-2002 A</td>
<td>01-Jun-2009</td>
<td>$5,434,288</td>
</tr>
<tr>
<td>Maurepas Swamp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td>Complex hydrodynamic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>modeling has resulted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>in additional delays, but</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>modeling is expected to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>be completed by September,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2006. Actual engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and design will commence</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>immediately following that,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>assuming that modeling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>supports moving forward</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>with the project. NEPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>work continues. Preliminary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>water quality analysis is</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>complete. HTRW assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>nearly complete. ESA and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>other biological studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ongoing. Additional studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>to support ESA assessment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>water quality assessment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and alternatives analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>beginning or being scoped.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chapter 1 of EIS (Purpose &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Need) drafted and soon to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>be distributed for review/</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>comment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flank Restoration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>01-Feb-2008</td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td>The project E&amp;D is complete.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This project competed for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>funding at the December 2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tech Committee meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>but was not selected for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>construction funding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Priority List</td>
<td>11</td>
<td>5,633</td>
<td></td>
<td>$8,433,248</td>
<td>$10,522,360</td>
<td>124.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,569,669</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Priority List 12**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>SCHEDULES</strong></td>
<td><strong>ESTIMATES</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Const Start</strong></td>
<td><strong>Const End</strong></td>
<td><strong>Baseline</strong></td>
</tr>
<tr>
<td>Bayou Dupont Sediment</td>
<td>BARA</td>
<td>PLAQ</td>
<td>400</td>
<td>21-Mar-2004 A</td>
<td>01-Mar-2008</td>
<td>$2,192,735</td>
</tr>
<tr>
<td>Delivery System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td>As of June 06, all geotech</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>data has been collected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Current work w/COE to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ensure project complies w/</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>all dredging/navigation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>procedures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>All landowners are in full</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>support; formal landright</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>agreements are being</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>drafted for final approval.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Priority List 13

**Whiskey Island Back Barrier Marsh Creation**  
**Basin:** TERRE  
**Parish:** TERRE  
**ACREs:** 272  
**Constr Start:** 29-Sep-2004  
**Constr End:** 01-Apr-2008  
**Baseline Cost:** $2,293,893  
**Current Cost:** $2,751,494  
**% Completed:** 119.9  
**Actual Obligations:** $2,402,319  
**Expenditures:** $38,173  

**Status:** E&D is ongoing. Field work has been initiated.

### Priority List 14

**East Marsh Island Marsh Creation**  
**Basin:** TECHE  
**Parish:** IBERI  
**ACREs:** 189  
**Constr Start:** 01-Aug-2008  
**Constr End:** 01-Jul-2009  
**Baseline Cost:** $1,193,606  
**Current Cost:** $1,193,606  
**% Completed:** 100.0  
**Actual Obligations:** $1,063,053  
**Expenditures:** $1,926  

**Status:** EPA/DNR/NRCS held the project kickoff meeting and site visit on June 6, 2006, and June 14, 2006, respectively. A project workplan has been developed and the draft cooperative agreement has been completed.
## COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

### Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Baseline</td>
</tr>
<tr>
<td>Project(s)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cost Sharing Agreements Executed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Started</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Completed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Project(s) Deferred/Deauthorized</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Baseline</td>
</tr>
<tr>
<td>Project(s)</td>
<td>14</td>
<td>189</td>
<td>$1,193,606</td>
<td>$1,193,606</td>
<td>100.0</td>
</tr>
<tr>
<td>Cost Sharing Agreements Executed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Started</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Completed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Project(s) Deferred/Deauthorized</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Priority List 16

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Baseline</td>
</tr>
<tr>
<td>Enhancement of Barrier Island Vegetation Demo [DEMO]</td>
<td>VARY</td>
<td>MULTI</td>
<td>$919,599</td>
<td>$919,599</td>
<td>100.0</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total Priority List 16

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Baseline</td>
</tr>
<tr>
<td>Project(s)</td>
<td>16</td>
<td></td>
<td>$919,599</td>
<td>$919,599</td>
<td>100.0</td>
</tr>
<tr>
<td>Cost Sharing Agreements Executed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Started</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construction Completed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Project(s) Deferred/Deauthorized</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
## Project Status Summary Report - Lead Agency: ENVIRONMENTAL PROTECTION AGENCY (EPA)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10,320</td>
<td>CSA Const Start Const End Baseline Current %</td>
<td>$113,486,045 $107,598,759 94.8</td>
<td>$95,696,082 $57,613,544</td>
</tr>
</tbody>
</table>

- **19** Project(s)
- **16** Cost Sharing Agreements Executed
- **5** Construction Started
- **3** Construction Completed
- **4** Project(s) Deferred/Deauthorized

**Notes:**
1. Expenditures based on Corps of Engineers financial data.
2. Date codes:  A = Actual date  * = Behind schedule
3. Percent codes: ! = 125% of baseline estimate exceeded
PROJECT BASIN PARISH ACRES CSA Const Start Const End Current Baseline % Obligations/Expenditures

*********** SCHEDULES *********** ******** ESTIMATES ********

Current % Expenditures Baseline

Baseline

Actual

PROJECT 0.1


Status: DNR has secured landrights on 486 of the 612 stations. DNR signed and approved the contract with Coastal Estuary Services, LLC on February 1, 2005. DNR and USGS trained CES on the workflow implementation plan that outlines their responsibilities and DNR/USGS QA/QC responsibilities. The workflow entails preliminary site characterizations, site construction, data collection and site servicing and data management. DNR selected Hach Environmental as the low bid CRMS equipment provider (hydrographic data recorders, rod surface elevation tables and collars, shaft encoders and loggers). Hach Environmental has completed delivery of year 1 equipment (300 hydrolabs and supporting equipment). To date, CES has completed site characterizations on 294 sites, site construction of 153 sites (but awaiting final surveys and approval), and data collection on 91 sites. Data from the 91 sites is posted within the DNR SONRIS database. Coastwide aerial photography and satellite imagery was acquired in October and November 2005 and is available at http://www.lacoast.gov/maps/2005 doqq/index.htm. Land:water analyses of 55 CRMS sites have been completed and are undergoing peer-review. A filemaker database has been developed for tracking CRMS budgets, expenditures, deliverables and reports. The CRMS project information is maintained on the LaCoast website and is used to support information transfer and status of CRMS activities. DNR and USGS provided training to CWPPRA agency personnel on January 19, 2006 on DNR web portal access to available monitoring data and information.

Total Priority List 0.1 $66,890,300 $13,492,144 20.2 $7,423,492 $1,124,167

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

Priority List 0.2

Monitoring Contingency Fund COAST COAST 22-Sep-2004 A 08-Dec-1999 * $1,500,000 $1,500,000 100.0 $79,387

Status: No contingency requests under this CSA to date.

Total Priority List 0.2 $1,500,000 $1,500,000 100.0 $79,387 $79,387
### Total Priority List

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Recovery Assessment Fund</td>
<td>$303,359</td>
</tr>
</tbody>
</table>

#### Priority List 0.3

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Recovery Assessment Fund</td>
<td>$303,359</td>
</tr>
</tbody>
</table>

#### Priority List 1

<table>
<thead>
<tr>
<th>Project</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1</td>
<td>FWS and LDNR are presently developing a project Operation and Maintenance Plan.</td>
</tr>
</tbody>
</table>
## Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

### Cameron Creole Plugs
- **Project**: Cameron Creole Plugs
- **Basin**: CA/SB
- **Parish**: CAMER
- **Acres**: 865
- **Status**:
  - The Fish and Wildlife Service and the LA Dept.of Natural Resources are finalizing a draft Operation and Maintenance Plan. The LDNR will be responsible for project maintenance.
- **Schedules**:
  - **Construction Started**: 17-Apr-1993 A
  - **Construction Completed**: 28-Jan-1997 A
- **Estimates**:
  - **Baseline**: $660,460
  - **Current**: $991,295
  - **%**: 150.1
  - **Actual Obligations/Expenditures**: $987,982

### Cameron Prairie National Wildlife Refuge Shoreline Protection
- **Project**: Cameron Prairie National Wildlife Refuge Shoreline Protection
- **Basin**: MERM
- **Parish**: CAMER
- **Acres**: 247
- **Status**:
  - The Fish and Wildlife Service and the LA Dept.of Natural Resources are finalizing a draft Operation and Maintenance Plan. The LDNR will be responsible for project maintenance.
- **Schedules**:
  - **Construction Started**: 17-Apr-1993 A
  - **Construction Completed**: 09-Aug-1994 A
- **Estimates**:
  - **Baseline**: $1,177,668
  - **Current**: $1,227,123
  - **%**: 104.2
  - **Actual Obligations/Expenditures**: $1,207,523

### Sabine National Wildlife Refuge Erosion Protection
- **Project**: Sabine National Wildlife Refuge Erosion Protection
- **Basin**: CA/SB
- **Parish**: CAMER
- **Acres**: 5,542
- **Status**:
  - The Fish and Wildlife Service and the LA Dept.of Natural Resources are finalizing a draft Operation and Maintenance Plan. The LDNR will be responsible for project maintenance.
- **Schedules**:
  - **Construction Started**: 17-Apr-1993 A
  - **Construction Completed**: 01-Mar-1995 A
- **Estimates**:
  - **Baseline**: $4,895,780
  - **Current**: $1,602,656
  - **%**: 32.7
  - **Actual Obligations/Expenditures**: $1,555,273

### Priority List
- **Total Priority List**: 1
- **Priority List**: 2
- **Project(s)**: 4
- **Cost Sharing Agreements Executed**: 4
- **Construction Started**: 4
- **Construction Completed**: 0
- **Project(s) Deferred/Deauthorized**: 0

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>Project Status</th>
<th>Construction Started</th>
<th>Construction Completed</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2</td>
<td>PONT</td>
<td>ORL</td>
<td>1,280</td>
<td>FWS and LDNR are presently developing a project Operation and Maintenance Plan.</td>
<td>30-Jun-1994 A</td>
<td>28-May-1997 A</td>
<td>$1,452,035</td>
<td>$1,642,552</td>
<td>113.1</td>
<td>$1,566,181</td>
</tr>
</tbody>
</table>
## Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>2</td>
<td></td>
<td>1,280</td>
<td></td>
<td></td>
<td></td>
<td>$1,452,035</td>
<td>$1,642,552</td>
<td>113.1</td>
<td>$1,566,181/$1,265,583</td>
</tr>
</tbody>
</table>

1. Project(s)
2. Cost Sharing Agreements Executed
3. Construction Started
4. Construction Completed
5. Project(s) Deferred/Deauthorized

Priority List: 3
Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

Sabine Refuge Structure Replacement (Hog Island)

**Current Expenditures**

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIN</td>
<td>PARISH</td>
</tr>
<tr>
<td>CA/SB</td>
<td>CAMER</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
</tr>
</tbody>
</table>

**Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)**

**Sabine Refuge Structure Replacement Project**

**Status July 2005**

Construction began the week of November 1, 1999, and was originally projected to be completed by June 2001. The project was dedicated in December 2000. The structures were installed and semi-operational by the following dates: Headquarters Canal structure - February 9, 2000; Hog Island Gully structure - August 2000; and the West Cove structure - June 2001.

Initial structure electrical problems were caused because the 3-Phase electrical service to the structures was not the proper 3-Phase; the structure motors and logic controllers required three hot electrical wire connections. Transformers and filters were added to the structures in December 2001, but operation was not totally satisfactory. On March 12, 2002, the Rotorque logic controller representative corrected problems (motors running in reverse) with the Hog Island Gully Structure. Department of Agriculture, NRCS engineers in June 2002 determined that the structures continued to operate incorrectly in the automatic mode. The logic controllers were causing motor malfunctions even with filters and transformers in place because those controllers were able to determine that motor power was not the correct "3-Phase."

A contracted electrical engineering consulting firm recommended installation of "rotary phase converters" at each structure to solve the 3-phase electrical problem. The converters provide "3-phase" output with balanced voltage. The better voltage balance of the rotary phase converters, installed in September 2003, eliminated motor reversal and other problems for an estimated cost of $20,000 to install them at both the Hog Island Gully and West Cove structure sites.

**Continued Problems at the Hog Island Gully Structure during 2004**

All structures, except for one bay of the Hog Island Gully structure, were fully operational until late October 2004. But since that time, both the Hog Island Gully and the West Cove structures have been having operation problems. DNR is currently contracting for maintenance at those structures. An Operation and Maintenance meeting was held on November 15, 2004, among the USFWS, NRCS and DNR to discuss the above maintenance problems and their solutions and to transfer all but minor maintenance responsibilities to DNR.

**Current Structure Operations**

The West Cove and Hog Island Gully structure operations are in restrictive mode at this time (May 2005) with only one 3.5 ft wide gate opened on each structure.

