



**US Army Corps
of Engineers®**

New Orleans District

JUNE 2010

ERRATA SHEET

TO THE

JANUARY 2010 LOUISIANA COASTAL AREA (LCA),
LOUISIANA

BENEFICIAL USE OF DREDGED MATERIAL PROGRAM

FINAL PROGRAMMATIC STUDY REPORT

AND THE

FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT
STATEMENT

FINAL PROGRAMMATIC STUDY REPORT

1. Section 3.7 – FORMULATION OF THE PROJECT DESIGN PROCESS, page 123. Replace the last sentence in the last paragraph of Section 3.7 with the following:

“Sediment input (and resulting ecological benefits) that would otherwise be forever lost from the coastal ecosystem is a primary outcome of the BUDMAT Program. Sediments placed at restoration projects continue to provide benefits to wetland and estuarine ecosystems, even where natural processes redistribute material from the original placement locations. Sediments transported from restoration sites may accrete at new locations or help reduce open water depths in adjacent estuarine environments. Historically, biological diversity and primary plant and fishery productivity are highest when wetlands begin to degrade and become fragmented by natural channels, ponds, lakes, and bays, and have an increasing amount of “edge” habitat (land-water interface). This natural cycle of land building and degradation will continue under the BUDMAT Program. Therefore, the estimated operation, maintenance, repair, replacement and rehabilitation and associated costs for the BUDMAT Program are expected to be nominal. However any operation, maintenance, repair, replacement and rehabilitation that would be needed is a 100-percent non-Federal responsibility.”

2. Section 4.0 – DESCRIPTION OF THE TENTATIVELY SELECTED PLAN, page 125. In order to provide a more comprehensive overview of the expected ecological and other outcomes of the Beneficial Use of Dredged Material (BUDMAT) Program, the second and third paragraphs are replaced in their entirety by the following:

“The BUDMAT Program as described in this report is a small but important element of the authorized LCA Plan. Potentially, a maximum of approximately 21,000 acres of wetlands could be created under the 10 year BUDMAT program, if the individual projects are constructed at locations that provide the greatest possible areal extent of restoration for the volume of material placed. As described in Section 2, wetlands are institutionally, technically, and publicly important resources and coastal Louisiana contains 10 national wildlife refuges and one national estuary, the Barataria-Terrebonne. The BUDMAT Program will focus on restoring, creating, or reducing the loss of critical landscape features in coastal Louisiana where delaying action would result in a “loss of opportunity” to achieve restoration and/or result in much greater restoration costs. The BUDMAT Program would result in sediment input (and resulting ecological benefits) that would otherwise be forever lost from the coastal ecosystem, either through placement in upland disposal sites or at ocean dredged material disposal sites (ODMDS). Features restored through the BUDMAT Program will provide habitat, support ecological diversity and provide ecological functions as measured through the Wetlands Value Analysis (WVA), with outputs measured in Average Annual Habitat Units (AAHU). It is anticipated that most restored areas will be fresh, intermediate, brackish or saline marsh. Restored marshes will provide habitat and ecological services to support a wide variety of species, including native and migratory waterfowl, reptiles and amphibians. Restored marsh habitats also provide water quality benefits,

food sources and shelter for juvenile fish, contributing to the viability of adjacent estuary and marine fisheries.

The quantity of acres of wetlands generated per cubic yard of dredged material placed will vary proportionately with the depth of water at the disposal site in that if the depth of water is doubled from 1 foot to 2 feet, the acres of wetlands is reduced by one-half. If maximizing the acres of wetlands created was the sole criteria, then the BUDMAT Program could focus only on nearby shallow (less than 1.5 feet) open water areas thereby keeping incremental costs to a minimum and maximizing the acres of wetlands created. The 2004 LCA Study estimated that approximately 21,000 acres of wetlands could be created through the 10 year \$100M BUDMAT Program. This estimate was based on the following assumptions: (1) an average incremental cost of \$1 per cubic yard (cy) of dredged material placed beneficially, (2) an estimate of 0.00025 acres of wetlands created per cy of dredged material placed (or using the inverse, 4,000 cy of dredged material are required to create one acre of wetland based on a 2.5 feet total height of dredged material (i.e., a water depth of 1.5 feet plus 1 foot of fill above the water's surface), and (3) a 15 percent planning, engineering, design and real estate cost over the 10 year BUDMAT Program (i.e., the remaining 85 percent or \$85M would be available for placing 85,000,000 cy of dredged material beneficially). This equates to approximately \$4,000 per acre of wetland created. However, since the BUDMAT Program will focus on restoring, creating, or reducing the loss of critical landscape features in coastal Louisiana, a more likely conservative assumption was a water depth of 2.5 feet and a fill height above the water surface of 1.5 feet. Incremental cost per cubic yard was estimated from potential beneficial use investigations carried out by the District in the post-Katrina environment. As described in Section 2.3.3., incremental costs developed in 2007 ranged anywhere from just over \$1.40 per cubic yard to more than \$9 per cubic yard with an average incremental cost of approximately \$4 per cubic yard of dredged material placed beneficially. The corresponding cost per acre of wetland created ranged anywhere from \$12,000/acre to over \$77,000/acre. The more likely conservative estimate of 3,400 acres of wetlands created by the BUDMAT Program at an average cost of \$25,000 per acre is in the median range of cost effectiveness used to rank projects in the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) ecosystem restoration program.

Funds from the BUDMAT Program would be used for disposal activities associated with separate, cost-shared, individual ecosystem restoration beneficial use projects that are above and beyond the disposal activities that are covered under the USACE O&M maintenance dredging Federal standard. The Federal standard is defined in USACE regulations as the least costly dredged material disposal or placement alternative (or alternatives) identified by USACE that is consistent with sound engineering practices and meets all federal environmental requirements, including those established under the Clean Water Act (CWA) and the Marine Protection, Research, and Sanctuaries Act (MPRSA) (see 33 CFR 335.7, 53 FR 14902). The term "base plan" is a more accurate operational description of the Federal standard, because it defines the disposal or placement costs that are assigned to the "navigational purpose" of the project. The costs assigned to the navigational purpose of the project are shared with the non-federal sponsor of the navigation project, with the ratio of federal to non-federal costs depending on the nature and depth of the navigation project.

If a beneficial use is selected for a project and that beneficial use happens to be (or be part of) the Federal standard or base plan option for the project, the costs of that beneficial use are assigned to the navigational purpose of the project and are shared with the non-federal sponsor of the navigation project.

If a beneficial use is selected for a project, and that beneficial use is not the Federal standard option, the costs for the beneficial use option are divided into two categories for the purpose of determining the federal and non-federal sharing ratios. First, the costs assigned to the navigational purpose of the project (i.e., the amount it would have cost to implement the Federal standard option) are shared with the non-Federal sponsor of the navigation project. Second, the costs beyond the navigational purpose costs (termed “incremental costs”) are shared with the non-Federal sponsor of the beneficial use project.

Beneficial use project costs exceeding the cost of the Federal standard (or “base plan”) option become either a shared Federal and non-Federal responsibility, or entirely a non-Federal responsibility, depending on the type of beneficial use. In cases in which the beneficial use of the dredged material does not contribute to USACE navigation, ecosystem restoration, or flood and storm damage reduction missions, or if the project partner for the beneficial use project elects to use only its contributed funds, the project partner using the material pays the full incremental costs of that beneficial use project.

CEMVN’s disposal plans incorporate beneficial use of dredged material to the maximum extent practicable within the Federal standard/base plan. It is the policy of the Corps to use dredged material beneficially within existing authority and funding, and consistent with the Federal standard process.

On November 8, 2007, in Section 2037(c) of WRDA 2007, Congress reaffirmed the long-standing federal position that the costs associated with dredging for construction, operation, or maintenance of an authorized Federal water resources project are limited to the most cost-effective means, consistent with economic, engineering, and environmental criteria. Any costs associated with the beneficial use of dredged material above this Federal standard is to be cost-shared with a non-Federal sponsor after entering into a Project Partnership Agreement. Section 2037 is an affirmation of the Congressional limitations on the Federal government’s financial responsibility relative to the beneficial use of dredged material as contained in the Continuing Authorities Program (CAP) Section 204, Beneficial Use of Dredged Material, of the WRDA of 1992, as amended (33 USC 2326). The Federal standard is thus the benchmark established by Congress.

Most Corps freshwater and sediment diversion projects utilize beneficial use of material as a component of the projects since construction of the diversion channel generates material that can be used beneficially. Depending on the location of the diversion compared to federally maintained channel reaches, ongoing beneficial use for the diversion projects can either be dedicated dredging and placement paid solely by the diversion project or O&M associated

dredging for which only the incremental placement costs above the Federal standard are paid for by the diversion projects. There are in fact several diversions planned on the lower Mississippi River. However they are all several miles from the dredging conducted by the Corps under its O&M Program. Depending on the distance, it may or may not be cost effective to transport the O&M dredged material to the diversion site receiving area. At a minimum, the cost for transporting the material would likely exceed the Federal standard base plan and the incremental cost would therefore be a shared cost with a local sponsor for the diversion project. If deemed O&M for a diversion project, the incremental cost would be a 100% local sponsor costs.

CWPPRA has constructed beneficial use projects using both dedicated dredging and placement as CWPPRA project costs and the Corps' O&M dredging with only incremental placement costs as a CWPPRA project cost. That is, if the CWPPRA project location is near a federally maintained channel reach, then the CWPPRA program takes advantage of the dredging cost paid for by the Corps' O&M program. CWPPRA's favorable 85% fed and 15% non-Fed cost share allows the CWPPRA program to consider dedicated dredging and placement projects.

CEMVN, in concert with the State of Louisiana as the non-Federal sponsor, has beneficially placed dredged material to create over 19,500 acres (30 square miles) of land between 1976 and 2006. These past beneficial use projects have demonstrated that ongoing benefits are provided by completed projects without additional O&M activities. Sediments placed at restoration projects continue to provide benefits to wetland and estuarine ecosystems, even where natural processes redistribute material from the original placement locations. Sediments transported from restoration sites may accrete at new locations or help reduce open water depths in adjacent estuarine environments. Many of the risk and uncertainties identified in this report relate to optimizing beneficial use projects with respect to cost effectiveness; not whether the projects will be successful or beneficial. The BUDMAT Program was developed with consideration of the risks and potential approaches to mitigation of these risks and uncertainties. Where past performance of BUDMAT and other restoration projects indicate certain restoration approaches or types of restoration opportunities provide more benefit from use of dredged material for ecosystem restoration, then these findings will be used to reduce risk and uncertainty in the program.

Adaptive management (AM) reduces the uncertainties associated with project/program implementation and improves the probability of project/program success by addressing risks posed by these uncertainties. With improved knowledge, decision makers are able to take appropriate management actions to increase project/program success. In addition, AM allows project/program managers to proceed with precautionary measures in the face of uncertainties, understanding that as more information is obtained concerning ecosystem functionality and project performance, more specifically can be incorporated into the project selection and formulation stages. AM provides flexibility that allows manager to respond to changing environmental conditions and improved decision making.

AM provides the opportunity and platform for long-term collaboration between agency staff, decision makers, and stakeholders; it provides a forum for dialogue between scientist and

managers; and it encourages the concept of robustness in alternatives with performance based versatility. Additionally, AM provides the opportunity for a larger return on the investment because of the flexibility it allows.

The basic elements of an AM process are: (1) Assess; (2) Design; (3) Implement; (4) Monitor; (5) Evaluate; and (6) Adjust. The processes associated with each element may vary depending on if it is program or project level AM or if the project is structural or nonstructural in nature. BUDMAT project monitoring will be conducted to determine project success over an initial period upon completion of construction. Under most situations, it is anticipated that the success monitoring data provided on the individual projects would not be used to modify or perform additional construction at completed projects. The success data from individual projects would provide the opportunity to optimize the selection, formulation, and implementation of subsequent projects under the BUDMAT Program. In practice, AM is implemented in a non-linear sequence, but in an iterative way, starting at various points in the process and repeating steps based on improved knowledge.

Knowledge gaps for coastal Louisiana beneficial use sites include: fisheries usage of these sites, site longevity, and localized subsidence rates. CEMVN experience with beneficial use of dredged material in coastal Louisiana since 1976 has provided planners with information regarding: dredged material initial placement heights, settling/dewatering/ compaction rates, dredged material discharge containment methodology, vegetative colonization rates and species succession at these sites, storm erosion effects, and wildlife usage of these sites.

The areas in coastal Louisiana that most need beneficial use projects with respect to land loss would likely involve the Barataria, Terrebonne, and lower Mississippi River basins where the past and future projected land loss rates are the highest. This aligns with the analysis provided in Table 9 of the accompanying programmatic EIS, which indicates that in the initial areas of opportunity for the BUDMAT Program, the lower Mississippi River, Port Fourchon – Bayou Lafourche, Barataria Waterway, and the Houma Navigation Canal areas experienced the greatest historic land loss rates of 19%, 10%, 9%, and 8%, respectively. These areas have been shown to have the most rapid loss rates of coastal wetlands habitats, including fresh, intermediate, brackish and saline marsh. Barrier shoreline, maritime forest, and ridge habitats are also being lost within these portions of LCA. Each of these ecosystem components provides important habitat and ecological services, such as habitat for waterfowl, reptiles and amphibians, and contributes to water quality, food sources and shelter from predation for adjacent fisheries.

The beneficial use projects that are most likely to succeed in coastal Louisiana are those that are located in protected areas that are not subject to adverse wave or storm erosion conditions. Additionally, projects are more likely to succeed if they are not located in areas with high subsidence rates. However, the entire Deltaic plain, which includes the Barataria, Terrebonne, and lower Mississippi River basins, is subsiding at an estimated rate of 0.5 to 4.3 feet/century. Thus, the areas of most need do not necessarily align with the areas in which projects are most likely to succeed.

The most likely beneficial use projects to be highly cost-effective in addressing the most critical ecological needs are those that will be screened and selected under the BUDMAT Program. That is, the criteria for selecting projects under the BUDMAT Program focus on restoring, creating, or reducing the loss of critical landscape features in coastal Louisiana, cost-effectiveness, and synergy with other ecosystem restoration projects. Because only incremental disposal/placement costs are incurred under the BUDMAT Program, it is likely that beneficial use projects implemented under the BUDMAT Program would compare favorably with ecosystem restoration projects utilizing dedicated dredging projects wherein both dredging and placement costs are incurred.

The LCA Plan states that the BUDMAT Program will allow the District to take greater advantage of existing sediment resources to contribute to the near term restoration objectives and that funding for the BUDMAT Program should not exceed \$100 million over the initial 10 years of the LCA Program. This equates to approximately \$10M/year for ten years. This is a realistic assumption since in the earlier years projects would need to be solicited, selected, planned and designed prior to construction in subsequent years. Additionally, spending the program's budget in a sustained manner over the life of the program would provide continued opportunities for adaptive management and lessons learned in the selection and design of projects. This approach is consistent with the approach demonstrated by District and its partners in execution of similar projects under CWPPRA and the CAP Section 204 Program. The continued assessment of lessons learned and adjustments to project selection and design will be carried out using the principles of adaptive management. As stated in Section 2.3.3, there is a reasonable potential to use an additional 20 million cubic yards of material beneficially annually from CEMVN's O&M Program. Using an incremental cost of \$1 per cubic yard of dredged material placed beneficially, this would equate to \$20M per year for ten years. Thus, \$100M will not allow the District to beneficially use all of the material dredged during the ten year program.

Compared to other approaches, which would use an evolving, broad analytic framework to guide and inform decisions, it is likely that beneficial use projects implemented under the BUDMAT Program would compare favorably since relative cost-effectiveness is an initial selection criteria for determining which projects should be further planned and designed in the BUDMAT Program. Additionally, the primary consideration in selection of projects for construction will be the cost-effectiveness of the candidate projects, as measured in total project cost per quantity of ecosystem restoration output provided. A more representative assessment and comparison of cost-effectiveness can be made for projects that have been through the planning and design process because more detailed and accurate information on both project costs and benefits are produced during the planning and design process. Project-specific engineering and design work completed for the candidate projects provides more certainty in the estimated costs of projects. In addition, during the planning process detailed evaluations of the ecosystem restoration outputs for alternative project plans are developed using the Wetlands Value Assessment (WVA) process. This community based approach considers the quantity and function of restored habitats provided by project plans. The combination of both detailed costs and ecosystem restoration outputs allows the candidate projects being considered for construction to be compared on a direct basis.

Sustainability of project features is an important consideration in evaluating project effectiveness, and this aspect of project performance is reflected in the BUDMAT Program's ranking of projects for cost-effectiveness. Because ecosystem restoration outputs determined through the WVA process are determined over a defined period of analysis and averaged over that time horizon, projects with similar size and scope that provide ecosystem restoration benefits that persist over the period of analysis will rank more highly for cost-effectiveness. Based on this consideration, ranking projects by their cost-effectiveness as determined using the WVA methodology also includes consideration of sustainability in the selection of project designs for construction.

Both the BUDMAT Program and the Sec 204 CAP Program are inherently linked to the Corps' O&M dredging activities with incremental placement costs shared 65% fed and 35% non-Fed. Like the CAP Sec 204 program, the BUDMAT Program includes project formulation, analysis, justification, and design of the site-specific beneficial use project. Whereas, the CAP Sec 204 has per project limits of \$5M federal dollars and a total Corps annual limit of \$30M, the \$100M ten-year BUDMAT program is specific to coastal Louisiana and has no per project limit. The Sec 204 program is therefore a national program in which projects compete for limited funding. However, the CAP Sec 204 Program does not attempt to prioritize projects across the board with regard to addressing critical landscape issues in coastal Louisiana. The BUDMAT Program does provide a process to prioritize projects with respect to the unique issue pertaining to coastal Louisiana. It is envisioned that the BUDMAT Program and the Sec 204 program are separate programs in and of themselves. However, during the first year of implementation for the BUDMAT Program, Sec 204 projects with completed planning and design studies will be eligible for construction funding under the BUDMAT program if those completed projects pass the screening and selection processes proposed for the BUDMAT Program.

The BUDMAT Program Project Execution Team, including resource state and federal agencies, intends to be an active participant in the CWPPRA Programs quarterly meetings. Additionally, the District's Operations Division holds an environmental dredging conference in May of each year to inform interested parties of the upcoming fiscal year's dredging plans. Therefore, decisions made under each program will take into consideration the ongoing and future projects being pursued under the other programs."

