



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Mimi A. Drew
Secretary

September 17, 2010

Mr. Daniel Van Nostrand
ERC, Inc.
100 Amar Place
Panama City Beach, FL 32413

Dear Mr. Van Nostrand:

re. Permit # 227475-001 (modification -005), Bay and Walton Counties
Devils Swamp Mitigation Bank

The request to modify this permit has been received and reviewed by Department staff. The modification is to expand the mitigation service area, adjust the mapping and description of the target ecological communities, re-assess the credit evaluation by the Uniform Mitigation Assessment Methodology (UMAM - Rule 62-345, F.A.C.), and update conditions regarding construction, success criteria and schedules. Because this major modification revises most of the permit figures, specific conditions and attachments, it will be duly noticed, and the attached revised permit, will replace the original permit.

Background:

The project was initially issued as a separate mitigation component (Appendix B) of the Department authorized Ecosystem Management Agreement (EMA) for Bay and Walton Counties, effective October 11, 2004, and the federal Regional General Permit (RGP)(SAJ-2004-1861). Though incorporated in these documents, the project was provided the separate permit tracking number referenced above and was required to meet the provisions of Section 373.4136, Florida Statutes and Chapter 62-342, F.A.C. for the implementation and operation of a mitigation bank. However, because the mitigation bank was authorized for use only within the geographic boundaries of the EMA/RGP, its review and assessment were somewhat specialized within those parameters. The modification request is to separate the mitigation bank permit documents from the EMA agreement (with a corresponding amendment) for the purpose of expanding the service area and allowing its use for impact permits not associated with the EMA/RGP. This modification required an independent assessment, similar to other mitigation banks. The principle components of this revised assessment include the remapping of native communities and assessment areas to correct some errors in the initial mapping, to assess mitigation credit by UMAM, and to evaluate the proposed service area.

Native Communities and Conditions:

The site consists of a ~3000 ac. parcel, roughly half uplands and half wetlands, lying within Walton and Bay Counties, and draining north and west to tributaries of the Choctawhatchee River (HUC 03140203) near its terminus in Choctawhatchee Bay (HUC 03140102), and south to Westbay Creek (HUC 03140101). It lies adjacent to other conservation and mitigation lands, as shown in Figure 1 of the attached permit.

The native communities are divided and labeled as follows and shown in Figure 4 of the attached permit. The uplands are divided into dryer "Sandhills" grading into the moister "Mesic Flatwoods" communities that basically form ridges between a few broad or lobed semi-isolated basins or channels. The basin community is mostly classified as "Bog". Where the topographic relief from the uplands to the depression is narrower, the basin forms a distinct forested channel or "Seepage Stream" area that conveys seepage water and overflow from the broad basins offsite. In the interface between the uplands and the depressions, there are seepage areas of "Wet Prairie" community. Finally, there are several small, circular "Dome Swamp" depressions.

At the time of initial permitting, most of the uplands and wet prairies were planted in sand pine or slash pine plantation, with bedding in the wetlands and much of the mesic flatwoods. The bog was significantly fire-suppressed, dominated by canopy-sized black titi, with cypress, slash pine and, to a lesser degree, a mix of other wetland hardwoods. Assessment areas for UMAM scoring are based on community type and whether or not they were planted for plantation. Much of the initial vegetation management activities have been completed in Phases 1 and 2 of bank; however, the UMAM assessment assumes the "current condition" present at the time of initial permitting and as apparent in portions of Phase 3.

Anticipated Results:

The mitigation plan has not significantly changed since initial permitting. Community enhancements focus on the elimination of plantation by removal of most of the sand and slash pine, breaking up of the bedding and reduction of the overgrown shrub layer by mechanical treatments and a rigorous fire management program. The initial management activities of mechanical treatment of pine and shrubs and prescribed burns have had good results, with monitoring showing trending toward target communities.

The community names and configurations have changed slightly from the original permit based, in part, on monitoring data collected since activities have begun and on reference sites. Most notably, some of the areas identified in the permit as wetland savannah were found to be mesic. Also the "bog" was originally identified as mixed forested wetlands, although the descriptive criteria are similar. Significant areas of the previous mixed forested wetlands were determined to be more appropriately managed

Permit Modification
Devils Swamp Mitigation Bank
Permit Modification #227475-005

as a wet prairie ecotone by the reduction of the shrub layer and frequent prescribed burning. With the revised descriptions and additional data, the interim and final success criteria have also been revised.

Credit assessment:

The UMAM analysis resulted in a total potential of 517.99 freshwater credits, 223.35 designated as "Wet Prairie/Flatwoods" credits and 294.64 as "Cypress/Forested/Shrub" credits. The release schedule of the permit has been changed to account for the revised credit types and numbers, but the milestones and percentages are the same.

Service Area:

The mitigation service area (MSA) includes portions of Bay, Walton, and Washington Counties as depicted on Figure 2 of the permit. The MSA reflects the Corps of Engineers MSA adopted on November 19, 2009, and is generally bounded by sub-watershed or ecoregion boundaries within three Hydrologic Unit Codes (HUC): St. Andrews Bay, Choctawhatchee River, and Choctawhatchee Bay. The northern boundary of the service area principally excludes the sandhill ecoregion provinces. Likewise, bottomland hardwoods typical of the Choctawhatchee floodplain are not present on the site and are omitted from the service area. However, planted pine or fire suppressed wet prairie and bog are common throughout the service area, including the site of another proposed Ecoregion Management Area north of West Bay.

Notice:

This modification and permit can be viewed at the EMA website: <http://www.dep.state.fl.us/northwest/StJoeEMA/joema.htm> The Department reviewed the major modification as a stand-alone permit. It is the Department's intent to issue this permit modification pursuant to the requirements of Sections 373.4135 and 373.4136, F.S. and Rules 62-342, F.A.C and 62.345, F.A.C. By copy of this letter and attached permit, we are notifying interested parties of the modification. However, the Department has determined that the proposed activity, because of its size, potential effect on the environment or the public, controversial nature, or location, is likely to have a heightened public concern or likelihood of request for administrative proceedings. Therefore, pursuant to Section 403.815 F.S. and 62-312.060(14) F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Permit Modification. The notice is required to be published one time within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place, and including all counties within the mitigation service area. The applicant shall provide proof of publication to:

Permit Modification
Devils Swamp Mitigation Bank
Permit Modification #227475-005

Department of Environmental Protection
Bureau of Submerged Land and Environmental Resources
2600 Blair Stone Road, MS 2500
Tallahassee, Florida 32399

The proof of publication shall be provided to the above address within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time shall be grounds for denial of the permit.

Sincerely,



John A. Coates, Deputy Director
Division of Water Resource Management

Attachments: Notice, Permit with Figures and Attachments

cc (by email):

Ken Prest, DEP NW District Office
Duncan Cairns, Northwest Florida Water Management District
Marie Huber, U. S. Army Corps of Engineers, Jacksonville
Ted Martin, US Fish & Wildlife Service, Panama City
Ted Hoehn, FFWCC, Tallahassee
Mike Dentzau, Interested Party

CERTIFIED MAIL NUMBER
RETURN RECEIPT REQUESTED

State of Florida
Department of Environmental Protection
NOTICE OF PERMIT MODIFICATION

The Department of Environmental Protection gives notice of its issuance of a major modification of wetland resource/mitigation bank permit for the Devils Swamp Mitigation Bank permit (#0227475-001) issued to St. Joe Company, c/o Mr. Daniel Van Nostrand, authorized agent, Ecological Resource Consultants, Inc., 100 Amar Place, Panama City Beach, FL, 32413. The project is on a 3,050 (+/-) acre parcel divided into three phases, and includes the restoration or enhancement, and preservation of ecological communities described in the permit as Sandhill, Mesic Flatwoods, Bog, Dome Swamp, Wet Prairie, and Seepage Stream (from Florida Natural Areas Inventory, 2009, and roughly equivalent to FLUCCS codes 411, 611, 614, 617, 621, 625, 627, 626, 630, 631, 643, and 646). It is intended to be used as mitigation for future unavoidable impacts to wetlands typical of these historical or disturbed habitats within the mitigation service area (MSA). Restoration and enhancement will be accomplished by reducing woody shrubs and planted pine density, decreasing bedding impacts, implementing an intensive restoration and management prescribed burn plan, and installing low water crossings. The project is to be implemented in three phases, which will each be initiated through the recordation of a conservation easement and the execution of financial assurance mechanisms. The mitigation was assessed by the Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, F.A.C.) as having a potential of 517.99 freshwater credits (223.35 Wet Prairie/Flatwoods credits and 294.64 Cypress/Shrub/Forested credits).

The 3,050-acre site is located in Section 31 of Township 1 South, Range 18 West, Sections 6 & 7, 34 - 36, of Township 2 South, Range 18 West, and Sections 1 & 2, 11 & 12, of Township 3 South, Range 18 West, in Bay and Walton Counties. The site is north of the Intracoastal Waterway (ICW), north and south of Steele Field Road, and about 5 miles east of Choctawhatchee Bay. Its mitigation service area (MSA) incorporates portions of Bay, Walton, and Washington Counties.

A person whose substantial interests are affected by the Department's permitting decision may petition for an administrative proceeding (hearing) in accordance with Sections 120.569 and 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, within 21 days of publication of this notice. Petitioner shall

mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Sections 120.569 and 120.57, Florida Statutes.

The Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is located; (b) A statement of how and when each petitioner received notice of the Department's action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action (changes to the conditions placed on this permit); (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action (changes to the conditions placed on this permit); (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action (changes to the conditions placed on this permit); and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action.

Under rule 62-110.106(4), F.A.C, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the petition deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

Persons whose substantial interests will be affected by the permit have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Sections 120.569 and 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Mediation is not available.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Mimi A. Drew
Secretary

WETLAND RESOURCE/MITIGATION BANK PERMIT

Permit 0227473-001, issued 10/11/2004
The St. Joe Company
c/o Thomas Estes
133 S. Watersound Parkway
Panama City Beach, FL 32413

Project: Devils Swamp Mitigation Bank
Modification Number: 0227475-005
Modification Date: September 17, 2010
Expiration Date: Perpetual
County: Bay

This permit is issued under the authority of Part IV of Section 373, F.S., and Chapter 62-342, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain this mitigation bank/wetland resource permit. Pursuant to operating agreements executed between the Department and the Water Management Districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

This permit also constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341, and a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

A copy of this authorization also has been sent to the U.S. Army Corps of Engineers (COE) for review. The COE may require a separate permit. Failure to obtain this authorization prior to construction could subject you to enforcement action by that agency. You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions and Specific Conditions, which are a binding part of this permit. You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 2 of 23

conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit, as specifically described below.

PROJECT DESCRIPTION:

This permit modification alters the criteria for operation of the Devil's Swamp Mitigation Bank (DSMB). As modified and incorporated herein, the project is on a 3,050 (+/-) acre parcel divided into three phases. The project includes the restoration or enhancement, and preservation of ecological communities described in the permit as Sandhill, Mesic Flatwoods, Bog, Dome Swamp, Wet Prairie, and Seepage Stream (from Florida Natural Areas Inventory, 2009, and roughly equivalent to FLUCCS codes 411, 611, 614, 617, 621, 625, 627, 626, 630, 631, 643, and 646). It is intended to be used as mitigation for future unavoidable impacts to wetlands typical of these historical or disturbed habitats within the mitigation service area (MSA). Restoration and enhancement will be accomplished by reducing woody shrubs and planted pine density, decreasing bedding impacts, implementing an intensive restoration and management prescribed burn plan, and installing low water crossings. The project is to be implemented in three phases, which will each be initiated through the recordation of a conservation easement and the execution of financial assurance mechanisms. The mitigation was assessed by the Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, F.A.C.) as having a potential of 517.99 freshwater credits (223.35 Wet Prairie/Flatwoods credits and 294.64 Cypress/Shrub/Forested credits).

PROJECT LOCATION:

The 3,050-acre DSMB is located in Section 31 of Township 1 South, Range 18 West, Sections 6 & 7, 34 - 36, of Township 2 South, Range 18 West, and Sections 1 & 2, 11 & 12, of Township 3 South, Range 18 West, in Bay and Walton Counties. The site is north of the Intracoastal Waterway (ICW), north and south of Steele Field Road, and about 5 miles east of Choctawhatchee Bay. Surrounding land uses include silviculture and conservation (Figure 1). The site lies on the divide between the St. Andrews Bay drainage basin and the Choctawhatchee River drainage basin near its boundary with the Choctawhatchee Bay basin. Its mitigation service area (MSA) incorporates portions of Bay, Walton, and Washington Counties (Figure 2).

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 4 of 23

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonable necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. A description of and cause of noncompliance; and
- b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 5 of 23

11. This permit is transferable only upon Department approval in accordance with rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500).

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 1. the date and georeferenced point of sampling or measurements;
 2. the person responsible for performing the sampling or measurements;
 3. the dates analyses were performed;
 4. the person responsible for performing the analyses;
 5. the analytical techniques or methods used; and
 6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 6 of 23

SPECIFIC CONDITIONS: Please note that some specific conditions may further define or substitute for some of the requirements of the general conditions listed above.

Agency Provisions

1. The permittee is hereby advised that Florida law states: "No person shall commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund or the Department of Environmental Protection under Chapter 253, until such person has received from the Board of Trustees of the Internal Improvement Trust Fund the required lease, license, easement, or other form of consent authorizing the proposed use." Pursuant to Florida Administrative Code Rule 18-14, if such work is done without consent, or if a person otherwise damages state land or products of state land, the Board of Trustees may levy administrative fines of up to \$10,000 per offense.
2. If historical or archaeological artifacts are discovered at any time within the project site the permittee shall immediately notify the Bureau of Historic Preservation at (800) 847-7278, Division of Historical Resources, R. A. Gray Building, 500 S. Bronough St., Tallahassee, Florida 32399-0250.
3. Unless otherwise specified, all reports, notices and other information required for this permit shall be submitted to the Florida Department of Environmental Protection, Mitigation Section, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.
4. This mitigation bank permit shall automatically expire five years from the date of issuance if the permittee has not recorded a conservation easement in accordance with the permit and Rule 62-342.750 (2) F.A.C. Except as provided above, this mitigation bank permit shall be perpetual unless revoked or modified.

Commencement Requirements

5. At least 48 hours prior to commencement of the construction authorized by this permit, the permittee shall notify the Department in writing of this commencement.
6. Project Oversight. Prior to commencement of any construction activities, the permittee shall retain a Qualified Mitigation Supervisor (QMS) (a person or persons) to oversee all aspects of mitigation bank site implementation, management, monitoring, and corrective actions in this permit until final success criteria are met and a long-term management entity is identified.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 7 of 23

- a. Although the permittee will have the ultimate responsibility, the QMS shall have the contractual obligation to ensure that the mitigation bank work is conducted in accordance with the permit.
- b. The QMS team will consist of the Sponsor, which includes St. Joe Timberlands and St. Joe Ecological Services, and Ecological Resource Consultants, Inc. St. Joe Timberlands and St. Joe Ecological Services include certified foresters and certified wildlife biologists. Within 30 days of issuance of the modified permit, the permittee shall submit the names, responsibilities, and qualifications of the QMS team members and lead contact person retained to oversee the mitigation work, along with documentation that the individuals are authorized and qualified to oversee this work. The QMS team will not be authorized without the Department's written approval.
- c. Within 30 days of the discharge of any approved QMS co-lead member, the permittee shall submit to the Department for its review the name and supporting documentation of an alternative.
- d. The permittee shall have the approved qualified QMS review the conditions of this permit that pertain to environmental improvement. The purpose of this review is to ascertain whether any criteria need to be modified to ensure ecological success. If the Department concurs that any proposed modifications would improve the likelihood of mitigation success, the permittee shall submit the modification request to the Department for processing.

7. Protection and Preservation. Prior to construction or release of credits, the Devils Swamp Mitigation Bank property, or phase thereof, shall be preserved and protected in accordance with a conservation easement (CE) granted to the Department of Environmental Protection and recorded in the Public Records of Bay and Walton Counties. Conservation easements have been recorded for Phases 1 and 2. Upon commencement of Phase 3, a conservation easement shall be recorded over that phase.