Hog Island Gully Structure Operation April 22, 2005 - Operation is in restrictive mode because salinities that trigger inflow restrictions were exceeded (BN - 2 ppt target exceeded; 5R - 5 ppt target exceeded). Only gate 3 (3.5 ft wide) was open for ingress and egress. Gate 1 was open 42% but with flapgate, Gate 2 open but with flapgate, Gates 4 and 5 were closed, and Gate 6 was 84 to 91% opened but
West Cove Structure Operation April 22, 2005 - Restrictive inflow conditions were in effect (salinities exceeded 4 ppt at station BC and 8 ppt at station C). Gates 1 and 5 (both with flapgates) were open but flapping thus closed to estuarine organism ingress. Gate 2 (3.5 ft wide) was open for ingress and Gate 4 closed. Gate 3B on the West Cove structure was not operating as of April 22, but it may have been recently repaired.

Note that 4 of the 6 gates on the Hog Island Gully structure are not operation properly and one of the West Cove gates was not operating properly, but that gate has since been repaired.

Phone Modems

The phone modems that transmit salinity and water level information to Sabine Refuge Headquarters are no longer operating and Sabine NWR has ordered radio transmitters to replace them. They have not arrived and the refuge staff has had to collect discrete salinities and water levels for structure operations since February 2005 due to loss of cellular phone service in the area. The phone modems were located at six continuous recorder stations essential for structure operations.

The Monitoring Plan was approved on June 17, 1999.

The Operation and Maintenance Plan was approved by the FWS and DNR in June 23, 2004. The Service will be responsible for all structure operations and minor maintenance and DNR will be responsible for the larger maintenance items.
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT ESTIMATES</th>
<th>BASELINE ESTIMATES</th>
<th>% Expenditures</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Bayou Hydrologic Restoration</td>
<td>TERRE</td>
<td>LAFOU</td>
<td>199</td>
<td>$8,209,722</td>
<td>$5,135,468</td>
<td>159.9%</td>
<td>$2,530,545</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,260,117</td>
<td></td>
<td></td>
<td>$1,260,117</td>
</tr>
<tr>
<td>Status: The contractor has been working on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>model calibration and verification. Once</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>that step is completed, with-project model</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>runs will begin.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Priority List  5 199 $5,135,468 $8,209,722 159.9 $2,530,545 $1,260,117

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

**Priority List**  6

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT ESTIMATES</th>
<th>BASELINE ESTIMATES</th>
<th>% Expenditures</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Boudreaux Freshwater Introduction</td>
<td>TERRE</td>
<td>TERRE</td>
<td>603</td>
<td>$10,519,383</td>
<td>$9,831,306</td>
<td>107.0%</td>
<td>$1,830,813</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,116,925</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status: T. Baker Smith, Inc.(TBS) has</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acquired 35 of 38 signatures on project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rights-of-way agreements. One of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>remaining individuals has stated he will</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not sign unless paid $10,000 - 15,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>more! TBS and the Terrebonne Parish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consolidated Government are exploring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>options to encourage this individual to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voluntarily provide the needed landrights.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Should all landrights be obtained, E&amp;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>work will proceed toward preparation of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>final designs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Nutria Harvest for Wetland Restoration (DEMO)

#### Status:

**Nutria Harvest Demonstration Project**

Status July 2005

From April through June 2003 the following activities were completed:

- **Promotional Events:**
  2. LDWF assisted Chef Kevin Diez by providing nutria meat for the Baton Rouge Family Fun Fair.
  3. LDWF provided nutria sausage to the Opelousas Chamber of Commerce for a national cycling event.

LDWF contracted with Firefly Digital to upgrade the Nutria Website “www.nutria.com” to be completed in September 2003. The upgrade will provide easier site navigational access and more accurate and rapid user information.

This project was completed in October 2003. The project sponsors have completed project close-out activities.

#### Total Priority List

<table>
<thead>
<tr>
<th>Project(s)</th>
<th>Cost Sharing Agreements Executed</th>
<th>Construction Started</th>
<th>Construction Completed</th>
<th>Project(s) Deferred/Deauthorized</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutria Harvest for Wetland Restoration (DEMO)</td>
<td>COAST</td>
<td>COAST</td>
<td>27-Oct-1998 A</td>
<td>$2,140,000</td>
<td>$804,683</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20-Sep-1998 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30-Oct-2003 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Baseline</td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,140,000</td>
<td>$804,683</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,227,194</td>
<td>$806,220</td>
</tr>
</tbody>
</table>

**Actual Obligations/Expenditures**

<table>
<thead>
<tr>
<th>Priority List</th>
<th>6</th>
<th>603</th>
<th>$11,971,306</th>
<th>$11,324,066</th>
<th>94.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$3,058,007</td>
<td>$1,923,145</td>
<td></td>
</tr>
</tbody>
</table>

**Actual Obligations/Expenditures**

*COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT*

Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

07-Dec-2006
Page 38
The project was approved for Phase I engineering and design on January 11, 2000. An initial implementation meeting was held in April 2000; field trips were held in May and June 2000. The FWS/DNR Cost Share Agreement was signed on September 12, 2000. Elevational surveys of marsh levels and existing water monitoring stations and control points were completed by Lonnie Harper and Associates on October 26, 2000.

A hydrologic study of the project area entitled, “Analysis of Water Level Data from Rockefeller Refuge and the Grand and White Lakes Basin” was submitted by Erick Swenson (LSU Coastal Ecology Institute) in October 2001. That report concluded that a “precipitation-induced” water level gradient (0.6 feet or greater 50% of the time) existed between marshes north of Highway 82 and the target marshes in the Rockefeller Refuge south of that highway. That gradient was 1.5 feet or greater 30% of the time. Marsh levels varied from 1.0 to 1.2 feet NAVD88 north and to 1.0 to 1.4 feet NAVD88 south of Highway 82. The project hydrology has been modeled by Fenstermaker and Associates as described below.

Hydrodynamic Modeling Study

Fenstermaker and Associates began a hydrodynamic modeling study of the project on January 28, 2002. A model set-up interagency meeting was held May 24, 2002. The one-dimensional "Mike 11" model was used for the analysis. Model calibration and verification were completed November 21, 2002, and December 12, 2002 respectively. A draft modeling report was presented in April 2003, and a final report was presented in September 2003.

Model Results

The model indicated that the project, with a number of original features removed or reduced, would significantly flow freshwater south of Hwy 82 to reduce salinities in the project area. The model results suggested the following modifications to the conceptual project; 1) removal of the Boundary Line borrow canal plug, 2) removal of the northeastern north-south canal, 3) removal of 2 of the recommended four 3-48 inch-diameter-culverted structures along the boundary canal, 4) relocate the new Dyson structure to the north, and 5) removal of the Big Constance structure modification feature. The incorporation of these recommendations would significantly reduce project costs.

30% Design Review Meeting

A favorable 30% Design Review meeting was held on May 14, 2003 with USFWS concurrence to proceed to final design. On July 10, 2003 the LA Department of Natural Resources gave concurrence to proceed with project construction.

NEPA Review
The Corps and LA Dept of Natural Resources permit and consistency applications were submitted on January 30, 2004. DNR’s initial and modified Consistency Determinations were received on March 11, 2004, and June 3, 2004 respectively. The modified Corps permit applications were submitted May 27, 2004. The Corps public notices were issued on June 18, 2004. LA Dept. of Transportation letters of no objection were received on October 2, 2003, February 2, 2004, and April 19, 2004. The Corps Section 404 permits were received on March 10 and March 18, 2005. The draft Environmental Assessment was submitted for agency review on September 10, 2004, and the Final Environmental Assessment and Finding of No Significant Impact was distributed on April 12, 2005.

Phase II Construction Items

A successful 95% Design Review Meeting was held on August 11, 2004. The NRCS Overgrazing Determination was received December 1, 2003. The Corps Section 303(e) Determination received from the Corps on May 6, 2004. Landrights were certified by the LA DNR as completed on May 10, 2004.

Phase II construction funding approval was received at the October 2004 Task Force meeting.

Construction bids were received by June 21, 2005. Construction is anticipated to begin by July 15, 2005.

Mandalay Bank Protection Demonstration (DEMO)

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA Start</th>
<th>CSA End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandalay Bank Protection Demo</td>
<td>TERRE</td>
<td>TERRE</td>
<td>9</td>
<td>296</td>
<td>06-Dec-2000 A</td>
<td>25-Apr-2003 A</td>
<td>01-Sep-2003 A</td>
<td>$1,194,495</td>
<td>$1,767,214</td>
</tr>
</tbody>
</table>

Total Priority List

<table>
<thead>
<tr>
<th>Priority List</th>
<th>Project(s)</th>
<th>Cost Sharing Agreements Executed</th>
<th>Construction Started</th>
<th>Construction Completed</th>
<th>Project(s) Deferred/Deauthorized</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Delta Management at Fort St. Philip

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA Start</th>
<th>CSA End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Philip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>This project is currently under construction and is expected to be complete by the beginning of November 2006.</td>
</tr>
</tbody>
</table>

Mandalay Bank Protection Demonstration (DEMO)

| Agreement:                    |                                      |
East Sabine Lake Hydrologic Restoration Project

Status June 2005

Phase I funding was approved by the Task Force on January 10, 2001, and Phase II construction funding for Construction Unit 1 was approved by the Task Force in November 2003. A joint FWS, DNR and the NRCS cost-share agreement was completed on July 17, 2001.

Hydrodynamic Modeling Study

FTN was contracted for hydrodynamic modeling services. Phase I hydrodynamic modeling consists of reconnaissance, gathering of existing data, model selection and model geometry establishment. Phase II model calibration and without-project scenario model runs were completed. The "East Sabine Lake Hydrologic Restoration Hydrodynamic Modeling Study Phase II: Calibration and Verification Report" was completed October 5, 2004. The "Historical Data Review Modeling Phase III Data and Final Report" and the "Phase III Determination of Boundary Conditions for Evaluating Project Alternatives" were also completed in October 2004.

Phase II with-project model runs are currently being conducted. The first run will include fixed crest weirs with boat bays (10 feet wide by 4 feet deep) at Willow, Three, Greens and Right Prong Black Bayous.

Surveys and Data Recorders

A survey of monument control points was contracted by DNR in December 2001. Nine data recorders were deployed for a 16-month period (February 2002 to June 2003) for modeling data collecting purposes. DNR and FTN installed or contracted 9 continuous water level and salinity recorders in September 2001 and spring of 2002. Benchmark and cross sectional surveys were completed in March 2002; marsh elevation surveys were completed by May 2002. NRCS completed cross sectional surveys by July 2002.

The project will be completed as two construction units. Construction Unit 1 includes construction of 171,000 linear feet of earthen terraces in the Greens Lake area, 3,000 feet of Sabine Lake shoreline stabilization near Willow Bayou, and minor hydrologic structures; Construction Unit 2 will include construction of four larger hydrologic restoration structures are currently being modeled. Those structures could be located at Willow, Three, Greens and Right Prong Black Bayous. Landrights work was initiated in February 2002 and is completed. Most of project is located on the Federal Sabine National Wildlife Refuge.

Construction Unit 1 Construction

The existing Sabine NWR “duck-wing” terrace design was determined favorable for use as a CU 1 terrace component by the project management team. Favorable Construction Unit 1 interagency 30% Design Review and 95% Design Review Conferences were held March 25, 2003, and July 8, 2003, respectively. Corps permits and LA Department of Natural Resources Coastal Zone Consistencies have been received. The Draft and Final Environmental Assessment and Finding of No Significant Impact (FONSI) are completed as well as
other Phase II construction requirements. The Task Force approved construction in November 2003. The contract for CU 1 was awarded in December 2004 and the Notice to Proceed was issued in March 2005.

A 7,500 linear feet test of smooth cordgrass plantings located along the Sabine Lake shoreline conducted by the State Soil and Water Conservation District and the NRCS proved unsuccessful, thus the project sponsors removed the 11 miles (58,100 linear feet) of shoreline plantings as a project feature and added earthen terraces with the vegetation funding.

Construction Unit 1 construction began on March 9, 2005, with construction completion for that phase projected for September 2005.

Construction Unit 2 components are currently being modeled under the Engineering and Design phase.

<table>
<thead>
<tr>
<th>PROJECT BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CSA Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Status:

### North Lake Mechant Landbridge Restoration

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>Current Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand-White Lake Landbridge Restoration</td>
<td>MERM</td>
<td>CAMER</td>
<td>213</td>
<td>$4,573,290 $3,609,060</td>
</tr>
</tbody>
</table>

**Current Status:**

North Lake Mechant Landbridge Restoration

**Status:**

Ocean lease impacts issues remain unresolved. DNR hoped for a legislative fix during the past Special Session of the Louisiana legislature. Because that session was swamped with hurricane recovery issues, DNR was unable to present their proposed legislation. Consequently, project construction remains on hold until the oyster issues are resolved.