3. Section 6.0 – RECOMMENDATIONS, page 162. A revised Section 6 has been signed by the New Orleans District Engineer and is incorporated in full in Attachment 1 of this errata sheet.

4. Executive Summary, Section 4.0 UNRESOLVED ISSUES - VIEWS OF THE NON-FEDERAL SPONSOR, Page x. Insert the following paragraph after the last paragraph of Section 4.0:

"Section 7007(b) of WRDA 2007 provides that "The non-Federal interest may use, and the Secretary shall accept, funds provided by a Federal agency under any other Federal program, to satisfy, in whole or part, the non-Federal share of the cost of the study or project if the Federal agency that provides the funds determines that the funds are authorized to carry out the study or

project." If the Mineral Management Service determines in writing that funds it provides to the non-Federal sponsor under the Energy Policy Act of 2005 (Coastal Impact Assistance Program - CIAP) and the Gulf of Mexico Energy Security Act of 2006 (GOMESA) are authorized to be used to carry out BUDMAT projects, the non-Federal sponsor can use those funds toward satisfying its local cooperation for the project, including the non-Federal sponsor's acquisition of Lands, Easements, Relocations, Right-of-ways and Disposals (LERRDs) required for the project.

By letters dated July 2, 2009 and December 18, 2009, the Minerals Management Service and the USACE established a process for the Minerals Management Service to provide its written determination regarding the acceptability of the use of CIAP funds for LCA studies, projects, and programs. That process provides that the Minerals Management Services' written determination for a specific study, project, or program will take the form of the grant award document for that activity."

5. Section 4.10.4 Use of Federal Funds for Non-Federal Share, Page 153. Insert the following paragraph at the end of Section 4.10.4:

"Section 7007(b) of WRDA 2007 provides that "The non-Federal interest may use, and the Secretary shall accept, funds provided by a Federal agency under any other Federal program, to satisfy, in whole or part, the non-Federal share of the cost of the study or project if the Federal agency that provides the funds determines that the funds are authorized to carry out the study or project." If the Mineral Management Service determines in writing that funds it provides to the non-Federal sponsor under the Energy Policy Act of 2005 (Coastal Impact Assistance Program - CIAP) and the Gulf of Mexico Energy Security Act of 2006 (GOMESA) are authorized to be used to carry out BUDMAT projects, the non-Federal sponsor can use those funds toward satisfying its local cooperation for the project, including the non-Federal sponsor's acquisition of Lands, Easements, Relocations, Right-of-ways and Disposals (LERRDs) required for the project.

By letters dated July 2, 2009 and December 18, 2009, the Minerals Management Service and the USACE established a process for the Minerals Management Service to provide its written determination regarding the acceptability of the use of CIAP funds for LCA studies, projects, and programs. That process provides that the Minerals Management Services' written determination for a specific study, project, or program will take the form of the grant award document for that activity."

FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

1. Section 1.8.5 The Federal Standard O&M Dredging, should be removed as a constraint.
2. Section 1.8.7 Other Limitations should be renumbered to 1.8.5.

3. Comments on the final PEIS and Study Report were requested during the 30-day comment period from January 23, 2010, to February 22, 2010. The only comments received during this period were those provided in the final USFWS Coordination Act Report dated February 2, 2010 (Attachment 2). In their cover letter, USFWS stated “the recommendations and comments provided in our draft report were adequately addressed and the recommendations in our final report are not significantly different.” Responses to the USFWS Coordination Act Report can be found in the letter to Mr. James Boggs, Supervisor, Louisiana Field Office, dated February 17, 2010 (Attachment 3).

ATTACHMENT 1

JUNE 2010

ERRATA SHEET

TO THE

JANUARY 2010 LOUISIANA COASTAL AREA (LCA),
LOUISIANA

BENEFICIAL USE OF DREDGED MATERIAL PROGRAM

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6.0 RECOMMENDATIONS

BUDMAT Program Recommendations

Based upon the best available science and engineering, professional judgment, and extensive experience in coastal restoration in Louisiana and beyond, the BUDMAT Program Study identifies, evaluates, and recommends to decision makers an appropriate, coordinated, feasible approach to addressing the opportunities to beneficially use dredged material for ecosystem restoration projects in coastal Louisiana. This BUDMAT Study report provides a complete presentation of the study process, results, and findings; indicates compliance with applicable statutes, executive orders, and policies; documents the Federal and non-Federal interest; and provides a sound and documented basis for decision makers at all levels to evaluate the proposed plan for implementing the BUDMAT Program.

The USACE, Mississippi Valley Division, New Orleans District (the District) has the largest annual channel operations and maintenance (O&M) program in the USACE, with an annual average of 64 million cubic yards (mcy) of material dredged. At this time, approximately 24 percent of this material is used beneficially in the surrounding environment within the Federal standard by the O&M program. The amount of material generated by O&M operations, the volume of material recovered for beneficial use in existing operations, and the potential total volume of material that can be reused varies considerably from year to year, based on the type of dredging operations being performed and their environmental setting. The proposed BUDMAT Program would allow the District to take greater advantage of existing sediment resources made available by maintenance activities to achieve restoration objectives, while ensuring that all projects implemented under this program are cost-effective and contribute towards the overall goals of the LCA Plan for ecosystem restoration in coastal Louisiana.

The following nine authorized Federal navigation channels represent the most significant opportunities for additional beneficial use of dredged material in coastal Louisiana:

- Barataria Bay Waterway, LA
- Mississippi River, Outlets at Venice, LA – Tiger Pass and Baptiste Collette
- Mississippi River, Baton Rouge to the Gulf of Mexico, LA – Southwest Pass and South Pass
- Atchafalaya River and Bayous Chene, Boeuf, and Black, LA
- Calcasieu River and Pass, LA
- Houma Navigation Canal, LA
- Bayou Lafourche, LA
- Mermentau River, LA
- Freshwater Bayou, LA

The proposed BUDMAT Program specifies the procedures to solicit, screen, plan, design and construct ecosystem restoration projects using dredged material under the authority provided by WRDA of 2007 for \$100 million additional funding over a 10-year period. Based on the authorization limits, it is expected that the BUDMAT Program could attain approximately

21,000 acres (33 square miles) of newly created wetlands. This recommended plan for implementing the BUDMAT Program represents a significant opportunity to contribute to the accomplishment of the LCA Program objectives. The procedures specified in the recommended plan for the BUDMAT Program would allow the application of funds appropriated through LCA Program under guidelines similar to those of the Continuing Authorities Program (CAP), Beneficial Uses of Dredged Material, defined by Section 204 of the Water Resources Development Act (WRDA) of 1992. Implementation would proceed with a more detailed analysis of the potential beneficial use disposal sites, a process that would be repeated annually within the O&M "Base Plan" cycle.

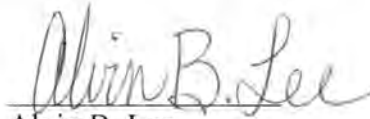
As the District Engineer, I have considered the environmental, social, and economic effects, the engineering feasibility, and the comments received from other resource agencies and the public during this BUDMAT Program Study effort and plan formulation. Based upon the sum of this information, I am recommending for implementation the BUDMAT Program that includes the program requirements for beneficial use of dredged material to help address the current trend of degradation of Louisiana's coastal ecosystem, support Nationally significant living resources, provide a sustainable and diverse array of fish and wildlife habitats, reduce nitrogen delivery to offshore gulf waters, provide infrastructure protection, and make progress towards a more sustainable ecosystem.

I recommend that the Director of the Civil Works Program approve the recommended BUDMAT Program identified in this study for implementation under the authorization provided by WRDA of 2007. Based on the provided authorization, it is expected that this beneficial use program could contribute to the attainment of up to approximately 21,000 acres of newly created wetlands. I recommend that this program follow this Study's recommended plan for program implementation for the USACE to restore, protect, and create aquatic and wetland habitats in connection with construction or maintenance dredging of an authorized project. Consistent with the CAP Section 204, I recommend that approval authority for implementing beneficial use projects under the BUDMAT Program be delegated to the Commander, Mississippi Valley Division.

COST SHARING AND AGENCY RESPONSIBILITIES

I further recommend Federal and non-Federal Sponsor responsibilities and cost sharing requirements as set forth in preceding Section 4.9 "Division of Responsibilities" and the credit for non-Federal work-in-kind as set forth in preceding Section 4.9.2 "Cost Sharing Requirements."

The recommendations contained herein reflect the information available at this time and current Department of the Army policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the formulation of a National Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the state, interested Federal agencies, and other parties will be advised of any modifications and will be afforded an opportunity for further comment.

A handwritten signature in cursive script that reads "Alvin B. Lee". The signature is written in dark ink and is positioned above the printed name.

Alvin B. Lee
Colonel, US Army
District Engineer

ATTACHMENT 2

JUNE 2010

ERRATA SHEET

TO THE

JANUARY 2010 LOUISIANA COASTAL AREA (LCA),
LOUISIANA

BENEFICIAL USE OF DREDGED MATERIAL PROGRAM

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STATEMENT



United States Department of the Interior

FISH AND WILDLIFE SERVICE
646 Cajundome Blvd.
Suite 400
Lafayette, Louisiana 70506



February 2, 2010

Colonel Alvin B. Lee
District Engineer
U.S. Army Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160-0267

Dear Colonel Lee:

Enclosed is our revised Final Fish and Wildlife Coordination Act (FWCA) Report for the Louisiana Coastal Area (LCA) Beneficial Use Dredge Material (BUDMAT) Program. The LCA BUDMAT Program is a feature of the Near-term Ecosystem Restoration Plan for the LCA, Louisiana, Ecosystem Restoration Feasibility Study. Implementation of the BUDMAT Program would give the Corps programmatic authority to fund restoration activities above and beyond that which is currently funded by the Corps, Operations and Maintenance program's Federal standard (i.e., the least costly alternative, consistent with sound engineering and scientific practices and meeting applicable Federal environmental statutes). This report constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). This report has been reviewed by the Louisiana Department of Wildlife and Fisheries (LDWF) and the National Marine Fisheries Service (NMFS), and comments provided by the NMFS have been incorporated within the report and are included as an appendix.

Many specific details regarding the design and associated effects of individual projects selected under the BUDMAT Program are not available at the current programmatic level of planning. Accordingly, extensive additional Service involvement and a member of the project delivery team during subsequent detailed planning, engineering, design, and construction phases of the BUDMAT Program will be required. To fulfill the coordination and reporting requirements of the FWCA, the Service will be providing post-authorization draft and final supplemental 2(b) reports to this programmatic report for each beneficial use project.

The Service is extremely concerned about the Corps releasing the Final Programmatic Study Report and Environmental Impact Statement (FEIS) for public review without having included our Final FWCA Report; without that document the Corps was unable



to address our recommendations and allow public and agency review of those responses. Moreover, the recommendations and comments provided in our draft report were adequately addressed and the recommendations in our final report are not significantly different. Therefore, the Service, at this time, does not request that another public review of the FEIS be conducted. However, the Service recommends that an errata sheet be inserted at the front of the Programmatic Study Report and in front of our draft FWCA Report stating that our attached final report was not included in that document during the public and agency review period. Our final report should be included in the Final Programmatic Study Report and Section 5.2.2 of the FEIS should be revised to address the recommendations in our final report. The Service recommends that prior to submittal of the Programmatic Study Report and Programmatic EIS to higher authorities the Corps should provide to this office response to our recommendations and ensure that we find such responses acceptable. The Service anticipates that the Corps will implement measures to ensure a repeat of this incident will not re-occur and expects to receive a copy detailing such measures. We support the implementation of the BUDMAT program, and look forward to the Corps continuing cooperation on this and the other LCA projects.

Should your staff have any questions regarding the enclosed draft report, please have them contact Angela Trahan of this office at 337/291-3137.

Sincerely,



James F. Boggs
Supervisor
Louisiana Field Office

Enclosures

cc: EPA, Dallas, TX
FWS, Atlanta, GA (ES/HC)
NMFS, Baton Rouge, LA
LDWF, Baton Rouge, LA
LA OCPR, Baton Rouge, LA

FINAL

**LOUISIANA COASTAL AREA
BENEFICIAL USE OF DREDGED MATERIAL
PROGRAM**

FISH AND WILDLIFE COORDINATION ACT REPORT



**U.S. FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
LAFAYETTE, LOUISIANA**

February 2010

**LOUISIANA COASTAL AREA
BENEFICIAL USE OF DREDGED MATERIAL
PROGRAM**

FISH AND WILDLIFE COORDINATION ACT REPORT

**PROVIDED TO
NEW ORLEANS DISTRICT
U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA**

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EXECUTIVE SUMMARY

The U.S. Fish and Wildlife Service (Service) has prepared the following supplemental programmatic Fish and Wildlife Coordination Act (FWCA) Report for inclusion in the U.S. Army Corps of Engineers' (Corps) integrated programmatic study report and environmental impact statement (EIS) for the Louisiana Coastal Area (LCA) Beneficial Use Dredge Material (BUDMAT) Program, a feature of the Near-term Ecosystem Restoration Plan (NTP) for the LCA, Louisiana, Ecosystem Restoration Feasibility Study (LCA Study). Implementation of a \$100 million BUDMAT Program would give the Corps programmatic authority to fund restoration activities above and beyond that which is currently funded by the Corps, Operations and Maintenance (O&M) program's Federal standard (i.e., the least costly alternative, consistent with sound engineering and scientific practices and meeting applicable Federal environmental statutes). The BUDMAT Program will be a set of guidelines and management measures developed to select and construct future site-specific beneficial use projects.

The study area focuses on all of Louisiana's coastal wetlands and the eight navigation channels that represent the most significant opportunities to beneficially use dredge material to restore those wetlands. Louisiana's coastal wetlands, which support nationally important fish and wildlife resources, are being lost at an average rate of approximately 24 square miles per year due to a variety of causes.

Two alternative plans were formulated and carried forward for further development, evaluation, and comparison; the no-action alternative and the Customized Program alternative. With the no-action alternative plan it is assumed that the BUDMAT Program would not be implemented to achieve the planning objectives. Dredging and disposal activities, including existing beneficial use projects, would continue in accordance with the current Federal standard. The New Orleans District Corps' current O&M budgets would continue to provide for the beneficial use of approximately 14.5 million cubic yards (yd³) of the total 70 million yd³ dredged by the Corps, New Orleans District annually. Substantial deterioration of wetlands and marshes would continue in the study area.

The goals of the Customized BUDMAT Program would be to provide and maintain a sufficient number of beneficial use sites with completed Planning and Design Analyses (PDAs) to facilitate optimal use of dredged materials from scheduled and unscheduled dredging projects; optimize beneficial use of dredge materials above and beyond the federal standard for O&M dredging and disposal; and maximize the resulting acreage of wetlands, or other coastal landscape features, that are restored, enhanced, or created through the life of the program. The Customized Program would utilize a proactive, streamlined approach to achieve those goals of the program. The approach includes selective use of proactive design processes; a customized, qualitative site selection methodology; the potential to implement pre-construction measures for designs that are already complete (e.g., pre-construction of landscape features such as retention dikes); and potential acquisition of property, easements, and/or oyster leases to facilitate the use of beneficial use sites within the Federal standard.

Potentially over 21,000 acres of wetlands could be created by the ten-year, \$100 million BUDMAT Program. As a feature of the NTP for the LCA Study, the BUDMAT Program would

contribute to restoring the long-term sustainability of Louisiana's coastal wetland ecosystem. Environmental conditions would improve through the creation and/or restoration of marsh habitats. The economic condition in the area would improve due to long-term improvement in fisheries and wildlife. The negative impacts of marsh and wetland deterioration would be reduced through increased land cover, increased habitat, improved water quality, greater surge protection, and reduced saltwater intrusion.

The BUDMAT Program would provide funding for: (1) PDA of alternative, environmentally beneficial disposal sites outside of the Federal standard, and (2) the incremental, additional costs required to transport and dispose of dredge materials in alternate, environmentally beneficial use sites that lie outside of the Federal standard. PDA funding will be utilized for screening and evaluation of potential beneficial use sites; development of environmental documentation in accordance with the National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 et seq.); pre-design and design-level site characterization; and development of detailed design documents, including drawings, and specifications for each project. Construction costs may include: acquisition of beneficial use site property [i.e., lands, easements, rights-of-way, relocations, and any other interests, including suitable borrow and dredged or excavated material disposal areas (LERRDs)] that would otherwise be within the Federal standard; potential preparatory work in advance of placement of dredged materials (e.g., construction of retention dikes); and the incremental, additional costs required to transport and dispose of dredge materials within an approved beneficial use site (i.e., above and beyond costs to place the material within sites that meet the Federal standard).

Because of the programmatic nature of this study, habitat benefits analyses for specific beneficial use sites have not been conducted. Many specific details regarding the design and associated effects of the BUDMAT Program are not available at the current programmatic level of planning, we cannot, therefore, complete our evaluation of individual project feature effects on fish and wildlife resources, and thus we cannot entirely fulfill our reporting responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act. Therefore, extensive additional Service involvement as a member of the Project Delivery Team and during subsequent detailed planning, engineering, design, and construction of specific project measures, along with more-definitive project information that will be available during those planning design and analysis phases, will be required so that we can fulfill our responsibilities under that Act.

Previous Service involvement includes a Final FWCA Report for the NTP for the LCA Study (Grouchy and Paille 2004), and draft FWCA Reports dated November 30, 2007, and July 28, 2009, for the LCA BUDMAT. The Service has actively participated throughout the formulation and evaluation of the BUDMAT Program alternatives and the formulation of selection and evaluation criteria as a member of the Study Delivery Team. A September 13, 2007, Planning-Aid Letter listing threatened and endangered species within Louisiana coastal parishes and addressing future-with-project impacts was provided. The Service actively participated in the development of the Biological Assessment of the NTP for the LCA Study effects on threatened and endangered species. In the U.S. Department of Interior's August 23, 2004, letter addressing the July 2004 Louisiana Coastal Area Ecosystem Restoration Study Draft Programmatic EIS, the Service concurred with the Corps' "not likely to adversely affect" determination.

Given the substantial adverse future impacts to coastal wetlands and their associated fish and wildlife resources that are expected to occur under future-without-project conditions, the Service strongly supports authorization and implementation of the BUDMAT Program, as it would improve environmental conditions through the creation and/or restoration of marsh habitats. The negative impacts of deterioration of marsh habitats would be reduced through increased land cover, increased habitat, greater water quality, greater surge protection, and reduced saltwater intrusion.