After recording the CE, the permittee shall also provide the following:

- a. A title insurance policy for the easement updated to the date of conveyance.
- b. Subordination, release, or joinder agreements for any lien or title exception on the property, as identified by the Title Commitment, unless such lien or exception does not adversely affect the ecological viability of the Bank.
- c. A survey of the easement signed by a Florida registered land surveyor.
- d. A clerk-of-the-court certified copy of the conservation easement.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 8 of 23

8. Security and Hunting. Prior to credit release, the site shall be secured at all entrances with gates and the boundary of the site shall be marked with conservation easement signs. Signs shall indicate the project name and DEP and Corps permit numbers, as detailed in Attachment A. The permittee will be responsible for all site maintenance and monitoring. The permittee shall approve and be responsible for any use of the site for hunting purposes, and such purposes must follow the restrictions provided in the security and hunting plan (Attachment A). All vehicular access is limited to roads, except for completion of restoration and/or enhancement activities.

9. Financial Assurance. Prior to construction or release of credits for the bank or Phase thereof, the permittee shall provide the Department with the updated financial responsibility mechanisms required by Rule 62-342.700 F.A.C. For each phase, the permittee shall secure financial assurance for construction activities, monitoring, maintenance and reporting prior to success, and for long-term management activities after the bank has reached success.

- a. The permittee shall establish the financial assurance for the construction and implementation in the form of a performance bond payable into a contemporaneously established Standby Trust Account. The amount of the bond is based on the 110% of the estimated costs for construction, monitoring and maintenance prior to success. The permittee may request a partial reduction in the amount of the implementation assurance after the successful completion significant mitigation activities and an updated cost estimate. The permittee may be released from its implementation financial assurance when the bank or phase has reached success and the long-term management trust has been funded.
- b. The permittee shall establish the financial assurance for long-term management in the form of an endowed trust fund or a performance bond together with the establishment of a standby trust to receive payments for long-term management. The initial amount of the bond or trust shall be \$200 per acre. It is anticipated that a portion of credit proceeds shall be placed in the trust, but, regardless of sales, the long-term management trust fund shall be fully funded in cash by January 2018. The permittee may request a reduction in the performance bond as the trust becomes funded in cash.
- c. All cost-estimates shall be reviewed and appropriate financial responsibility instrument adjustments shall be conducted every two years in accordance with Rule 62-342.700 (11) F.A.C. and prior to final credit release.

- d. The Department may draw upon the financial mechanisms required for the bank when the permittee has materially failed to comply with the terms and conditions of the permit and continues to be in noncompliance after thirty (30) days written notice has been provided to the permittee.
- e. The interest earned from the principal deposited in the perpetual management trust fund may be withdrawn for use by the permittee or Department-authorized operating entity for long-term management purposes once the mitigation bank has received the final credit release in accordance with the trust agreement.

Mitigation Activities

Existing plant communities are shown in Figure 4, which is based on site conditions at the time of permitting. Habitat enhancement relies on the successful completion of the mitigation plan, as depicted in Figure 5 and the following conditions. The communities expected to result from these enhancements are shown on Figures 6 and 7, and described in Attachment C and the following table.

Plant Community (PC)	Phase 1 Acreages	Phase 2 Acreages	Phase 3 Acreages	Total Acreages*
Fire-Suppressed Bog to Enhanced Bog	529.48	421.28	44.24	995.00
Dome Swamp Fire Mgmt and Ecotone Enhancement	2.20	0.00	5.00	7.20
Seepage Stream Mgmt and Ecotone Enhancement	0.68	5.58	94.44	100.70
Slash Pine Plantation to Enhanced Wet Prairie	77.16	112.92	23.93	214.01
Fire Suppressed Wet Prairie/ Flatwoods to Wet Prairie	138.29	117.97	44.75	301.01
Slash Pine Plantation to Enhanced Mesic Flatwoods	566.54	548.47	102.16	1217.17
Slash/Sand Pine Plantation to Enhanced Sandhills	3.62	0.00	162.98	166.60
TOTALS	1,317.97	1,206.22	477.50	3,001.69

*Note: Acreage above does not include roads or open water areas

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 10 of 23

10. Community restoration activities are as follows:

- a. Pine and Bedding Removal. Approximately 1,600 acres of upland and wetland slash pine (*Pinus elliottii*) or sand pine (*Pinus clausa*) plantation, shown in Figure 4, are proposed for restoration. The majority Phases 1 and 2 have been harvested in accordance with the plan. In remaining planted stands, the slash pine shall be thinned to less than 100 trees/ac. in a manner that is consistent with "Silviculture Best Management Practices for Florida", 1993, Florida Department of Agriculture and Consumer Services, 98 pp. Sand pine plantations shall be clear-cut with subsequent re-planting (or 'restoration') in longleaf in accordance with Specific Condition 13. Pine harvesting will be conducted, under the supervision of the QMS team, in a manner such that mechanical work and skidder trails will be perpendicular to bedding rows in order to reduce bed height and break up any drainage effect of the furrows with only temporary effect on groundcover. The initial pine thinning allows for adequate tree density to provide enough needle-cast fuel for subsequent fires. Ultimate target density (as indicated in Specific Condition 23) may require additional thinning using hand-felling, girdling techniques or during the brush reduction detailed below rather than by a separate mechanical harvest. Harvesting will be documented by ground and/or aerial photography, and reported in the semi-annual status reports.

- b. Woody Vegetation Reduction. After harvest activities, coverage of woody shrubs and remaining pine will be reduced with prescribed fire (as described in Specific Condition 12) and, as practicable without soil disturbance, mechanical means in Wet Prairies, Sandhills, Mesic Flatwoods, and portions of Bogs at the discretion and oversight of the QMS team and certified burn specialist. Mechanical clearing will be used to promote herbaceous cover as directed by the QMS where prescribed burning alone is not likely to achieve success. For the purposes of this permit, "woody shrubs" for shrub reduction includes those species, typically reduced by fire to coppice, such as titi (*Cyrilla racemifolia*, *Cliftonia monophylla*), gallberry (*Ilex glabra*), fetterbush (*Leucothoe racemosa*, *Lyonia* spp.), yaupon (*Ilex vomitoria*), and wax myrtle (*Myrica cerifera*) that tend to become dominant and reduce the diversity of herbaceous species and desirable trees and shrubs in a fire suppressed system. The principal mechanical treatment will be *Walkdown* in the Wet Prairies and Bog when soil conditions allow. The following types of mechanical treatment will be employed:
 - i. *Mowing / "bush hogging"* will primarily be used to maintain roads;
 - ii. *Mulching/Chipping "Gyrotracking"* will be used along roads to reduce fire suppressed woody shrubs, especially titi, that has reached sub-canopy height;

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 11 of 23

- iii. *Roller-chopping*/*hydro-axing* will be used where the size and density of the trees and shrubs can be chopped without significant sub-surface soil disturbance such as tip-up mounds (generally <15cm stems and < 500 trees/ac);
- iv. *Walkdown* will be used in bedded areas with little groundcover and larger or denser woody vegetation, and will be conducted perpendicular to bedding to knock down the beds.

Mechanical treatments will be documented by ground and/or aerial photography, and reported in the semi-annual status reports.

11. Exotic and nuisance vegetation control. A survey for exotic vegetative coverage or inappropriate density/cover of native species shall be completed following harvest, mechanical treatment and prescribed fire. Any areas of infestation by species listed by the Florida Exotic Pest Plant Council, 2009, <http://www.fleppc.org/09list.htm> (Attachment B) shall be GPS-located and treated under the direction of the QMS by appropriate herbicide application and/or physical removal. The results of the survey and treatment shall be documented and submitted to the Department with the semi-annual status report.

12. Fire Management Plan. Prescribed fire shall be implemented in accordance the Fire Management Plan (Attachment D) to attain the proposed enhancement and as a long-term management tool to maintain ecological function. The site has initially been divided into 10 burn units determined using existing roads/trails (Figure D-1). All Units will be burned as frequently as fuel and weather conditions allow, but the Department must be contacted if a burn is not initiated within 3 years. Fire will burn into all wetland systems when conditions allow and when it would not result in a catastrophic situation. Each prescribed burn will be supervised by a certified burn specialist. In the semi-annual status report following each prescribed burn conducted at the bank, the permittee shall submit documentation, signed by the QMS and certified burn specialist, providing a summary of the unit(s) and acres treated and an assessment of burn success, including photographs. A successful burn will have approximately 80% cover or more within the uplands and Wet Prairies. The Bogs will be continually burned and it is expected that at least 25% of the total Bog area per phase will have been burned by the time of final success determination. The burn will be assessed using GPS points and ground and/or aerial photography as described in Attachment D.

13. Supplementary Planting. Longleaf pine (*Pinus palustris*) will be planted in areas where it was likely to have historically occurred but was replaced by slash or sand pine plantation. The longleaf planting areas are shown on Figure 5, and will be planted at a density of 150-400 trees per acre at the next suitable planting season (winter for longleaf, 1 to 1.5 years post-harvest) and prior to the implementation of the long-term

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 12 of 23

management per phase. Introduction of longleaf pine is to provide for a mix of species and a source for future recruitment. If longleaf pines need to be thinned in the future to maintain the appropriate abundance for the community, they will be culled by hand felling or by fire.

14. Hydrologic Enhancements. Hydrologic enhancements include the installation of 2 hardened low water crossings in accordance with the Hydrologic Restoration Plan drawings (Attachment E).

- a. Low Water Crossings: Two low-water crossings will replace an existing culvert and a trail road that was constructed through wetlands. The existing culverts and fill road (~12-20 ft. wide) shall be excavated to ~6-8 inches below grade, and the depression lined by stabilizing fabric and rubble stone to match the existing, natural grade on either side of the road.
- b. Turbidity measures: Best management practices for the control of turbidity and erosion shall be implemented during all work on site. All construction activities shall be conducted in accordance with state and federal NPDES regulations as set forth in Section 403.0885, F.S., Chapter 62-621.300(4), F.A.C. and an approved Stormwater Pollution Prevention Plan (SWPPP). The graded areas shall be stabilized within 48 hours of attaining final grades and at any other time necessary to prevent erosion, siltation and turbid discharges.
- c. Prior to credit release associated with this construction, the permittee shall submit as-built drawings and arrange a post-construction site visit that includes the Department, QMS, and any IRT members that are available to review the activities. The permittee shall submit a summary of the site visit with the annual progress report to facilitate future compliance reviews.

15. Work schedule. Restoration activities are ongoing in Phases 1 and 2 and are expected to occur within 1-3 years on phase 3, followed by continued monitoring and management until success. The following table shows the anticipated sequence and timing anticipated for each phased activity. Note: Phase I and II easements were recorded in 2007; Baseline monitoring was conducted on all phases and was submitted in January 2005 and has been conducted annually thereafter. The sequence of activities and dates provided are relative estimates to be used as guidelines. Variation in this schedule may be authorized with concurrence of the Department upon written request from the permittee. Note: The March 25, 2008 modification to the permit established a "Management Exclusion Zone" (Figure 8) where mitigation activities could be delayed, at the discretion of the Department, to serve as a study control area. This area is subject to all conditions of the permit but enhancement activities may be delayed until the Department's permit evaluation associated with the 4th interim credit release.

PERMIT MAJOR MODIFICATION
Devil's Swamp Mitigation Bank
File No. 0227475-001 (modification 005), Bay & Walton Counties
Page 13 of 23

Activity	Spec. Cond. #	Approx. Due Date from Phase Initiation
Record CE and Implement Security	7, 8	Initiation
Establishment of Financial Assurances	9	Initiation
Selection of Approved QMS	6	Initiation
Baseline Reporting	27, 29	Complete
Initial Harvesting and Mechanical	10a,b	1 year - 3 years*
Semi-Annual Inspection/Reporting	28	Every 6 months - perpetual
First Prescribed Fire	12	2 years - 3 years*
Hydrological Improvements	13	1 year - 2 years
Annual Monitoring and Reporting	27, 29	fall/winter
Exotic / Invasive Review	11	After harvest/fire - ongoing
Mechanical Preparation for Burn	10b	As needed
2nd Prescribed Fire	12	3-5 years*
Annual Monitoring / Reporting	27, 29	Annually
Mechanical maintenance (if necessary)	10b	3 years - 5 years*
3rd Prescribed Fire	12	4 years - 6 years*
Additional Annual Monitoring / Reporting until success per phase	27, 29	Annually (anticipate 5-8 years)
Long term management per SC 26 - Upon success determination & funding of trust; perpetual		

*Site will be burned whenever weather and fuel conditions allow (see Attachment D)

Banking Operations

16. This permit authorizes the permittee to implement a mitigation bank. The permittee is obligated to perform certain actions described herein. Failure to timely and completely comply with all of the conditions of this permit may result in a revocation or suspension of the permit, and release and withdrawal of mitigation credits may be suspended. If the permittee has not attained a modification for final credit release within 10 years after each phase is initiated, or otherwise obtained a permit modification to revise the schedule, figures, criteria, credit assessment, or management to adjust for revised expectations, in accordance with the permit re-assessment in Specific Condition 20, any potential credits that have not been released shall be forfeited, and the annual monitoring (Specific Condition 27) discontinued.

17. As specified in Rule 62-342.470(4) F.A.C., if at any time the bank is not in material compliance with the terms of this permit, no mitigation credits may be withdrawn. Mitigation credits shall again be available for withdrawal if the permittee comes back into compliance.

PERMIT MAJOR MODIFICATION
Devil's Swamp Mitigation Bank
File No. 0227475-001 (modification 005), Bay & Walton Counties
Page 14 of 23

18. Assessment of Credits. The total number of potential of credits was determined by Ch. 62-345, F.A.C. (UMAM methodology), with calculations detailed in Attachment C. The 517.99 total potential credits for the bank are allocated as 294.64 Cypress/Shrub/Forested credits and 223.35 Wet Prairie/Flatwoods credits. These credits will be released and withdrawn in accordance with Specific Conditions 20 and 21.

19. Ledger. In order to track credit releases and withdrawals, a ledger shall be kept by both the permittee and the Department indicating all potential, released, withdrawn and available credits. The current modified ledger is attached as Attachment H.

20. Credit Release Schedule. Mitigation credits will be released for use according to the following Credit Release Schedule. The credit release timetable is for estimation only. All credit releases shall be allocated as Cypress/Shrub/Forested credits and Wet Prairie/Flatwoods credits according to the following table.

Release Activity	Permit Section	% Credits Released	Credits Phase 1		Credits Phase 2		Credits Phase 3	
			WP/WF	CYS	WP/WF	CYS	WP/WF	CYS
Record Conservation Easement, Financial Assurances	III-D, III-E	10%	8.69	11.51	10.91	14.47	2.67	3.54
Logging, Selective Clearing, Brush Reduction, Exotic Control	III-F	20%	17.37	23.03	21.83	28.93	5.35	7.09
Prescribe Burn	III-G	15%	13.03	17.27	16.37	21.70	4.01	5.31
Hydrologic Improvements	III-H	5%	4.34	5.76	5.46	7.23	1.34	1.77
Performance Standards, Year 1 attained	IV-E(3)	10%	8.69	11.51	10.91	14.47	2.67	3.54
Performance Standards, Year 2 attained	IV-E(3)	10%	8.69	11.51	10.91	14.47	2.67	3.54
Performance Standards, Year 3 attained	IV-E(3)	10%	8.69	11.51	10.91	14.47	2.67	3.54
Performance Standards, Year 4 attained	IV-E(3)	10%	8.69	11.51	10.91	14.47	2.67	3.54
Performance Standards, Final attained	IV-E(2)	10%	8.69	11.51	10.91	14.47	2.67	3.54
Total	517.99	100%	86.87	115.15	109.14	144.67	26.73	35.43
Total by Phase			202.02		253.82		62.16	

Note: The bolded and highlighted credits above have been released as shown in the attached updated Ledger (Attachment H).

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 15 of 23

Upon completion of a credit release activity, the permittee may submit a minor modification request (with fee), along with supporting documentation, for the release of the appropriate number of credits. The Department shall review the documentation and perform a compliance review of the permit, prior to the issuance or denial of the minor modification to release credits. An updated ledger indicating the additional available credits shall be attached to the minor modification.