### Grand-White Lake Landbridge Restoration

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>Current Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand-White Lakes Land Bridge Restoration</td>
<td>TERRE</td>
<td>TERRE</td>
<td>604</td>
<td>$1,322,355 $818,546</td>
</tr>
</tbody>
</table>

**Status:**

Grand-White Lakes Land Bridge Restoration

Status July 2005

Phase 1 engineering and design funding was approved by the Task Force on January 10, 2001. The LDNR/ USFWS Cost Share Agreement was executed on July 24, 2001. LDNR certified landrights completion on December 12, 2001.

Project sponsors received Phase II construction funding approval from the CWPPRA Task Force on August 7, 2002. All of the CWPPRA and NEPA project construction requirements have been completed: 1.) the NRCS Overgrazing Determination (August 30, 2002), 2) LA state Coastal Zone Consistency Determination (September 19, 2002), 3) the LA Department of Environmental Quality Water Quality Certification (October 28, 2002), 4) the Environmental Assessment (November 19, 2002), 5) the Corps’ CWPPRA Section 303(e) Determination (December 2002), and 6) the Corps’ Section 404 Permit (December 2002). A favorable 95% Design Review Conference was held September 12, 2002.

The project construction contract for Construction Unit 1 (Grand Lake rock shoreline stabilization) was awarded in June 2003, the Notice to Proceed was issued on July 10, 2003, and construction for that phase was completed in October 2003. Construction Unit 2 (Collicon Lake Terraces) construction began in early July 2004 and was completed in October 2004. The project ground breaking was held August 15, 2003.

Operation and maintenance post construction field trips in February and April 2005 indicated that Construction Unit 1 - the Grand Lake shoreline rock dike and marsh creation is performing well. The rock has not subsided and a small strip of wetland was created between the rock and the shoreline with spoil from access channel dredging. Construction Unit 2 terraces have experienced post construction erosion. The Collicon Lake lake-ward terrace tops have eroded approximately 66% since project construction. Most of the lake-ward planted giant cutgrass vegetation has eroded and a cut bank remains. Most of the inner shoreward terraces are holding up well with giant cutgrass vegetation growing and expanding. Nutria herbivory of the planted vegetation on the northern and northwestern Collicon Lake terraces has been observed.
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrebonne Bay Shore Protection Demonstration (DEMO)</td>
<td>COAST</td>
<td>TERRE</td>
<td>24-Jul-2001 A</td>
<td>01-Apr-2007</td>
<td>30-Sep-2007</td>
<td>$2,006,373</td>
</tr>
<tr>
<td>Status: The bids that were received from the 7/6/06 bid package were all well over the cost estimated for this project. The project is being scaled down and re-designed to accommodate the higher costs. Three replicates with three treatments will be constructed. The re-design is estimated to be completed in January 07 with a bid package completed some time in February 07. The three treatments will be a gabion mats, A-Jaxs and &quot;triangle units&quot; that should help establish and oyster reef.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Priority List 10 1,309 $53,044,205 $44,896,820 84.6 $15,122,786 $8,341,064 |

5 Project(s) 5 Cost Sharing Agreements Executed 4 Construction Started 1 Construction Completed 0 Project(s) Deferred/Deauthorized

Priority List 11


Status: Phase 2 funds will be requested at the December 2006 Technical Committee meeting.
COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT
Project Status Summary Report - Lead Agency: DEPT. OF THE INTERIOR (FWS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Status Summary Report - Lead Agency</td>
<td></td>
<td></td>
<td></td>
<td><strong>CSA</strong></td>
<td><strong>Const Start</strong></td>
<td><strong>Const End</strong></td>
</tr>
<tr>
<td>South Grand Chenier Hydrologic Restoration</td>
<td>MERM</td>
<td>CAMER</td>
<td>440</td>
<td>03-Apr-2002 A</td>
<td>01-Jun-2007</td>
<td>01-Mar-2008</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td>South Grand Chenier Hydrologic Restoration Project</td>
<td>Status July 2005</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The project was approved by the Task Force in January 2002. An implementation meeting and field trip was held on March 13, 2002 attended by agencies (USFWS, LDNR, LDWF, and NRCS), landowner representatives, and consulting engineers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hydrodynamic Modeling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A hydrodynamic modeling meeting was held on May 6, 2002, a hydrodynamic modeling and surveying contract was awarded to Fenstermaker and Associates on June 14, 2002; and a modeling work plan was submitted in July 2002. Elevation surveys and the installation of continuous water level and salinity recorders were completed and installed by August 2002. Preliminary and final model “Set Up” meetings were held on June 11, 2003, and August 6, 2003 respectively. Model calibration was completed by September 5, 2004 and validation was completed by September 30, 2003. Model run presentation was made on May 11, 2004.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The model results indicated that the project would be successful in introducing freshwater across Highway 82, in the vicinity of Grand Chenier, to assist marshes south of that highway in the Hog Bayou Watershed in reducing saltwater intrusion due to the Mermentau Ship Channel. The draft and final draft model reports entitled, &quot;Hydrodynamic Modeling of the ME-29 South Grand Chenier Hydrologic Restoration Project&quot; was completed in July 2004 and April 2005 respectfully.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Landrights</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Landrights meetings were held between project sponsors and the major landowners on October 17, 2002, in New Orleans, and all landowners on January 16, 2003, at Rockefeller Refuge. A second round of landowner modeling meetings showing the modeling results may begin by September 2005.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The project 30% Design Review meeting may be held in the spring of 2006 with the 95% Design Review meeting tentatively scheduled for the summer of 2006. Construction could begin in the summer of 2007 if Task Force approval is received in January 2007.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Lake Boudreaux Shoreline Protection and Marsh Creation</td>
<td>TERRE</td>
<td>TERRE</td>
<td>277</td>
<td>03-Apr-2002 A</td>
<td>01-Apr-2007</td>
<td>01-Feb-2008</td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td>NRCS has finished their Final Plans and Specs and are awaiting a final signature. DNR is still wrapping-up some landright issues and estimates completion in early-to-mid October. The Final EA has been submitted and the we have received a permit from the Corps. If DNR finishes the Landrights in October then NRCS estimates the bid package would be ready sometime in late January.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Priority List 13

**Goose Point/Point Platte Marsh Creation**

**Status:** The 30% design review meeting was held on July 20, 2006. The meeting was successful and FWS and DNR have agreed to continue with project design. A 95% design review meeting is scheduled for November 2006. Phase 2 funds will be requested at the December 2006 Technical Committee meeting.

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Baseline Expenditures</th>
<th>Current Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goose Point/Point Platte Marsh Creation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>436</td>
<td></td>
<td>$1,930,596</td>
<td>$1,730,596</td>
<td>89.6</td>
<td>$81,264</td>
<td>$75,587</td>
</tr>
</tbody>
</table>

### Priority List 15

**Lake Hermitage Marsh Creation**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Baseline Expenditures</th>
<th>Current Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Hermitage Marsh Creation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>438</td>
<td></td>
<td>$1,197,590</td>
<td>$1,197,590</td>
<td>100.0</td>
<td>$13,202</td>
<td>$11,855</td>
</tr>
</tbody>
</table>

1 Project(s)
1 Cost Sharing Agreements Executed
0 Construction Started
0 Construction Completed
0 Project(s) Deferred/Deauthorized
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>15</td>
<td>438</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Project(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Cost Sharing Agreements Executed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Construction Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Construction Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Project(s) Deferred/Deauthorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total DEPT. OF THE INTERIOR, FISH & WILDLIFE SERVICE | 15,040 | | | | | $185,816,310 | $119,928,202 | 64.5 | $47,356,561 | $26,015,895 |
| 24 | Project(s) | | | | | | | | | |
| 23 | Cost Sharing Agreements Executed | | | | | | | | | |
| 14 | Construction Started | | | | | | | | | |
| 9 | Construction Completed | | | | | | | | | |
| 0 | Project(s) Deferred/Deauthorized | | | | | | | | | |

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

#### 1

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>%</th>
<th>Total Priority List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourchon Hydrologic Restoration [DEAUTHORIZED]</td>
<td>TERRE</td>
<td>LAFOU</td>
<td></td>
<td></td>
<td>$252,036</td>
<td></td>
<td>$7,703</td>
<td>3.1</td>
<td>$1,946,775</td>
</tr>
<tr>
<td></td>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In a meeting on October 7, 1993, Port Fourchon conveyed to NMFS personnel that any additional work in the project area could be conducted by the Port and they did not wish to see the project pursued because they question its benefits and are concerned that undesired Government / general public involvement would result after implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deauthorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>%</th>
<th>Total Priority List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Bayou LaCache Hydrologic Restoration [DEAUTHORIZED]</td>
<td>TERRE</td>
<td>TERRE</td>
<td></td>
<td>17-Apr-1993 A</td>
<td>$1,694,739</td>
<td></td>
<td>$99,625</td>
<td>5.9</td>
<td>$1,946,775</td>
</tr>
<tr>
<td></td>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In a public hearing on September 22, 1993, with landowners in the project area, users strenuously objected to the proposed closure of the two east-west connections between Bayou Petit Caillou and Bayou Terrebonne. NMFS received a letter from LA DNR, dated February 6, 1995, recommending deauthorization of the project. NMFS forwarded the letter to COE for Task Force approval.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deauthorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Priority List 2**
### Atchafalaya Sediment Delivery

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>Baseline</th>
<th>%</th>
</tr>
</thead>
</table>

**Status:** Project cost increase was approved by the Task Force at the January 16, 1998 meeting. Construction project complete. First costs accounting underway.

### Big Island Mining

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>Baseline</th>
<th>%</th>
</tr>
</thead>
</table>

**Status:** Project cost increase was approved by the Task Force at the January 16, 1998 meeting. Construction project complete. First costs accounting underway.

### Point Au Fer Canal Plugs

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>Baseline</th>
<th>%</th>
</tr>
</thead>
</table>

**Status:** Construction for the project will be accomplished in two phases. Phase I construction on the wooden plugs in the oil and gas canals in Area 1 was completed December 22, 1995. Phase II construction in Area 2 has been delayed until suitable materials can be found to backfill the canal fronting the Gulf of Mexico. Phase II construction completed in May 1997. Task Force approved project design change and project cost increase at December 18, 1996 meeting. Phase III was authorized and a cooperative agreement awarded on August 27, 1999. Phase III was completed in spring 2000. Closing out cooperative agreement between NOAA and LADNR.

### Priority List

- 3 Project(s)
- 3 Cost Sharing Agreements Executed
- 3 Construction Started
- 3 Construction Completed
- 0 Project(s) Deferred/Deauthorized

### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>Current</th>
<th>Baseline</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>2</td>
<td>4,167</td>
<td>$12,844,759</td>
<td>$6,113,456</td>
<td>210.1</td>
<td></td>
</tr>
</tbody>
</table>

**Actual Obligations/Expenditures:**
- $12,654,558
- $11,422,788
### Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th><strong>SCHEDULES</strong></th>
<th><strong>ESTIMATES</strong></th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayou Perot/Bayou Rigolettes Marsh Restoration</td>
<td>BARA</td>
<td>JEFF</td>
<td>03-Mar-1995 A</td>
<td>$1,835,047</td>
<td>$20,963</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$20,963</td>
</tr>
<tr>
<td>Status: A feasibility study conducted by LA DNR indicated that possible wetlands benefits from construction of this project are questionable. LA DNR has indicated a willingness to deauthorize the project. In April 1996, LA DNR had asked to reconsider the project with potential of combining this with two other projects in the watershed. Project deauthorized at January 16, 1998 Task Force meeting.</td>
<td>Deauthorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Timbalier Island Sediment Restoration, Phase 1</td>
<td>TERRE</td>
<td>LAFOU</td>
<td>1,913</td>
<td>01-Feb-1995 A 01-May-1999 A 01-May-2001 A</td>
<td>$2,046,971</td>
<td>$3,729,587</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,753,213</td>
</tr>
<tr>
<td>Status: Construction completed in December 1999. Aerial seeding of the dune platform was achieved in spring 2000, and the installation of sand fencing was completed September 30, 2000. Vegetative dune plantings were completed May 1, 2001.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,835,609</td>
</tr>
<tr>
<td>Status: Construction complete. Vegetative plantings were installed in spring 2000.</td>
<td>Closing out cooperative agreement between NOAA and LADNR.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,056,804</td>
</tr>
<tr>
<td>Status: Phase 1 was completed September 1997. Phase 2 is shoreline protection between Bayou desAllemands and Lake Salvador. Construction began in April 1998 and completed in June 1998. Final first costs have been finalized.</td>
<td>Closed out cooperative agreement between NOAA and LADNR. First costs accounting undersay.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project has served its demonstration purpose and is being removed by DNR with O&amp;M funds, summer of 2002.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>************** SCHEDULES **************</th>
<th>************** ESTIMATES **************</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>3</td>
<td>2,422</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$9,475,828</td>
<td>$12,158,188</td>
<td>128.3</td>
</tr>
</tbody>
</table>

- **4** Project(s)
- **4** Cost Sharing Agreements Executed
- **3** Construction Started
- **3** Construction Completed
- **1** Project(s) Deferred/Deauthorized

### Priority List 4

#### East Timbalier Island Sediment Restoration, Phase 2
- **Status:** NOAA and DNR is currently closing out the cooperative agreements for East Timbalier Island Phase 1 and 2. Considering the damage invoked on the island as a result of Hurricane Lily and Tropical Storm Isadore, future construction will be reassessed pursuant to engineering feasibility and the Phase 2 prioritization process.