In support of the BUDMAT Program, the Service also provides the following procedural recommendations for future authorization and implementation of the BUDMAT Program:

1. Because the Corps released the Final Programmatic Study Report and Final Programmatic Environmental Impact Statement (FEIS) for public review without having included our Final FWCA Report; we recommend that an errata sheet be inserted at the front of the Programmatic Study Report and in front of our draft FWCA Report stating that our attached final report was not included in that document during the public and agency review period. Our final report should be included in the Final Programmatic Study Report and Section 5.2.2 of the FEIS should be revised to address the recommendations in our final report. The Service recommends that prior to submittal of the Programmatic Study Report and Programmatic EIS to higher authorities the Corps should provide to this office response to our recommendations and ensure that we find such responses acceptable. The Service anticipates that the Corps will implement measures to ensure a repeat of this incident will not re-occur and expects to receive a copy detailing such measures.
2. Modifications to and further development of the BUDMAT Program processes including revisions to the proactive design processes; the screening and evaluation criteria; and the construction process should be coordinated with the natural resource agencies and the project delivery team.
3. Coordination with the State and Federal natural resource agencies should be conducted during the development of project design features and upon design completion as a member of the PET and PMT to ensure that all design features provide the highest quality of fish and wildlife habitat value and comply with statutory obligations.
4. In accordance with the January 2003 Partnership Agreement for Water Resources and Fish and Wildlife between the Service and the Corps, sufficient continuous funding should be provided to the Service to fulfill our responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act throughout post-authorization planning and evaluation for individual beneficial use projects. Accordingly, to ensure that optimum fish and wildlife resource benefits are achieved, the Service will continue to work closely with the Corps and the State of Louisiana throughout the plan implementation process as a member of the PET and PMT. Our findings and recommendations for each of the projects ultimately approved for implementation will be provided in draft and final supplements to this programmatic report under the authority of the Fish and Wildlife Coordination Act. Fulfillment of Section 7 of the ESA of 1973 (87 Stat. 884, as

amended; 16 U.S.C. 1531 et seq.) responsibilities would also be accomplished at that time.

5. The Corps should coordinate closely with individual refuge managers prior to conducting any work on a National Wildlife Refuge, in conformance with the National Wildlife Refuge System Improvement Act of 1997. Such coordination will be essential to the timely completion of the Service's determination that the proposed work will/will not be compatible with the purposes for which those refuges were established, and to secure any appropriate permits that may be required. Likewise, LCA activities occurring on State-administered Wildlife Management Areas or refuges or National Park Service (NPS) lands should also be fully coordinated with the Louisiana Department of Wildlife and Fisheries or the NPS, respectively.

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INTRODUCTION

The U. S Army Corps of Engineers (Corps), New Orleans District and the State of Louisiana initiated the Louisiana Coastal Area (LCA) Comprehensive Coastwide Ecosystem Restoration Study (LCA Comprehensive Study), an interagency planning effort to develop a comprehensive plan to restore Louisiana's coastal ecosystem. That study followed an unprecedented level of cooperative efforts to achieve system-wide sustainable restoration of Louisiana's coastal wetlands including the passage of the Coastal Wetlands Planning, Protection and Restoration Act, (PL-101-646, Title III, CWPPRA) in 1990, and subsequently the development of the "Coast 2050: Toward a Sustainable Coastal Louisiana" report, popularly known as the Coast 2050 Plan. The LCA Comprehensive Study resulted in the recommendation of the Near-term Ecosystem Restoration Plan (NTP) for the LCA, Louisiana, Ecosystem Restoration Feasibility Study (LCA Study) which was completed in November 2004. The LCA, Beneficial Use of Dredged Material (BUDMAT) Program was recommended for programmatic authorization in that study. The Corps is preparing an integrated programmatic feasibility report and environmental impact statement (EIS) to evaluate the potential effects of the establishment of the ten year, \$100 million LCA BUDMAT Program.

The NTP for the LCA Study recommends \$100 million in programmatic authority to fund the extra cost needed to beneficially use dredged material over a ten year period. Funds from the BUDMAT Program would be used for restoration activities that are above and beyond what would otherwise be funded by the Corps, New Orleans District, Operations and Maintenance (O&M) program under the Federal standard. The Federal standard for dredged material disposal is the least costly alternative, consistent with sound engineering and scientific practices and meeting applicable Federal environmental statutes (i.e., base plan). Of the \$100 million recommended for the BUDMAT Program, approximately 15 percent would be used for feasibility level studies, and the remaining \$85 million would be used for placement of dredged material within the beneficial use disposal sites.

DESCRIPTION OF THE STUDY AREA

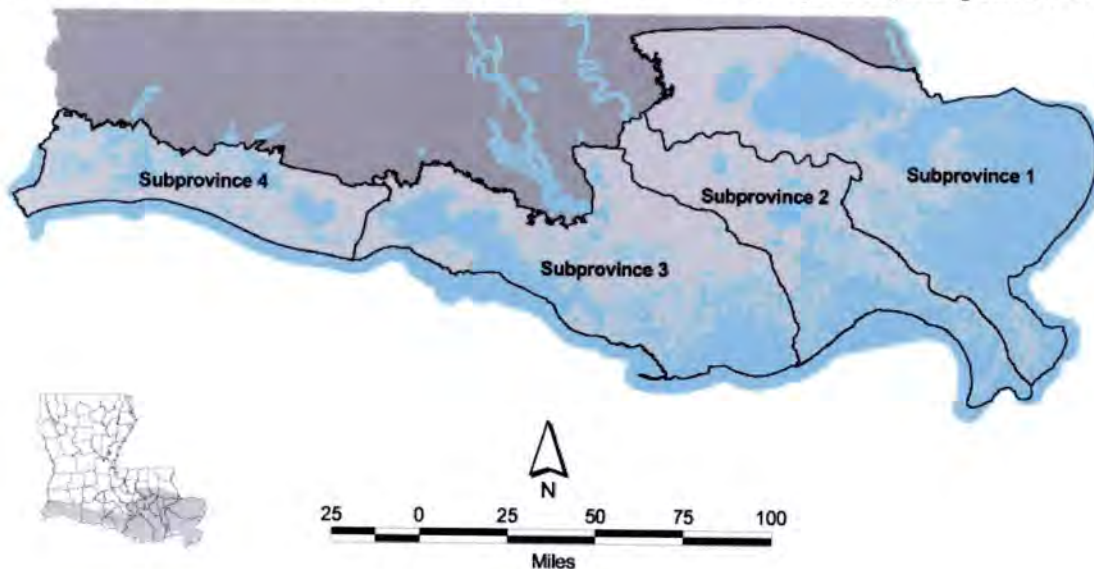
The LCA study area encompasses all of Louisiana's coastal wetlands, which include natural levee forest, swamp, fresh marsh, intermediate marsh, brackish marsh, saline marsh, and barrier islands. The study area is divided into four subprovinces (Figure 1), each of which includes one or more coastal watersheds. The LCA subprovinces are very similar to those identified under the Coast 2050 Plan (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority 1998), except that the boundary between Subprovinces 1 and 2 has been relocated from the Mississippi River-Gulf Outlet to the Mississippi River under the LCA.

The BUDMAT Program study area will focus on all Federally-maintained navigable waterways within those subprovinces (Figure 2); however, the following navigation channels represent the most significant opportunities for additional beneficial use of dredged material in coastal Louisiana:

- The Barataria Bay Waterway, LA project

- Mississippi River, Outlets at Venice, LA – Tiger Pass and Baptiste Collette
- Mississippi River, Baton Rouge to the Gulf of Mexico, LA – Southwest Pass and South Pass
- Atchafalaya River and Bayous Chene, Boeuf, and Black, LA
- Calcasieu River and Pass, LA
- Houma Navigation Canal
- Bayou Lafourche, LA
- Mermentau River, LA
- Vermilion River, LA

Figure 1. LCA Near-term Ecosystem Restoration Plan Study Area, Subprovinces 1-4.



EXISTING FISH AND WILDLIFE RESOURCES

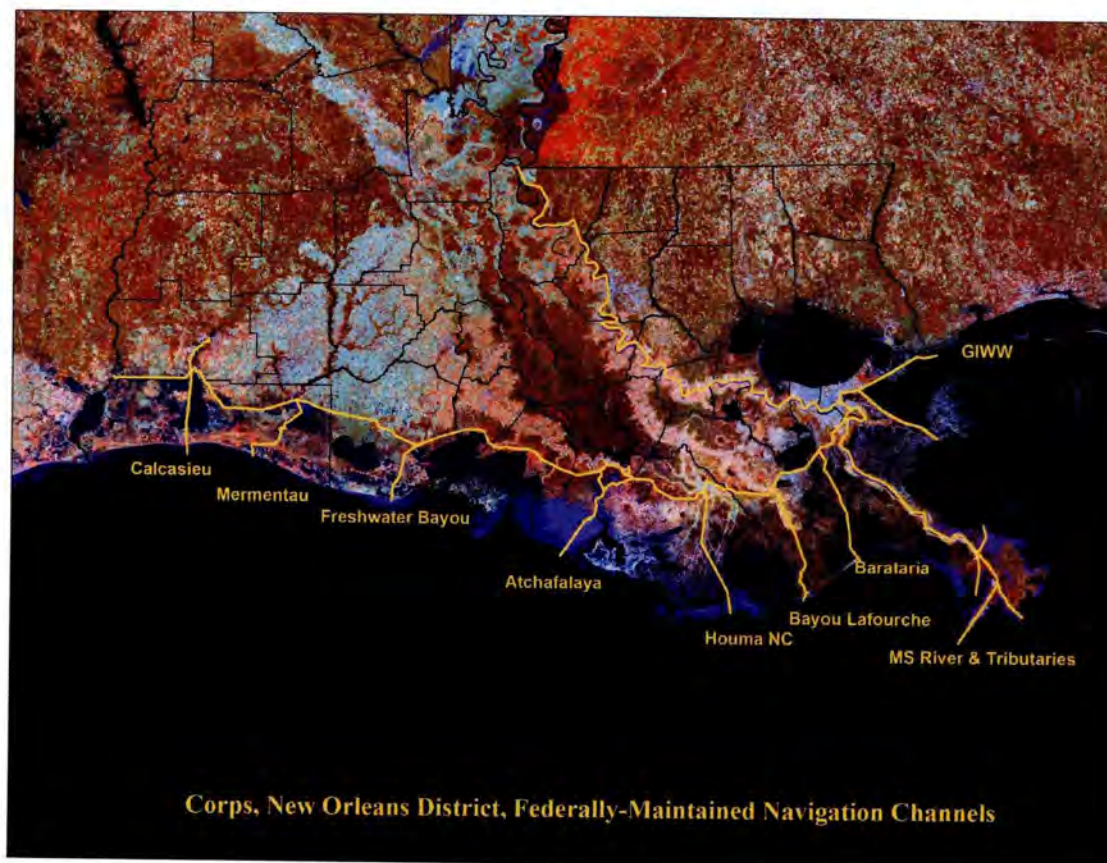
Description of Habitats

Forested Wetlands - Forested wetlands in the study area consist primarily of bottomland hardwood forests and cypress-tupelo swamps. Bottomland hardwood forests found in coastal portions of the project area occur primarily on the natural levees of distributary channels but also occur on older spoil banks and higher elevation dredged material disposal areas. Dominant vegetation may include sugarberry, water oak, live oak, bitter pecan, black willow, American elm, Drummond red maple, Chinese tallow-tree, boxelder, green ash, baldcypress, and elderberry. Cypress-tupelo swamps are located along the flanks of larger distributary ridges as a transition zone between bottomland hardwoods and lower-elevation marsh or scrub-shrub habitats. Cypress-tupelo swamps exist where there is little or no salinity and (usually) minimal daily tidal action.

Scrub-Shrub - Scrub-shrub habitat is often found along the flanks of distributary ridges. It is also found as an early successional stage on spoil banks and higher elevation dredged material disposal areas. Typically, it is bordered by marsh at lower elevations and by developed areas, cypress-tupelo swamp, or bottomland hardwoods at higher elevations. Typical scrub-shrub vegetation

includes elderberry, wax myrtle, buttonbush, black willow, Drummond red maple, Chinese tallow-tree, and groundselbush.

Figure 2. Federally-Maintained Navigable Waterways of the BUDMAT Study Area.



Fresh Marsh - Fresh marshes occur at the upper ends of intertributary basins and are often characterized by floating or semi-floating organic soils. Most fresh marshes exhibit minimal daily tidal action; however, fresh marshes in the Mississippi and Atchafalaya River deltas and adjacent to Atchafalaya Bay are the exceptions. Vegetation may include maidencane, bulltongue, cattail, California bulrush, pennywort, giant cutgrass, American cupscale, spikerushes, bacopa, and alligatorweed. Associated open-water habitats may often support extensive beds of floating-leaved and submerged aquatic vegetation including water hyacinth, *Salvinia*, duckweeds, American lotus, white water lily, water lettuce, coontail, Eurasian milfoil, hydrilla, pondweeds, naiads, fanwort, wild celery, water stargrass, elodea, and others.

Intermediate Marsh - Intermediate marshes are a transitional zone between fresh and brackish marshes, and are often characterized by organic, semi-floating soils. Typically, intermediate marshes experience low levels of daily tidal action. Salinities are negligible or low throughout much of the year, with salinity peaks occurring during late summer and fall. Vegetation includes saltmeadow cordgrass, deer pea, three-cornered grass, cattail, bulltongue, California bulrush, seashore paspalum, wild millet, fall panicum, and bacopa. Ponds and lakes within the intermediate

marsh zone often support extensive submerged aquatic vegetation including southern naiad, Eurasian milfoil, and wigeongrass.

Brackish Marsh - Brackish marshes are characterized by low-to-moderate daily tidal energy and by soils ranging from firm mineral soils to organic semi-floating soils. Freshwater conditions may prevail for several months during early spring; however, low- to-moderate salinities occur during much of the year, with peak salinities in the late summer to fall. Vegetation is usually dominated by saltmeadow cordgrass, but also includes saltgrass, three-cornered grass, leafy three-square, and deer pea. Shallow brackish marsh ponds occasionally support abundant beds of wigeongrass.

Saline Marsh - Saline marshes occur along the southern fringe of the coastal wetlands. Those marshes usually exhibit fairly firm mineral soils and experience moderate to high daily tidal energy. Vegetation is dominated by saltmarsh cordgrass, but may also include saltgrass, saltmeadow cordgrass, black needlerush, and leafy three-square. Submerged aquatic vegetation is rare. Within the study area, intertidal mud flats are most common in saline marshes.

Ponds and Lakes - Natural marsh ponds and lakes interspersed throughout the coastal wetlands are typically shallow, ranging in depth from 6 inches to more than 2 feet. The smaller ponds are typically shallow and the larger lakes are deeper. In fresh and low-salinity areas, ponds and lakes may support varying amounts of submerged and/or floating-leaved aquatic vegetation. Brackish and, much less frequently, saline marsh ponds and lakes may support wigeongrass beds.

Canals and Bayous - Canals and larger bayous typically range in depth from 4 or 5 feet, to more than 15 feet. Strong tidal flows may occur at times through those waterways, especially where they provide hydrologic connections to other large waterbodies. Such canals and bayous may have mud or clay bottoms that range from soft to firm. Dead-end canals and small bayous are typically shallow and their bottoms may be filled to varying degrees with semi-fluid organic material. Erosion, due to wave action and boat wakes, together with shading from overhanging woody vegetation, may retard the amount of intertidal marsh vegetation growing along the edges of those waterways.

Developed Areas - Most developed areas are located on higher elevations of former distributary channels and are typically well-drained. They include agricultural lands, and commercial and residential developments.

Fishery Resources

Wetlands throughout the study area abound with small resident fishes and shellfishes such as least killifish, rainwater killifish, sheepshead minnow, mosquitofish, sailfin molly, grass shrimp, and others. Those species are typically found along marsh edges or among submerged aquatic vegetation, and provide forage for a variety of fish and wildlife. Fresh and low-salinity marshes provide habitat for commercially and recreationally important resident freshwater fishes such as largemouth bass, yellow bass, black crappie, bluegill, redear sunfish, warmouth, blue catfish, channel catfish, buffalo, freshwater drum, bowfin, and gar. Freshwater fishes may also utilize low-salinity areas (intermediate marsh zone), provided they have access to fresher areas during periods of high salinity.

Louisiana's coastal marshes also provide nursery habitat for many estuarine-dependent commercial and recreational fishes and shellfishes. Because of the protection and abundant food afforded by those wetlands, they are critical to the growth and production of species such as blue crab, white shrimp, brown shrimp, Gulf menhaden, Atlantic croaker, red drum, spotted seatrout, black drum, sand seatrout, spot, southern flounder, striped mullet, and others. Those species are generally most abundant in the brackish and saline marshes; however, blue crab, Gulf menhaden, Atlantic croaker, and several other species also utilize fresh and low-salinity marshes.

Because tidal marshes provide essential nursery habitat, commercial shrimp harvests are positively correlated with the area of tidal emergent wetlands, but not open-water areas (Turner 1977 and 1982). Future commercial harvests of shrimp and other fishes and shellfishes could be adversely impacted by the high rates of marsh loss throughout the study area (Turner 1982).

The American oyster also occurs throughout much of the brackish and saline marsh zones within the study area. Oyster harvesting constitutes a valuable fishery in the northern portions of that zone, where salinities range from 10 to 15 parts per thousand.

Essential Fish Habitat

Estuarine wetlands and associated shallow waters within the project area have been identified as Essential Fish Habitat (EFH) for gulf stone crab, brown shrimp, white shrimp, and red drum, as well as the adult stages of the red drum in the nearshore and offshore reaches. EFH has also been designated for various life stages of king mackerel, cobia, lane snapper, dog snapper, bonnethead shark, Atlantic sharpnose shark in the nearshore, marine-portion of the project area and in the lower portions of the estuary. EFH requirements vary depending upon species and life stage. Categories of EFH in the project area include estuarine emergent wetlands, estuarine water column, submerged aquatic vegetation, and estuarine water bottoms. Detailed information on Federally managed fisheries and their EFH is provided in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico, prepared by the Gulf of Mexico Fishery Management Council (GMFMC). That generic amendment was prepared in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), (P.L. 104-297). Estuarine-dependent species such as those listed above also serve as prey for other species managed under the MSFCMA by the GMFMC (e.g., mackerels, snappers, and groupers) and highly migratory species (e.g., billfishes and sharks) managed by the NOAA-Fisheries.