Prior to the modification request for the fourth interim credit release of a phase, the permittee shall meet with the Department to re-evaluate permit figures and criteria to determine if the phase/site is expected to attain success criteria in the allotted timeframe, and to determine the restoration requirements and schedule for the "Management Exclusion Area". Based on this evaluation, the permittee shall submit a modification request to the Department for any necessary figure, criteria, credit assessment or release schedule revisions the prior to the release of additional credits.

21. Mitigation Credit Withdrawal. Withdrawal ("debit") of the mitigation bank credits as mitigation for wetland impacts shall be accomplished through a minor modification of this permit. No fee debit modification requests shall be made in writing within 60 days of issuance of the permit or agency action requiring credits by the bank permittee. The debit modification request shall include:

- a. a complete list of all Department or NFWFMD (District) permits (or other applicable regulatory actions) that require mitigation credits from DSMB,
- b. the permit number (or other regulatory action), issue date and Department or District contact,
- c. an identification of the number and type of wetland credits required under each of these permits.

Ledger modifications, with an updated copy of the ledger sheet as an attachment, shall be issued only to the bank permittee, and copied to the agency/office that issued the agency action requiring the credit use. It is the responsibility of the impact permittee and the mitigation bank to ensure that the mitigation debit is complete and compliant with the mitigation requirements impact permit/action.

Impact permits issued under EMA/RGP Agreements shall have the number of required credits determined using the methods set forth in the EMA/RGP Agreements, and identified on the state ledger (Attachment H) as an EMA/RGP project. EMA/RGP credits required for "high quality" or "unconverted" wetlands will be debited for the state from the Cypress/Shrub/Forested ledger, and credits required for "low quality" or "converted" wetlands will be debited from the Wet Prairie/Flatwoods ledger. All other uses of DSMB credits will have their credit requirements determined by the methods required for the specific agency action (permit or consent order) requiring the credits, including UMAM.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 16 of 23

22. Mitigation Service Area. The mitigation service area (MSA) is the geographic area within which adverse impacts may be offset by the bank. The MSA for the DSMB includes portions of Bay, Walton, and Washington Counties as depicted on Figure 2. The MSA reflects the Corps of Engineers MSA adopted on November 19, 2009, and is generally bounded by sub-watershed or ecoregion boundaries within three Hydrologic Unit Codes (HUC): St. Andrews Bay, Choctawhatchee River, and Choctawhatchee Bay. MSA boundaries are available as a data layer upon request from the St. Joe Company or the Department or websites supported by the agency for this project. Credits may be appropriate for use as mitigation for unavoidable impacts to wetlands typical of natural or disturbed communities as described in Attachment C. However all determinations are made by the impact reviewer on a case-by-case basis. Credits are not allowed for use outside of the MSA except as stipulated in Ch. 373.4136(6)(d), F. S.

Success Criteria

23. Final Success. The overall goal of the mitigation bank is to reduce the planted pine and fire-suppressed plant communities shown in Figure 4 to their native condition, as described by FNAI and in Attachment C, as shown in Figures 6 and 7, and as documented by the criteria below. The bank, or phase thereof, will be deemed successful when all of the following criteria, in addition to the community descriptions in Attachment C, have been met for a period of at least one full year without intervention in the form of eradication of undesirable species, prescribed fire, or mechanical maintenance.

a. **Entire Site:**

- 1) At least three successful prescribed burns have been completed in accordance with Specific Condition 12;
- 2) Plants are reproducing naturally, either by normal or typical vegetative reproduction or through seedling establishment, growth, and survival;
- 3) All wetland target communities shall meet wetland delineation criteria as defined by Ch. 62-340, F.A.C.;
- 4) Coverage by category I and II invasive exotic plant species (Attachment B and pursuant to the most current list established by the Florida Exotic Pest Plant Council at www.fleppc.org) shall not exceed 1% total coverage per acre;
- 5) Nuisance species including, but not limited to *Typha*, *Rubus*, and vines such *Vitis* and *Smilax*, are <5% cover per acre (10% in uplands); and
- 6) Vegetation species composition (per Attachment G and criteria below) and relative abundance and cover is consistent with or annually trending toward that of its reference FNAI community and appropriate community descriptions in Attachment C.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 17 of 23

b. Sandhills:

- 1) At least 30 native, non-canopy species per transect (including coppice shrubs);
- 2) Less than 60% bare ground, leaf litter (combined);
- 3) At least 50% relative cover with herbaceous species (less than 50% relative cover with woody shrubs);
- 4) At least 80% shrubs reduced to coppice <2m in height;
- 5) An average of 30-70 pine trees per acre;

c. Mesic Pine Flatwoods:

- 1) At least 40 native, non-canopy species per transect (including coppice shrubs);
- 2) Less than 20% bare ground and leaf litter (combined);
- 3) At least 60% relative cover with herbaceous species (less than 40% relative cover with woody shrubs);
- 4) At least 80% shrubs reduced to coppice <2m in height;
- 5) An average of 10-70 pine trees per acre;

d. Wet Prairie:

- 1) At least 50 native, non-canopy, wetland (FACW or OBL) species per transect (including coppice shrubs);
- 2) Less than 20% bare ground, leaf litter and water (combined);
- 3) At least 70% relative cover with herbaceous species (less than 30% relative cover with woody shrubs);
- 4) At least 80% shrubs reduced to coppice <2m in height;
- 5) An average of less than 30 trees per acre, excluding cypress;

e. Bog:

- 1) According to status reports, annual monitoring, QMS affirmation and onsite inspection, most of the boundary of the bog adjacent to wet prairie or uplands and generally at least 25% of the bog area of each phase shall have been burned or mechanically treated to reduce shrub vegetation to coppice. It is anticipated that in earlier phases and over time, fire will extend further into the bog.
- 2) 20 or more native, wetland (FACW or OBL) species per transect (trees, shrubs, herbs combined).

f. Dome Swamp:

- 1) Monitoring documents increasing growth and density of appropriate canopy trees;
- 2) At least 5 native wetland (FACW or OBL) species per transect (trees, shrubs, herbs combined);

g. Seepage Stream:

- 1) No evidence of unnatural erosion, drainage or inundation in streambed or vegetation
- 2) Monitoring documents no decline in existing vegetation.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 18 of 23

h. Compliance:

- 1) The permittee has conducted inspections, monitoring and management, including the appropriate schedule of prescribed burns, and has submitted all required reports to the satisfaction of the Department;
- 2) All security measures are established and in working order; and
- 3) A long term management plan as defined in Specific Condition 26 and long term management entity has been submitted and approved, and the long term management trust fund is funded in compliance with Specific Condition 9.

i. UMAM Assessment: Using monitoring data and reports and in conjunction with the permittee and available members of the IRT, the Department shall inspect the site and conduct a UMAM analysis to ensure that all communities have reached, or are expected to reach and maintain, the "with mitigation" community descriptions in Attachment C and UMAM scores in Table C-1, under the permitted management requirements in Specific Condition 26.

24. Interim release criteria. Progressive environmental enhancement or trending toward success provides environmental lift for which credit may be released incrementally prior to achieving all the final success criteria. Interim credits will be released at least one year the previous interim release if representative monitoring data and inspections indicate that the following criteria are met and will be maintained:

- a. Exotic species are maintained or trending towards 1% cover or less;
- b. Harvesting and mechanical clearing has been conducted in accordance with Specific Condition 10;
- c. Prescribed fires have commenced and are being conducted in accordance with Specific Condition 12;
- d. Woody shrubs have been reduced and maintained in coppice;
- e. Construction has been conducted in accordance with Specific Condition 14;
- f. All communities are trending toward the descriptions in Attachment C as evidenced during inspection and in the qualitative transects;
- g. There is a 10% decrease in bare ground/leaf litter/water from the previous year - or - it is approaching/attaining final success for the community;
- h. There is a 10% increase in relative cover of herbaceous species from the previous year - or - it is approaching/attaining final success for the community;
- i. There is a 10% increase in species richness from the previous year - or - it is approaching/attaining final success for the community;
- j. To attain the third interim release criteria, at least two successful fires shall have been documented;
- k. To attain the fourth interim release criteria, the Department shall re-assess and modify, as necessary, permit conditions and the "Management Exclusion Area" restoration and schedule; and
- l. The project is in compliance with the permit.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 19 of 23

25. Turbidity Monitoring. Monitoring during construction activities is intended to ensure compliance with best management practices, to minimize wetland impacts and to ensure that there are no turbidity plumes or violations of state water quality standards pursuant to C. 62-302, F.A.C. Turbidity monitoring shall be conducted daily using a portable turbidimeter whenever there is discharge to surface water beyond the limits of construction. The background monitoring site shall be placed upstream of the influence of the discharge. Compliance monitoring sites shall be within 10 feet of the discharge or turbidity curtain, and within any visible plume. The permittee shall stop work and immediately notify the Department if turbidity levels within waters of the state exceed state water quality standards pursuant to Rule 62-302, F.A.C.

26. Adaptive Management and Maintenance. Monitoring data, observation and the QMS's professional judgment will dictate the type of management activity used in each ecological community to ensure long-term success. Additional brush reduction, exotic species treatment, vegetation seeding or planting, along with fire management, may be required to achieve and maintain success in perpetuity. At a minimum, the permittee shall conduct quarterly inspections of the property until criteria for the 3rd interim credit release is attained and semi-annual inspections thereafter, for the purpose of assessing and correcting the following management or maintenance needs:

- a. Reporting and timely maintenance, restoration, stabilization or repair of any damaged structures, fencing, signage, equipment, roads, erosion or dumping areas identified in the inspections;
- b. Conducting prescribed burns in accordance with the Specific Condition 12 at a frequency and season optimal to promote desirable vegetation and wildlife, with a minimum of one growing season burn every 3 years;
- c. Conducting exotic and nuisance plant control, as necessary, to maintain success criteria and avoid infestation of these species;
- d. Removing feral/exotic animals that threaten the mitigation success;
- e. Prior to final release, the permittee shall prepare a Department-approved, updated, stand-alone management plan for long-term management to be used as enforceable conditions for the long-term manager. The permittee may not transfer management responsibility until the final success criteria are met, a long-term manager is approved by the Department, and the long-term trust fund is fully funded.

27. Monitoring. Qualitative and quantitative monitoring of vegetation and community structure shall be required until the bank is determined to have achieved the success criteria in Specific Condition 23. The Department has reviewed and approved the proposed monitoring plan in Attachment F.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 20 of 23

28. Progress Reports. In January and July, the permittee shall submit semi-annual status reports/letters containing the following information regarding the project:

- a. Dates that permitted activities were begun and completed;
- b. Brief description and extent of work completed since the previous report;
- c. Drawings indicating areas of construction or management implementation;
- d. A description of problems encountered and solutions undertaken;
- e. Inspection dates and findings;
- f. Site management tasks and assessment reports (harvest/mechanical treatment/ fire/exotic surveys) undertaken, including dates; and
- g. A brief description of the work and/or site management the permittee anticipates commencing, continuing or completing in the next six months;
- h. A qualitative assessment of each community.

29. Annual Reports. The Annual Report is a summary of the yearly monitoring for success and an assessment of the degree to which the bank is attaining success. This report shall be submitted after completion of the fall vegetation monitoring in accordance with Specific Condition 27. This report is due in January and shall be submitted annually until the Bank site has been determined to be successful. The Annual Report that requests a determination of final success in accordance with Specific Condition 23 shall also include the following information:

- a. a summary of all previous Annual Reports, including timeline graphics;
- b. documentation of how and when each success criterion was attained;
- c. a notation of management problems, adaptations and notable successes;
- d. a summary of compliance and/or enforcement submittals or actions during the implementation of the bank; and
- e. any other information helpful for the continued success of the mitigation.

The Report requesting the final success determination shall be submitted to both the Department and the long-term manager.

Notice of Rights

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. Petitions filed by the permittee and the parties listed below must be filed within 21 days of receipt of this letter. Petitioner shall mail a copy of the petition to the permittee at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

PERMIT MAJOR MODIFICATION

Devil's Swamp Mitigation Bank

File No. 0227475-001 (modification 005), Bay & Walton Counties

Page 21 of 23

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the permittee's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action; or proposed action;
- (d) A statement of the material facts disputed by petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

Under rule 62-110.106(4), F.A.C, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the petition deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this letter. Persons whose substantial interests will be affected by any decision of the Department with regard to the permit have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition, the attached permit modification will be finalized. Upon timely filing of a petition or a request for an extension of time this permit modification will not be effective until further Order of the Department.

Any party to this letter has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; and by filing a copy with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Notice of Permit Modification is filed with the Clerk of the Department.

List of Figures:

- Fig. 1 - Location and Surrounding Land Use Map
- Fig. 2 - MSA Map
- Fig. 3 - Soils Map
- Fig. 4 - Existing Conditions Map
- Fig. 5 - Mitigation Plan Map
- Fig. 6 - Proposed Conditions Map
- Fig. 7 - Success Criteria Representation
- Fig. 8 - Monitoring Transects and 'Management Exclusion Zone' Map

List of Attachments:

- A - Security and Hunting
- B - FLEPPC List
- C - Performance Standards & UMAM
- D - Fire Management Plan
- E - Hydrological Restoration Plan
- F - Monitoring Plan
- G - Appropriate Species Lists
- H - Credit Ledger
- I - References

(Signatures -next page)

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION



John A. Coates, Deputy Director
Division of Water Resource Management

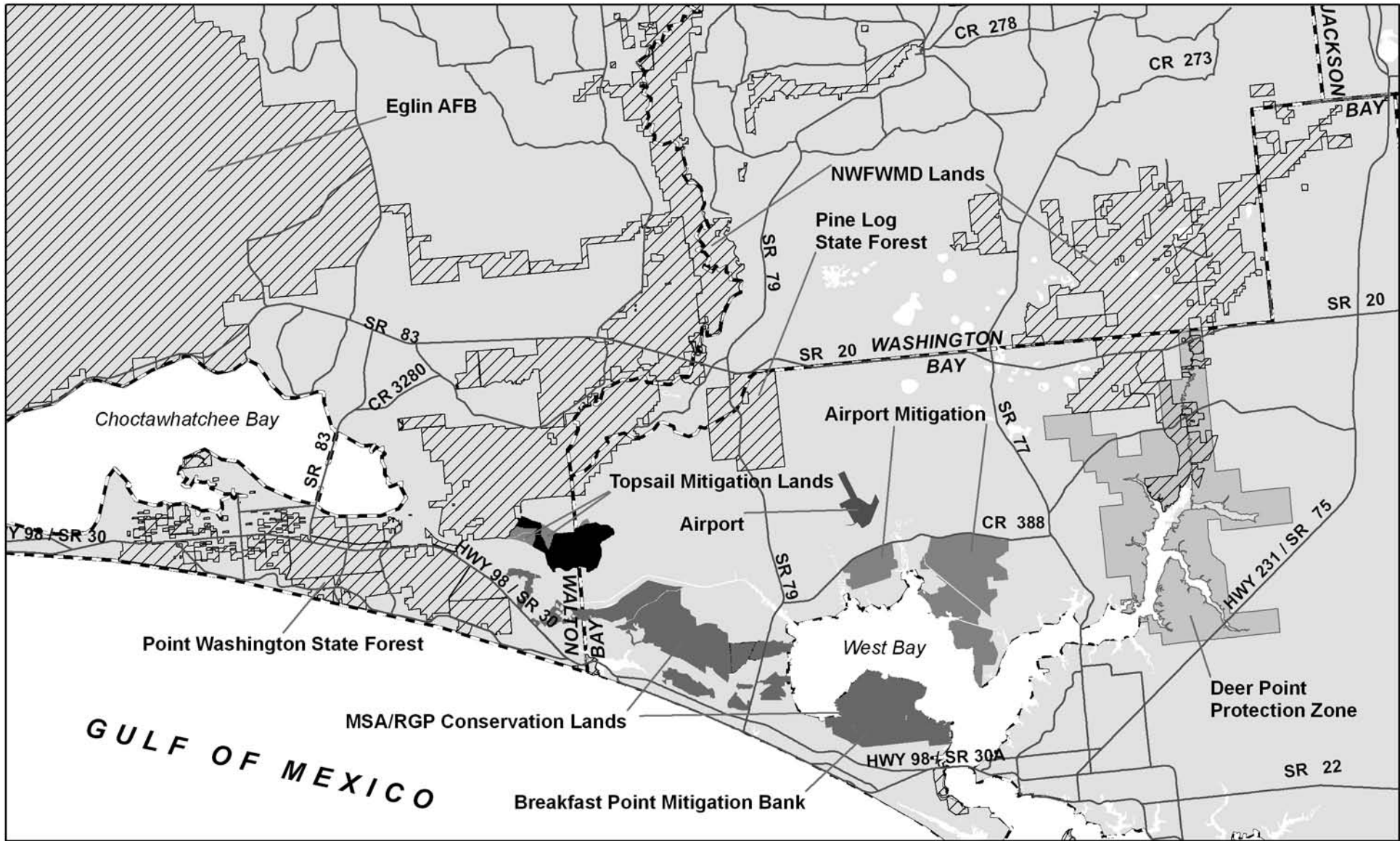
CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies this PERMIT was mailed before the close of business on 9/17/10 (date)

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to 120.52(7) F. S.,
with the designated Department Clerk, receipt of which is hereby acknowledged.