#### Eden Isles East Marsh Restoration [DEAUTHORIZED]
- **Status:** NMFS letter of September 8, 1997 requested the CWPPRA Task Force to move forward with deauthorization of this project. Bids were placed twice to acquire the land; both times they were rejected due to higher bids by private developers. Project deauthorized at January 16, 1998 Task Force meeting.

Deauthorized.
### Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT</th>
<th>ESTIMATES</th>
<th>SCHEDULES</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>4</td>
<td>215</td>
<td></td>
<td>$7,639,888</td>
<td>70.9</td>
<td>$10,771,372</td>
<td>$7,656,722</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$7,564,898</td>
<td></td>
<td>$7,656,722</td>
<td>$7,564,898</td>
</tr>
</tbody>
</table>

#### Priority List 5

**Little Vermilion Bay Sediment Trapping**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT</th>
<th>ESTIMATES</th>
<th>SCHEDULES</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status:</strong> Construction completed in August 1999. Cooperative agreement being closed out. First costs accounting underway.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Myrtle Grove Siphon**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT</th>
<th>ESTIMATES</th>
<th>SCHEDULES</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARA PLAQ</td>
<td>1,119</td>
<td>20-Mar-1997 A</td>
<td></td>
<td>$15,525,950</td>
<td>$481,803</td>
<td>3.1</td>
<td>$481,803</td>
</tr>
<tr>
<td><strong>Status:</strong> The 5th Priority List authorized funding in the amount of $4,500,000 for the FY 96 Phase 1 of this project. Priority List 6 authorized funding in the amount of $6,000,000 for FY 97. Priority List 8 is authorized to fund the remaining $5,000,000. Total project cost is estimated to be $15,525,950. NOAA and LADNR are closing out the cooperative agreement and returning remaining project funds to the CWPPRA program. Project will remain active as authorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Priority List**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT</th>
<th>ESTIMATES</th>
<th>SCHEDULES</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>5</td>
<td>1,560</td>
<td></td>
<td>$1,367,833</td>
<td>8.3</td>
<td>$16,466,015</td>
<td>$1,345,239</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,141,897</td>
<td></td>
<td>$16,466,015</td>
<td>$1,141,897</td>
</tr>
</tbody>
</table>

2 Project(s)
1 Cost Sharing Agreements Executed
1 Construction Started
1 Construction Completed
0 Project(s) Deferred/Deauthorized
### Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

#### Priority List 6

**Black Bayou Hydrologic Restoration**
- **Basin**: CA/SB
- **Parish**: CAMER
- **Acres**: 3,594
- **Start Date**: 28-May-1998
- **End Date**: 03-Nov-2003
- **Baseline**: $6,316,800
- **Current**: $5,972,613
- **Completion %**: 94.6
- **Actual Expenditures**: $5,982,655

**Status:** The O&M event has been delayed as a result of Hurricane Rita. The contractor is expected to resume activity by November 30, with 14 days needed to complete the tasks.

**Delta Wide Crevasses**
- **Basin**: DELTA
- **Parish**: PLAQ
- **Acres**: 2,386
- **Start Date**: 28-May-1998
- **End Date**: 31-Dec-2014
- **Baseline**: $5,473,934
- **Current**: $4,752,653
- **Completion %**: 86.8
- **Actual Expenditures**: $4,530,870

**Status:** 3-05 Construction on Phase 2 (of three phases) completed. Final Inspection conducted 3/17/2005.

**Sediment Trapping at "The Jaws"**
- **Basin**: TECHE
- **Parish**: STMAR
- **Acres**: 1,999
- **Start Date**: 28-May-1998
- **End Date**: 19-May-2005
- **Baseline**: $3,167,400
- **Current**: $3,392,135
- **Completion %**: 107.1
- **Actual Expenditures**: $3,232,620

**Status:** Construction of earthen terraces was completed on December 4, 2004, with final acceptance on December 7, 2004. Rye grass seeding was done on terraces on December 15, 2004 by the planting contractor. Vegetative plantings will begin in mid-to-late April 2005. It is anticipated to take approximately 14 working days to complete.

#### Total Priority List

<table>
<thead>
<tr>
<th>Project(s)</th>
<th>Project(s) Deferred/Deauthorized</th>
<th>Construction Started</th>
<th>Construction Completed</th>
<th>Cost Sharing Agreements Executed</th>
<th>Total Priority List</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,979</td>
</tr>
</tbody>
</table>

**Baseline**: $14,958,134 **Current**: $14,117,401 **Completion %**: 94.4 **Actual Expenditures**: $7,841,538

#### Priority List 7

**Grand Terre Vegetative Plantings**
- **Basin**: BARA
- **Parish**: JEFF
- **Acres**: 127
- **Start Date**: 23-Dec-1998
- **End Date**: 01-Jul-2001
- **Baseline**: $928,895
- **Current**: $492,774
- **Completion %**: 53.0
- **Actual Expenditures**: $501,364

**Status:** Planting of 3,100 units each of bitter panicum, gulf cordgrass, and marshhay cordgrass on beach nourishment/dune area, and installation of approximately 35,000 smooth cordgrass and 800 black mangrove was completed in June 2001. Monitoring is underway. Project area is being evaluated for additional plantings in 2003/2004.
## Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

### Pecan Island Terracing

**BASIN**: MERM  
**PARISH**: VERMI  
**ACRES**: 442  
**Current Obligations/Expenditures**: $2,394,418  
**Baseline**: $2,185,900  
**Current**: $2,391,953  
**%**: 109.4  
**Const Start**: 01-Apr-1999 A  
**Const End**: 10-Sep-2003 A  
**Status**: Terrace construction was completed August 26, 2003, with plantings completed September 10, 2003.

### Bayou Bienvenue Pump Station Diversion and Terracing

**BASIN**: PONT  
**PARISH**: STBER  
**ACRES**: 22  
**Current Obligations/Expenditures**: $212,153  
**Baseline**: $212,142  
**Current**: $212,153  
**%**: 6.4  
**Const Start**: 01-Jun-2000 A  
**Const End**:  
**Status**: Cooperative Agreement awarded in June 1, 2000. Preliminary design analyses indicate that terrace construction significantly more costly than originally estimated due to poor geo-technical condition. The project is estimated to cost between $17 and $20 million to build. At the January 16, 2002 Task Force meeting, DNR and NOAA/NMFS requested initiation of the deauthorization procedure. Deauthorization was approved by the Task Force at the April 16, 2002 meeting.

### Hopedale Hydrologic Restoration

**BASIN**: PONT  
**PARISH**: STBER  
**ACRES**: 134  
**Current Obligations/Expenditures**: $2,198,179  
**Baseline**: $2,179,491  
**Current**: $2,432,958  
**%**: 111.6  
**Const Start**: 11-Jan-2000 A  
**Const End**: 15-Jan-2005 A  
**Status**: Cooperative Agreement was awarded January 11, 2000. Engineering and design is complete, with design surveys, geo-technical investigations and hydrologic modeling complete. Landrights for the major project feature are complete. NEPA compliance and regulatory requirements are complete. A construction contract was awarded in November 2003, and construction was initiated in March 2004. Construction was completed in January 2005, and the project is currently being operated by St. Bernard Parish under a cooperative agreement with the Louisiana Department of Natural Resources.
### Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*************** SCHEDULES ***************</th>
<th>*************** ESTIMATES ***************</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BASIN</td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>8</td>
<td>134</td>
<td>$5,475,065</td>
<td>$2,645,100</td>
</tr>
</tbody>
</table>

### Notes

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

### Priority List  9

**Castille Pass Channel Sediment Delivery**

- **Basin:** ATCH
- **Parish:** STMY
- **Acres:** 577
- **Start:** 29-Sep-2000
- **End:** 15-Jun-2007
- **Obligations:** $1,484,633
- **Baseline Expenditures:** $1,846,326
- **Current Expenditures:** $1,835,761
- **Status:** Castille Pass was not selected for Phase 2 funding in December 2005. The NMFS will re-submit the project, as designed, for Phase 2 funding consideration at the December/January Program meetings.

**Chandeleur Islands Marsh Restoration**

- **Basin:** PONT
- **Parish:** STBER
- **Acres:** 220
- **Start:** 10-Sep-2000
- **End:** 31-Jul-2001
- **Obligations:** $1,435,066
- **Baseline Expenditures:** $937,977
- **Current Expenditures:** $839,253
- **Status:** Cooperative Agreement was awarded September 10, 2000. Vegetative planting is scheduled for spring, 2001, and are phased over two years.

- Pilot planting project completed in June, 2000. First phase of vegetative plantings completed July 2001 with installation of approximately 80,000 smooth cordgrass plants along 6.6 miles of overwash fan perimeters. Project area is being evaluated for additional plantings in 2003.

**East Grand Terre Island Restoration**

- **Basin:** BARA
- **Parish:** JEFF
- **Acres:** 335
- **Start:** 21-Sep-2000
- **End:** 01-Dec-2007
- **Obligations:** $1,856,203
- **Baseline Expenditures:** $2,312,023
- **Current Expenditures:** $2,276,530
- **Status:** Cooperative Agreement was awarded September 21, 2000. Preliminary geotechnical investigations of potential sand sources is complete. Additional detailed geotechnical investigations are required to accurately identify and delineate sand sources. Data acquisition for modeling complete, and preliminary modeling results for design alternatives is complete; additional modeling required to complete project performance assessments. Landrights in progress. Preliminary assessment of oyster resources is complete. Preliminary design review was delayed due to the need for additional geotechnical information and project performance projections. Preliminary design review is anticipated in April 2005. Final design, environmental documentation and revised WVA will be completed during Summer 2005. Phase 2 request is anticipated in January, 2006.
## Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

### Total Priority List

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>SCHEDULES</strong></td>
<td><strong>ESTIMATES</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction for this project was completed on May 23, 2004. Post-construction monitoring is underway.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LaBranche Wetlands Terracing, Planting, and Shoreline Protection</td>
<td>PONT</td>
<td>STCHA</td>
<td>489</td>
<td>21-Sep-2000 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperative Agreement was awarded September 21, 2000. Engineering and design complete. Construction is scheduled for 2002.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Force approved Phase 2 funding at January 10, 2001 meeting. In a letter dated September 7, 2001, NMFS returned Phase 2 funding because of waning landowner support. Deauthorization is not requested at this time.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Priority List</td>
<td>9</td>
<td>1,788</td>
<td></td>
<td>$10,684,165</td>
<td>$7,747,019</td>
<td>72.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6,850,110</td>
<td>$1,134,129</td>
<td></td>
</tr>
</tbody>
</table>
### Priority List  11

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>10</td>
<td>920</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Barataria Barrier Island:**

- **Pelican Island and Pass La Mer to Chaland Pass**
  - **BARA PLAQ 534**: $61,995,587 $66,494,510 107.3 $57,875,395
  - **Status**: Construction contract for Chaland Headland (CU 1) was awarded by NOAA November 2005. Due to hurricane impacts to construction access route, construction initiation was delayed until April 2006. Construction on-going and anticipated to be complete in November 2006. Advertisement of a construction contract for Pelican Island (CU 2) is pending oyster acquisition. Project delays associated with oyster acquisition and project site changes will require a re-assessment of fill requirements and preparation of updated cost estimates.

- **Little Lake Shoreline Protection/Dedicated Dredging near Round Lake**
  - **BARA LAFOU 713**: $35,994,929 $33,992,878 94.4 $28,876,048
  - **Status**: Project started on August 4, 2005. The contract is for 575 construction days.