Wildlife Resources

Numerous species of birds utilize the study-area marshes, including large numbers of migratory waterfowl. Project-area fresh and intermediate marshes provide excellent wintering habitat for migratory waterfowl, especially puddle (dabbling) ducks. Brackish marshes with abundant submerged aquatic vegetation may also support large numbers of puddle ducks. Puddle ducks that commonly migrate to, or through, the study area include mallard, gadwall, northern pintail, blue-winged teal, green-winged teal, American wigeon, and northern shoveler. The resident mottled duck and wood duck also utilize project-area coastal wetlands for nesting, feeding, and brood-rearing. Diving ducks prefer larger ponds, lakes, and open-water areas. Common diving duck

species include lesser scaup, ruddy duck, canvasback, redhead, ringnecked duck, red-breasted merganser, and hooded merganser. The lesser snow goose and the white-fronted goose also utilize coastal marshes as wintering habitat. Other migratory game birds found in Louisiana's coastal marshes include the king rail, clapper rail, Virginia rail, sora, American coot, common moorhen, and common snipe.

Marshes and associated shallow, open-water areas also provide habitat for a number of wading birds, shorebirds, seabirds, and other nongame birds. Common wading birds include the little blue heron, great blue heron, green-backed heron, yellow-crowned night heron, black-crowned night heron, great egret, snowy egret, cattle egret, reddish egret, white-faced ibis, white ibis, and roseate spoonbill. Shorebirds include the killdeer, American avocet, black-necked stilt, common snipe, and various species of plovers and sandpipers. Seabirds include white pelican, endangered brown pelican, black skimmer, herring gull, laughing gull, and several species of terns. More than 190 wading and seabird nesting colonies have been identified within coastal Louisiana during surveys conducted in 1983, 1990, and 2001 (Michot et al. 2003). Other nongame birds, such as boat-tailed grackle, red-winged blackbird, seaside sparrow, olivaceous cormorant, northern harrier, belted kingfisher, and sedge wren, also utilize coastal-area habitats.

One of the greatest benefits to waterbirds from dredging is the creation and maintenance of nesting habitats on islands. Islands created with dredged material can mimic their natural counterparts and provide excellent habitat for nesting waterbirds. They are often remote and lack mammalian predators, and they are typically only accessible by boat, which reduces, but does not eliminate, the potential for human disturbances. The Southeast U.S. Waterbird Conservation Plan (Appendix B, pp. I-41 – I-52) provides guidance for creating and maintaining waterbird nesting habitats on islands using dredge material beneficially. To provide guidance in future development of bird islands that document can be found at the following link: http://www.pwrc.usgs.gov/nacwcp/southeast_us.html.

Common mammals occurring in the coastal marshes include nutria, muskrat, mink, river otter, raccoon, swamp rabbit, white-tailed deer, and coyote. Muskrat and river otter prefer brackish marsh. Nutria, mink, swamp rabbit, and white-tailed deer prefer fresh marsh and low salinity habitats. Saline marsh provides very poor habitat for the above listed species. For muskrat, however, saline marsh may provide fair-to-poor habitat quality.

Reptiles are most abundant in fresh and low-salinity coastal wetlands. Common species include the American alligator, western cottonmouth, water snakes, mud snake, speckled kingsnake, ribbon snakes, rat snakes, red-eared turtle, common snapping turtle, alligator snapping turtle, mud turtles, and softshell turtles. Amphibians commonly found in those areas include the bullfrog, pig frog, bronze frog, leopard frog, cricket frogs, tree frogs, chorus frogs, three-toed amphiuma, sirens, and several species of toads. In brackish and saline marshes, reptiles are limited primarily to the American alligator and the diamond-backed terrapin, respectively.

Coastal forested and scrub-shrub wetlands provide key habitats for songbirds such as the mockingbird, yellow-billed cuckoo, northern parula, yellow-rumped warbler, prothonotary warbler, white-eyed vireo, Carolina chickadee, and tufted titmouse. Those areas also provide vitally important resting and feeding areas for songbirds migrating across the Gulf of Mexico. Other avian species found in forested wetlands include the American woodcock, common flicker, brown

thrasher, white-eyed vireo, belted kingfisher, loggerhead shrike, pileated woodpecker, red-headed woodpecker, downy woodpecker, common grackle, common crow, and mockingbird.

Forested habitats and associated waterbodies also support raptors such as the red-tailed hawk, red-shouldered hawk, osprey, American kestrel, Mississippi kite, northern harrier, screech owl, great horned owl, and barred owl. Wading bird colonies typically occur in cypress swamp and scrub-shrub habitats. Species found in those nesting colonies include anhinga, great egret, great blue heron, black-crowned night heron, tricolored heron, little blue heron, cattle egret, snowy egret, white-faced and glossy ibises, and reddish egret. Resident and migratory waterfowl species found in forested wetlands and adjacent waterbodies in the project area include, but are not limited to, wood duck, mallard, green-winged teal, gadwall, and hooded merganser.

Game mammals associated with coastal forested wetlands include eastern cottontail, swamp rabbit, gray and fox squirrels, and white-tailed deer. Commercially important furbearers include river otter, muskrat, nutria, mink, and raccoon. Other mammals found in forested wetlands include striped skunk, coyote, Virginia opossum, bobcat, armadillo, gray fox, and red bat. Smaller mammal species serve as forage for both mammalian and avian carnivores and include the cotton rat, marsh rice rat, white-footed mouse, eastern wood rat, harvest mouse, least shrew, and southern flying squirrel.

Reptiles, which utilize study area bottomland hardwoods, cypress swamps, and associated shallow waters, include the American alligator, ground skink, five-lined skink, broadbanded skink, green anole, Gulf coast ribbon snake, yellow-bellied water snake, speckled kingsnake, southern copperhead, western cottonmouth, pygmy rattlesnake, broad-banded water snake, diamond-backed water snake, spiny softshell turtle, red-eared turtle, southern painted turtle, Mississippi mud turtle, stinkpot, and common and alligator snapping turtle, in addition to numerous other species.

Representative amphibians in study-area forested wetlands include dwarf salamander, three-toed amphiuma, lesser western siren, central newt, Gulf coast toad, eastern narrow-mouthed toad, green treefrog, squirrel treefrog, pigfrog, bullfrog, southern leopard frog, bronze frog, upland chorus frog, southern cricket frog, and spring peeper.

Most developed areas provide low-quality wildlife habitat. Sites developed for agricultural purposes are usually located at elevations slightly higher than the wetlands, or they may have improved drainage. In agricultural areas, wildlife habitat is primarily provided by unmaintained ditch banks and field edges, fallow fields, pasture lands, and/or occasionally flooded fields. Cultivated crops, especially soybeans, provide forage for some wildlife species. Game species that utilize agricultural lands include the white-tailed deer, mourning dove, bobwhite quail, eastern cottontail, and common snipe. Seasonally flooded cropland and fallow fields may also provide important feeding habitat for wintering waterfowl, wading birds, and other waterbirds.

Threatened and Endangered Species

The Service actively participated in the development of the Biological Assessment of the LCA, NTP effects on threatened and endangered species, and in the U.S. Department of Interior's August 23, 2004, letter, the Service concurred with the Corps' "not likely to adversely affect"

determination. That information remains applicable to the BUDMAT Program as a feature of that plan. Consultations that involve a Federal agency's proposal to adopt or approve a management plan or strategy that would be used to guide the development and implementation of future projects are termed "programmatic consultations." Several courts have ruled that the decision to adopt plans or strategies that guide the implementation of future individual actions, as well as each future individual action itself, must fulfill the requirements for consultation under Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Accordingly, while potential impacts associated with the proposed NTP for the LCA Study and the BUDMAT Program, have been addressed at the programmatic level, an additional Biological Assessment/Biological Evaluation should be prepared when individual projects tiered to that plan/Programmatic EIS may affect a federally listed threatened or endangered species and/or adversely affect designated critical habitats.

Fish and Wildlife Summary

Coastal Louisiana contains an estimated 45 percent of the tidal marshes in the conterminous United States but sustains approximately 80 percent of the nation-wide loss of those habitats. Louisiana's 3.67 million acres of coastal wetlands and their associated waters support nationally important fish and wildlife resources, and sustain the largest commercial fish and shellfish harvest in the lower 48 States. More than 1.1 billion pounds of fish and shellfish (including shrimp, crabs, crawfish, and oysters) are harvested annually in coastal Louisiana. That harvest is nearly twice that of any other State, and was valued at more than \$400 million in 2000 (Louisiana Coastal Wetlands Conservation and Restoration Task Force 2001).

Recreational saltwater anglers spend approximately \$245 million annually to fish for spotted seatrout, red drum, snapper, tuna and other species (Louisiana Coastal Wetlands Conservation and Restoration Task Force 2001). Fresh and low-salinity coastal wetlands also provide important habitat for numerous freshwater sport fishes, the pursuit of which is also an important recreational activity in those coastal areas.

Louisiana's coastal marshes provide winter habitat for more than 50 percent of the duck population of the Mississippi Flyway. Fresh and intermediate marshes support the greatest concentrations of wintering waterfowl in coastal Louisiana. Those wetlands are vitally important to the mission of the Gulf Coast Joint Venture, which was established to help achieve the goals of the North American Waterfowl Management Plan.

Louisiana's coastal marshes, swamps, and associated habitats also support many other migratory birds, such as rails, gallinules, shorebirds, seabirds, wading birds, and numerous songbirds. One hundred ninety-seven colonies of wading birds and seabirds (representing 215,249 pairs of nesting birds) were observed in coastal Louisiana during a 2001 survey (Michot 2003). The cheniers and natural levee forests of coastal Louisiana provide essential stopover habitat to numerous neotropical migratory passerine birds.

Coastal Louisiana has long been a leading fur-producing area in North America. Common furbearers include nutria, mink, muskrat, raccoon, and river otter. Those coastal marshes and

swamps also support game animals such as the white-tailed deer and swamp rabbit. The area also supports 1.5 million alligators for which sport and commercial hunting is closely regulated.

Refuges and Wildlife Management Areas

The Service administers 10 National Wildlife Refuges (NWR) encompassing more than 301,700 acres in coastal Louisiana. They include Sabine, Cameron Prairie, Lacassine, Shell Keys, Bayou Teche, Delta, Breton, Bayou Sauvage, Big Branch Marsh, and Mandalay NWRs. Additional information on each of those NWRs and contact information for each of those NWRs can be found on the Service's web page (www.fws.gov/southeast/). Should proposed project activities directly or indirectly affect those NWRs, please contact the appropriate NWR to obtain a Compatible-Use Determination, and to ascertain the need for a Special Use Permit that may be required should work be conducted on that NWR.

The Louisiana Department of Wildlife and Fisheries also operates 17 refuges, preserves, and wildlife management areas in coastal Louisiana, comprising more than 572,000 acres (www.wlf.state.la.us). Where threatened by significant losses, future LCA investments may be needed to protect and restore those public lands. The Barataria Preserve unit of Jean Lafitte National Historical Park and Preserve (JLNHPP) is located on the west bank of the Mississippi River and managed by the National Park Service (NPS). For additional information concerning NPS lands within the area please contact Superintendent Carol A. Clark, (504) 589-3882 extension 137 (carol_clark@nps.gov) or Chief of Resource Management David Muth (504) 589-3882 extension 128, (david_muth@nps.gov). Such public lands may also provide highly cost-effective and secure sites for beneficial use projects. The Corps should closely coordinate with the managers of these management areas to ensure that project implementation will neither directly, or indirectly, adversely affect them.

FISH AND WILDLIFE CONCERNS IN THE STUDY AREA

The foremost study-area concern, particularly from a fish and wildlife resource perspective, is the rapid deterioration and loss of coastal wetlands. During the 1900s, Louisiana lost approximately 1.2 million acres of its coastal wetlands. Coastwide loss rates peaked at approximately 42 square miles per year during the 1950s and 1960s. Between 1983 and 1990, Louisiana's coastal wetlands were being lost at approximately 24 square miles each year (Corps 2004). The estimated 217 square mile conversion of land to water due to the hurricanes of 2005 will result in a substantially increased loss rate for the time increment encompassing that year (USGS 2006). Additionally, large areas of fresh marsh and low-salinity wetlands have converted to deteriorated brackish and saline marshes, or open water.

To address this serious problem, a number of coastal wetland restoration projects have been constructed and/or authorized for construction throughout coastal Louisiana. More than 140 projects are funded and authorized via CWPPRA. Two large freshwater introduction projects, Davis Pond and Caernarvon, have been implemented by the Corps under other authorities. Despite their success, those efforts will, together, address less than one-third of the 462,000-acre wetland loss projected to occur by the year 2050 in Louisiana. Thus, the past and continuing loss of coastal

wetlands and their associated habitat values during the future without-project are the principal threat to the nationally significant fish and wildlife resources that depend on them.

PLAN FORMULATION

While no site-specific beneficial use sites are considered in the programmatic feasibility report and SEIS, several optional processes for implementation of a programmatic guidance, management, and decision process were evaluated for the program. Generally, the planning objective for the BUDMAT Program is to use funds for coastal habitat restoration activities that are beyond what would otherwise be funded by the USACE Operations and Maintenance (O&M) program under the Federal standard. The Federal Standard for dredged material disposal is the least costly alternative, consistent with sound engineering practices, and meeting applicable Federal environmental statutes.

The planning objectives are restricted by several planning constraints that are associated with beneficially using maintenance dredged material from Federal navigation channels. Examples of planning constraints include aligning projects with the existing maintenance dredging activities of authorized Federal navigation channels, considering practical pumping distance using current techniques, and funding limitations. Using an estimated relatively low incremental placement cost taken from Mississippi River, Southwest Pass maintenance dredging project (i.e., \$1.17 per cubic yard of material dredged), approximately \$20 million per year would be necessary to beneficially use an additional 17 million cubic yards of dredged material per year. It is estimated that the BUDMAT Program would be funded at \$10 million over a 10-year period.

The 2004 LCA Study estimated that approximately 21,000 acres of wetlands could be created through the ten year \$100M BUDMAT Program. This estimate was based on the following planning assumptions: (1) an average incremental cost of \$1 per cubic yard (yd^3) of dredged material placed beneficially, (2) an estimate of 0.00025 acres of wetlands created per yd^3 of dredged material placed, and (3) a 15 percent Project Engineering Design (PED) and real estate cost over the ten year BUDMAT Program (i.e., the remaining 85 percent or \$85M would be available for placing 85,000,000 cy of dredged material beneficially).

The programmatic management and site selection alternative plans evaluated under this program must work within the above-mentioned planning objective, constraints, and assumptions. Several proposed BUDMAT program alternatives which were considered include modeling after the prioritization criteria as used by the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA); developing and utilizing an interagency numerical ranking method; relying on the Continuing Authorities Program (CAP), Section 204 management methods; relying on public solicitation; concentration on areas of high land loss; concentration efforts on the navigation channels that would provide the maximum amount of available sediment, and random selection. The preliminary program alternatives were evaluated against subsets of three general categories of selection criteria: (1) LCA critical needs, (2) Effective use of available beneficial use opportunities, and (3) Programmatic factors.

One alternative management plan includes the No-Action Plan where dredged materials would only be utilized within the Federal Standard for each channel within the existing O&M budget. Dredge material would continue to be disposed of in an environmentally acceptable manner, which is not necessarily beneficial (e.g., upland disposal). Additional funding sources such as CWPPRA, the Coastal Impact Assessment Program (CIAP) established under Section 384 of the Energy Policy Act of 2005, and assistance from state environmental agencies would continue to provide for limited beneficial use projects. The New Orleans District Corps' current O&M budgets would continue to provide for the beneficial use of approximately 14.5 million yd³ of the total 70 million yd³ dredged by the New Orleans District Corps annually. Substantial deterioration of wetlands and marshes would continue in the study area. The negative impacts of this deterioration include but are not limited to exposure of oil and gas infrastructure, exposure of utility infrastructure, reduced water quality, reduced wildlife and fisheries habitat, reduced quality of wildlife and fisheries habitat, reduced storm surge protection, and increased salinity intrusion. The No-Action Plan is carried forward as the plan all others are compared against in the future.

The Customized Program alternative, the tentatively selected plan, would utilize a proactive, streamlined approach to achieve the goals of the BUDMAT Program. The approach includes two levels of screening and selection of projects using a customized, qualitative site selection methodology. Under the Customized Program alternative, more dredged material would be disposed beneficially. A range of 3,400 – 21,000 acres of wetlands could be created over the 10-yr, \$100 M Customized Program. Environmental conditions would improve through the creation and/or restoration of marsh and wetlands. The economic condition in the area would improve due to long-term improvement in fisheries and wildlife. The negative impacts of deterioration of marshes and wetlands would be reduced through increased land cover, increased habitat, improved water quality, greater surge protection, and reduced saltwater intrusion.

After comparing the alternative programs using the suite of selection criteria, only the Customized Program alternative had a high probability of meeting or complying with all of the selection criteria including support by both the non-Federal sponsor and the BUDMAT Program study team. Therefore, the Customized Program and the No-Action alternatives were evaluated using the four criteria (i.e., acceptability, completeness, effectiveness, and efficiency) specified in the Corps' Planning Guidance Notebook.

FUTURE WITHOUT-PROJECT FISH AND WILDLIFE RESOURCES

Under the future with no-action conditions, more than 462,000 additional wetland acres would be lost by year 50 (Table 1) (Grouchy and Paille 2004). Habitat types would continue shifting toward more brackish and saline wetlands and open water, with the continual loss of more salt-sensitive freshwater vegetation. Because of the current degree of risk and uncertainty associated with the salinity/habitat type projection methodologies, however, the data in Table 1 do not reflect this anticipated trend. Nonetheless, corresponding decreases in habitat values for fish and wildlife that use those wetlands would also occur in association with the projected wetland losses.