 Clerk 9/17/10 Date



Legend

- DSMB Site Boundary
- Public Lands
- Mitigation/Conservation Lands
- Deer Point Protection Zone
- Counties
- Major Roads
- Water

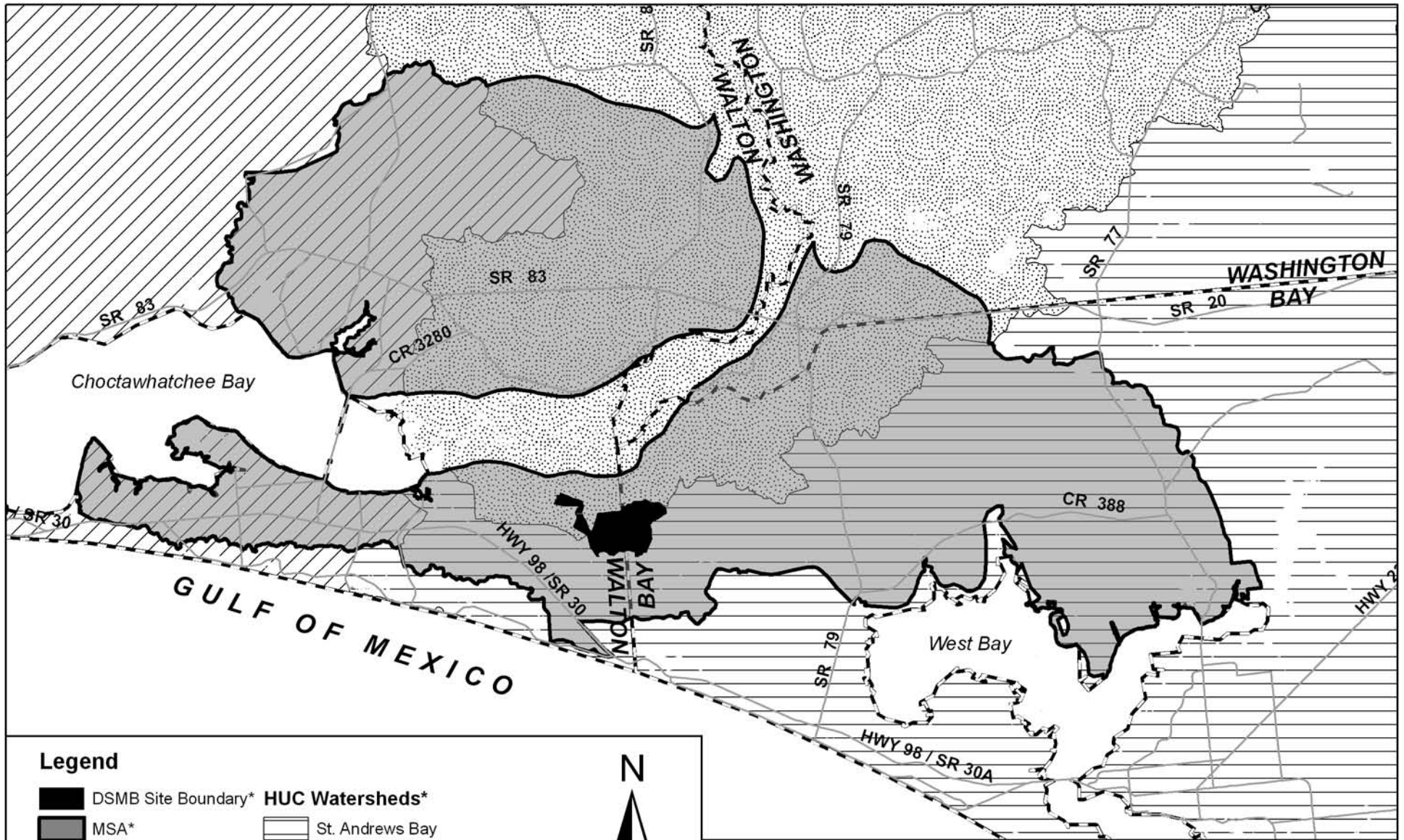


Figure 1: Location and Surrounding Land Use Map

Devils Swamp Mitigation Bank

Ecological Resource
Consultants, Inc.

MKS 08.12.10
ERC #10-130



Legend

- DSMB Site Boundary*
- MSA*
- Major Roads
- Water
- HUC Watersheds***
- St. Andrews Bay
- Choctawhatchee Bay
- Choctawhatchee River

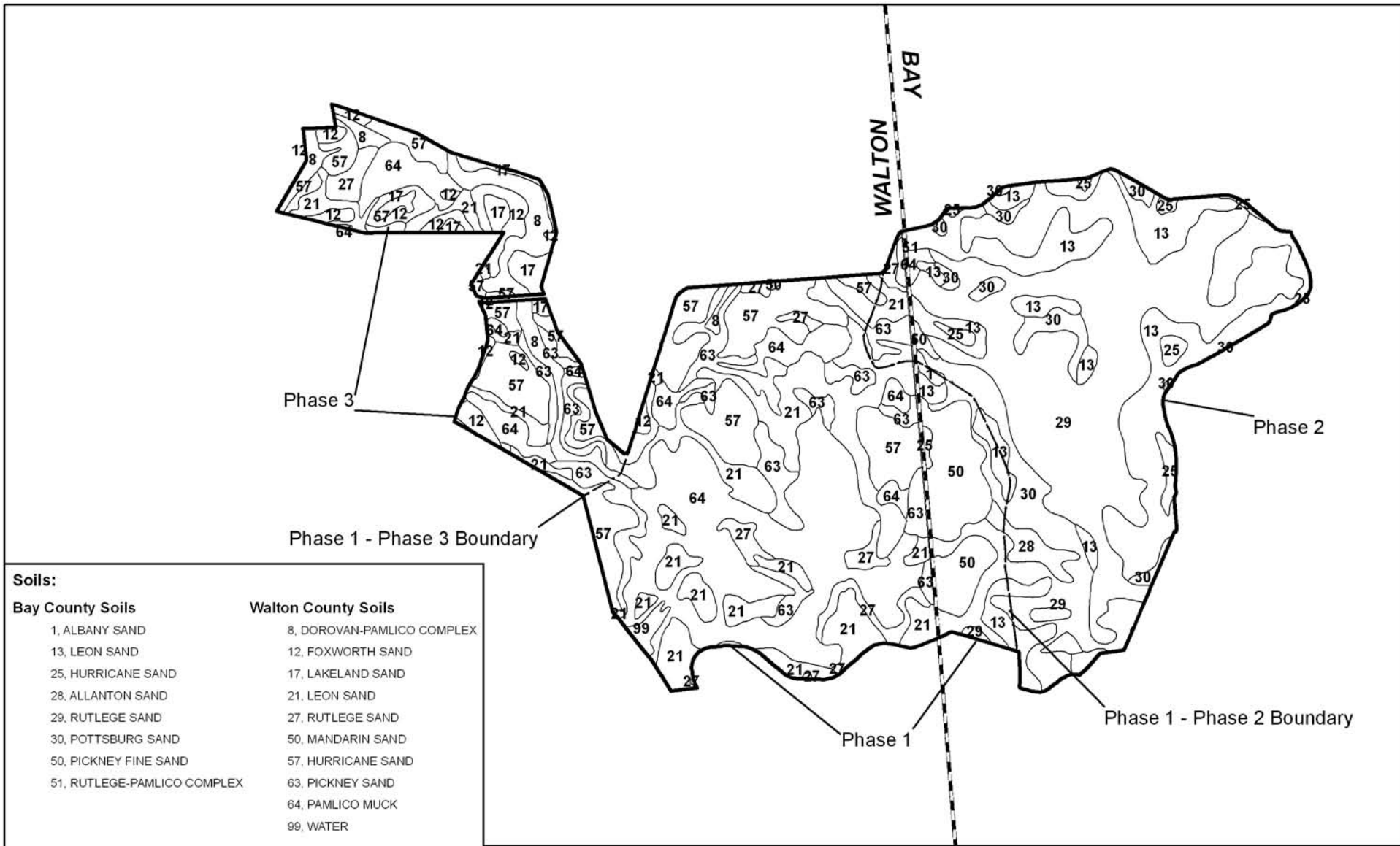


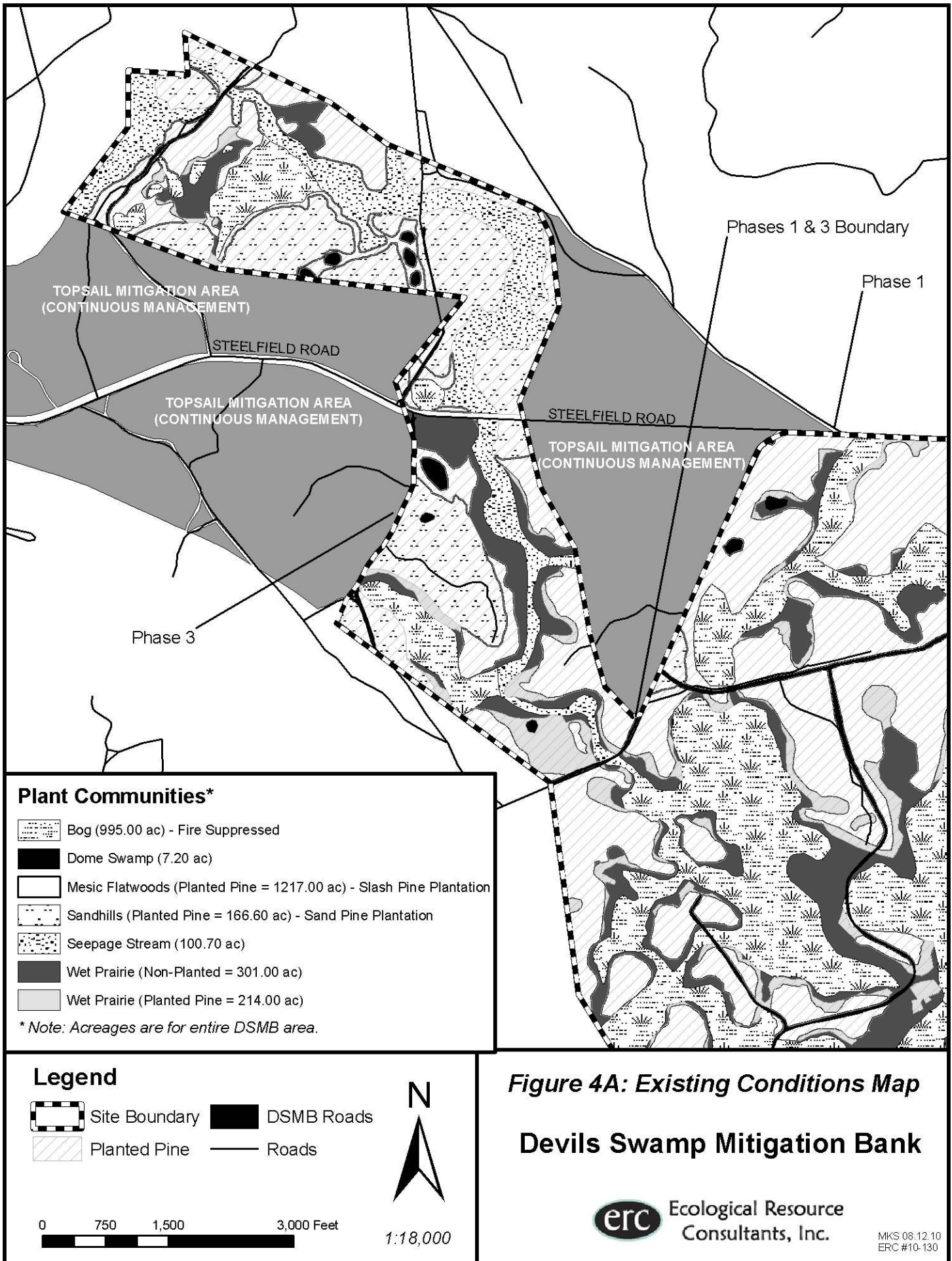
Figure 2: MSA Map

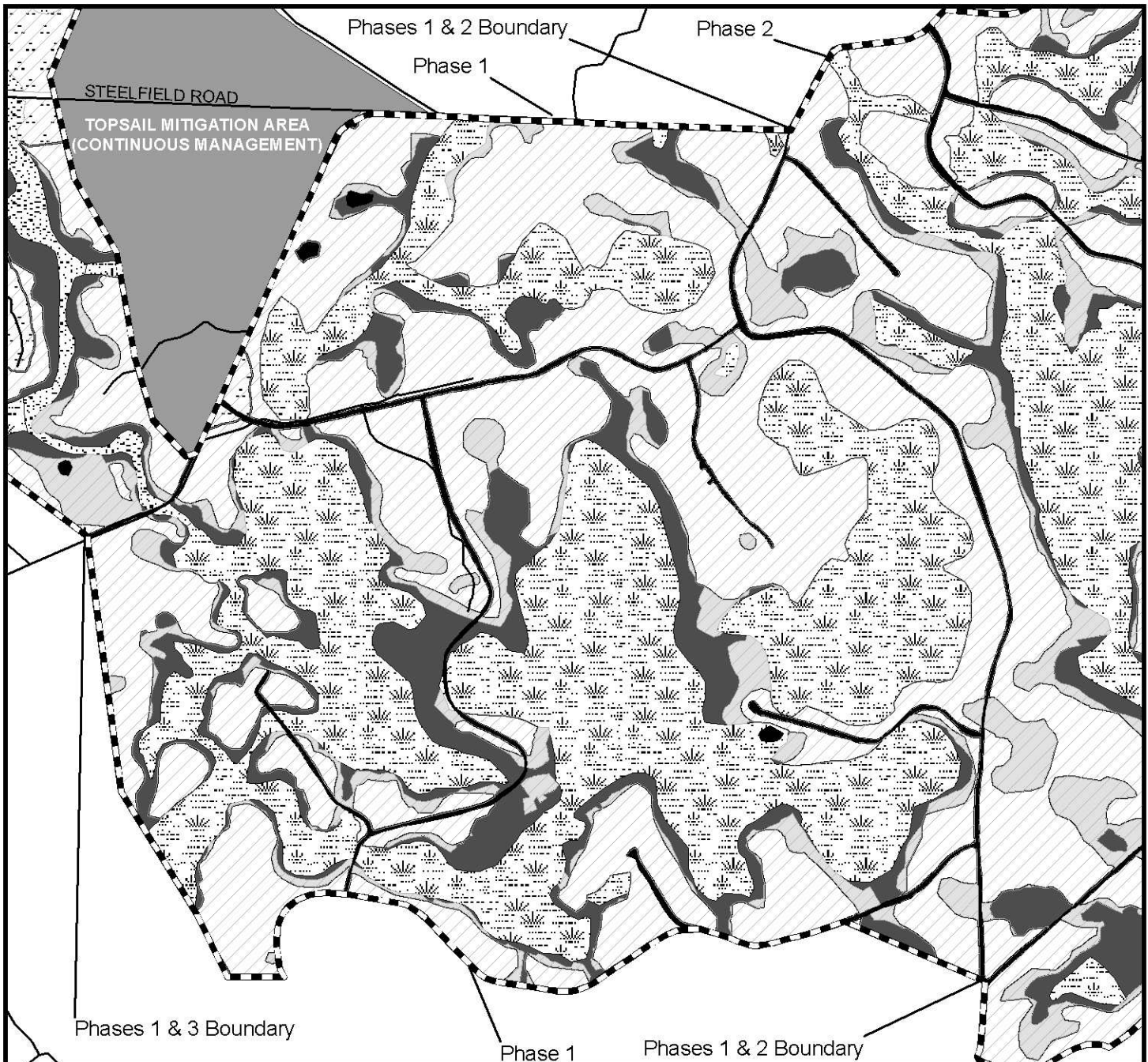
Devils Swamp Mitigation Bank



*Service area reflects Federally approved MSA which was generally based on USGS 12-digit watershed boundaries, EPA Ecoregion Level 4 data, and public lands. The individual bank boundary is available from St. Joe or FDEP at www.dep.state.fl.us.