- **Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration**
  - **BARA PLAQ 263**: $29,753,880 $29,249,507 98.3 $22,812,668
  - **Status**: Final design, landrights, environmental compliance and development of updated cost estimate and revised WVA were completed prior to request for Phase 2 approval in December 2005. Pending clearance of oyster leases in the project area, it is anticipated that project construction will begin in spring 2007.
### Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

<table>
<thead>
<tr>
<th>Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROJECT</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Total Priority List</td>
</tr>
<tr>
<td>Total Priority List</td>
</tr>
</tbody>
</table>

#### Priority List 14

**Riverine Sand Mining/Scofield Island Restoration**

| Status: | BARA PLAQ 234 | 04-Oct-2005 A | $3,221,887 | $3,221,887 | 100.0 | $2,740,886 |

#### Priority List 15

**South Pecan Island Freshwater Introduction**

| Status: | MERM VERMI 98 | | $1,102,043 | $1,102,043 | 100.0 | $936,735 |
## Project Status Summary Report - Lead Agency: DEPT. OF COMMERCE (NMFS)

### Total Priority List

**Project(s)**
- Construction Completed: 0
- Construction Started: 0
- Cost Sharing Agreements Executed: 0
- Project(s) Deferred/Deauthorized: 0

### Priority List

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madison Bay Marsh Creation and Terracing</td>
<td>TEXH</td>
<td>TERRE</td>
<td>372</td>
<td></td>
<td></td>
<td></td>
<td>$3,002,171</td>
<td>$3,002,171</td>
<td>100.0</td>
<td>$0</td>
</tr>
<tr>
<td>West Belle Pass Barrier Headland Restoration</td>
<td>TERRE</td>
<td>LAFOU</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td>$2,694,364</td>
<td>$2,694,364</td>
<td>100.0</td>
<td>$0</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>16</td>
<td>671</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$5,696,535</td>
<td>$5,696,535</td>
<td>100.0</td>
<td>$0</td>
</tr>
<tr>
<td>PROJECT</td>
<td>BASIN</td>
<td>PARISH</td>
<td>ACRES</td>
<td>*************** SCHEDULES ***************</td>
<td>*************** ESTIMATES ***************</td>
<td>Actual Obligations/Expenditures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>DEPT. OF COMMERCE, NATIONAL MARINE FISHERIES SERVICE</td>
<td>22,267</td>
<td></td>
<td>CSA Const Start Const End</td>
<td>Baseline Current %</td>
<td>$218,700,354 $203,678,081 93.1</td>
<td>$176,205,058 $67,561,855</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33 Project(s)
28 Cost Sharing Agreements Executed
18 Construction Started
15 Construction Completed
5 Project(s) Deferred/Deauthorized

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

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>Current</th>
<th>Baseline</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIWW to Clovelly Hydrologic Restoration</td>
<td>BARA</td>
<td>LAFOU</td>
<td>175</td>
<td>11-Jul-1994 A</td>
<td>$92,012</td>
<td>The project was divided into two contracts in order to expedite implementation. The first contract to install most of the weir structures, began May 1, 1997 and completed November 30, 1997, at a cost of $646,691. The second contract to install bank protection, one weir and one plug, began January 1, 2000 and completed October 31, 2000, at a cost of $3,400,000. All project construction is complete. O&amp;M Plan signed September 16, 2002.</td>
</tr>
<tr>
<td>Vegetative Plantings - Falgout Canal Planting Demonstration (DEMO)</td>
<td>TERRE</td>
<td>TERRE</td>
<td>17-Apr-1993 A</td>
<td>15-Mar-1995 A</td>
<td>$293,124</td>
<td>Wave-stilling devices are in place. Vegetative plantings are in place.</td>
</tr>
<tr>
<td>Vegetative Plantings - West Hackberry Planting Demonstration (DEMO)</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>17-Apr-1993 A</td>
<td>30-Mar-1994 A</td>
<td>$261,581</td>
<td></td>
</tr>
</tbody>
</table>

**Lead Agency:** DEPT. OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE
### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

#### Priority List 2

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*************** SCHEDULES ***************</th>
<th>*************** ESTIMATES ***************</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Total Priority List</strong> 1 175</td>
<td><strong>$9,063,612</strong> $9,769,356 107.8</td>
<td><strong>$9,592,682</strong> $7,935,121</td>
</tr>
</tbody>
</table>

5  Project(s)
5  Cost Sharing Agreements Executed
5  Construction Started
5  Construction Completed
1  Project(s) Deferred/Deauthorized

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th><strong>Cost Sharing Agreements Executed</strong></th>
<th><strong>Construction Started</strong></th>
<th><strong>Construction Completed</strong></th>
<th><strong>Cost Sharing Agreements Executed</strong></th>
<th><strong>Construction Started</strong></th>
<th><strong>Construction Completed</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Lake Hydrologic Restoration</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>282</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Caernarvon Diversion Outfall Management</td>
<td>BRET</td>
<td>PLAQ</td>
<td>802</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>East Mud Lake Marsh Management</td>
<td>CA/SB</td>
<td>CAMER</td>
<td>1,520</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Brown Lake Hydrologic Restoration

**Current** design is being revised for the Crab Gully area. Project is scheduled to request approval for construction at the July 2007 Task Force meeting.

#### Caernarvon Diversion Outfall Management

This project was proposed for deauthorization in December 1996, but was referred for revisions at the request of the landowners and DNR. The project was modified. The final plan/EA has been prepared. Bids were opened 23 February 2001. The low bid exceeded the funds available. Task Force approved additional funds. Construction complete June 19, 2002.

#### East Mud Lake Marsh Management

Bid opening was August 8, 1995 and contract awarded to Crain Bros. Construction started in early October 1995. Water control structures are installed and the vegetation installed in the summer of 1996.

Construction complete. O&M plan executed. Maintenance needs on a water control structure is being evaluated.
## Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

### Freshwater Bayou Wetland Protection
- **Basin**: MERM
- **Parish**: VERMI
- **Acres**: 1,593
- **Schedule**
  - **Const Start**: 17-Aug-1994
  - **Const End**: 15-Aug-1998
- **Baseline**: $2,770,093
- **Current**: $3,455,303
- **% Expenditures**: 124.7
- **Actual Obligations/Expenditures**: $3,382,910

**Status**: The project was expedited in order to allow the use of stone removed from the Wax Lake Outlet Weir at a substantial cost savings. Construction is included as an option in the Corps of Engineers contract for the Wax Lake Outlet Weir removal. Option was exercised on September 2, 1994.

Project construction is complete. Maintenance contract underway to repair rock dike.

### Fritchie Marsh Restoration
- **Basin**: PONT
- **Parish**: STTAM
- **Acres**: 1,040
- **Schedule**
  - **Const Start**: 21-Feb-1995
  - **Const End**: 01-Mar-2001
- **Baseline**: $3,048,389
- **Current**: $2,201,674
- **% Expenditures**: 72.2
- **Actual Obligations/Expenditures**: $2,131,695


### Highway 384 Hydrologic Restoration
- **Basin**: CA/SB
- **Parish**: CAMER
- **Acres**: 150
- **Schedule**
  - **Const Start**: 13-Oct-1994
  - **Const End**: 07-Jan-2000
- **Baseline**: $700,717
- **Current**: $1,058,554
- **% Expenditures**: 151.1
- **Actual Obligations/Expenditures**: $1,090,234


### Jonathan Davis Wetland Restoration
- **Basin**: BARA
- **Parish**: JEFF
- **Acres**: 510
- **Schedule**
  - **Const Start**: 05-Jan-1995
  - **Completion**: 01-Sep-2006
- **Baseline**: $3,398,867
- **Current**: $28,886,616
- **% Expenditures**: 849.9
- **Actual Obligations/Expenditures**: $27,782,038

**Status**: Construction Unit#4 was revised due to hurricane related causes. Revised schedule is for construction to begin in April 2007 with a completion date anticipated for March 2008.

### Vermilion Bay/Boston Canal Shore Protection
- **Basin**: TECHE
- **Parish**: VERMI
- **Acres**: 378
- **Schedule**
  - **Const Start**: 24-Mar-1994
  - **Const End**: 30-Nov-1995
- **Baseline**: $1,008,634
- **Current**: $1,012,649
- **% Expenditures**: 100.4
- **Actual Obligations/Expenditures**: $996,078

**Status**: Complete.
### Priority List 3

#### Brady Canal Hydrologic Restoration

**Status:** Project delayed because of landowner concerns about permit conditions regarding monitoring, and objection from a pipeline company in the area. In addition, CSA revisions were needed to accommodate the landowner's interest in providing non-Federal funding. Permitting and design conditions have resulted in the CSA being modified to also include Fina Oil Co. and LL&E. Both will help cost share the project. The revised CSA is complete.

Construction project is complete. O&M plan signed July 16, 2002.

#### Cameron-Creole Maintenance

**Status:** The first three contracts for maintenance work are complete. The project provides for maintenance on an as-needed basis.

#### Cote Blanche Hydrologic Restoration

**Status:** Construction start date slipped from November 1997 to March 1998 because of concern about the source of shell to construct the project. Site inspection for bidder was held January 12, 1998. Concern for a source of shell may require budget modifications. Contract awarded February 1998; notice to proceed March 1998. Construction was completed December 1998.

O&M plan executed. Maintenance contract complete.
## COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Southwest Shore White Lake Demonstration (DEMO) [DEAUTHORIZED]</td>
<td>MERM</td>
<td>VERMI</td>
<td>1,087</td>
<td>11-Jan-1995 A</td>
<td>30-Apr-1996 A</td>
<td>31-Jul-1996 A</td>
</tr>
<tr>
<td>Status:</td>
<td>Complete. Project deauthorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Rights-of-way to gain access to the site was a problem due to multiple landowner coordination, and additional questions have arisen about rights to operate existing siphon. Project deauthorized, October 4, 2000.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Pointe a la Hache Outfall Management</td>
<td>BARA</td>
<td>PLAQ</td>
<td>1,087</td>
<td>05-Jan-1995 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Project team decision regarding proposed project features is pending a revised operation plan of siphon between Parish and State. No schedule is available until decision is made.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>LA DNR concurred with NRCS to deauthorize the project. Project deauthorized at the January 16, 1998 Task Force meeting. Deauthorized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Priority List 3 6,209 $17,195,698 $23,342,168 135.7 $16,089,418 $11,500,772

7 Project(s) 7 Cost Sharing Agreements Executed 4 Construction Started 3 Construction Completed 3 Project(s) Deferred/Deauthorized
## Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status:</td>
<td>The initial step of deauthorization was taken at the January Task Force meeting. The process will be finalized at the April Task Force meeting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Difficulty in locating an appropriate site for demonstration and difficulty in addressing engineering constraints. Project deauthorized, October 4, 2000.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Project complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status:</td>
<td>Project initially put on hold pending results of an earlier terraces demonstration project being paid for by the Gulf of Mexico program. The first attempt to plow the terraces in the summer of 1999 was not successful. A second contract was advertised in January 2000 to try again. Construction is complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Priority List 5

#### Freshwater Bayou Bank Stabilization
- **Project:** MERM VERMI 511 01-Jul-1997 A 15-Feb-1998 A 15-Jun-1998 A
- **Priority List:** Total Priority List 4 1,435
- **Current Obligations/Expenditures:**
  - Baseline: $7,501,368
  - Current: $6,106,289
  - %: 81.4
  - Expenditures: $5,994,767
  - Actual: $5,016,130
- **Status:** The local cost share is being paid by Acadian Gas Company.
- **Contract Information:** Contract was awarded January 14, 1998. Construction is complete.

#### Naomi Outfall Management
- **Project:** BARA JEFF 633 12-May-1999 A 01-Jun-2002 A 15-Jul-2002 A
- **Priority List:** Total Priority List 4 1,435
- **Current Obligations/Expenditures:**
  - Baseline: $3,998,919
  - Current: $2,543,313
  - %: 63.6
  - Expenditures: $2,504,933
  - Actual: $2,020,181
- **Status:** This project was combined with the BBWW "Dupre Cut" East project for planning and design; construction will be separate.
- **Operation Information:** The operation of the siphon is being reviewed by DNR. Hydraulic analysis is complete; results concurred in by both agencies. Construction contract advertised in March 2002. Construction began June 2002 and completed in July 2002.
- **O&M Plan:** O&M plan in draft.