The O&M program, acting under the Federal standard, and additional programs such as CWPPRA, CIAP, and recent supplemental funding related to hurricanes Katrina and Rita, has allowed the

Corps to use approximately 14.5 million yd³ of dredge material to restore, protect, and/or create aquatic and wetland habitats on an annual basis. While these programs provide additional funding for the Corps' maintenance dredging program to use dredge material beneficially, they are not a

Table 1. Coastwide Wetland Type Acreages under the LCA No-action Alternative (Grouchy and Paille 2004)

<i>Wetland Type</i>	<i>TY0 (acres)</i>	<i>TY50 (acres)</i>	<i>Acreage change</i>	<i>Percent change</i>
<i>Swamp</i>	1,040,785	949,707	-91,078	-8.8
<i>Fresh Marsh</i>	940,811	798,847	-141,964	-15.1
<i>Intermediate Marsh</i>	724,289	956,240	231,951	32.0
<i>Brackish Marsh</i>	584,524	437,477	-147,046	-25.2
<i>Saline Marsh</i>	374,778	60,157	-314,622	-83.9
<i>Total Wetlands</i>	3,665,188	3,202,428	-462,760	-12.6

consistent source of funding for that program. Moreover, beneficial-use-of-dredge-material projects are competing with other restoration projects for those funds. Historically, beneficial use has also been accomplished through the aid of the Continuing Authorities Program (CAP) defined by Section 204 of the Water Resources Development Act (WRDA) of 1992; however, that program has not been funded in several years. The Corps will continue use material within the Federal standard and to compete to receive assistance from additional funding programs to potentially beneficially use approximately 14.5 million yd³ in future-without-project conditions.

RESTORATION OPPORTUNITY DESCRIPTIONS

Several opportunities for ecosystem restoration were identified in the LCA Study. Freshwater reintroductions and outfall management would be accomplished by diverting water from the Mississippi River into hydrologic basins to nourish existing marshes, thereby increasing their productivity and building wetlands in areas of open water. Barrier island restoration can provide additional protection from hurricane storm surges and protect the ecology of estuarine bays and marshes by reducing gulf influences, as well as protect nationally important water bird nesting areas. Hydrologic modification and/or restoration, such as degrading excavated dredged material banks or reestablishing ridges or natural banks, can help restore salinity and marsh inundation patterns and provide fishery access in previously unavailable habitats. The final opportunity addressed would be to beneficially use dredge material to create a marsh platform and potentially create large amounts of coastal habitat quickly, which is the focus of this program.

The New Orleans District Corps has the largest annual navigation channel O&M program in the Corps, with an annual average of 70 million yd³ of material dredged. Currently, approximately 14.5 million yd³ of this material is used beneficially in the surrounding environment with funding from

either the O&M program itself or additional funding sources as previously noted. The New Orleans District Corps along with other Federal and local cost sharers has beneficially placed dredged material to create over 18,000 acres of land between 1976 and 2003. CAP and WRDA Section 204 beneficial use projects have demonstrated an incremental cost of \$1.00 per cubic yard for beneficial placement of dredged material. Additionally, these projects have demonstrated approximately 0.00025 acres created per cubic yard of dredged material placed. Assuming, that 15% of the \$100 million BUDMAT Program would be used for planning and design activities, the remaining \$85 million could be used to place 85 million yd³ of dredged material beneficially with the potential to create over 21,000 acres of wetlands over ten years.

Many of the opportunities addressed in the LCA Study can be applied in combination with the BUDMAT Program to produce synergistic effects while minimizing disruptions to the surrounding ecology and economy. Potential benefits of implementing the program include:

1. Improvements to regional ecosystems through creation of marsh habitats;
2. Reduction of further inland marsh and habitat erosion through the creation of marshes and other landscape features that will mitigate the effects of storm surges and other effects of tropical weather systems;
3. Reduction of losses to infrastructure, property, and human life through the creation of marshes and other landscape features that will mitigate the effects of storm surges and other effects of tropical weather systems;
4. Economic opportunities through the creation of fish habitats and nursery areas; and,
5. Potential creation of recreational features, thereby enhancing potential tourism industry in the area.

Furthermore, the LCA Study identified several uncertainties that are also relevant to the execution of the BUDMAT Program; however, the BUDMAT program may have an opportunity to assist in addressing these uncertainties. The following are a few of the uncertainties addressed in the LCA Study:

1. Ability to use dredged material to restore coastal marshes using thin layer placement techniques that could provide the ability to distribute dredged material within interspersed marsh areas in order to increase substrate elevation to a level suitable for vegetation to spread into open water areas;
2. Methods and results from sediment delivery via pipeline: uncertainty about the cost-effectiveness of conventional dredging techniques to transport large quantities of sediment long distances from sediment sources would need to be addressed prior to its wide spread use in LCA restoration efforts;
3. Sources for marsh creation, restoration of maritime forests, and restoration of cheniers: There is uncertainty regarding the efficacy of using saline mineral soils to support freshwater habitats. Uncertainties regarding the time required for soil to leach out salts and increase organic matter content in order to make the soils suitable for the establishment of

freshwater vegetation would need to be addressed prior to using this technique on a large scale;

4. Combining techniques of marsh platform creation (e.g., through beneficial use of dredged material) and freshwater/sediment diversion: individually, marsh creation and diversion techniques have been utilized successfully along the Louisiana coast. Combined, these two techniques may provide even greater results by creating land quickly while sustaining it in the face of relative sea level change; and,
5. Remediation of canals for marsh restoration: construction of canals and their associated dredged material banks have resulted in fragmentation and accelerated loss of many coastal marshes. There is uncertainty and debate about the most effective approach for remediation of existing canals.

The potential for introduction of invasive plant species from Illinois River dredged material was also addressed in the LCA Study. There was a possibility that sediment dredged from the Illinois River backwaters could be available for restoration projects in coastal Louisiana through an Illinois State program; however, as we understand, the State of Illinois has withdrawn their permit application for this project from the Louisiana Department of Natural Resources. Should similar proposals be offered in the future, the potential for transfer and/or spread of invasive biota from other eco-regions (e.g., Illinois) to Louisiana should be addressed.

COMPONENTS OF THE TENTATIVELY SELECTED PLAN

The BUDMAT Program must provide a process for identifying candidate projects that can be evaluated for the project design and construction phases. A number of approaches could be considered for development of the Project Solicitation Process; however, prior to development of a new solicitation process specifically for the BUDMAT Program, opportunities to incorporate existing ecosystem restoration programs into this program's functional requirements were considered. The existing programs considered were the CWPPRA program system, the annual Dredging Conference, Louisiana CPRA, solicit public nominations only, and to rely on experts within industry and academia. Implementation considerations included scheduling and resource requirements, coast wide comprehensiveness, and whether the approach is scientifically objective.

During the plan formulation process it was determined that the Customized Program alternative had the highest probability of meeting or complying with all of the selection criteria, and therefore, the Customized Program alternative was selected the tentatively selected plan. Final development of the tentatively selected plan would result in a detailed set of implementation procedures. Those implementation procedures would fall in line with the following proposed components of the Customized BUDMAT Program used to identify individual projects for planning, design and construction to fulfill the objectives of the BUDMAT program (i.e., to create, restore, and/or nourish coastal wetlands; create or restore coastal landscape features, including barrier islands, chenier ridges and shorelines; and provide protection to coastal wetlands or coastal landscape features.)

Annual Process for Implementation of the BUDMAT Program

The following procedures would be used to solicit, screen, and select candidate beneficial use projects for planning and design and to select construction-ready projects in conjunction with that year's O&M scheduled dredging activities. The two selection processes would be carried out concurrently over the life of the BUDMAT Program. The annual process for implementation of the BUDMAT Program is illustrated in figure 3.

Solicitation and Initial Screening of Candidate Projects

The Project Execution Team (PET) would solicit candidate beneficial use projects from the public, to include local landowners, municipalities, parishes, and State officials, through the public outreach component of the BUDMAT Program and in coordination with the quarterly meetings of the CWPPRA Task Force, CEMVN's Environmental Dredging Conference held in May of each year, and the CPRA monthly meetings. Candidate projects may include, but would not be limited to, beneficial use projects planned and designed under other coastal restoration programs that are ready to be constructed. Those projects that meet the submittal requirements (i.e., factsheet and map) will then be screened by the PET with pass/fail criteria to ensure that they meet the minimum goals and objectives, including the authorization and scope of the BUDMAT Program. Initial screening criteria are as follows:

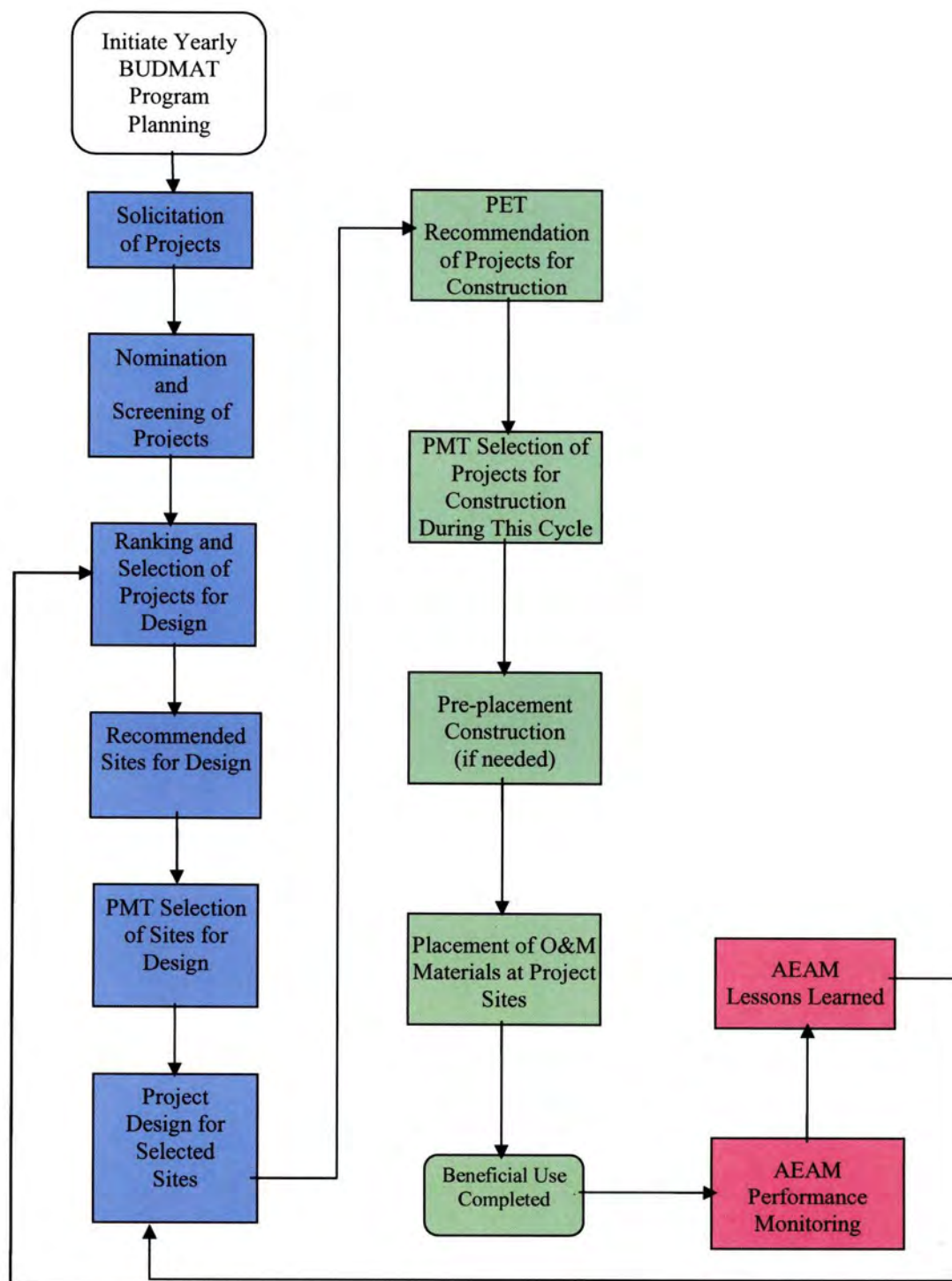
- Proposed beneficial use project is clearly above the federal standard base plan for disposal of dredged material as part of the operations and maintenance of authorized federal navigation channels.
- There is no knowledge of or reason to believe that hazardous, toxic, or radioactive wastes (HTRW) exist at the dredging and placement sites of a proposed beneficial use project.
- There are no known or suspected cultural resources at the dredging and placement sites of a proposed beneficial use project.
- The navigation channel reach for the source material for a proposed beneficial use project is scheduled to be dredged under the CEMVN O&M program within 3 years.
- The distance from the dredging reach of the navigation channel to the placement site of a proposed beneficial use project is within the maximum practical distance at the time. As technology improves, this distance is expected to increase.

Selection of Candidate Projects for Planning and Design

For candidate beneficial use projects that pass through the initial screening process, the PET would apply categorical rankings to each project for the following selection criterion:

- Protection of Critical Landscape Features,
- Protection of Infrastructure,
- Relative Cost-Effectiveness,
- Synergy with Other Restoration Projects, and;
- Implementation.

Figure 3. Proposed Annual BUDMAT Program Flow Chart



Candidate projects planned and designed under other coastal restoration programs that are ready to be constructed would still be required to go through the categorical ranking process for selection for design to ensure they meet the minimum goals and objectives, including authorization and scope, of the BUDMAT Program.

After ranking of the candidate projects, the projects would then be listed in order based on decreasing number of criteria rankings that were rated as "high". Multiple projects with identical overall rankings will be evaluated by the PET using their best professional judgment and the information available to the PET to identify the candidate projects that will provide a greater contribution to the program objectives and that have a lower execution risk.

The PET would then prepare a set of recommended projects to be carried forward for the design process and would send this list to the Project Management Team (PMT) for consideration. If delegated approval authority, the PMT would approve projects for further design efforts under the BUDMAT Program. Otherwise the PMT would submit their recommendations to a higher level authority for review and approval. In order to utilize all of the construction funding available in any given year, the recommendations and approvals of beneficial use projects for design would be made concurrently with the recommendations and approvals of beneficial use projects for construction.

Planning and Design Process

As proposed, the process for planning and designing beneficial use projects implemented under the BUDMAT Program would follow the guidelines specified for the Continuing Authorities Program (CAP), Beneficial Uses of Dredged Material, Section 204. Once a beneficial use site has been approved for design, a Project Management Plan (PMP) will be developed and mutually agreed to by Corps and the Louisiana Office of Coastal Protection and Restoration (OCPR) to address the scope of the design tasks, including the State's in-kind contributions, required to complete the project design document. Upon design completion, the Federal or non-Federal sponsor that was not the design lead, would be allowed to review and comment before the design is finalized. It is anticipated that a typical design effort will be completed in approximately one year.

For the vast majority of beneficial use projects implemented under the BUDMAT Program, the selection process would be greatly simplified by the existence of only one or two alternatives. However, for those projects with multiple or complex alternatives, the process may be accomplished by the National Ecosystem Restoration (NER) analysis (a cost effectiveness/incremental cost analysis) as required for ecosystem restoration projects. This analysis compares the ecological outputs or benefits of each alternative with the costs of the alternative. Typically, the Wetlands Value Assessment model would be utilized for assessing projects selected for implementation under the BUDMAT Program. However, if recommended by the LCA Science and Technology (S&T) Program, other models may be used. The result is a listing of project alternatives that will achieve each ecological benefit level at the lowest cost. A theoretical line, or an "efficient frontier," would be developed to show those restoration frameworks with the lowest cost to benefit ratios. In other words, alternative solutions screened in this manner meet these two criteria: (1) no other solution produces the same level of benefit for less cost, and (2) no other framework provides more benefit for the same or less cost. The cost-

effectiveness assessment and identification of the efficient frontier would be followed by an incremental cost analysis. Incremental cost is the additional cost for each increase in the level of output.

Selection of Projects for Construction

Once project design documents have been completed, they would be available for implementing beneficial use projects in conjunction with CEMVN's O&M dredging activities during the upcoming year. It is the intent of the BUDMAT Program to have sufficient project design documents available to utilize all available construction funding per program year.

For the purpose of selecting projects for construction, there are two types of dredging projects: scheduled, maintenance dredging projects and unscheduled dredging projects. Scheduled maintenance dredging projects can be anticipated based on historical dredging records and the Environmental Dredging Conference held in May of each year. Unscheduled dredging projects, including emergency dredging, are not easily predicted as they typically result from tropical storms or industry sail-outs associated with deep draft or large vessels transporting materials or equipment for oil and gas exploration from inland waterways to the Gulf of Mexico. Beneficial use projects using unscheduled dredging, emergency or not, will need to be considered on a case by case basis as the need arises. However, the selection and criteria for determining whether the project should proceed to construction is not necessarily different than that of a routine scheduled dredging event. Therefore, it is not necessary to reserve funds for unscheduled dredging projects since they are to be judged equally with scheduled dredging projects.

To complete the process to select projects for construction, the PET would rank the projects in order from most to least cost-effective, as expressed as total project cost per ecosystem restoration output. The habitat assessment model preferred for this comparison will be the Wetland Value Assessment model which expresses total ecosystem benefits in the form of average annual habitat units (AAHUs). This community-based approach considers the quantity of, and function (quality) provided by, restored habitats over a period of analysis. In addition, the PET would give additional consideration to two factors:

- Uniqueness of the restoration opportunity (e.g., if a project construction opportunity is available for a navigation channel reach that is dredged infrequently, a higher priority may be assigned for that project), and;
- Availability of construction funds for the planning cycle and project costs (e.g. Remaining available construction funds are less than the incremental cost of the next highest ranked project remaining for consideration and where projects with lower rankings could be constructed with the remaining available construction funding).

The PET would then prepare a set of recommended projects to be carried forward for the construction process and would send this list to the PMT for consideration. If delegated approval authority, the PMT would approve projects for construction under the BUDMAT Program and the plans and specifications for the beneficial use project will be incorporated into the maintenance dredging contract prior to advertisement. Otherwise the PMT would submit their recommendations to a higher level authority for review and approval. In order to utilize all of the construction

funding available in any given year, the recommendations and approvals of beneficial use projects for design would be made concurrently with the recommendations and approvals of beneficial use projects for construction.

For beneficial use projects that have been approved for construction, there may be opportunities to acquire real estate interests or construct project features prior to the commencement of the dredging and placement activities. Project features that could be constructed prior to dredging operations include retention dikes or other containment features, dredging pipelines or other conveyances, or other project-specific features that would ensure project readiness and optimization of project benefits when the associated dredging operations are conducted.

Beneficial use projects proposed for unscheduled dredging events, including emergency operations would need to be considered for construction on a case by case basis as the need arises. Beneficial use projects with completed designs that would use material from unscheduled dredging events would be ranked using the same selection criteria above, including the two additional factors, and will be compared to the projects already approved for construction for that dredging cycle. Non-scheduled or emergency-related projects that are ranked higher would then be recommended to replace the previously selected projects. The PMT, if delegated approval authority, will then decide to construct the project associated with non-scheduled dredging in lieu of a previously approved project or projects. Only projects for which construction activities, including advanced real estate acquisition and construction features, have not been initiated would be compared to the proposed unscheduled dredging beneficial use project.