Plant Communities*

- | | |
|---|--|
| Bog (995.00 ac) - Fire Suppressed | Seepage Stream (100.70 ac) |
| Dome Swamp (7.20 ac) | Wet Prairie (Non-Planted = 301.00 ac) |
| Mesic Flatwoods (Planted Pine = 1217.00 ac) - Slash Pine Plantation | Wet Prairie (Planted Pine = 214.00 ac) |
| Sandhills (Planted Pine = 166.60 ac) - Sand Pine Plantation | |
- * Note: Acreages are for entire DSMB area.

Legend

- | | |
|---------------|------------|
| Site Boundary | DSMB Roads |
| Planted Pine | Roads |



0 750 1,500 3,000 Feet

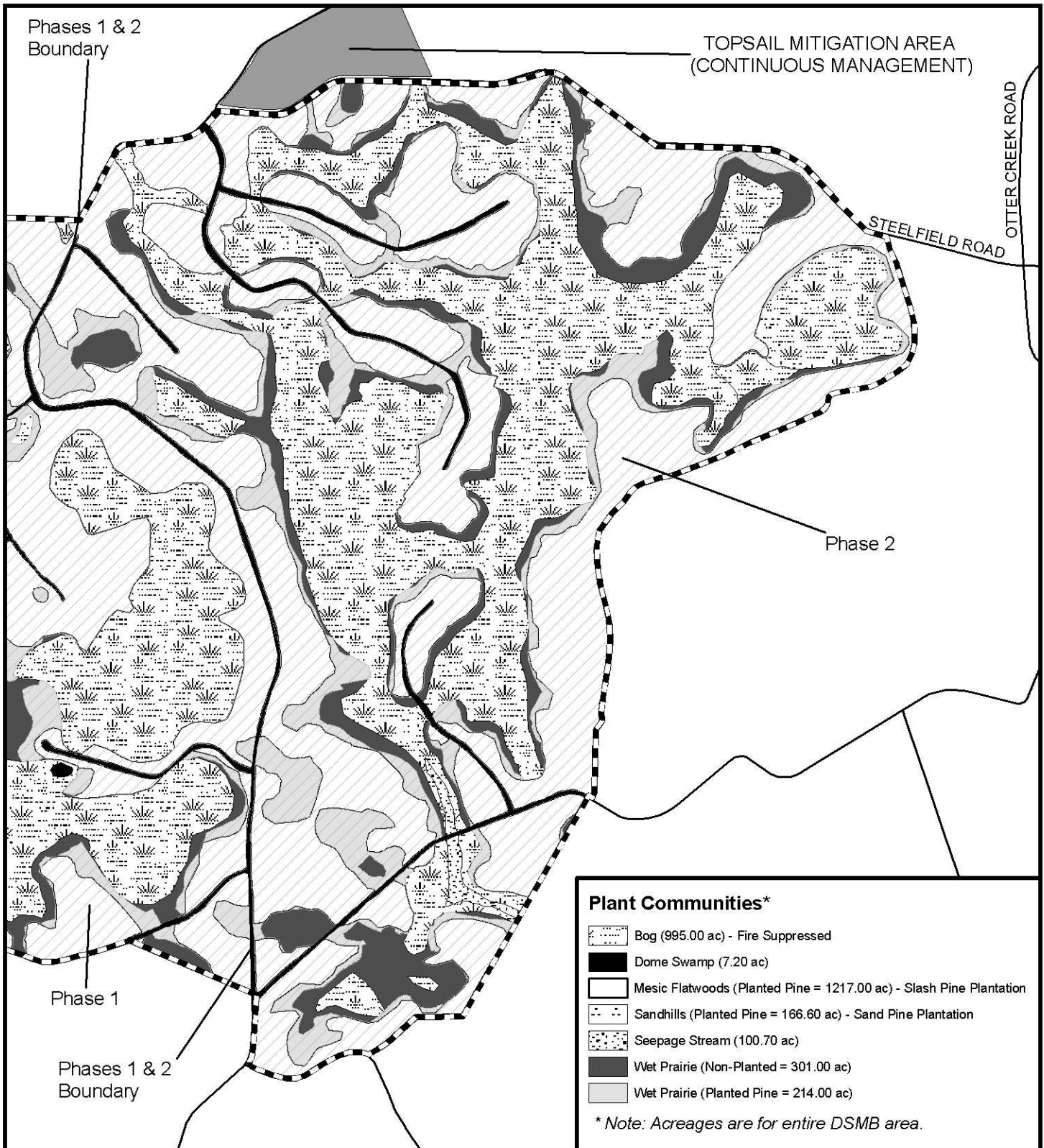
1:18,000

Figure 4B: Existing Conditions Map

Devils Swamp Mitigation Bank

Ecological Resource Consultants, Inc.

MKS 08.12.10
ERC #10-130



Plant Communities*

	Bog (995.00 ac) - Fire Suppressed
	Dome Swamp (7.20 ac)
	Mesic Flatwoods (Planted Pine = 1217.00 ac) - Slash Pine Plantation
	Sandhills (Planted Pine = 166.60 ac) - Sand Pine Plantation
	Seepage Stream (100.70 ac)
	Wet Prairie (Non-Planted = 301.00 ac)
	Wet Prairie (Planted Pine = 214.00 ac)

* Note: Acreages are for entire DSMB area.

Legend

	Site Boundary		Roads
	Planted Pine		DSMB Roads

0 750 1,500 3,000 Feet






1:18,000

N

Figure 4C: Existing Conditions Map
Devils Swamp Mitigation Bank



Legend

-  Site Boundary
-  Exotic/Nuisance Species Maintenance - Ecotone Enhancement
-  Prescribed Burn, Exotic/Nuisance Species Maintenance
-  Mechanical, Prescribed Burn, Exotic/Nuisance Species Maintenance
-  Harvest, Mechanical, Prescribed Burn, Exotic/Nuisance Species Maintenance
-  Longleaf Pine Planting Areas



0 1,250 2,500 5,000 Feet



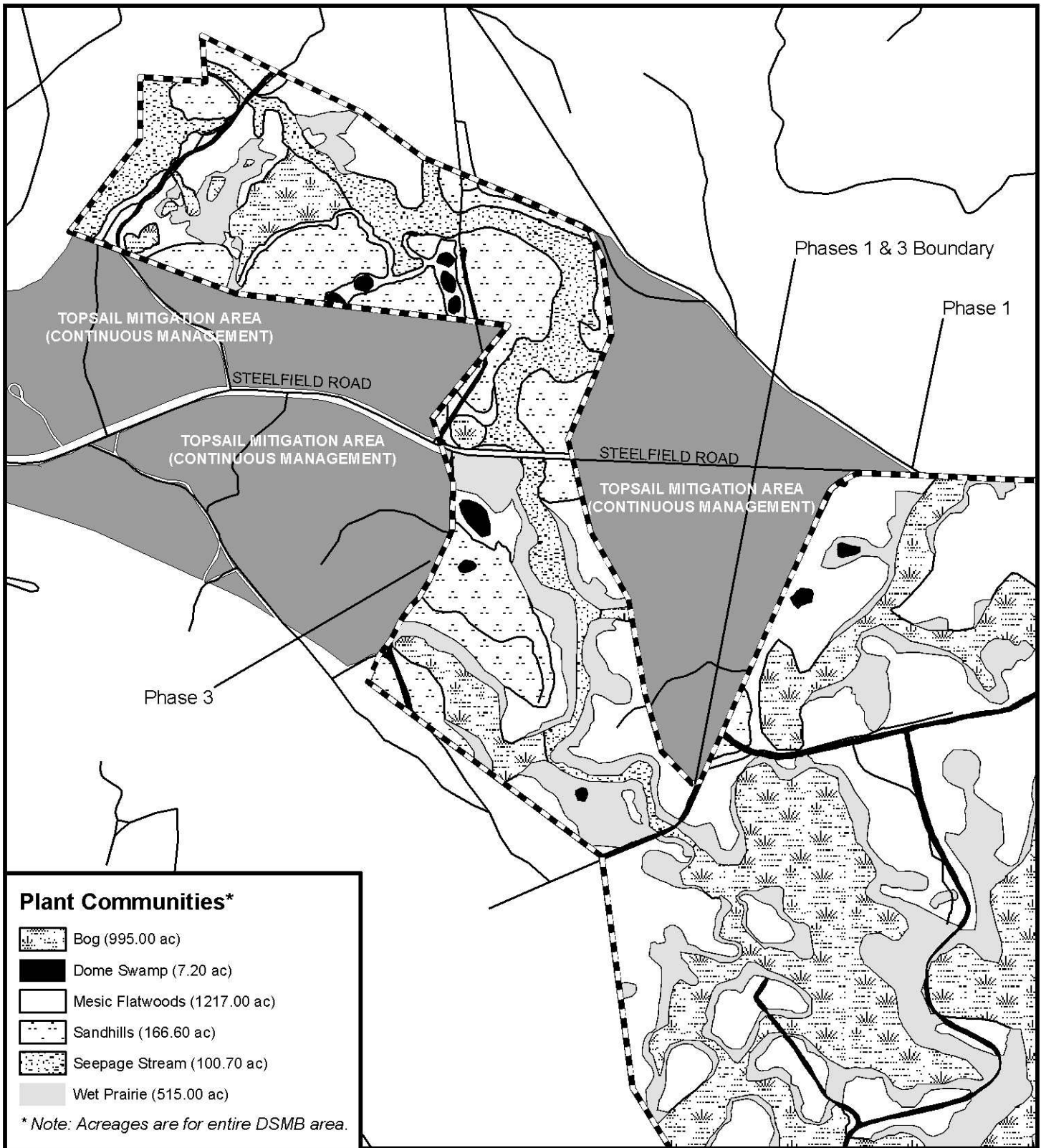
1:30,000

Figure 5: Mitigation Plan Map

Devils Swamp Mitigation Bank

 **Ecological Resource
Consultants, Inc.**

MKS 08.12.10
ERC #10-130






Plant Communities*

-  Bog (995.00 ac)
-  Dome Swamp (7.20 ac)
-  Mesic Flatwoods (1217.00 ac)
-  Sandhills (166.60 ac)
-  Seepage Stream (100.70 ac)
-  Wet Prairie (515.00 ac)

* Note: Acreages are for entire DSMB area.

Legend

-  Site Boundary
-  Roads
-  DSMB Roads



0 750 1,500 3,000 Feet

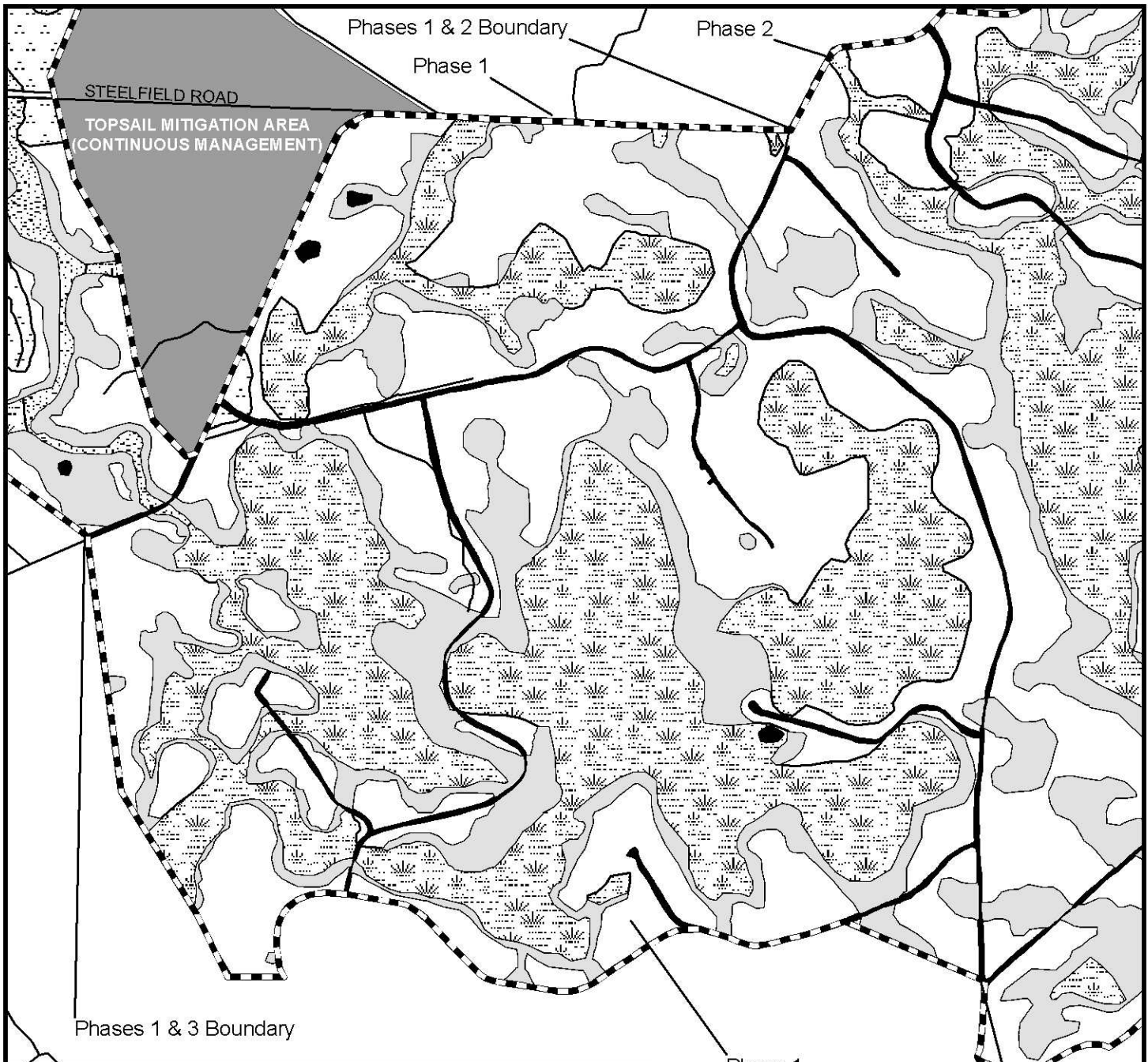
1:18,000

Figure 6A: Proposed Conditions Map

Devils Swamp Mitigation Bank

 Ecological Resource Consultants, Inc.

MKS 08.12.10
ERC #10-130



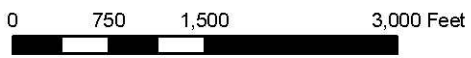
Plant Communities*

Bog (995.00 ac)	Sandhills (166.60 ac)
Dome Swamp (7.20 ac)	Seepage Stream (100.70 ac)
Mesic Flatwoods (1217.00 ac)	Wet Prairie (515.00 ac)

* Note: Acreages are for entire DSMB area.