#### Raccoon Island Breakwaters Demonstration (DEMO)
- **Project:** TERRE TERRE 03-Sep-1996 A 21-Apr-1997 A 31-Jul-1997 A
- **Priority List:** Total Priority List 4 1,435
- **Current Obligations/Expenditures:**
  - Baseline: $1,497,538
  - Current: $1,795,388
  - %: 119.9
  - Expenditures: $1,794,473
  - Actual: $1,749,237
- **Status:** Complete.
**COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT**  
Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Status:</td>
<td>The rock bank protection feature of the project is complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The second contract has been awarded; terrace construction and vegetative planting will be finished by October 1, 2002. Contractor was unable to complete the construction. Contract terminated; remaining work was advertised December 2001. Contract awarded, and construction completed October 2, 2002.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Priority List</th>
<th>5</th>
<th>1,391</th>
<th>$11,983,322</th>
<th>$10,763,123</th>
<th>89.8</th>
<th>$10,601,850</th>
<th>$8,484,834</th>
</tr>
</thead>
</table>

**Priority List  6**

- **Barataria Bay Waterway East Side Shoreline Protection**  
<table>
<thead>
<tr>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Status:</td>
<td>This project was combined with the Naomi Outfall Management project for planning and design; construction was separate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project construction complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O&amp;M plan signed October 2, 2002.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Cheniere au Tigre Sediment Trapping Demonstration (DEMO)**  
<table>
<thead>
<tr>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>TECHE</td>
<td>VERMI</td>
<td>20-Jul-1999 A</td>
<td>01-Sep-2001 A</td>
<td>02-Nov-2001 A</td>
<td>$500,000</td>
</tr>
<tr>
<td>PROJECT</td>
<td>BASIN</td>
<td>PARISH</td>
<td>ACRES</td>
<td>*********** SCHEDULES ***********</td>
<td>*********** ESTIMATES ***********</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>----------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Status: O&amp;M Plan in draft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pchen Basin Natural Resources Plan, Increment 1</td>
<td>TERRE</td>
<td>TERRE</td>
<td>1,155</td>
<td>23-Apr-2002 A</td>
<td>01-Feb-2008</td>
</tr>
<tr>
<td>Status: Design on preferred project alternative began in October 2006.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project is scheduled to request construction approval in July 2007, with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>an anticipated construction start date of February 2008. Construction completion date is scheduled for January 2009.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Priority List</td>
<td>6</td>
<td></td>
<td>1,532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 Project(s)  
4 Cost Sharing Agreements Executed  
3 Construction Started  
3 Construction Completed  
0 Project(s) Deferred/Deauthorized

**Priority List 7**

**Barataria Basin Landbridge Shoreline Protection, Phase 1 and 2**

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th></th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status: Construction Unit #4 began construction on May 26, 2005. Construction was halted due to hurricane related causes, and resumed on July 24, 2006. Revised anticipated completion date is October 2007.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Unit #5 has been revised for construction to begin in January 2007, with an anticipated completion date of April 2008.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status: Construction complete. Monitoring ongoing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Priority List 8

<table>
<thead>
<tr>
<th>Project</th>
<th>Basin</th>
<th>Parish</th>
<th>Acres</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humble Canal Hydrologic Restoration</td>
<td>MERM</td>
<td>CAMER</td>
<td>378</td>
<td>$1,526,136</td>
<td>$1,530,812</td>
<td>100.3</td>
<td>$1,587,589</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$810,367</td>
</tr>
<tr>
<td>Status: Construction complete March 2003.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Portage Land Bridge</td>
<td>TECHE</td>
<td>VERMI</td>
<td>24</td>
<td>$1,013,820</td>
<td>$1,181,129</td>
<td>116.5</td>
<td>$1,160,535</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,013,470</td>
</tr>
<tr>
<td>Status: Construction ongoing and scheduled to be completed in May 2004. Draft Final Monitoring Plan sent for review on March 16, 2004. TAG originally met on October 15, 2002 to develop plan. Since that time plan was modified to adapt to CRMS. Plan expected to be finalized by May 2004.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Oak River Freshwater Siphon</td>
<td>BRET</td>
<td>PLAQ</td>
<td></td>
<td>$2,500,239</td>
<td>$56,476</td>
<td>2.3</td>
<td>$56,476</td>
</tr>
<tr>
<td>[DEAUTHORIZED]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$56,476</td>
</tr>
<tr>
<td>Status: Total project cost estimate is $12,994,800; Priority List 8 funded $2,500,000 for completion of engineering and design and construction of the outflow channel. Funding of the siphon will be requested when engineering and design are completed. Project feasibility being evaluated. DNR has solicited a cost estimate from one of their engineering firms to perform a feasibility study. Target dates will be established if project is deemed feasible. Deauthorization procedures initiated.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>8</td>
<td>402</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3  Project(s)
2  Cost Sharing Agreements Executed
2  Construction Started
2  Construction Completed
1  Project(s) Deferred/Deauthorized

### Priority List  9

**Barataria Basin Landbridge Shoreline Protection, Phase 3**

- **Status:** Construction Unit #7 was not selected for funding in 2006, and is scheduled to request funding at January 2007 Task Force Meeting. If approved, revised plan for construction is from August 2007 to July 2008.

- **Status:** Construction began May 25, 2005. Construction was delayed due to hurricane related causes. Revised anticipated completion date is March 2007.

- **Status:** Landrights issues have caused design revisions to current features. Current schedule is for a 30% review meeting in June 2007, with anticipated construction beginning in August 2008 and ending in March 2009, pending funding approval.

- **Status:** The Perry Ridge project approved on Priority List 4 was the first phase of this project. This is the second and final phase of the project.

  Task Force approved Phase 2 construction funding January 10, 2001. The rock bank protection is installed. The contract for the terraces and vegetation has been completed.
## Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

### COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

### SCHEDULES

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>%</th>
<th>Baseline</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Lake Decade Freshwater Introduction</td>
<td>TERRE</td>
<td>TERRE</td>
<td>201</td>
<td>25-Jul-2000 A</td>
<td>01-Aug-2007</td>
<td>01-Jan-2008</td>
<td>$396,489</td>
<td>$670,611</td>
<td>169.1%</td>
<td>$584,024</td>
</tr>
<tr>
<td>Status: Construction Unit #1 of this project did not get selected for Phase 2 funding at the January 2006 Task Force meeting. CU#1 will be presented for proposed construction funding at the January 2007 Task Force meeting. If funded, construction is planned for August 2007 to January 2008.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Unit #2 is currently in design phase. A 30% Project Review meeting is projected for June 2007. CU#2 is scheduled to request Phase 2 funding at the January 2008 Task Force meeting. If funded, construction is planned for August 2008 to July 2009.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Priority List</td>
<td>9</td>
<td>1,232</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$26,489,225</td>
<td>$22,202,886</td>
<td>83.8%</td>
<td>$18,493,488</td>
</tr>
<tr>
<td>5 Project(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$9,568,998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Cost Sharing Agreements Executed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Construction Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Construction Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Project(s) Deferred/Deauthorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ESTIMATES

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CSA</th>
<th>Const Start</th>
<th>Const End</th>
<th>Current</th>
<th>%</th>
<th>Baseline</th>
<th>Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIWW Bank Restoration of Critical Areas in Terrebonne</td>
<td>TERRE</td>
<td>TERRE</td>
<td>366</td>
<td>16-May-2001 A</td>
<td>01-Aug-2007</td>
<td>01-Nov-2008</td>
<td>$1,735,983</td>
<td>$1,735,983</td>
<td>100.0%</td>
<td>$1,148,266</td>
</tr>
<tr>
<td>Status: This project did not get selected for Phase 2 funding at the January 2006 Task Force meeting. Project will be presented for proposed construction funding at the January 2007 Task Force meeting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Priority List 10
## Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>10</td>
<td>366</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Project(s)
2. Cost Sharing Agreements Executed
3. Construction Started
4. Construction Completed
5. Project(s) Deferred/Deauthorized

### Priority List 11

|---------------------------------------------------------|------|------|-----|----------------|---------------|---------------|------------|-------------|-----|-------------|-------------|

**Status:** Construction Unit #6 was completed on April 26, 2006.
### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>CURRENT % Expenditures</th>
<th>Baseline</th>
<th>Current</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastwide Nutria Control Program</td>
<td>COAST</td>
<td>COAST</td>
<td>14,963</td>
<td>28.4</td>
<td>$68,864,870</td>
<td>$19,571,327</td>
<td>28.4</td>
</tr>
</tbody>
</table>

#### Status:

In Year 4 (2005-06) Trapping Season, 168,843 nutria tails were collected.

The decrease from last year's total can primarily be traced to lack of hunter participation due to hurricanes Rita and Katrina.

11/4/2005

In Year 3 (2004-05 Trapping Season), 297,835 nutria tails were collected.

Project was approved for three more years of funding at the November 2005 Task Force meeting.

1/20/2005

In Year 1 (2002-03 Trapping Season), 308,160 nutria tails were collected. Nutria herbivory surveys in summer 2003, yielded a coastwide estimate of 82,080 acres of marsh impacted by nutria feeding activity.

In Year 2 (2003-04 Trapping Season), 332,596 nutria tails were collected. Nutria herbivory surveys in spring 2004, yielded a coastwide estimate of 63,397 acres of marsh impacted by nutria feeding activity.

3/12/2003

Implementation began with the 2002-2003 trapping season. A report on the first years accomplishments will be given at the August Task Force meeting.

7/3/2002

Request for Phase 2 funding was approved at the April 16, 2002 Task Force meeting.

A revised baseline estimate for Phase 2 was approved at the March 6, 2002 Tech Committee meeting.
### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>SCHEDULES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raccoon Island Shoreline Protection/Marsh Creation, Ph 2</td>
<td>TERRE</td>
<td>TERRE</td>
<td>167</td>
<td>23-Apr-2002 A, 13-Dec-2005 A, 01-Jul-2008 A</td>
<td>$7,797,791, $7,867,857</td>
<td>100.9%</td>
</tr>
<tr>
<td>Status:</td>
<td>Construction is on-going for Unit #1, and is scheduled for completion in November 2006. Construction Unit #2 is currently in design and scheduled for a 30% review in July 2007. Funding request for Phase 2 approval is scheduled for January 2008 Task Force meeting. Anticipated date for construction to begin is August 2008, with a completion date of February 2009.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Priority List | 11 | 15,386 | $99,450,612 | $44,361,620 | 44.6% |

3 Project(s)
3 Cost Sharing Agreements Executed
3 Construction Started
0 Construction Completed
0 Project(s) Deferred/Deauthorized

### Priority List

| Holly Beach Sand Management | CA/SB | CALCA | 330 | 09-May-2002 A, 01-Aug-2002 A, 31-Mar-2003 A | $19,252,500, $14,130,233 | 73.4% |
| Status: | The placement of the sand material on to the beach was completed on Saturday, March 1, 2003. Required work that is now in progress consist of demobilization of the pipeline segments, dressing the completed beach work, erection of the Sand Fencing and installation of the vegetation. | $13,915,320 |

$13,656,797
## Priority List 12

**Freshwater Floating Marsh Creation Demonstration (DEMO)**

**Status:** The structures - artificial floating systems (afs) - were all deployed at Mandalay by June 1, 2006. Details of the field monitoring of their condition and performance will be included in the monitoring report that will be submitted to DNR in Dec 06. Some portion of the greenhouse/lab work being done by UNO was restarted over because it was destroyed by Katrina. As those results start coming out, they will be in future interim monitoring reports.