If the BUDMAT Program is approved and authorized, it will be incorporated into the LCA's S&T Plan which will ensure that the LCA restoration effort continues to be supported by the best available science, and to resolve scientific and engineering uncertainties associated with coastal ecological processes and their response(s) to restoration projects. Methods for resolving scientific and engineering uncertainties may include the implementation of demonstration projects, adaptive management, and monitoring.

EVALUATION OF THE TENTATIVELY SELECTED PLAN BUDMAT PROGRAM

Under the no-action alternative the Corps' O&M program will continue to use material beneficially within the Federal standard, if feasible, and to compete to receive assistance from additional funding programs (e.g., CWPPRA and CIAP) to potentially beneficially use approximately 14.5 million yd³ in future without project conditions.

Under the Customized BUDMAT Program, more dredged material would be disposed beneficially, and in some cases river sediments that are currently lost to the deep waters of the Gulf could be redistributed into the estuarine ecosystem. An estimated 21,000 acres of wetlands could be created under the ten-year program. Environmental conditions would improve through the creation and/or restoration of marsh and wetlands. The economic condition in the area would improve due to long term improvement in fisheries and wildlife. The negative impacts of marsh and wetland deterioration would be reduced through increased land cover, increased habitat, greater water quality, greater surge protection, and reduced saltwater intrusion.

The Customized Program alternative will achieve the BUDMAT Program objectives with relatively little cost for its benefits. The BUDMAT Program budget will allow up to an additional 10% of dredged material to be used beneficially annually for the 10-year life of the program, assuming funding of \$10 million per year. The Customized BUDMAT Program alternative also provides for a means to ensure selection and implementation of individual sites, as well as management of the overall program, in a cost-effective manner. Implementation of the Customized BUDMAT Program alternative will include annual selection of cost-effective measures, as appropriate, such as the proactive design of beneficial use sites, pre-construction of retention dikes, and purchase of property and/or oyster leases to achieve annual goals. The plan also provides for feedback and monitoring to ensure that the BUDMAT Program is operated efficiently and is more cost-effective than other measures implemented by other agencies or institutions.

Because of the programmatic nature of this study, habitat benefits analyses for specific beneficial use sites have not been conducted. Many specific details regarding the design and associated effects of the BUDMAT Program are not available at the current programmatic level of planning, we cannot, therefore, complete our evaluation of individual project feature effects on fish and wildlife resources, and thus we cannot entirely fulfill our reporting responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act. Therefore, extensive additional Service involvement as a member of the PET and PMT (i.e., during subsequent detailed planning, engineering, design, and construction of specific project measures, along with more-definitive project information that will be available during those planning design and analysis phases) will be required so that we can fulfill our responsibilities under that Act.

According to proposed Customized BUDMAT Plan, the process for planning and designing specific beneficial use projects would follow the guidelines specified in CAP, Section 204, Beneficial Uses of Dredged Material, which gives the Corps and the State primary responsibility for designing and approving projects. Coordination with the State and Federal natural resource agencies should be conducted during the development of project design features to ensure that all design features comply with statutory obligations (e.g., FWCA, ESA, Migratory Bird Treaty Act, and Magnuson-Stevens Fishery Conservation and Management Act) and provide highest quality fish and wildlife habitat value potential.

The National Ecosystem Restoration analysis may be used to compare the ecological outputs or benefits of each alternative with the costs of the alternative. The period of analysis used to determine benefits for incremental costs analysis and habitat assessments could unintentionally influence the type of habitat restoration projects that would be selected. For example, a shorter period of analysis would favor marsh restoration projects which by nature receive full benefits shortly after construction while forested habitat restoration projects require more time to reach maturity and achieve full benefits. Because of the implications of determining the period of analysis, careful consideration should be given during the development of the habitat assessment protocols. We look forward to working with the program implementation team to refine habitat assessment protocols that will be applied to individual projects during the design and planning phase.

FUTURE SERVICE INVOLVEMENT

Previous Service involvement includes a Final Fish and Wildlife Coordination Act Report (Grouchy and Paille 2004) for the NTP for the LCA Ecosystem Restoration Feasibility Study. The Service has actively participated throughout the formulation and evaluation of the BUDMAT program alternatives and the formulation of selection and evaluation criteria as a member of the Study Delivery Team. A September 13, 2007, planning aid letter listing threatened and endangered species within Louisiana coastal parishes and addressing future with project impacts was provided. The Service actively participated in the development of the Biological Assessment of the NTP for the LCA Ecosystem Restoration Feasibility Study effects on threatened and endangered species. In the U.S. Department of Interior's August 23, 2004, letter addressing the July 2004 Louisiana Coastal Area Ecosystem Restoration Study Draft PEIS, the Service concurred with the Corps' "not likely to adversely affect" determination. Should you need additional copies of these reports, please contact the Service's, Louisiana Field Office (337/291-3100).

The purpose of the programmatic report is to present the findings of the feasibility investigation conducted to determine if there is an interest by the Corps to implement the BUDMAT Program and to take greater advantage of existing sediment resources associated with Federally-maintained navigation channels to achieve restoration objectives in coastal Louisiana. The programmatic report will analyze the problems and opportunities, express desired outcomes as planning objectives, and develop alternatives to address those objectives. Since the focus of this integrated report is on program guidelines, it is expected that subsequent NEPA documents will be prepared for site-specific beneficial use projects implemented under the BUDMAT Program. At that time the Corps intends to fulfill their regulatory responsibility as it relates to interagency consultation (e.g., ESA and EFH consultation, and State coastal zone consistency).

Because of the BUDMAT Program's large scope and programmatic nature, continuing funding will be required by the Service to enable our full participation throughout future detailed planning and post-authorization engineering and design studies, and to fulfill our reporting responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act. Accordingly, the Service will continue to work closely with the Corps and the Louisiana Department of Natural Resources to formulate detailed funding estimates to support our future involvement in the BUDMAT Program, as provided for in the January 2003 Partnership Agreement for Water Resources and Fish and Wildlife between the Corps and the Service.

Under provisions of Section 7 of the ESA of 1973, as amended, the Service will also assist the Corps and any other Federal agencies responsible for funding or implementing selected projects and/or plans to ensure that they will neither jeopardize the continued existence of threatened and endangered species, nor adversely modify any designated critical habitat. The required consultations will be accomplished on a project-by-project basis, and will tier from the current LCA programmatic consultation, details of which are contained in the parent Programmatic EIS for the LCA Study. To assist in future planning an updated list of threatened and endangered species of Coastal Louisiana is provided in Appendix C along with habitat descriptions of those species.

The National Wildlife Refuge System Improvement Act of 1997 mandates that no new or expanded use of a NWR may be allowed unless it is first determined to be compatible with the objectives for which that NWR was established. A compatibility determination is a written determination, indicating that a proposed or existing use of a NWR is, or is not, a compatible use. Compatible

uses are defined as proposed or existing wildlife-dependent recreational uses or any other uses of a NWR that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the NWR. A compatibility determination is only required when the Service has jurisdiction over the use. Prior to initiating implementation of a BUDMAT Program project that would affect any NWR, the Corps should, therefore, contact the appropriate Refuge Manager to determine if the proposed project constitutes a "refuge use" subject to a compatibility determination. To determine the anticipated impacts of any proposed use, the Corps may be required to provide sufficient data and information to document any short-term, long-term, direct, indirect, or cumulative impacts on NWR resources. Compatibility determinations will include a public review and comment period before issuance of a final decision by the Service. To facilitate such contacts, the Louisiana Field Office may be contacted at (337) 291-3100.

SUMMARY AND SERVICE POSITION

Many details regarding the design, engineering and construction, and associated effects of individual projects are not yet available at the current programmatic level of planning, we, therefore, cannot complete our evaluation of effects on fish and wildlife resources, thus we cannot entirely fulfill our reporting responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). Therefore, extensive additional Service involvement during subsequent detailed planning, engineering, design, and construction of specific project measures, along with more-definitive project information that will be available during those planning phases, will be required so that we can fulfill our responsibilities under that Act.

Given the substantial adverse future impacts to coastal wetlands and their associated fish and wildlife resources that are expected to occur under future without-project conditions, the Service strongly supports authorization and implementation of the BUDMAT Program, as it would improve environmental conditions through the creation and/or restoration of coastal wetland habitats. The negative impacts of deterioration of coastal wetland habitats would be reduced through increased land cover, increased habitat, greater water quality, greater surge protection, and reduced saltwater intrusion.

In support of the BUDMAT Program, the Service also provides the following procedural recommendations for future authorization and implementation of the BUDMAT Program:

1. Because the Corps released the Final Programmatic Study Report and Final Programmatic Environmental Impact Statement (FEIS) for public review without having included our Final FWCA Report; we recommend that an errata sheet be inserted at the front of the Programmatic Study Report and in front of our draft FWCA Report stating that our attached final report was not included in that document during the public and agency review period. Our final report should be included in the Final Programmatic Study Report and Section 5.2.2 of the FEIS should be revised to address the recommendations in our final report. The Service recommends that prior to submittal of the Programmatic Study Report and Programmatic EIS to higher authorities the Corps should provide to this office

response to our recommendations and ensure that we find such responses acceptable. The Service anticipates that the Corps will implement measures to ensure a repeat of this incident will not re-occur and expects to receive a copy detailing such measures.

2. Modifications to and further development of the BUDMAT Program processes including revisions to the proactive design processes; the screening and evaluation criteria; and the construction process should be coordinated with the natural resource agencies and the project delivery team.
3. Coordination with the State and Federal natural resource agencies should be conducted during the development of project design features and upon design completion as a member of the PET and PMT to ensure that all design features provide the highest quality of fish and wildlife habitat value and comply with statutory obligations.
4. In accordance with the January 2003 Partnership Agreement for Water Resources and Fish and Wildlife between the Service and the Corps, sufficient continuous funding should be provided to the Service to fulfill our responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act throughout post-authorization planning and evaluation for individual beneficial use projects. Accordingly, to ensure that optimum fish and wildlife resource benefits are achieved, the Service will continue to work closely with the Corps and the State of Louisiana throughout the plan implementation process as a member of the PET and PMT. Our findings and recommendations for each of the projects ultimately approved for implementation will be provided in draft and final supplements to this programmatic report under the authority of the Fish and Wildlife Coordination Act. Fulfillment of Section 7 of the ESA of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) responsibilities would also be accomplished at that time.
5. The Corps should coordinate closely with individual refuge managers prior to conducting any work on a National Wildlife Refuge, in conformance with the National Wildlife Refuge System Improvement Act of 1997. Such coordination will be essential to the timely completion of the Service's determination that the proposed work will/will not be compatible with the purposes for which those refuges were established, and to secure any appropriate permits that may be required. Likewise, LCA activities occurring on State-administered Wildlife Management Areas or refuges or National Park Service (NPS) lands should also be fully coordinated with the Louisiana Department of Wildlife and Fisheries or the NPS, respectively.

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APPENDIX A

Agency Coordination



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue, South
St. Petersburg, Florida 33701

December 10, 2007 F/SER46/RH:jk
225/389-0508

Mr. James F. Boggs, Field Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506



Dear Mr. Boggs:

NOAA's National Marine Fisheries Service (NMFS) has received the draft Fish and Wildlife Coordination Act Report (Report) on the Louisiana Coastal Area (LCA) Beneficial Use of Dredged Material (BUDMAT) program. The BUDMAT program is a feature of the Near-term Ecosystem Restoration Plan for the LCA Ecosystem Restoration Feasibility Study. As described in the Report, implementation of the BUDMAT program would give the Corps of Engineers (COE) programmatic authority to allow funding for wetland restoration activities above and beyond that which is currently funded by the COE Operations and Maintenance program's federal standard.

NMFS is fully supportive of efforts being undertaken under the BUDMAT program to use a greater amount of sediment dredged from federal navigation channels beneficially to restore and protect Louisiana's wetlands. NMFS believes it is important to recognize that the BUDMAT program also allows for an opportunity to fund project design features to maximize fish and wildlife productivity into those beneficial use projects. Such features include the creation of tidal ponds and creeks, planting of marsh vegetation, and the gapping or degrading of sediment containment levees. During previous beneficial use efforts, the COE has frequently indicated that such features were not feasible due to their additive costs exceeding what was determined to be the federal standard. As such, NMFS recommends the Report be revised to include a new fish and wildlife conservation recommendation that suggests BUDMAT funds also be considered for use in funding design features important for maximizing fish and wildlife productivity for projects where the actual dredging and sediment disposal effort are within the federal standard.

NMFS also is concerned that the development of project design features will not be sufficiently coordinated with all the natural resource agencies during the Project Design and Analysis (PDA) stage of the BUDMAT program. Failure to fully coordinate with the natural resource agencies over all design features, or to integrate design recommendations from those agencies, have resulted in some beneficial use sites being supratidal in elevation or impounded by sediment containment dikes and not restored to tidal circulation. When this happens, water bottoms and water column classified as essential fish habitat under the Magnuson-Stevens



Fishery Conservation and Management Act (Magnuson-Stevens Act) is destroyed and converted to supratidal elevations or non-tidal conditions. As such, NMFS recommends the Report be revised to include a recommendation that suggests the development of all project features during the PDA stage be fully coordinated with all natural resource agencies and actions taken comply with all coordination requirements of the Fish and Wildlife Coordination Act, National Environmental Policy Act, and Magnuson-Stevens Act.

We appreciate the opportunity to review and comment on this Report.

Sincerely,



for Miles M. Croom
Assistant Regional Director
Habitat Conservation Division

C:
LA DNR, CMD, Consistency
EP, Ettinger
F/SER46, Ruebsamen
Files



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office

263 13th Avenue, South
St. Petersburg, Florida 33701

August 20, 2009

F/SER46/KC:jk
225/389-0508



Mr. James F. Boggs, Field Supervisor
Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Blvd., Suite 400
Lafayette, Louisiana 70506

Dear Mr. Boggs:

NOAA's National Marine Fisheries Service (NMFS) has received the draft Fish and Wildlife Coordination Act Report (Report) for the Louisiana Coastal Area (LCA), Beneficial Use of Dredged Material Program (BUDMAT) prepared by the U.S. Fish and Wildlife Service (FWS). The LCA BUDMAT Program is a feature of the Near-term Ecosystem Restoration Plan for the LCA, Louisiana Ecosystem Restoration Study. The New Orleans District is preparing a programmatic feasibility study and Environmental Impact Statement for the LCA BUDMAT Program to evaluate funding beneficial use of dredge material for restoration activities above and beyond the Federal Standard for the New Orleans District Operation and Maintenance Program. The recommended Customized LCA BUDMAT Program proposes that funding outside the Federal Standard should incorporate a proactive design process and the incremental, additional costs required to transport and dispose of dredge material at alternative, environmental beneficial disposal sites.

NMFS has reviewed the revised Report to reflect changes in the proposed process for implementation in the tentatively selected plan and finds that FWS has incorporated our agency's comments submitted by letter dated December 10, 2007. Specifically, the goals developed under the proposed customized plan for the program and the first three procedural recommendations provided by FWS, Page (iii), in the Report have addressed our concerns to: 1) consider designing features to maximize fish and wildlife productivity; and, 2) sufficiently coordinate the planning and development of these features with all natural resource agencies during the Project Design and Analysis stage of the program.

The essential fish habitat (EFH) description in the Existing Fish and Wildlife Resource section, Page 5, of the Report should reflect detailed information on federally managed fisheries and their EFH provided in the most recently updated, 2005, generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council. The generic amendment was prepared as required by the Magnuson-Stevens Fishery Conservation and Management Act. NMFS recommends that the life stages of red snapper, Spanish mackerel, and bluefish be eliminated from the document. In addition, the following species designated as EFH should be added to the document: gulf stone crab,



king mackerel, cobia, lane snapper, dog snapper, bonnethead shark, and Atlantic sharpnose shark.

We appreciate the opportunity to review and comment on this Report.

Sincerely,



for

Miles M. Croom
Assistant Regional Director
Habitat Conservation Division

c:
LA DNR, CMD, Consistency
F/SER46, Swafford
Files

APPENDIX B

Southeast United States Regional Waterbird Conservation Plan

Appendix 1 – Other Conservation Issues

< http://www.pwrc.usgs.gov/nacwcp/southeast_us.html >

Beneficial Use of Dredged Material

Navigable waterways and channels in the southeastern United States are maintained at appropriate depths primarily through the process of dredging. This is primarily the responsibility of the US Army Corps of Engineers, State Ports, and/or Departments of Transportation. Waterbirds can benefit from dredging operations when dredged material is used to create or restore waterbird habitats. Coarse, clean dredged material (typically sand or sand/shell) can be used to create, restore, or maintain island nesting sites or nesting habitat on beaches, while material not suitable for upland disposal can be used to restore marsh.

One of the greatest benefits to waterbirds from dredging is the creation and maintenance of nesting habitats on islands. Islands created with dredged material can mimic their natural counterparts and provide excellent habitat for nesting waterbirds. They are often remote and lack mammalian predators, and they are typically only accessible by boat, which reduces, but does not eliminate, the potential for human disturbances. A key advantage of dredged material islands is that they are often higher in elevation than natural islands, which reduces the chances of flooding.

At the same time, there are potential disadvantages of dredged material islands. These islands require periodic deposits of sand to maintain their size and seral stage, if desired. This is especially true for sites with early succession habitat required by many tern species. Those constructed in open water where an island or emergent shoal did not previously exist can experience rapid erosion. The process of dredging and disposal of dredged material can cause localized increases in turbidity, re-suspend contaminants in sediments, degrade or eliminate submerged aquatic vegetation, and reduce intertidal habitats. Another potential disadvantage is that creating man-made islands could be viewed as mitigation for practices that destroy or degrade stable, natural habitats. This could result in the increased loss of natural habitats over time, especially early succession habitats, unless permanent protection, active management, and periodic renourishment are required. Furthermore, budgetary constraints and increased pressure to place sand on barrier beaches for beach widening and the protection of real estate-- the same sand that once went to remote islands for the benefit of birds-- could jeopardize the future of nesting sites that have historically supported significant populations of waterbirds.

Nevertheless, dredged material islands can and do provide excellent habitat for waterbirds. These man-made islands, together with natural islands and beach nesting sites are essential to waterbirds in the southeastern United States and deserve the utmost in active protection measures and attention from managers.