Legend

- Site Boundary
- Roads
- DSMB Roads



1:18,000

Figure 6B: Proposed Conditions Map

Devils Swamp Mitigation Bank



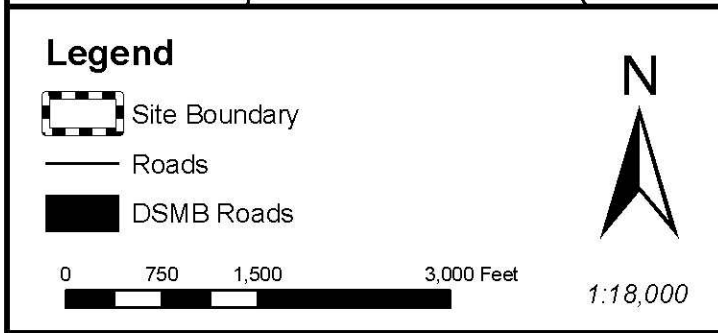
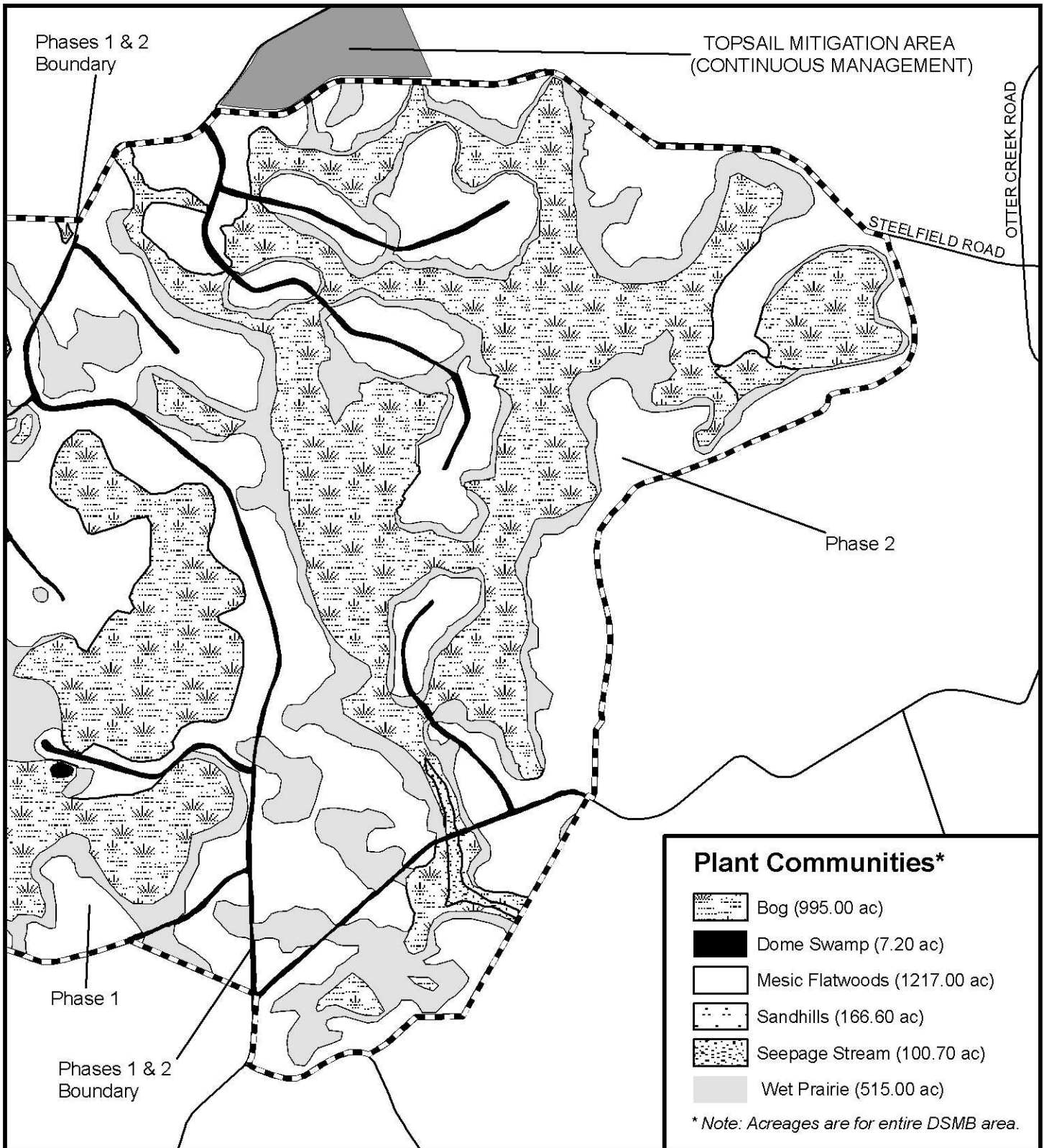
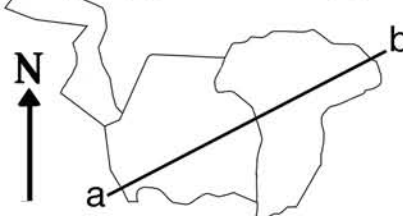
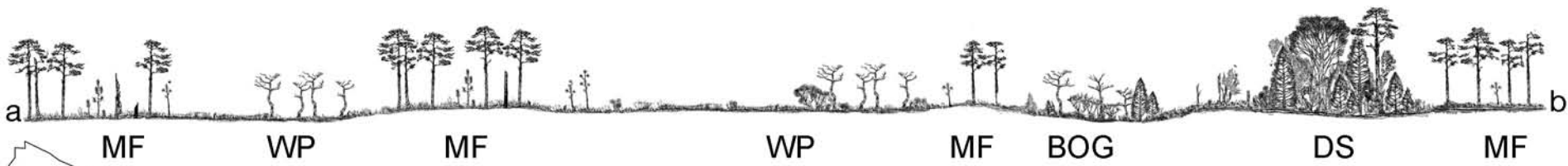
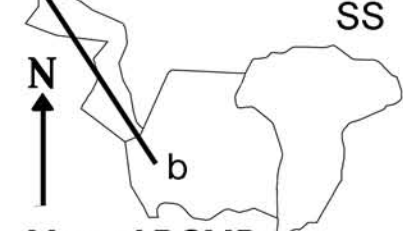
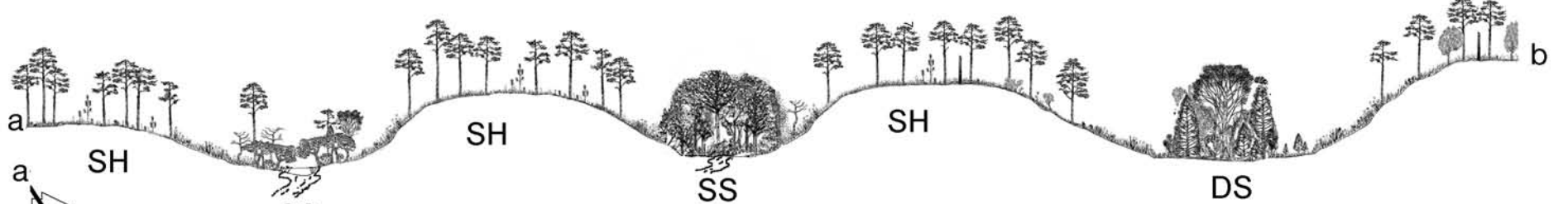


Figure 6C: Proposed Conditions Map
Devils Swamp Mitigation Bank



Map of DSMB with generalized transect location

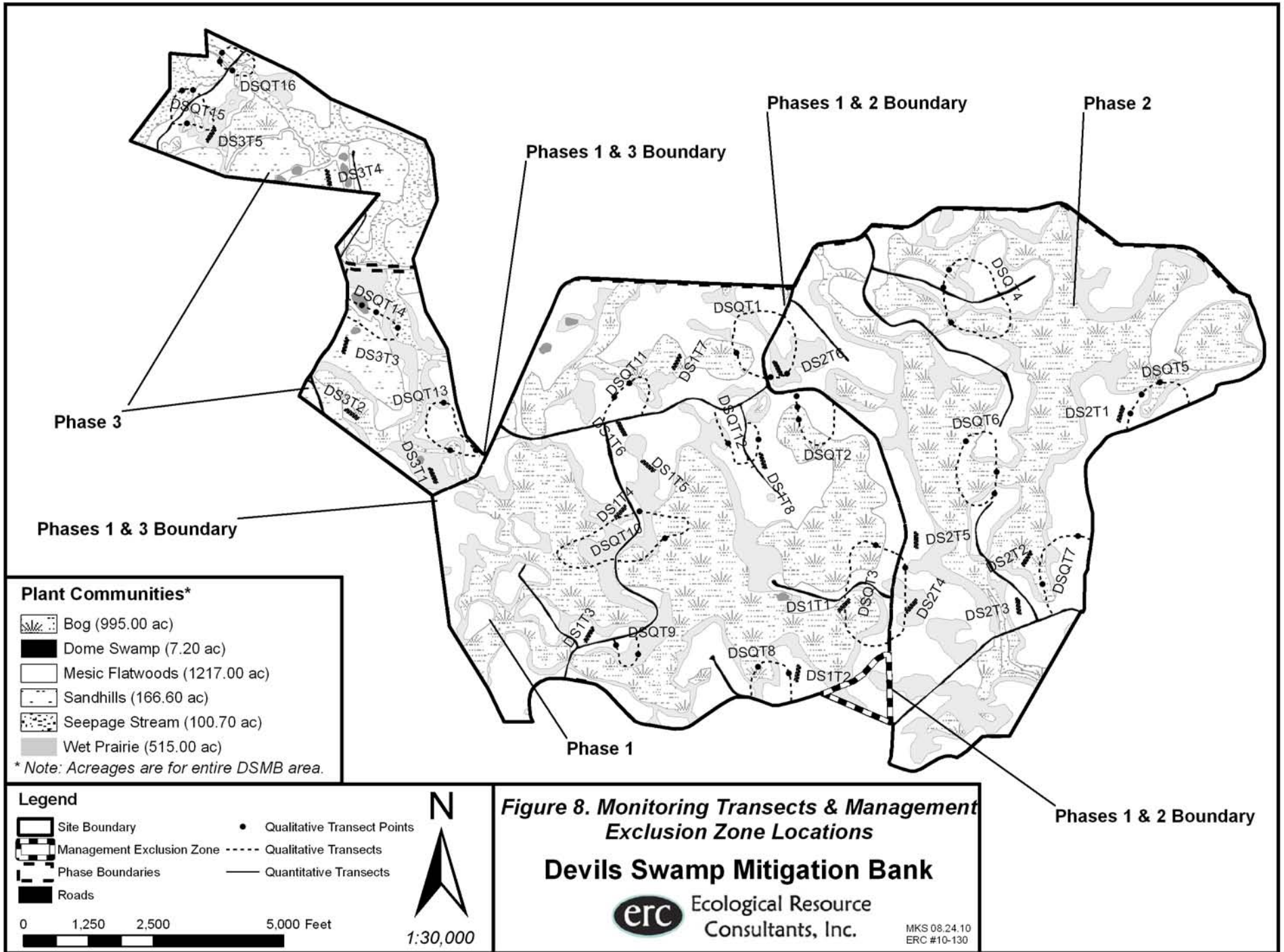
	Mesic Flatwoods MF	Wet Prairie WP	Bog	Dome Swamp DS
Groundcover richness	40 or more spp per transect	50 or more spp per transect	20 or more spp per transect	5 or more spp per transect
Lifeform	80% shrubs reduced to coppice	80% shrubs reduced to coppice	At least 25% of area burned per phase	Increased growth and density of appropriate canopy species
Herbaceous & Shrub coverage	60% relative cover herbs; 40% or less woody plants	70% relative cover herbs; 30% or less woody plants		
Canopy Density	Approximately 10-70 trees/acre	Less than 30 trees/acre		30 or more trees per acre
Invasive Exotic Species	Not to exceed 1% total coverage per acre	Not to exceed 1% total coverage per acre	Not to exceed 1% total coverage per acre	Not to exceed 1% total coverage per acre



Map of DSMB with generalized transect location

	Sandhill SH	Seepage Stream SS
Groundcover richness	30 or more spp per transect	No decline in existing vegetation
Lifeform	80% shrubs reduced to coppice	
Herbaceous & Shrub coverage	50% relative cover herbs; 50% or less woody plants	
Canopy Density	Approximately 30-70 trees/acre	
Invasive Exotic Species	Not to exceed 1% total coverage per acre	Not to exceed 1% total coverage per acre

Figure 7 - Depiction of Ecological Communities with Summary of Success Criteria



ATTACHMENT A - SECURITY & HUNTING PLAN

SECURITY

The Devil's Swamp Mitigation Bank is located in a rural portion of Bay and Walton Counties. As such, the site has limited exposure to the general population. The site is surrounded by private property with access restricted to two distinct, narrow (<100') corridors.

Gates

All entrance roads will be gated to control access (Figure 1). Gates will be constructed of 4-inch steel channel, painted blaze orange, and equipped with reflective tape. Gates will be locked and access permitted for St. Joe staff and their contractors, agency representatives, and hunting lease members and their guests only. Security housing around locks will be used to reduce the threat of illegal entry into the area.

Gates will be monitored bi-weekly by hunt club members. Monitoring will be a condition of the hunting lease agreement. Hunt club members are required to contact St. Joe staff (850-234-2204) within 24 hours of discovering a breach in gate security. Security gate damage will be repaired immediately.

Signs

The area boundary will be adequately posted with NO TRESPASSING signs indicating the site as an environmental conservation area and noting the DEP and Corps permit numbers. Signs will also be posted at each entry point. All designated roads will be posted with signs. Hunt clubs are responsible for placement of road signs. The condition of entry and road signs will be evaluated during bi-weekly security inspections by hunt club members. The inspection and evaluation of signs will be a condition of the hunting lease agreement. The same reporting protocol for gates also will apply for sign security checks. No trespassing signs also will be posted around the 750' perimeter of all active eagle nests.

Additional

All unauthorized persons, signs of trespassing, and/or signs of illegal activities or disturbances (e.g., dumping, off-road driving, disturbance of restoration areas, yahooping) observed by hunt club members within the mitigation bank must be reported to St. Joe staff (850-234-2204) within 24 hours of discovery.

HUNTING CONDITIONS

- 1) Hunting leases will be reviewed every two years to assure that activities are not contrary to the overall mitigation bank goals. Hunting is being allowed because of the stewardship history and security benefits exhibited by the Hunt Clubs. These conditions are tied into the Mitigation Bank Security Plan. Conditions are subject to modification pending evaluation of bi-annual reviews.
- 2) Hunting is limited to hunt club members and their supervised guests, and is limited to one hunter per 150 acres.
- 3) All club members and their guest must abide by all State and Federal laws and regulations regarding the taking of fish and wildlife. Additional restrictions on the taking and reporting of game species are specified below:
 - a) Hunting is restricted to the following species:
 1. White-tailed deer
 2. Feral hog
 3. Wild turkey
 4. Gray squirrel
 5. Mourning and white-winged dove
 6. Coyote

Only these species may be hunted. No other game or non-game species may be hunted, taken, harassed or otherwise disturbed. This applies to all other species including reptiles and amphibians.
 - b) All leases are required to participate in a Quality Deer Management program that protects young bucks and the FWC antlerless deer program. Harvest regulations must require bucks to have at least one branched antler to be legal to take.
 - c) The use of dogs to hunt deer and hogs is authorized during day light hours only. All dogs must be caught and removed from the area by the end of each day.
 - d) Only adult male turkeys are legal to take.
 - e) There is no size restriction, bag limit or season on the taking of feral hogs.
 - f) All other legal game can be harvested according to State and Federal seasons and bag limits. Additional harvest restrictions may be established depending on harvest reports.
 - g) An annual harvest report must be submitted to St. Joe Timberland Company no later than June 1 of each year.
- 4) No unauthorized modification or disturbance of habitats is allowed.
- 5) Off-road use of 4X4 or ATV vehicles is prohibited. Vehicles use is restricted to named/numbered roads. The only allowable uses for vehicles are hunting, fishing and security checks.
- 6) St. Joe Timberland Company shall convene an annual meeting with all hunt clubs leasing property within the area to educate club members on the goals of the mitigation bank, area regulations and review compliance with these conditions.
- 7) No hunting is allowed within 750 feet of any bald eagle nest. "No trespassing" signs will be posted along the perimeter of these zones.