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*************** SCHEDULES ***************</th>
<th>*************** ESTIMATES ***************</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Priority List</td>
<td>11.1</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Project(s)
2. Cost Sharing Agreements Executed
3. Construction Started
4. Construction Completed
5. Project(s) Deferred/Deauthorized

## Priority List 13
### Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>*********** SCHEDULES ***********</th>
<th>*********** ESTIMATES ***********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Bayou Sale Shoreline Protection</td>
<td>TECHE</td>
<td>STMRY</td>
<td>329</td>
<td>16-Jun-2004 A</td>
<td>01-Aug-2008</td>
<td>01-Jul-2009</td>
</tr>
<tr>
<td>Status: Planning and Design is being revised due to the results of a magnetometer survey of the area. Current schedule for funding approval is the January 2008 Task Force meeting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Priority List | 13 | 329 | $2,254,912 | $2,254,912 | 100.0 | $1,731,429 | $210,399 |

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

### Priority List  14

| South Shore of the Pen Shoreline Protection and Marsh Creation | BARA | JEFF | 116 | 07-Dec-2005 A | 01-Aug-2008 | 01-Jul-2009 | $1,311,146 | $1,311,146 | 100.0 | $1,100,617 | $123,250 |
| Status: Project was selected for Phase 1 Funding at the January 2005 Task Force meeting. Planning and design has begun. A 30% Project Review meeting is projected for June 2007. Project is projected to request approval for construction funding at the January 2008 Task Force meeting. If approved, construction is scheduled for August 2008 to July 2009. |

| White Ditch Resurrection | BRET | PLAQ | 189 | 11-Aug-2005 A | 01-Aug-2008 | 01-Jul-2009 | $1,595,677 | $1,595,677 | 100.0 | $1,345,860 | $132,085 |
| Status: A project 30% review meeting is projected for June 2007. Project is scheduled to request Phase 2 approval at the January 2007 Task Force meeting. If approved, construction will begin in August 2008 with an anticipated completion date of July 2009. |
COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT  
Project Status Summary Report - Lead Agency: DEPT. OF AGRICULTURE (NRCS)

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>BASIN</th>
<th>PARISH</th>
<th>ACRES</th>
<th>********** SCHEDULES **********</th>
<th>********** ESTIMATES **********</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSA</td>
<td>Const Start</td>
<td>Const End</td>
</tr>
<tr>
<td>Total Priority List</td>
<td>14</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$255,335</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total DEPT. OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE</td>
<td>36,671</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Project(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Cost Sharing Agreements Executed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Construction Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Construction Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Project(s) Deferred/Deauthorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52 Project(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 Cost Sharing Agreements Executed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 Construction Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29 Construction Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Project(s) Deferred/Deauthorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Expenditures based on Corps of Engineers financial data.
2. Date codes: A = Actual date * = Behind schedule
3. Percent codes: ! = 125% of baseline estimate exceeded
## Project Status Summary Report - Total All Priority Lists

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>ACRES</th>
<th>ESTIMATES</th>
<th>Actual Obligations/Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY</td>
<td>121,109</td>
<td>Baseline</td>
<td>$897,816,955</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Current</td>
<td>$783,256,487</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>87.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$591,189,809</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$321,962,254</td>
</tr>
</tbody>
</table>

- **167** Project(s)
- **137** Cost Sharing Agreements Executed
- **92** Construction Started
- **71** Construction Completed
- **20** Project(s) Deferred/Deauthorized

### Total Available Funds

- **Federal Funds** $713,997,211
- **Non/Federal Funds** $124,973,220
- **Total Funds** $838,970,431
<table>
<thead>
<tr>
<th>Basin: Atchafalaya</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List:</td>
<td>2</td>
<td>2</td>
<td>3,792</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>$5,043,867</td>
<td>$9,609,551</td>
<td>$8,726,028</td>
</tr>
<tr>
<td>Priority List:</td>
<td>9</td>
<td>1</td>
<td>577</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$1,484,633</td>
<td>$1,846,326</td>
<td>$1,602,348</td>
</tr>
<tr>
<td>Basin Total</td>
<td>3</td>
<td>4,369</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>$6,528,500</td>
<td>$11,455,877</td>
<td>$10,328,412</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basin: Barataria</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List:</td>
<td>1</td>
<td>3</td>
<td>620</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>$9,960,769</td>
<td>$10,142,716</td>
<td>$8,295,502</td>
</tr>
<tr>
<td>Priority List:</td>
<td>2</td>
<td>1</td>
<td>510</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$3,398,867</td>
<td>$28,886,616</td>
<td>$7,587,563</td>
</tr>
<tr>
<td>Priority List:</td>
<td>3</td>
<td>3</td>
<td>1,087</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>$4,160,823</td>
<td>$6,890,790</td>
<td>$3,314,829</td>
</tr>
<tr>
<td>Priority List:</td>
<td>4</td>
<td>2</td>
<td>232</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>$4,611,094</td>
<td>$3,384,598</td>
<td>$2,758,637</td>
</tr>
<tr>
<td>Priority List:</td>
<td>5</td>
<td>2</td>
<td>1,752</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$17,212,815</td>
<td>$2,663,230</td>
<td>$1,868,865</td>
</tr>
<tr>
<td>Priority List:</td>
<td>6</td>
<td>1</td>
<td>217</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$5,019,900</td>
<td>$5,224,477</td>
<td>$4,043,496</td>
</tr>
<tr>
<td>Priority List:</td>
<td>7</td>
<td>2</td>
<td>1,431</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>$18,443,924</td>
<td>$29,922,132</td>
<td>$5,023,422</td>
</tr>
<tr>
<td>Priority List:</td>
<td>9</td>
<td>3</td>
<td>599</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>$18,212,307</td>
<td>$15,477,142</td>
<td>$6,423,591</td>
</tr>
<tr>
<td>Priority List:</td>
<td>10</td>
<td>2</td>
<td>9,832</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$4,901,948</td>
<td>$5,364,801</td>
<td>$2,552,699</td>
</tr>
<tr>
<td>Priority List:</td>
<td>11</td>
<td>5</td>
<td>2,371</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>$152,826,757</td>
<td>$147,123,273</td>
<td>$22,710,053</td>
</tr>
<tr>
<td>Priority List:</td>
<td>12</td>
<td>1</td>
<td>400</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$2,192,735</td>
<td>$2,731,479</td>
<td>$360,686</td>
</tr>
<tr>
<td>Priority List:</td>
<td>14</td>
<td>2</td>
<td>350</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>$4,533,033</td>
<td>$4,533,033</td>
<td>$172,943</td>
</tr>
<tr>
<td>Priority List:</td>
<td>15</td>
<td>1</td>
<td>438</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$1,197,590</td>
<td>$1,197,590</td>
<td>$11,855</td>
</tr>
<tr>
<td>Basin Total</td>
<td>28</td>
<td>19,839</td>
<td>27</td>
<td>14</td>
<td>8</td>
<td>3</td>
<td>$246,672,562</td>
<td>$263,541,877</td>
<td>$65,124,139</td>
</tr>
</tbody>
</table>
## Basin: Breton Sound

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List: 2</td>
<td>1</td>
<td>802</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>$2,522,199</td>
<td>$4,536,000</td>
<td>$3,125,957</td>
</tr>
<tr>
<td>Priority List: 3</td>
<td>1</td>
<td>768</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$2,468,908</td>
<td>$65,747</td>
<td>$65,747</td>
</tr>
<tr>
<td>Priority List: 4</td>
<td>1</td>
<td>189</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$2,500,397</td>
<td>$56,476</td>
<td>$56,476</td>
</tr>
<tr>
<td>Priority List: 10</td>
<td>2</td>
<td>620</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,205,354</td>
<td>$1,205,354</td>
<td>$3,139</td>
</tr>
<tr>
<td>Basin Total</td>
<td>8</td>
<td>2,379</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>$15,387,651</td>
<td>$11,015,323</td>
<td>$4,792,997</td>
</tr>
</tbody>
</table>

## Basin: Calcasieu/Sabine

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List: 1</td>
<td>3</td>
<td>6,407</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>$5,770,187</td>
<td>$4,852,755</td>
<td>$2,346,635</td>
</tr>
<tr>
<td>Priority List: 2</td>
<td>4</td>
<td>3,019</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>$8,568,462</td>
<td>$12,852,942</td>
<td>$7,211,977</td>
</tr>
<tr>
<td>Priority List: 3</td>
<td>2</td>
<td>3,555</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>$8,301,380</td>
<td>$10,368,923</td>
<td>$4,414,667</td>
</tr>
<tr>
<td>Priority List: 4</td>
<td>3</td>
<td>1,203</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>$2,893,802</td>
<td>$2,828,376</td>
<td>$2,364,177</td>
</tr>
<tr>
<td>Priority List: 5</td>
<td>1</td>
<td>247</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>$4,800,000</td>
<td>$4,242,995</td>
<td>$3,328,354</td>
</tr>
<tr>
<td>Priority List: 6</td>
<td>1</td>
<td>3,594</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$6,316,800</td>
<td>$5,972,613</td>
<td>$4,791,617</td>
</tr>
<tr>
<td>Priority List: 8</td>
<td>5</td>
<td>993</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>$28,621,140</td>
<td>$17,348,337</td>
<td>$4,076,193</td>
</tr>
<tr>
<td>Priority List: 9</td>
<td>2</td>
<td>623</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>$9,642,838</td>
<td>$7,154,109</td>
<td>$4,487,462</td>
</tr>
<tr>
<td>Priority List: 10</td>
<td>1</td>
<td>225</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$6,490,751</td>
<td>$5,497,491</td>
<td>$3,079,204</td>
</tr>
<tr>
<td>Priority List: 11</td>
<td>1</td>
<td>330</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$19,252,500</td>
<td>$14,130,233</td>
<td>$13,656,797</td>
</tr>
<tr>
<td>Basin Total</td>
<td>23</td>
<td>20,196</td>
<td>21</td>
<td>18</td>
<td>1</td>
<td>$100,657,860</td>
<td>$83,248,773</td>
<td>$49,757,083</td>
</tr>
</tbody>
</table>
### CoCoastal Wetlands Planning, Protection and Restoration Act

**Project Status Summary Report by Basin**

<table>
<thead>
<tr>
<th>Basin: Coastal Basins</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List: Cons Plan</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$238,871</td>
<td>$191,807</td>
<td>$191,807</td>
</tr>
<tr>
<td>Priority List: 0.1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$66,890,300</td>
<td>$13,492,144</td>
<td>$1,124,167</td>
</tr>
<tr>
<td>Priority List: 0.2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
<td>$79,387</td>
</tr>
<tr>
<td>Priority List: 0.3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$303,359</td>
<td>$303,359</td>
<td>$0</td>
</tr>
<tr>
<td>Priority List: 6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$2,140,000</td>
<td>$804,683</td>
<td>$806,220</td>
</tr>
<tr>
<td>Priority List: 9</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,502,817</td>
<td>$1,502,817</td>
<td>$31,726</td>
</tr>
<tr>
<td>Priority List: 10</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$2,006,373</td>
<td>$2,503,768</td>
<td>$435,059</td>
</tr>
<tr>
<td>Priority List: 11</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$68,864,870</td>
<td>$19,571,327</td>
<td>$5,307,623</td>
</tr>
<tr>
<td>Priority List: 12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,080,891</td>
<td>$1,080,891</td>
<td>$49,504</td>
</tr>
<tr>
<td>Priority List: 13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$1,000,000</td>
<td>$1,055,000</td>
<td>$821,862</td>
</tr>
<tr>
<td>Basin Total</td>
<td>10</td>
<td>14,963</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>$145,527,481</td>
<td>$42,005,797</td>
<td>$8,847,355</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List: 1</td>
<td>1</td>
<td>1</td>
<td>9,831</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>$8,517,066</td>
<td>$22,312,761</td>
<td>$14,820,630</td>
</tr>
<tr>
<td>Priority List: 3</td>
<td>2</td>
<td>936</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>$3,666,187</td>
<td>$1,008,820</td>
<td>$807,514</td>
</tr>
<tr>
<td>Priority List: 4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>$300,000</td>
<td>$58,310</td>
<td>$58,310</td>
</tr>
<tr>
<td>Priority List: 6</td>
<td>2</td>
<td>2,386</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$7,073,934</td>
<td>$6,664,140</td>
<td>$3,667,342</td>
</tr>
<tr>
<td>Priority List: 10</td>
<td>1</td>
<td>5,706</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,076,328</td>
<td>$1,076,328</td>
<td>$852,878</td>
</tr>
<tr>
<td>Priority List: 12</td>
<td>1</td>
<td>1,190</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,880,376</td>
<td>$1,880,376</td>
<td>$161,965</td>
</tr>
<tr>
<td>Priority List: 13</td>
<td>1</td>
<td>433</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,137,344</td>
<td>$1,421,680</td>
<td>$231,280</td>
</tr>
<tr>
<td>Priority List: 15</td>
<td>1</td>
<td>511</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,074,522</td>
<td>$1,074,522</td>
<td>$3,226</td>
</tr>
<tr>
<td>Basin Total</td>
<td>10</td>
<td>20,993</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>$24,725,757</td>
<td>$35,496,936</td>
<td>$20,603,145</td>
</tr>
</tbody>
</table>
## Coastal Wetlands Planning, Protection and Restoration Act