In planning for the creation or restoration of waterbird nesting sites with dredged material, one must consider the following: location, dike or not to dike, size, elevation, substrate, and the implementation of a long-term maintenance, management, and monitoring plan.

Location

The presence of mammalian predators or human disturbances will discourage or prevent many species of waterbirds from nesting, especially the colonial species. Islands located close to mainland or another potential mammalian predator source and those easily accessible to people are less suitable for nesting waterbirds. Therefore sites considered for creation or restoration should have a natural or man-made barrier to predators and people. The most effective barrier is open water with a deep channel or tidal flow. A large expanse of open water between mainland or beach and a nesting site will also discourage, but not prevent, visits by people and their pets. At least 2km of open water at mean low water, preferably with a deep channel and tidal flow, separating a potential nesting site from mainland or other predator source is sufficient to reduce the chance of both predators and people visiting the site.

Islands created in open water where no island or shoal previously existed can experience rapid erosion from tides and storms. This can reduce the useful life of the site (W. Golder, pers. obs.). If the source of sand to replenish the site is limited, reducing the chance of erosion is an important concern. Islands created or restored where islands previously existed are usually more stable and offer the best opportunities for creating or restoring nesting sites.

Waterbirds will likely colonize dredged material islands created or restored in areas with a recent history of nesting activity. Those in areas with no history of nesting activity may require many years before nesting waterbirds colonize the site.

Additionally, factors such as proximity to suitable foraging areas and the stability of foraging areas and prey base may affect the use of a site by nesting waterbirds.

Additional considerations should include proximity to a source of dredged material for future deposits of sand if future deposits of sand are desired; and proximity to aquaculture facilities, fish hatcheries, and sensitive fish populations as conflicts between potential prey and predatory waterbirds can result (USFWS 2005, Glahn 1999, Huner et al. 2002).

Dike vs. undiked islands

Several studies have compared waterbird use of diked and undiked dredged-material islands (Landin and Soots 1977, Soots and Landin 1978, Parnell et al. 1997, Parnell and Soots 1979, Soots and Parnell 1975b, Parnell et al. 1986). All have concluded that undiked islands are most suitable for nesting waterbirds. While diked islands will occasionally be used by waterbirds, most ground-nesting waterbird species will avoid nesting on fine substrate typically found in diked islands. Fine substrate and the enclosure of a site within a dike increase the chances of flooding. Furthermore, many species will usually avoid nesting within the dike itself.

There are certainly exceptions. Sites with small dikes or those filled to capacity with coarse "beach quality" sand may be used by nesting waterbirds as they more closely resemble undiked islands than typical diked islands. Waterbirds will sometimes use very large diked disposal areas (>100ha) with open water and patches of emergent marsh and/or woody vegetation suitable for nesting wading birds or marsh birds. Furthermore, diked islands can provide suitable foraging and loafing areas for waterbirds (Landin and Soots 1977).

Islands with out a dike resemble an inverted cone with one or more domes depending on how many times the outflow pipe was moved during disposal. On a typical undiked island, effluent exits the outflow pipe and is allowed to flow unobstructed to the water's edge, which typically results in an island with a gentle slope from dome to water. This is the type of island most preferred by nesting waterbirds (Landin and Soots 1977, Soots and Landin 1978, Parnell et al. 1997, Parnell and Soots 1979, Soots and Parnell 1975b, Parnell et al. 1986).

The Wilmington District of the USACOE has developed a disposal method that results in an island that has features of an undiked island and reduces the impact on surrounding habitats. When used, it can be very successful in creating or restoring waterbird nesting habitat and reducing impacts to surrounding submerged habitats. The method is called "control-of-effluent."

This method of disposal is aptly named because the slurry of water and sand that exits the outflow pipe is channeled to the desired location via small, temporary berms. The berms are constructed prior to the initiation of dredging and usually surround most of the disposal area. A bulldozer or other earth shaping equipment is used to control the effluent and guide it to the desired area and away from sensitive habitats. The temporary berms are then graded to the desired slope when the pumping of dredged sand has been completed. "Control-of-effluent" has been (and remains) the standard method used by the Wilmington District for the deposition of dredged material on estuarine islands since the early 1970's.

Slope

A dredged sand island is rarely a perfect, inverted cone-shaped feature. Most often it consists of a lower drift ridge and swale, an upper drift ridge and swale, a steeper slope leading to the dome, and the dome itself (see Figure 1 from Soots and Parnell 1975b). Soots and Parnell (1975b) defined slope as the rise in elevation from the upper swale to the dome. A gentle slope of 30:1 (a rise of 1 m over a linear distance of 30m) has been recommended for ground-nesting waterbirds (Soots and Landin 1978, Landin 1986, Chaney et al. 1978).

Ideally, one could place the exact amount of sand on a site to maintain an island's size and slope that would be perfect for nesting waterbirds, and then maintain this size and slope throughout the life of the island. Rarely does this scenario work perfectly.

Most often and especially for restoration of early-succession habitat on an existing island, slope becomes a factor of the maximum allowable (permitted) size of an island or disposal area and the amount of dredged sand available for the site. Therefore flexibility is required to ensure that a site receives a new deposit of dredged sand when needed (if desired) and the site remains suitable for nesting waterbirds. Periodic

replenishment with dredged sand is necessary to maintain early succession habitat required by most species of nesting terns and Black Skimmers.

To maintain suitable habitat for ground nesting waterbirds, gentle slopes of 30:1 need to be present on the site. As long as an area with a gentle slope and suitable substrate are present on the dome or at least one side of an island, the island will be suitable for ground nesting waterbirds. Islands with steeper slopes leading to an upper, flat or gently sloping terrace or dome can be suitable as long as the nesting area has the appropriate substrate. In such as case, based on observations of waterbirds nesting on North Carolina islands, the slope leading to the terrace should be no steeper than 10:1.

Substrate

Substrate comprised of at least 90% sand, often called "beach quality" sand, sand/shell, or sand/gravel is suitable for ground-nesting species and those that require early-succession habitats, such as terns and skimmers. Ground-nesting waterbirds tend to avoid nesting on fine grained substrate, such as that with a high percentage of silt or clay.

The coarse grain composition of substrate on sites where woody vegetation is desirable is less important as long as the site is stable. The stability of a site with fine-grained material can be increased by the deposition of coarse dredged material over the fine substrate (Landin 1986).

Island size, elevation, and shape

Island size and elevation are important considerations. Soots and Landin 1978 and Landin (1986) recommend that islands be no less than 2 ha and no more than 20 ha. Maintenance of bare, sparsely vegetated, or grassy habitats can be more difficult on large islands, especially where maintenance dredging is infrequent or the amount of dredged sand available for an island is limited. Islands with well-developed grassland or shrub thicket habitats may become attractive to predatory birds or mammals, which can discourage ground nesting waterbirds, like terns and skimmers, from nesting. For example, in North Carolina, the mean size of undiked dredged material islands used by nesting terns is 3.4 ha; the mean size of natural islands used by terns is 1.5 ha (NCWRC).

Elevation is also an important consideration (Soots and Landin 1978). Islands that are low can be susceptible to overwash or partial flooding during late spring or summer storms. Islands that are high in elevation may have slopes that are too steep for nesting terns and the higher elevation substrate may remain unsettled for a long period of time. Landin (1986) recommends one to three meters as ideal elevation for dredged material islands, and that higher elevations may be suitable if the dredged material is coarse sand. The mean elevation of dredged material islands used by terns in North Carolina is 3.4 m and 1.3 m for natural islands (NCWRC). The shape of a dredged material island is probably of little importance to nesting terns as long as the site has suitable conditions for nesting terns.

Shoreline stabilization

Shoreline stabilization is not recommended for islands that will be created or restored for nesting terns. Royal and Sandwich tern chicks usually form a crèche 2-3 d after hatching and prefer access to the water's edge (Shealer 1999, Buckley and Buckley 2002). Chicks of other tern species sometimes move to the water's edge prior to fledging (Parnell et al. 1995, D. Allen and W. Golder, pers. obs.). If an island is stabilized with sand bags or rip-rap, tern chicks may attempt to make their way to an intertidal beach during low tide and then be swept away during high tide or by large boat wakes. Tern chicks may tumble into crevices of a rip-rap stabilized shoreline.

Stabilization with submerged, emergent, or upland vegetation presents a different set of problems for nesting terns. Planting vegetation will likely increase the rate of plant succession on an island, thus reducing the useful life for nesting terns. Vegetation can attract nesting gulls, which can become significant predators on nesting terns and may cause terns to abandon an otherwise suitable nesting site. Stable vegetation may attract predatory and non-predatory mammals, which may be able to overwinter on an island.

Islands managed for the benefit of grass, shrub, or tree nesters, such as wading birds and pelicans, can benefit from shoreline stabilization. Shoreline stabilization can reduce the rate of erosion and potentially prolong the useful life of an island and in some cases may be essential to preventing the loss of habitat at historic nesting sites. However, careful consideration must be given to use of the site by nesting shorebirds, nesting sea

turtles and diamond-backed terrapins (*Malaclemys terrapin*), use of shoreline and intertidal areas by breeding and non-breeding shorebirds or waterbirds, and the effect of stabilization on adjacent shorelines.

Lastly, the presence of submerged and emergent vegetation may jeopardize the ability to deposit new sand on a site, thus jeopardizing the maintenance of a site for nesting terns.

Management and Monitoring

Most dredged material islands require active management to be suitable for nesting waterbirds. While these islands are often remote and only accessible by boat, they can become popular areas for passive and active recreational activity, especially those located near population centers. These activities often peak during the warmer months of the year, which typically coincides with nesting activity by waterbirds. Therefore, dredged material islands require active management and regular monitoring to prevent or discourage human disturbances. With each dredged material island supporting or potentially suitable for nesting waterbirds, there should be a management, monitoring, and maintenance plan developed and implemented by an appropriate agency or non-governmental organization with demonstrated experience in waterbird management.

Succession and Useful Life of Habitat

Dredged material islands undergo a predictable pattern of plant succession, which largely determines the habitat available for nesting waterbirds and the suite of waterbird species that may use a particular island. Parnell and Soots (1975) mapped plant succession on undiked dredged material islands along the North Carolina coast (Figure 1).

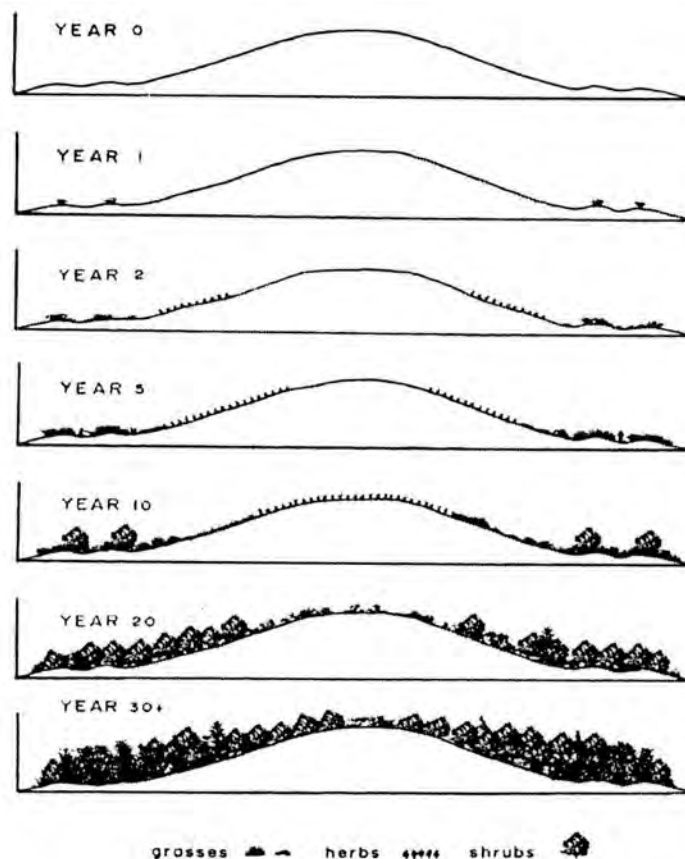


Figure 1. Plant succession on dredged-material islands in North Carolina (Soots and Parnell 1975).

The use of dredged material islands by nesting waterbirds follows a similar and predictable pattern. New deposits of dredged sand are typically occupied by nesting terns and skimmers, older islands become less suitable for early succession nesters and more suitable for pelicans and gulls, and islands with shrub thickets or forest habitats are most suitable for nesting wading birds (Soots and Parnell 1975). The useful “life” of an island can vary locally and regionally, and depends on many factors that can extend or shorten the period of time an island is used. These include substrate, disturbances, predators, local environmental conditions, use by roosting cormorants or pelicans, and history of nesting waterbird use. Table 3 provides general guidelines for use of dredged sand islands by nesting waterbirds (Soots and Parnell 1975).

Table 3. Estimated age at first use and duration of use of dredged material islands by nesting waterbirds in North Carolina.

II. Species	Age at first use (yrs)	Estimated Use (yrs)
Brown Pelican	5	10-15
Laughing Gull	5	10-15
Royal and Sandwich tern	1-2	4-7
Gull-billed Tern	2	4
Common Tern	2	6
Forster's Tern*	3	2+
Least Tern	1-2	4
Wading Birds	10	30+

* Highly variable. Depends on presence of wrack or marsh.

Note: Adapted from Soots and Parnell (1975) and revised based on additional information not available at the time of their publication.

Timing of disposal of dredged material is just as important as the quality of material being placed on potential nesting sites. Several factors influence timing of dredging projects. They include (but are not limited to): impact on local fisheries, presence of endangered species (sea turtles, manatees, and others), presence of nesting birds, local weather conditions, funding, contractor availability, and condition of the dredging site. Placing dredged material on potential nesting sites while birds are courting, incubating, feeding chicks, or anytime prior to all chicks fledging will cause abandonment of the site and would likely violate state and federal laws. Placing dredged material on sites while birds are actively nesting must be avoided. The dredging window (the period when excavation of material by dredging and the disposal of that material is permitted) varies throughout the region. Therefore, determination of the appropriate time for a dredging project must be handled locally. Ideally, placement of dredged material on a potential nesting site should be completed during fall or winter months (Soots and Landin 1978), or at least four weeks prior to the first arrival of nesting birds (W. Golder, pers. obs.). This will give the substrate time to settle and dry out prior to the arrival on

nesting birds. It will also allow time for the site to be posted and other appropriate management measures to be implemented.

Opportunities for short-term and long-term waterbird habitat restoration with dredged material likely exist at many sites along the southeastern United States coastline, especially on state and federal lands, non-governmental conservation lands, and through partnerships with private landowners. Identifying opportunities for waterbird habitat restoration on dredged material islands should be a priority in all coastal states in the region. In some areas, existing managed habitats could be altered to provide specific habitats required by waterbirds. Existing dredged material islands that currently do not provide suitable nesting conditions for waterbirds should be reviewed for their potential as restoration sites. Similarly, opportunities for the creation of waterbird habitats should also be explored where appropriate. The use of dredged material is one method that can be used successfully to both create and restore nesting habitats for waterbirds.

Success of waterbird habitat projects that involve depends on cooperation among regulatory and resource agencies (state and federal), non-governmental organizations, and other stakeholders that is established long before a project is initiated. To facilitate this cooperation, some states and areas within states have developed working groups or committees that meet regularly to discuss dredging, birds, project design, and other issues related to birds and dredging. North Carolina, for example, has the North Carolina Colonial Waterbird Management Committee and representatives from resource agencies actively participate in USACOE District dredging coordination meetings. Tampa Bay has a Migratory Bird Protection Committee to discuss, among other things, issues related to dredging and birds.

Recommendations:

- 1. At least 2km of open water at mean low water, preferably with a deep channel and tidal flow, separating a potential nesting site from mainland or other predator source is sufficient to reduce the chance of both predators and people visiting the site.*
- 2. Construction of permanent dikes around sites created or restored for nesting waterbirds should be avoided. Undiked islands and those where control of effluent method of disposal is used are preferred.*

3. *Disposal of dredged material on islands should be conducted outside of the nesting season and should be completed at least 4 weeks prior to the arrival of nesting birds.*
4. *A gentle slope of 30:1 is desirable for ground-nesting waterbirds.*
5. *A long-term management plan should be developed and implemented on all sites where dredged material is used to create or restore habitats for nesting waterbirds and the management plan should be implemented by an appropriate agency or organization with demonstrated experience in waterbird management.*

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APPENDIX C

Threatened and Endangered Species in Coastal Louisiana

And

Habitat Descriptions of
Threatened and Endangered Species in Coastal Louisiana

Threatened and Endangered Species in Coastal Louisiana – FWS Responsibility

MAMMALS

Bear, Louisiana
(*Ursus americanus luteolus*)
Manatee, West Indian
(*Trichechus manatus*)

GENERAL DISTRIBUTION IN LOUISIANA

T Entire state
E Lake Pontchartrain & tributaries on North shore;
rare along Gulf coast

BIRDS

Plover, piping
(*Charadrius melodus*)
(*Campephilus principalis*)
Woodpecker, red-cockaded

T Coast
E Entire state except Delta

REPTILES

Tortoise, gopher
(*Gopherus polyphemus*)
Turtle, ringed map (=sawback)
(*Graptemys oculifera*)
Turtle, loggerhead sea
(*Caretta caretta*)

T Washington, St. Tammany, and Tangipahoa
Parishes
T Pearl and Bogue Chitto Rivers
T Coastal waters; Nesting on Chandeleuer Is.

FISH

Sturgeon, Gulf
(*Acipenser oxyrinchus desotoi*)
Sturgeon, pallid
(*Scaphirhynchus albus*)

T Pearl River & Lake Pontchartrain tributaries
E Mississippi River & tributaries

INVERTEBRATES

Mussel, inflated heelsplitter
(*Potamilus inflatus*)

T Amite River

PLANTS

Louisiana quillwort
(*Isoetes louisianensis*)

E Washington and St. Tammany Parishes

Notes:

- For Louisiana the FWS web site lists 25 species (22 animals and 3 plants) on the Federal Threatened And Endangered Species List
- Seventeen of the 25 federally listed species in Louisiana occur in the Louisiana coastal zone (this includes whales and marine sea turtles). Thirteen of those species are under FWS jurisdiction.
- In the Louisiana coastal zone there are 11 species that are on the Endangered Species List and are under FWS jurisdiction. That group consists of 2 mammals, 2 birds, 2 fish, 3 turtles, 1 mussel, and 1 plant. FWS shares responsibility for Gulf sturgeon and nesting loggerhead sea turtles with NMFS).
- The bald eagle was officially removed from the List of Endangered and Threatened Species on August 8, 2007, and the brown pelican was officially removed from the List of Endangered and Threatened Species on December 17, 2009.