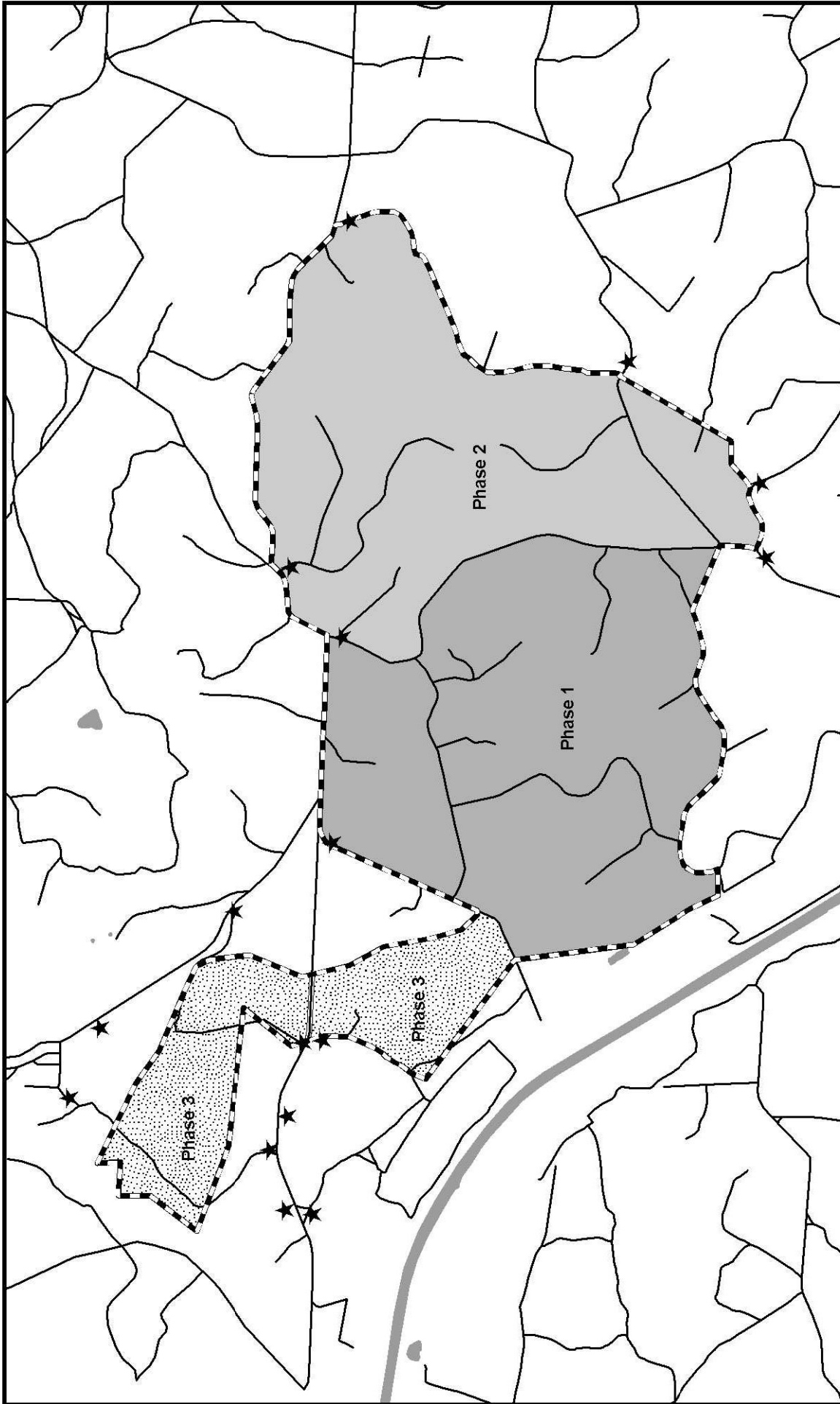


Figure 1. Security Plan Map
Devils Swamp Mitigation Bank

erc Ecological Resource
 Consultants, Inc.

MKS 07 27 10
 ERC #10-130

Legend

- ★ Security Gate Locations (Already Installed)
- ▬ Site Boundary
- ▬ Roads

0 1,500 3,000 6,000 Feet

1:36,000

N

ATTACHMENT B - FLEPPC List

Florida Exotic Pest Plant Council's 2007 List of Invasive Plant Species

Purpose of the List: *To focus attention on —*

- ▶ the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- ▶ the habitat losses from exotic pest plant infestations,
- ▶ the impacts on endangered species via habitat loss and alteration,
- ▶ the need to prevent habitat losses through pest-plant management,
- ▶ the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- ▶ changes in the seriousness of different pest plants over time,
- ▶ the need to provide information that helps managers set priorities for control programs.

CATEGORY I

Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I	N	C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		C, S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebeck</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (=A. <i>crenulata</i> misapplied)	coral ardisia	I		N, C, S
<i>Ardisia elliptica</i> (=A. <i>humilis</i> misapplied)	shoebutton ardisia	I	N	C, S
<i>Asparagus aethiopicus</i> (=A. <i>sprengeri</i> ; A. <i>densiflorus</i> misapplied)	asparagus-fern	I		N, C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bishopwood	I		C, S
<i>Calophyllum antillanum</i> (=C. <i>calaba</i> and C. <i>inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian-pine, beach sheoak	I	P, N	N, C, S
<i>Casuarina glauca</i>	suckering Australian-pine, gray sheoak	I	P, N	C, S
<i>Cinnamomum camphora</i>	camphor tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I	N	S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S
<i>Ficus microcarpa</i> (F. <i>nitida</i> and F. <i>retusa</i> var. <i>nitida</i> misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (I. <i>brasiliensis</i> misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i>	lantana, shrub verbena	I		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N, C, S

FLEPPC List Definitions:

Exotic a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida.

Native a species whose natural range included Florida at the time of European contact (1500 AD).

Naturalized exotic an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native).

Invasive exotic an exotic that not only has naturalized, but is expanding on its own in Florida native plant communities.

Abbreviations:

Government List (Gov. List):

P = Prohibited by Florida

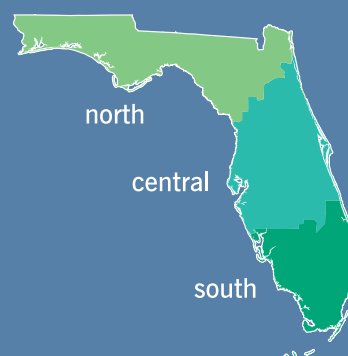
Department of Environmental Protection;

N = Noxious weed listed by Florida Department of Agriculture & Consumer Services;

U = Noxious weed listed by U.S. Department of Agriculture.

Regional Distribution (Reg. Dist.):

N north, C central, S south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). Please refer to the map below.



Changes to the 2007 List:

Ludwigia peruviana

added to list as Category I

Peruvian primrose willow (*Ludwigia peruviana*) is a shrub known from at least 48 Florida counties, from the Panhandle to the Keys. It is also known in the United States from North Carolina, Georgia, Alabama, Mississippi, and Texas. While always known as an aggressive weed in wetlands in Florida, there has been debate about its nativity. After an evaluation of available data, the Committee now agrees that this species was introduced into Florida, probably from South America, by the late 1800s, and has subsequently spread throughout the state and to other states. It can form monospecific stands in both disturbed and undisturbed wetlands, especially river and lake edges, and dramatically change ecosystem structure.

Tradescantia spathacea moved from Category I to Category II

Oyster plant (*Tradescantia spathacea*) is an herb known from at least 12 counties in southern Florida, although many populations have not been documented. A native of tropical America, this species was a very common ornamental plant decades ago, and is still grown occasionally for its green and purple foliage. The species spreads readily, both by vegetation offshoots and by seed. In urban areas, plants often appear on rooftops or on rock walls. It does spread into natural areas, but Committee members are unaware of sites where it has invaded natural areas and displaced native species to the extent of other Category I species. It has been moved to Category II.

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N, C, S
<i>Ludwigia peruviana</i>	Peruvian primrosewillow	I		N, C, S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N, C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N, C, S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N, C, S
<i>Panicum repens</i>	torpedo grass	I		N, C, S
<i>Pennisetum purpureum</i>	Napier grass	I		N, C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N, C, S
<i>Psidium cattleianum</i> (=P. littorale)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (=P. lobata)	kudzu	I	N	N, C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhynchelytrum repens</i> (=Melinis repens)	Natal grass	I		N, C, S
<i>Ruellia tweediana</i> (= R. brittoniana, R. coerulea)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i> (=Triadica sebifera)	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (=Scaevola sericea, S. frutescens)	scaevola, half-flower, beach naupaka	I	N	C, S
<i>Schefflera actinophylla</i> (=Brassia actinophylla)	schefflera, Queensland umbrella tree	I		C, S
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> var. <i>glabrata</i> (=Cassia coluteoides)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (=S. houstonii)	wetland nightshade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		N, C, S
<i>Syzygium cumini</i>	jambolan plum, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	I		N, C
<i>Urochloa mutica</i> (= Brachiaria mutica)	Para grass	I		C, S

CATEGORY II

Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I, if ecological damage is demonstrated.*

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Adenantha pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites fordii</i> (=Vernicia fordii)	tung oil tree	II		N, C
<i>Alstonia macrophylla</i>	devil tree	II		S
<i>Altermanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	II		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C, S

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S
<i>Begonia cucullata</i>	wax begonia	II		N, C, S
<i>Blechnum pyramidatum</i>	green shrimp plant, Brown's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C, S
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Casuarina cunninghamiana</i>	river sheoak, Australian-pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> (<i>C. alternifolius</i> misapplied)	umbrella plant	II		C, S
<i>Cyperus prolifer</i>	dwarf papyrus	II		C, S
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus pungens</i>	silverthorn, thorny olive	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S
<i>Ficus altissima</i>	false banyan, council tree	II		S
<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i> (= <i>Talipariti tiliaceum</i>)	mahoe, sea hibiscus	II		C, S
<i>Ipomoea fistulosa</i> (= <i>I. carnea</i> ssp. <i>fistulosa</i>)	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koelreuteria elegans</i> ssp. <i>formosana</i> (= <i>K. formosana</i> ; <i>K. paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II	N	N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	II	P, U	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	Chinaberry	II		N, C, S
<i>Melinis minutiflora</i>	Molassesgrass	II		C, S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Nymphoides cristata</i>	snowflake	II		C, S
<i>Panicum maximum</i>	Guinea grass	II		N, C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitaire palm	II		S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Rotala rotundifolia</i>	roundleaf toothcup, dwarf Rotala,	II		S
<i>Sansevieria hyacinthoides</i>	bowstring hemp	II		C, S
<i>Scleria lacustris</i>	Wright's nutrush	II		C, S
<i>Sesbania punicea</i>	purple sesban, rattlebox	II		N, C, S
<i>Solanum diphyllum</i>	two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamaica nightshade	II		C
<i>Solanum torvum</i>	susumber, turkey berry	II	N, U	N, C, S

Changes to the 2007 List:

Melinis minutiflora

added to list as Category II

Molasses grass (*Melinis minutiflora*) is a grass known from at least 6 Florida counties, mostly along the lower eastern coast. It is native to Africa and western Asia and was originally introduced as a forage grass in southern Florida. While it has been known to be established for some time, its populations have been expanding recently into undisturbed natural areas, especially pine rocklands in Miami-Dade County. Once established, it forms locally dense stands and excludes other herbs and graminoids. The strong molasses smell given off by the plants makes it especially easy to identify, particularly when it is stepped on.

Rotala rotundifolia

added to list as Category II

Roundleaf toothcup (*Rotala rotundifolia*) is an aquatic herb known from at least three Florida counties in southern Florida (Broward, Lee, and Palm Beach). It is also introduced in Alabama. It is native to India and Southeast Asia. The species is commonly grown as an aquarium plant and has been introduced after aquarium grown plants were discarded into Florida wetlands. It has become established in canals and along rivers. It reproduces readily through sexual and asexual means and is expected to spread within the state. It is also known as dwarf rotala.

Use of the FLEPPC List

FLEPPC encourages use of the Invasive Species List for prioritizing and implementing management efforts in natural areas, for educating lay audiences about environmental issues, and for supporting voluntary invasive plant removal programs. When a non-native plant species is to be restricted in some way by law, FLEPPC encourages use of the List as a first step in identifying species worth considering for particular types of restriction. For more information on using the FLEPPC List of Invasive Plant Species, see *Wildland Weeds* Summer 2002 issue (Vol. 5, No. 3), pp. 16-17.

NOTE: Not all exotic plants brought into Florida become pest plants in natural areas. The FLEPPC List of Invasive Plant Species represents only about 10% of the 1,300+ exotic species that have been introduced into Florida and subsequently established outside of cultivation. Most escaped exotics usually present only minor problems in highly disturbed areas (such as roadsides). And there are other exotics cultivated in Florida that are “well-behaved” — that is, they don’t escape cultivation at all.



www.fleppc.org

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Sphagneticola trilobata</i> (= <i>Wedelia trilobata</i>)	wedelia	II		N, C, S
<i>Stachytarpheta cayennensis</i> (= <i>S. urticifolia</i>)	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i>)	queen palm	II		C, S
<i>Syzygium jambos</i>	rose-apple	II		C, S
<i>Terminalia catappa</i>	tropical-almond	II		C, S
<i>Terminalia muelleri</i>	Australian-almond	II		C, S
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	II		S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear	II		N, C, S

Citation example:

FLEPPC. 2007. List of Florida's Invasive Plant Species. Florida Exotic Pest Plant Council. Internet: <http://www.fleppc.org/07list.htm> or *Wildland Weeds* Vol. 10(4), Fall 2007.

The 2007 list was prepared by the FLEPPC Plant List Committee:

Keith A. Bradley – Chair (2006-present), The Institute for Regional Conservation, 22601 S.W. 152nd Ave., Miami, FL 33170

Kathy Craddock Burks – Chair (2001-2006)

Nancy Craft Coile, Botanist Emerita, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, 22804 N.W. County Road 2054, Alachua, FL 32615

Janice A. Duquesnel, Florida Park Service, Florida Department of Environmental Protection, P.O. Box 1052, Islamorada, FL 33036

David W. Hall, Private Consulting Botanist, 3666 N.W. 13th Place, Gainesville, FL 32605

Roger L. Hammer, Miami-Dade Parks Department, Castellow Hammock Nature Center, 22301 S.W. 162nd Ave., Miami, FL 33030

Patricia L. Howell, Broward County Parks, Environmental Section, 950 NW 38th Street, Oakland Park, FL 33309

Colette C. Jacono, U. S. Geological Survey, Center for Aquatic Resources Studies, 7920 NW 71st Street, Gainesville, FL 32653

Kenneth A. Langeland, Center for Aquatic and Invasive Plants, IFAS, University of Florida, 7922 N.W. 71st St., Gainesville, FL 32606

Chris Lockhart, Florida Natural Areas Inventory, c/o P.O. Box 243116, Boynton Beach, FL 33424-3116

Gil Nelson, Gil Nelson Associates, 157 Leonard's Drive, Thomasville, GA 31792

Robert W. Pemberton, Invasive Plants Research Lab, U.S. Dept. of Agriculture, 3225 College Ave., Ft. Lauderdale, FL 33312

Jimi L. Saddle, Everglades National Park, 40001 State Road 9336, Homestead, FL 33034

Robert W. Simons, 1122 S.W. 11th Avenue, Gainesville, FL 32601-7816

Sandra M. Vardaman, Alachua County Forever Land Conservation Program, Alachua County Environmental Protection Dept., 201 SE 2nd Avenue, Suite 201, Gainesville, Florida 32601

Daniel B. Ward, Department of Botany, University of Florida, 220 Bartram Hall, Gainesville, FL 32611

Richard P. Wunderlin, Institute for Systematic Botany, Dept. of Biological Sciences, University of South Florida, Tampa, FL 33620

FLEPPC Database – The Florida Exotic Pest Plant Database contains over 6,000 sight records of infestations of FLEPPC Category I and Category II species in Florida public lands and waters. 360 species are recorded. Nearly all of the records are from local, state, and federal parks and preserves; a few records document infestations in regularly disturbed public lands such as highway or utility rights-of-way. Natural area managers and other veteran observers of Florida's natural landscapes submit these records, with many supported further by voucher specimens housed in local or regional herbaria for future reference and verification. New and updated observations can be submitted online at www.fleppc.org/EDDMapS/. This database, along with other plant-data resources such as the University of South Florida Atlas of Florida Vascular Plants at www.plantatlas.usf.edu, the Florida Natural Areas Inventory database at www.fnai.org, and The Institute for Regional Conservation Floristic Inventory of South Florida database at www.regionalconservation.org, provides important basic supporting information for the FLEPPC List of Invasive Plant Species.