### Project Status Summary Report by Basin

#### Basin: Mermentau

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority List: 1</td>
<td>2</td>
<td>247</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>$1,368,671</td>
<td>$1,319,135</td>
<td>$1,125,994</td>
</tr>
<tr>
<td>Priority List: 2</td>
<td>1</td>
<td>1,593</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$2,770,093</td>
<td>$3,455,303</td>
<td>$2,675,914</td>
</tr>
<tr>
<td>Priority List: 3</td>
<td>1</td>
<td>511</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$3,998,919</td>
<td>$2,543,313</td>
<td>$2,020,181</td>
</tr>
<tr>
<td>Priority List: 4</td>
<td>1</td>
<td>442</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$2,185,900</td>
<td>$2,391,953</td>
<td>$2,151,159</td>
</tr>
<tr>
<td>Priority List: 5</td>
<td>1</td>
<td>378</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$1,526,136</td>
<td>$1,530,812</td>
<td>$810,367</td>
</tr>
<tr>
<td>Priority List: 6</td>
<td>2</td>
<td>440</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$7,296,603</td>
<td>$6,640,900</td>
<td>$1,267,042</td>
</tr>
<tr>
<td>Priority List: 7</td>
<td>2</td>
<td>1,133</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$11,565,112</td>
<td>$8,214,287</td>
<td>$4,743,189</td>
</tr>
<tr>
<td>Priority List: 8</td>
<td>1</td>
<td>980</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$3,407,449</td>
<td>$3,407,449</td>
<td>$1,078,333</td>
</tr>
<tr>
<td>Priority List: 9</td>
<td>2</td>
<td>844</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$19,673,929</td>
<td>$15,713,223</td>
<td>$10,100,111</td>
</tr>
<tr>
<td>Priority List: 10</td>
<td>1</td>
<td>98</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,102,043</td>
<td>$1,102,043</td>
<td>$3,137</td>
</tr>
<tr>
<td>Priority List: 11</td>
<td>1</td>
<td>888</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,266,842</td>
<td>$1,266,842</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Basin Total:** 16  7,554  13  10  9  2  $56,287,759  $47,688,729  $26,078,895
## Project Status Summary Report by Basin

### Basin: Pontchartrain

<table>
<thead>
<tr>
<th>Priority List</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Priority List</td>
<td>1</td>
<td>2</td>
<td>1,753</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>$6,119,009</td>
<td>$5,448,122</td>
<td>$5,015,579</td>
</tr>
<tr>
<td>Priority List</td>
<td>2</td>
<td>2</td>
<td>2,320</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>$4,500,424</td>
<td>$3,844,225</td>
<td>$2,993,733</td>
</tr>
<tr>
<td>Priority List</td>
<td>3</td>
<td>3</td>
<td>755</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>$2,683,636</td>
<td>$912,272</td>
<td>$961,901</td>
</tr>
<tr>
<td>Priority List</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>$5,018,968</td>
<td>$39,025</td>
<td>$39,025</td>
</tr>
<tr>
<td>Priority List</td>
<td>5</td>
<td>1</td>
<td>75</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$2,555,029</td>
<td>$2,589,403</td>
<td>$2,271,931</td>
</tr>
<tr>
<td>Priority List</td>
<td>8</td>
<td>2</td>
<td>134</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>$5,475,065</td>
<td>$2,645,100</td>
<td>$1,542,680</td>
</tr>
<tr>
<td>Priority List</td>
<td>9</td>
<td>3</td>
<td>886</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$2,407,524</td>
<td>$1,433,196</td>
<td>$1,207,990</td>
</tr>
<tr>
<td>Priority List</td>
<td>10</td>
<td>1</td>
<td>165</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>$18,378,900</td>
<td>$18,286,377</td>
<td>$941,271</td>
</tr>
<tr>
<td>Priority List</td>
<td>11</td>
<td>1</td>
<td>5,438</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$5,434,288</td>
<td>$6,780,307</td>
<td>$1,890,037</td>
</tr>
<tr>
<td>Priority List</td>
<td>12</td>
<td>1</td>
<td>266</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,348,345</td>
<td>$1,348,345</td>
<td>$1,058,461</td>
</tr>
<tr>
<td>Priority List</td>
<td>13</td>
<td>1</td>
<td>436</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$1,930,596</td>
<td>$1,730,596</td>
<td>$75,587</td>
</tr>
<tr>
<td>Priority List</td>
<td>16</td>
<td>1</td>
<td>330</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,660,985</td>
<td>$1,660,985</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Basin Total**: 19 projects, 12,558 acres, 15 completed, 8 deauthorized, 4 completed, $57,512,769 baseline estimate, $46,717,954 current estimate, $17,998,194 expenditures to date.
## Basin: Teche / Vermilion

<table>
<thead>
<tr>
<th>Priority List</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$1,526,000</td>
<td>$2,022,987</td>
<td>$1,852,057</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$1,008,634</td>
<td>$1,012,649</td>
<td>$855,360</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$5,173,062</td>
<td>$7,889,103</td>
<td>$5,514,840</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$940,065</td>
<td>$886,030</td>
<td>$660,094</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$10,130,000</td>
<td>$12,085,639</td>
<td>$8,007,322</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$1,013,820</td>
<td>$1,181,129</td>
<td>$1,013,470</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$7,814,815</td>
<td>$5,072,161</td>
<td>$3,571,671</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$2,254,912</td>
<td>$2,254,912</td>
<td>$210,399</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$1,193,606</td>
<td>$1,193,606</td>
<td>$1,926</td>
</tr>
</tbody>
</table>

**Basin Total:** 15 7,274 11 10 10 0 $34,057,085 $36,600,386 $21,687,140
## Project Status Summary Report by Basin

### Basin: Terrebonne

<table>
<thead>
<tr>
<th>Priority List</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>$8,809,393</td>
<td>$9,372,152</td>
<td>$9,237,080</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>3</td>
<td>958</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>$12,831,588</td>
<td>$20,761,623</td>
<td>$19,014,151</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3,958</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>$15,758,355</td>
<td>$21,721,586</td>
<td>$20,042,343</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2</td>
<td>215</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>$6,119,470</td>
<td>$7,707,823</td>
<td>$7,632,833</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>3</td>
<td>199</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$31,120,343</td>
<td>$11,505,110</td>
<td>$4,509,354</td>
</tr>
<tr>
<td>5.1</td>
<td>0</td>
<td>0</td>
<td>988</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$9,700,000</td>
<td>$9,700,000</td>
<td>$6,664,668</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>4</td>
<td>1,758</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>$30,522,757</td>
<td>$25,045,255</td>
<td>$2,730,326</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>$460,222</td>
<td>$539,673</td>
<td>$544,391</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4</td>
<td>576</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>$25,219,289</td>
<td>$32,202,051</td>
<td>$18,510,490</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>2</td>
<td>970</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>$33,463,900</td>
<td>$30,746,528</td>
<td>$1,715,830</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>3</td>
<td>639</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>$28,316,482</td>
<td>$27,587,700</td>
<td>$4,714,405</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>1</td>
<td>143</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$2,229,876</td>
<td>$2,229,876</td>
<td>$1,390,850</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1</td>
<td>272</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>$2,293,893</td>
<td>$2,751,494</td>
<td>$38,173</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1</td>
<td>299</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$2,694,364</td>
<td>$2,694,364</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Basin Total</strong></td>
<td>35</td>
<td>10,984</td>
<td>30</td>
<td>18</td>
<td>13</td>
<td>5</td>
<td>$209,539,932</td>
<td>$204,565,236</td>
<td>$96,744,894</td>
</tr>
</tbody>
</table>

### Basin: Various Basins

<table>
<thead>
<tr>
<th>Priority List</th>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$919,599</td>
<td>$919,599</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Basin Total</strong></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>$919,599</td>
<td>$919,599</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Total All Basins**

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Acres</th>
<th>CSA Executed</th>
<th>Under Const.</th>
<th>Completed</th>
<th>Projects Deauth.</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>121,109</td>
<td>137</td>
<td>92</td>
<td>71</td>
<td>20</td>
<td>$897,816,955</td>
<td>$783,256,487</td>
<td>$321,962,254</td>
</tr>
</tbody>
</table>
## COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

### Project Summary Report by Priority List

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Federal Const. Funds Available</th>
<th>Non/Fed Const. Funds Matching Share</th>
<th>Baseline Estimate</th>
<th>Current Estimate</th>
<th>Obligations To Date</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>P/L</td>
<td>P/L Acres</td>
<td>CSA Executed</td>
<td>Under Const.</td>
<td>Const. Completed</td>
<td>$/000</td>
<td>$/000</td>
</tr>
<tr>
<td>1</td>
<td>14</td>
<td>18,932</td>
<td>0</td>
<td>14</td>
<td>$28,084,900</td>
<td>$9,354,947</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>13,372</td>
<td>2</td>
<td>12</td>
<td>$28,173,110</td>
<td>$13,958,587</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>12,514</td>
<td>1</td>
<td>9</td>
<td>$29,939,100</td>
<td>$7,884,306</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1,650</td>
<td>0</td>
<td>4</td>
<td>$29,957,533</td>
<td>$2,156,541</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>3,225</td>
<td>0</td>
<td>6</td>
<td>$33,371,625</td>
<td>$2,443,008</td>
</tr>
<tr>
<td>5.1</td>
<td>0</td>
<td>988</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$4,850,000</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>10,522</td>
<td>1</td>
<td>8</td>
<td>$39,134,000</td>
<td>$5,579,681</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>1,873</td>
<td>1</td>
<td>3</td>
<td>$42,540,715</td>
<td>$4,928,064</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>1,529</td>
<td>1</td>
<td>4</td>
<td>$41,864,079</td>
<td>$3,414,278</td>
</tr>
<tr>
<td>9</td>
<td>18</td>
<td>4,387</td>
<td>5</td>
<td>4</td>
<td>$47,907,300</td>
<td>$10,699,305</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>18,799</td>
<td>3</td>
<td>1</td>
<td>$47,659,220</td>
<td>$11,281,918</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>24,391</td>
<td>5</td>
<td>0</td>
<td>$57,332,269</td>
<td>$30,670,508</td>
</tr>
<tr>
<td>11.1</td>
<td>1</td>
<td>330</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$7,065,116</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>2,843</td>
<td>1</td>
<td>1</td>
<td>$51,938,097</td>
<td>$3,747,629</td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>1,470</td>
<td>0</td>
<td>1</td>
<td>$54,023,130</td>
<td>$1,382,052</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>728</td>
<td>0</td>
<td>0</td>
<td>$53,054,752</td>
<td>$1,098,347</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>1,667</td>
<td>0</td>
<td>0</td>
<td>$58,059,645</td>
<td>$686,926</td>
</tr>
<tr>
<td>16</td>
<td>5</td>
<td>1,889</td>
<td>0</td>
<td>0</td>
<td>$70,957,636</td>
<td>$1,431,594</td>
</tr>
</tbody>
</table>

### Active Projects

- Total Projects: 163
- Deauthorized Projects: 20

### Conservation Plan

- Conservation Plan: 0
- CRMS - Wetlands: 0
- MCF: 0
- Storm Recovery: 0

### Total Construction Program

- Total Construction Program: 167

---

<table>
<thead>
<tr>
<th>No. of Projects</th>
<th>Total Projects</th>
<th>Expenditures To Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Projects</td>
<td>163</td>
<td>$838,970,431</td>
</tr>
<tr>
<td>Conservation Plan</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>CRMS - Wetlands</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>MCF</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Storm Recovery</td>
<td>0</td>
<td>$0</td>
</tr>
</tbody>
</table>

---

07-Dec-2006
NOTES: 1. Total of 167 projects includes 143 active construction projects, 20 deauthorized projects, the CRMS-Wetlands Monitoring project, the Monitoring Contingency Fund, the Storm Recovery Assessment Fund, and the State of Louisiana's Wetlands Conservation Plan.

2. Federal funding for FY07 is expected to be $70,957,636 for the construction program.

3. Total construction program funds available is $838,970,431.

4. The current estimate for reconciled, closed-out deauthorized projects is equal to expenditures to date.

5. Current Estimate for the 5th priority list includes authorized funds for FY 96, FY 97 FY 98 and FY 99 for phased projects with multi-year funding.

6. Current Estimate for the 6th priority list includes authorized funds for FY 97, FY 98 and FY 99 for phased projects with multi-year funding.

7. The Task Force approved 8 unfunded projects, totalling $77,492,000 on Priority List 7 (not included in totals).

8. Obligations include expenditures and remaining obligations to date.

9. Non-Federal Construction Funds Available are estimated using cost share percentages as authorized for before and after approval of Conservation Plan.

10. Baseline and current estimates for PPL 9 (and future project priority lists) reflect funding utilizing cash flow management principles.

11. The amount shown for the non-federal construction funds available is comprised of 5% minimum cash of current estimate, and the remainder may be WIK and/or cash. The percentage of WIK would influence the total construction funds (cash) available.

12. PPL 11, Maurepas Diversion project, benefits 36,121 acres of swamp. This number is not included in the acre number in this table, because this acreage is classified differently than acres protected by marsh projects.

13. PPL 5.1 is used to record the Bayou Lafourche project as approved by a motion passed by the Task Force on October 25, 2001, to proceed with Phase 1 ED, estimated cost of $9,700,000, at a cost share of 50% Federal and 50% non-Federal.

14. Priority Lists 9 through 16 are funded utilizing cash flow management. Baseline and current estimates for these priority lists reflect only approved, funded estimates. Both baseline and current estimates are revised as funding is approved.