Habitat Descriptions of Threatened and Endangered Species in Coastal Louisiana

The **pallid sturgeon** is an endangered fish found in Louisiana, in both the Mississippi and Atchafalaya Rivers (with known concentrations in the vicinity of the Old River Control Structure Complex); it is possibly found in the Red River as well. The pallid sturgeon is adapted to large, free-flowing, turbid rivers with a diverse assemblage of physical characteristics that are in a constant state of change. Detailed habitat requirements of this fish are not known, but it is believed to spawn in Louisiana. Habitat loss through river channelization and dams has adversely affected this species throughout its range.

Endangered and threatened **sea turtles** forage in the nearshore waters, bays and sounds of Louisiana. The National Marine Fisheries Service is responsible for aquatic marine threatened or endangered species. Please contact Eric Hawk (727/570-5312) in St. Petersburg, Florida, for information concerning those species. When sea turtles leave the aquatic environment and come onshore to nest, however, the Service is responsible for consultation.

The threatened **pip ing plover**, as well as its designated critical habitat, occur along the Louisiana coast. Piping plovers winter in Louisiana, and may be present for 8 to 10 months annually. They arrive from the breeding grounds as early as late July and remain until late March or April. Piping plovers feed extensively on intertidal beaches, mudflats, sand flats, algal flats, and wash-over passes with no or very sparse emergent vegetation; they also require unvegetated or sparsely vegetated areas for roosting. Roosting areas may have debris, detritus, or micro-topographic relief offering refuge to plovers from high winds and cold weather. In most areas, wintering piping plovers are dependent on a mosaic of sites distributed throughout the landscape, because the suitability of a particular site for foraging or roosting is dependant on local weather and tidal conditions. Plovers move among sites as environmental conditions change, and studies have indicated that they generally remain within a 2-mile area. Major threats to this species include the loss and degradation of habitat due to development, disturbance by humans and pets, and predation.

On July 10, 2001, the Service designated critical habitat for wintering piping plovers (Federal Register Volume 66, No. 132). Their designated critical habitat identifies specific areas that are essential to the conservation of the species. The primary constituent elements for piping plover wintering habitat are those habitat components that support foraging, roosting, and sheltering and the physical features necessary for maintaining the natural processes that support those habitat components. Constituent elements are found in geologically dynamic coastal areas that contain intertidal beaches and flats (between annual low tide and annual high tide), and associated dune systems and flats above annual high tide. Important components (or primary constituent elements) of intertidal flats include sand and/or mud flats with no or very sparse emergent vegetation. Adjacent unvegetated or sparsely vegetated sand, mud, or algal flats above high tide are also important, especially for roosting plovers.

Endangered **West Indian manatees** (*Trichechus manatus*) occasionally enter Lakes Pontchartrain and Maurepas, and associated coastal waters and streams during the summer months (i.e., June through September). Manatees have been reported in the Amite, Blind,

Tchefuncte, and Tickfaw Rivers, and in canals within the adjacent coastal marshes of Louisiana. Should the proposed projects involve activities within these areas during summer months, further consultation with this office will be necessary. They have also been occasionally observed elsewhere along the Louisiana Gulf coast. The manatee has declined in numbers due to collisions with boats and barges, entrapment in flood control structures, poaching, habitat loss, and pollution. Cold weather and outbreaks of red tide may also adversely affect these animals.

The **Louisiana black bear** (*Ursus americanus luteolus*) was listed as a threatened subspecies in 1992, and is primarily associated with forested wetlands; however, it utilizes a variety of habitat types, including marsh, spoil banks, and upland forests. Within forested wetlands, black bear habitat requirements include soft and hard mast for food, thick vegetation for denning and escape cover, vegetated corridors for dispersal, large trees for den sites, and isolated areas for refuge from human disturbance. Of the Federally authorized navigation channels being evaluated under the proposed BUDMAT Program, only the Atchafalaya River and Bayous Chene, Boeuf, and Black, LA project may potentially impact the Louisiana black bear and its designated critical habitat.

Louisiana Black Bear Breeding Habitat

To afford additional protection to denning bears, the Service (through the final listing rule published on January 7, 1992, in Volume 57, No. 4 of the Federal Register) has extended legal protection to candidate and actual den trees. "Actual den tree" refers to any tree used by a denning bear during the winter and early spring seasons. Candidate den trees are defined in the final rule as bald cypress (*Taxodium distichum*) and tupelo gum (*Nyssa sp.*) having a diameter at breast height of 36 inches or greater, with visible cavities, and occurring in or along rivers, lakes, streams, bayous, sloughs, or other water bodies. Results of recent research involving Louisiana black bears indicate that they will use virtually any species of tree for a den site (including overcup oak, American elm, sweetgum, water hickory, and sycamore) provided that it meets the minimum diameter and cavity presence criteria described above (Hightower et. al. 2002, Oli et. al. 1997, Weaver and Pelton 1994).

Louisiana black bears, particularly pregnant females, normally den from December through April. In areas where suitable den trees are uncommon, Louisiana black bears often den on the ground in hollow logs, slash piles, and shallow burrows or depressions within areas of dense cover.

The Service strongly urges employees and contractors to avoid bears, if at all possible. Bears will typically avoid humans; however, with this type of activity and its encroachment into occupied habitat, bear sightings may occur. In order to prevent sightings from becoming confrontations, workers should be cautioned to not leave food or garbage in the field, as bears can become attracted and accustomed to human food quite easily. Once bears become habituated to human food sources, they often learn to associate areas of higher human density (i.e., residential, commercial, and industrial areas) with a readily available food source. As a result, human-bear conflicts occur, and it becomes difficult, if not impossible, to deter nuisance behavior even through forced relocation of the offending animal. In such cases, the only alternatives are to place the animal in permanent captivity or destroy it.

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Louisiana Black Bear Critical Habitat

On April 9, 2009, the Service designated 1,330,000 acres of critical habitat (published in Volume 74, No. 45 of the Federal Register) for the Louisiana black bear under the ESA. Critical habitat identifies geographic areas containing features that are essential to the conservation of a threatened or endangered species, and which may require special management considerations or protection. Critical habitat was designated in portions of Avoyelles, East Carroll, Catahoula, Concordia, Franklin, Iberia, Iberville, Madison, Pointe Coupee, Richland, St. Martin, St. Mary, Tensas, West Carroll, and West Feliciana Parishes, Louisiana. Within the critical habitat boundary, only those areas that contain the physical and biological elements essential to support the life cycle needs of the Louisiana black bear are considered "critical habitat." The Service has determined that those elements be defined as breeding habitat and corridors within bottomland and upland hardwood forests and adjacent vegetated areas. Designation of critical habitat does not affect land ownership or establish a refuge or preserve, and only applies to situations where federal implementation, funding, or a federal permit is involved, such as with the currently proposed project.

Because the proposed project requires federal authorization, and would impact habitats that contain primary constituent elements (based on the definitions in our critical habitat designation) for the Louisiana black bear, the Corps should consult with our office regarding potential project-associated impacts to determine whether or not the proposed project is likely or not likely to adversely affect the Louisiana black bear or its critical habitat, and to request our concurrence with that determination.

Species Protected under the Migratory Bird Treat Act

The bald eagle (*Haliaeetus leucocephalus*) was officially removed from the List of Endangered and Threatened Species on August 8, 2007. Although the bald eagle has been removed from the List of Endangered and Threatened Species, it continues to be protected under the MBTA and the BGEPA. Bald Eagles nest in Louisiana from October through mid-May, and typically nest in mature trees (e.g., bald cypress, sycamore, willow, etc.) near fresh to intermediate marshes or open water in the southeastern Parishes. Areas with high numbers of nests include the Lake Verret Basin south to Houma, the marsh/ridge complex south of Houma to Bayou Vista, the north shore of Lake Pontchartrain, and the Lake Salvador area. Eagles also winter, and infrequently nest, in mature pine trees near large lakes in central and northern Louisiana. Major

threats to this species include habitat alteration, human disturbance, and environmental contaminants (i.e., organochlorine pesticides and lead).

Breeding bald eagles occupy "territories" that they will typically defend against intrusion by other eagles, and that they likely return to each year. A territory may include one or more alternate nests that are built and maintained by the eagles, but which may not be used for nesting in a given year. Potential nest trees within a nesting territory may, therefore, provide important alternative bald eagle nest sites. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that may weigh more than 1,000 pounds. Most nests are located in the upper 30 feet of the tree; the cone-shaped nest may be 6 to 8 feet in diameter and 6 to 8 feet from top to bottom. Nest sites typically include at least one perch with a clear view of the water or area where the eagles usually forage. Shoreline trees or snags located near large waterbodies provide the visibility and accessibility needed to locate aquatic prey. Bald eagles are vulnerable to disturbance during courtship, nest building, egg laying, incubation, and brooding. Disturbance during this critical period may lead to nest abandonment, cracked and chilled eggs, and exposure of small young to the elements. Human activity near a nest late in the nesting cycle may also cause flightless birds to jump from the nest tree, thus reducing their chance of survival.

The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: <http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf>. Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. On-site personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: <http://www.fws.gov/southeast/es/baldeagle/>. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting such consultations. Should you need further assistance interpreting the guidelines or performing an on-line project evaluation, please contact this office.

The brown pelican (*Pelecanus occidentalis*) was officially removed from the List of Endangered and Threatened Species on December 17, 2009. Brown pelicans are currently known to nest on Raccoon Point on Isles Dernieres, as well as Queen Bess Island, Plover Island (Baptiste Collette), Wine Island, Rabbit Island in Calcasieu Lake, and islands in the Chandeleur chain. Pelicans change nesting sites as habitat changes occur; thus, they may also be found nesting on mud lumps at the mouth of South Pass (Mississippi River Delta) and on small islands in St. Bernard Parish. In spring and summer, nests are built in mangrove trees or other shrubby

vegetation, although ground nesting may also occur. Brown pelicans feed along the Louisiana coast in shallow estuarine waters, using sand spits and offshore sand bars as rest and roost areas. Major threats to this species include chemical pollutants, colony site erosion, disease, and human disturbance.

Although the brown pelican has been removed from the List of Endangered and Threatened Species, it continues to be protected under the MBTA. Accordingly, the Service recommends all activity occurring within 2,000 feet of a brown pelican rookery be restricted to the non-nesting period (i.e., September 15 through March 31). However, nesting periods vary considerably among Louisiana's brown pelican colonies, so it is possible that this activity window could be altered based upon the dynamics of the individual colony. The Louisiana Department of Wildlife and Fisheries' Fur and Refuge Division should be contacted to obtain the most current information about the nesting chronology of individual brown pelican colonies.

Dredged material disposal projects are often located in habitats which are commonly inhabited by colonial nesting wading birds and seabirds. Not all nesting colony sites are currently listed in the database maintained by the LDWF, which is updated primarily by monitoring those sites that were previously surveyed during the 1980s. Accordingly, we recommend that the proposed project areas be inspected by qualified personnel for the presence of undocumented nesting colonies during the nesting season. In addition, we recommend that on-site contract personnel be informed of the need to identify colonial nesting birds and their nests during the breeding season. To minimize disturbance to colonial nesting birds, the following restrictions on activity should be observed if such colonies are found:

1. For colonies containing nesting wading birds (i.e., herons, egrets, night-herons, ibis, and roseate spoonbills, anhingas, and/or cormorants), all activity occurring within 1,000 feet of a rookery should be restricted to the non-nesting period (i.e., September 1 through February 15, depending on species present).
2. For colonies containing nesting gulls, terns, and/or black skimmers, all activity occurring within 650 feet of a rookery should be restricted to the non-nesting period (i.e., September 16 through April 1, depending on species present).

All contracts should also contain a statement prohibiting work within the appropriate species-specific distance (referenced above) of any nesting colonies unless project-specific discussions with the Service indicate buffer zones may be reduced on a species-specific basis. We look forward to assisting your staff in identifying nesting colonies via pre-construction site inspections where needed.

ATTACHMENT 3

JUNE 2010

ERRATA SHEET

TO THE

JANUARY 2010 LOUISIANA COASTAL AREA (LCA),
LOUISIANA

BENEFICIAL USE OF DREDGED MATERIAL PROGRAM

FINAL PROGRAMMATIC STUDY REPORT

AND THE

FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT
STATEMENT



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P.O. BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

Regional Planning and
Environmental Division, South,
New Orleans, Environmental Branch

FEB 17 2010

Mr. James F. Boggs
Supervisor, Louisiana Field Office
U.S. Fish and Wildlife Service
646 Cajundome Boulevard, suite 400
Lafayette, Louisiana 70506

Dear Mr. Boggs:

The U.S. Army Corps of Engineers (USACE), New Orleans District (MVN) received your letter dated February 2, 2010 Final Coordination Act Report in response to the Louisiana Coastal Area (LCA) Beneficial Use of Dredge Material (BUDMAT) Programmatic Environmental Impact Statement (EIS). In the Summary and Service Position section of your letter, you had five points for procedural recommendations for future authorization and implementation of the BUDMAT Program:

1. Release of the Final Programmatic Study Report and Final EIS for public review without having included the final USFWS Coordination Act Report (FWCR). The USFWS recommends that an errata sheet be inserted at the front of the Programmatic Study Report and in front of our draft FWCR Report stating that our final report was not included in that document during public and agency review period. The FWCR report should be included in the Final Programmatic Study Report and Section 5.2.2 of the FEIS should be revised to address the recommendations of our final report. The USFWS recommends that prior to submittal of the Programmatic Study Report and Programmatic EIS to higher authorities the Corps should provide to the USFWS Lafayette office a response to our recommendations and ensure that they find such responses acceptable. The USFWS anticipates that the Corps will implement measures to ensure a repeat of this incident will not re-occur and expects to receive a copy detailing such measures.

USACE response: The USACE regrets the oversight of sending the Final Programmatic Feasibility Report and Environmental Impact Statement out for public review without the inclusion of the USFWS Final Coordination Act Report. In response to a request from the Office of Management and Budget (OMB), the Assistant Secretary of the Army for Civil

Works has directed the New Orleans District to complete the final EIS and accompanying programmatic study report on the LCA Beneficial Use of Dredged Material Program by February 28, 2010, thus the expedited schedule.

2. Modifications to and further development of the BUDMAT Program processes including revisions to the proactive design processes; the screening and evaluation criteria; and the construction process should be coordinated with the natural resource agencies and the project delivery team.

USACE response: Concur. Natural resource agencies are important valued team members and coordination with them would occur. If team members are unable to attend meetings, then the members would be kept apprised of site selection, screening, and evaluation process through electronic means. Once a project is selected, then coordination with the natural resource agencies would continue through the National Environmental Policy Act (NEPA) process.

3. Coordination with State and Federal natural resource agencies should be conducted during the development of project design features and upon design completion as a member of the PET and the PMT to ensure that all design features provide the highest quality of fish and wildlife habitat value and comply with statutory obligations.

USACE response: Concur. Coordination with State and Federal natural resource agencies ensures that design features of future projects would provide the highest quality of fish and wildlife habitat as well as compliance with statutory obligations. The Corps intends to conduct such coordination throughout implementation of the BUDMAT Program.

4. In accordance with the January 2003 Partnership Agreement for Water Resources and Fish and Wildlife between the USFWS and the Corps, sufficient continuous funding should be provided to the USFWS to fulfill our responsibilities under Section 2(b) of the Fish and Wildlife Coordination Act throughout post-authorization planning and evaluation for individual beneficial use projects. Accordingly, to ensure that optimum fish and wildlife resource benefits are achieved, the USFWS will continue to work closely with the Corps and the State of Louisiana throughout the plan implementation process as a member of the PET and PMT. Our findings and recommendations will be provided in draft and final supplements to this programmatic report under the authority of the Fish and Wildlife Coordination Act. Fulfillment of Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. as amended; 16 U.S.C. 1531 et seq.) responsibilities would be accomplished at that time.

USACE response: In accordance with the January 2003 Partnership Agreement for Water Resources and Fish and Wildlife between the USFWS and the USACE, the District would continue to provide funding required by the USFWS to enable their full participation throughout future detailed planning and post-authorization engineering and design studies, and to fulfill their reporting responsibilities for the LCA Plan component features,

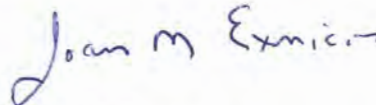
including the BUDMAT Program, under Section 2(b) of the Fish and Wildlife Coordination Act. Under provisions of the ESA, the District would continue to accomplish the required consultations on a project-by-project basis

5. The Corps should coordinate closely with individual refuge managers prior to conducting any work on a National Wildlife Refuge (NWR), in conformance with the National Wildlife Refuge System Improvement Act of 1997. Such coordination will be essential to the timely completion of the USFWS's determination that the proposed work will/will not be compatible with the purposes for which those refuges were established, and to secure any appropriate permits that may be required. Likewise, LCA activities occurring on State-administered Wildlife Management Areas (WMA) or refuges or National Park Service (NPS) lands should also be fully coordinated with the Louisiana Department of Wildlife and Fisheries or the NPS, respectively.

USACE response: Concur. Under provisions of the National Wildlife Refuge System Improvement Act of 1997, prior to initiating implementation of an LCA Project that would potentially affect any NWR; the District would contact the appropriate Refuge Manager to determine if the proposed project constitutes a "refuge use" subject to a compatibility determination. If required to determine the anticipated impacts of any proposed use, the District would provide sufficient data and information to document any short-term, long-term, direct, indirect, or cumulative impacts on NWR resources. Compatibility determinations would include a public review and comment period before issuance of a final decision by the Service. To facilitate such contacts, the Louisiana Field Office would be contacted. Likewise, the District would fully coordinate with the LDWF for those LCA Plan activities occurring on state-administered Wildlife Management Areas or refuges.

Should your staff have any questions regarding the BUDMAT Program, please have them contact Ms. Elizabeth McCasland. Her address is: US Army Corps of Engineers, PDR-RS, PO Box 60267, New Orleans, LA 70160-0267; or contact by phone, (504)862-2021. Ms. McCasland's email address is elizabeth.l.mccasland@usace.army.mil.

Sincerely,



Joan M. Exnicios
Chief, Environmental Planning
and Compliance Branch

cc: EPA, Dallas, TX
NMFS, Baton Rouge, LA
LDWF, Baton Rouge, LA
LA OCPR, Baton Rouge, LA