Images of FLEPPC-listed species may be found at one or more of the following websites: University of South Florida Atlas of Florida Vascular Plants, www.plantatlas.usf.edu; the “Introduced Species” page on the University of Florida Herbarium website, www.flmnh.ufl.edu/herbarium/cat/digitalimagingprojects.htm; at Fairchild Tropical Garden's Virtual Herbarium, www.virtualherbarium.org/vhportal.html, The Robert K. Godfrey Herbarium at FSU, <http://herbarium.bio.fsu.edu/index.php>; and at the University of Florida's Center for Aquatic and Invasive Plants, <http://plants.ifas.ufl.edu>. Please note that greater success and accuracy in searching for plant images is likely if you search by scientific name rather than a common name. Common names often vary in cultivation and across regions. For additional information on plants included in this list, see related links and pages at www.fleppc.org.

ATTACHMENT C - NATIVE COMMUNITIES and UMAM ASSESSMENT

Native Communities:

The target conditions and assessment areas at DSMB, with appropriate continued management, are based on historical native structure and vegetation. The ~3000 acre parcel is roughly half uplands and half wetlands, that are mapped into six community types, as guided by FNAI, 2009 descriptions. The uplands are divided into dryer *sandhills* (predominantly in Phase 3) or flatter and moister *mesic flatwoods* communities that basically form ridges between a few broad or lobed semi-isolated basins or channels. The basin community is mostly classified as *bog*. Where the topographic relief from the uplands to the depression is narrower, the basin is more of a linear feature or forms a distinct seepage channel or *seepage stream* area that conveys seepage water and overflow from the broad basins offsite. In the interface between the uplands and the depressions, there are bands of seepage slope, *wet prairie* community. Finally, there are several small, circular *dome swamps* or forested depressions.

The *sandhill* landscape is found on deep well drained sands, exhibiting an open landscape of widely scattered longleaf pines, scattered orchard-like stands of turkey oak with lichens, wiregrass, yucca, cacti and other drought tolerant wildflowers in the groundcover. *Mesic flatwoods* are gently sloping to relatively flat uplands and will be restored to historic conditions of widely spaced canopy of pines, in an open landscape with an appropriate groundcover dominated by graminoids and forbs, including wiregrass, saw palmetto, gallberry, runner oak, dwarf blueberry and other fire-dependent grasses and forbs and with shrubs maintained as coppice. The canopy will be dominated by slash pine, but longleaf pine will be planted to provide a mix of pines and seed source. The *wet prairie* in this landscape is typically a fairly narrow seepage area or ecotone downslope of the *mesic flatwoods* and *sandhill*. This nearly-treeless community should have a diverse groundcover, dominated by beak rushes, wiregrass and other grasses and forbs that carry fire. If trees are present, the canopy will consist of primarily pond cypress with lesser amounts of pond pine and slash pine. Shrubs, a minor component of this landscape, are maintained as coppice shrubs and often include titi, gallberry and endemic bear tupelo. The restored groundcover will contain a diverse assemblage of wetland herbs as well as unusual and endemic insectivorous species such as pitcherplants and sundews.

The *seepage streams* are landscapes that contain a closed canopy of ogeechee gum, tulip tree, loblolly bay, sweetbay, swampbay, laurel oak, slash pine, swamp tupelo and pond cypress and a well developed shrub layer. Groundcover is often sparse because of the closed canopy and reduced sunlight penetration or may be extensive with sphagnum beds, sedges and goldenclub along stream margins. *Seepage stream* flow varies onsite throughout the year but typically carries some flow except during extreme drought. Fire is expected to burn into the ecotone of *seepage streams* and this will help ensure healthy populations of existing purple pitcherplants in sphagnum moss dominated

seepage. Forested seepage wetlands may be associated with the headwaters of streams. These are forested landscapes have canopy of loblolly bay, sweetbay, swampbay, slash pine, swamp tupelo, pond cypress and pond pine.

Fire is expected to burn into the ecotone of seepage wetlands of all types and depending on the fire frequency and severity, the forested seepage wetlands might experience a change in lifeform and dominant species. If burned frequently they can become a landscape best described as floristically related to *bog* or *wet prairie*. This is especially true if the canopy is reduced to coppice and fire continues to burn this landscape at regular intervals. Where the slopes are relatively steep, the channel is likely to be more protected from fire and have a more developed canopy. Regardless, the fire-shaped, open ecotone boundary will provide greater wildlife access to and from the stream and increased groundcover for grazing or browsing.

The *bogs* are floristically related to *wet prairies* but are found in basin or seepage areas and typically burn with less frequency than *wet prairies* and *mesic flatwoods*. When fire burns into *bogs*, this landscape will also become an open landscape, with coppice shrubs of various heights depending on fire intensity, reticulated with tussocks and hummocks containing wetland grasses and forbs and in some areas a sparse to moderately dense canopy of scattered pond cypress, slash pine, pond pine and sweetbay magnolia. These landscapes are transitional from *wet prairie*, found downslope, have a longer hydroperiod and are sometimes found as part of the ecotones of *dome swamps*. The lowest portion of the landscape, *dome swamps*, will typically have a canopy of pond cypress, sweetbay, swampbay, swamp tupelo and/or slash pine, with a sub-canopy of myrtle-leaf holly and representative saplings of canopy species. As these trees continue to grow in the future and fire is allowed to burn into the ecotones, the more fire resistant and longer-lived pond cypress will eventually become the dominant trees in these depressional landscapes. The natural microtopography and mosaic of *wet prairie*, *bog* and *dome swamp* will support a diversity of native, herbaceous wetland plants. The overgrown, fire suppressed shrub layer in all plant communities, except the interior of *dome swamps* and *seepage stream*, will typically be reduced to coppice sprouts by periodic prescribed burning. This will restore the groundcover plants to their appropriate lifeforms and enhance the diversity of the groundcover.

Overall, the landscape will be restored to an open landscape that will resemble historic conditions as shown in the following photographs.

The photographs provided below are examples of structure within the range of expected outcomes for the named communities that reflect appropriate targets, but may vary in species and/or density of individual plants or strata.



Photograph 1 – *Sandhill* targets – open landscape, longleaf pine, turkey oak in orchard-like distribution, shrub strata reduced to coppice, groundcover is moderately dense to sparse and may contain large areas of open sand and lichen growth.



Photograph 2 – *Mesic Flatwoods* targets – open landscape, slash pine with viable longleaf pine for long-term dominance, shrub strata reduced to coppice, relatively diverse groundcover of grasses, forbs, saw palmetto, gallberry and dwarf blueberry.



Photograph 3 – *Wet Prairie* targets – open landscape, sparse canopy of pine and cypress, shrub strata reduced to coppice, diverse and graminoid dominated groundcover.



Photograph 3 – *Bog* targets – Mixed canopy mostly slash pine and pond cypress, open shrub strata reduced to coppice, often dominated by *Hypericum* and sedges, groundcover floristically related to *wet prairie*. Sometimes coppice shrubs may dominate resulting in a reduction of herbaceous diversity, see next photo.



Photograph 4 –*Bog* targets – This is an example with a mixed and moderately dense canopy of pond pine, slash pine and pond cypress, shrub strata coppiced but open enough for patches of herbaceous groundcover.



Photograph 5 –*Bog* targets – Mixed canopy of loblolly bay, sweetbay, slash and pond pine, swamp tupelo, pond cypress; shrub strata is often coppiced in ecotone and may dominate the interior. Groundcover is often sparse and large areas of bareground are common in the dark interior. Most of the groundcover diversity is typically found in the ecotone of the *bog*.



Photograph 6 –*Seepage stream* targets – Mixed canopy of loblolly bay, sweetbay, swampbay, pond and slash pine, swamp tupelo, pond cypress; shrub strata is often coppiced in ecotone and may dominate the interior. Groundcover is sparse or moderately dense depending on light availability and management. In this photograph the canopy was reduced by hurricane force winds and this photo represents a portion of the successional timeline when caric sedges and goldenclub are found along the stream edge. Most of the groundcover diversity is typically found in the ecotone of *seepage streams*.



Photograph 7 –*Dome swamp* targets – Mixed canopy of pond cypress, pond and slash pine, swamp tupelo and myrtle-leaf holly; shrub strata is often coppiced in ecotone and may dominate as uncoppiced growth in the interior creating multiple strata. Groundcover is typically sparse in the interior. In this photograph the ecotone was reduced by roller-chopping and prescribed burning. Most of the groundcover diversity is typically found in the ecotone of *dome swamps*.

UMAM Assessment: In the current condition, the *sandhills* are typically planted in sand pine plantation, with some slash pine plantation. Groundcover is very sparse due to shading and needle cast. The understory, where it is present is often shrubs, runner oaks, lichens, and turkey oak with scattered areas of remnant wiregrass. Similarly, the *mesic flatwoods* and *wet prairies* are currently planted in slash pine plantation, and significant portions of both communities are also bedded. As such, the majority of groundcover, herbaceous species are either not present or significantly suppressed. Others may persist in the seedbank. However, portions of the *wet prairie* were not planted, but are significantly fire suppressed and have an abundance of pine seedlings and shrub cover that is nearly as dense as the planted areas. For all of these communities, the planted pine will be harvested to an initial density of about 100 trees per acres, which may be further reduced (by hand or fire), especially in the *wet prairie*, when groundcover density is adequate to carry frequent fire without additional needle-cast fuel. Mechanical walkdown may be used, if necessary, for shrubs and pine saplings. This treatment along with frequent prescribed fire (predominantly in growing season) is expected to return these communities to their target structure (open canopy, lush groundcover) and near-reference condition, except that some species diversity (and wiregrass density) will be lost or slow to recover.

Bogs will receive mechanical or fire treatment as conditions allow, without soil rutting or catastrophic wildfire. As such, it is difficult to predict the ultimate mosaic of treatment, except that there will be no fire-lines or barriers to the *bogs* and the edges will be subjected to both fire and mechanical treatment more than interiors. It is anticipated that nearly all of the ecotone and at least 25% (or as much as 80-90%) of the *bog* area will have been subjected to one or more prescribed fires by the time of a success determination. This treatment will open the canopy and reduce the leaf litter to significantly increase the groundcover density and diversity, especially on higher areas and tussocks. *Seepage streams* and *dome swamp* interiors are not likely to burn and canopy trees will continue grow and dominate the vegetation structure.

General Part II scoring:

Location and Landscape:

In general, because of the location of the site and overall landscape, its connectivity with other conservation lands and the Choctawhatchee River / Floodplain, its relatively undeveloped boundary, its variety of natural or “to be restored” community types, conditions and connectivity, and its lack of significant barriers to wildlife movement, the landscape scores generally lie within the moderate to near-optimal range in the current condition. Mitigation adds 1 point to most of the communities except the *wet prairie* that has a 3 point improvement due to its landscape value as an ecotone between the upland and *bog* or *dome swamp* communities. In addition the removal of the high density pine in the adjacent uplands improves the function of the ecotone.

Hydrology:

In general, the hydrology clearly supports the natural communities, with hydroperiods little altered from historic patterns. Principally, the impacts to hydrology are directly associated with the silviculture itself, with bedding causing unnatural microtopography and related hydrology shifts and with the pine altering water uptake and availability. These effects are most pronounced in the *wet prairie*, which received a 2 point lift for planted areas. The fire suppressed *wet prairie* and *bog* received a 1 point lift for improvements in hydrology associated with reduction of shrub canopy and also for improvements in the more natural delivery of water because of the removal of pine in the adjacent wetlands and uplands. The hydrology is not considered to be impaired in the *dome swamp* or *seepage stream* communities.

Vegetation Structure:

The principal components of the structure variable in this environment are: appropriate species; appropriate diversity and distribution of these species; appropriate vertical structure (i.e., canopy and groundcover); and the ability of the vegetation to carry and withstand fire. Plantation management has had the greatest effect within the planted *mesic flatwoods* and *wet prairie* (with current condition score of 4), *sandhills* and unplanted *wet prairie* (current score of 5). Fire suppressed *bog* received current scores of 7. The *dome swamp* and *seepage stream* scored 8 and 9, respectively. Highly altered areas are expected to attain a near-optimal structure within 5-10 years after the final success criteria and credit release are attained (usually 5-10 years after project initiation). Scores of 8 to 9 are given to *bog*, *wet prairie*, and uplands with a timelag reflective of the score; *dome swamp* and *seepage stream* score 10. Although fire management will be used site-wide (i.e., no community will be restricted from fire), its importance and frequency is diminished in the *dome swamp*, *bog* and *seepage swamp* communities. A risk factor of 1.25 was assessed in other communities due to the risk of obtaining appropriate fire permits, wildfire intervention, and other management constraints.

A summary of the assessment areas and the Part II scores can be found in Table C-1.

ATTACHMENT C (Table 1) - UMAM Credit Assessment Summary

Devil's Swamp Mitigation Bank															
Assessment Area	Credit Type	AREA (acres)	SCORE						UMAM W/OUT MIT.	UMAM WITH MIT.	DELTA	TIME LAG	RISK	RFG	CREDIT
			LOCATION & LANDSCAPE		WATER ENVIRONMENT		COMMUNITY STRUCTURE								
			W/OUT or CUR.	WITH MIT.	W/OUT or CUR.	WITH MIT.	W/OUT or CUR.	WITH MIT.							
Bog	CSF	995.00	7.00	9.00	9.00	10.00	7.00	9.00	0.77	0.93	0.17	1.00	0.17	165.83	
Dome Swamp	CSF	7.20	8.00	9.00	10.00	10.00	8.00	10.00	0.87	0.97	0.10	1.00	0.10	0.72	
Seepage Stream	CSF	100.70	9.00	10.00	10.00	10.00	9.00	10.00	0.93	1.00	0.07	1.00	0.07	6.71	
Wet Prairie-Plantation	WP	214.00	6.00	9.00	7.00	9.00	4.00	9.00	0.57	0.90	0.33	1.25	0.21	45.65	
Wet Prairie	WP	301.00	6.00	9.00	9.00	10.00	5.00	9.00	0.67	0.93	0.27	1.14	0.19	56.33	
Mesic Flatwoods - Plantation	*	1217.00	7.00	8.00	0.00	0.00	4.00	8.00	0.55	0.80	0.25	1.14	0.18	213.51	
Sandhills - Plantation	*	166.60	7.00	8.00	0.00	0.00	5.00	9.00	0.60	0.85	0.25	1.14	0.18	29.23	
Roads	-	46.15	N/A						N/A						0.00
Water	-	5.74	N/A						N/A						0.00
TOTALS		3053.39													517.99
Credit Types are Wet Prairie/Flatwoods = 223.35 and Cypress/Shrub/Forested = 294.64															
*credits from upland areas area allocated equally to the other two wetland credit types															
"Current" condition is either in pine plantation or otherwise impacted by land management practices, principally fire suppression															

ATTACHMENT D - FIRE MANAGEMENT PLAN

Executive Summary

Ten burn units have been designated within the three phases of the Devil's Swamp Mitigation Area (DS); prescriptions are included with this synopsis. The principle objective of fire is for the restoration of native communities by the reduction of woody shrubs and the stimulation of native grass and herb seeding and growth. The general prescription is to burn as frequently as fuel and weather conditions allow, and recognizing that the stated objectives are best served with a growing season fire and when water levels promote a relatively hot fire for shrub reduction. However, frequent fire (~2 year rotation) is generally preferable to delaying burns until optimal conditions (spring drought). Restoration burning is targeted to have higher frequency (2-3 years) while long-term management fire may delay a year or so to optimize the opportunity for a growing season burn. Fire will be generally be allowed to burn into all wetland systems when conditions allow and when it would not result in a catastrophic situation.

The conditions of the prescription are intended to inhibit succession of woody species, promote fire-adapted species, and stimulate seed production of desirable herbs. Along with ecological considerations, the prescription has been written to comply with Florida's open-burning laws and liability considerations. Preservation of life and property by safe implementation of prescribed fire is the primary consideration of the Prescribed Burn Manager.

General description of burn units

Ten burn units delineated by existing roads or natural breaks are established for this project (see Figure D-1). The burn units are of a size that allows a more manageable application of fire. Burns will be conducted in each unit when specific contingencies (listed below) for burn units have been met. Prescribed burns simulating natural fire events will be integral in restoring and maintaining the desired vegetative communities and ecotypes within the project site. Some burn units extend to offsite St. Joe mitigation areas managed in conjunction with the mitigation bank to avoid placing an artificial fire break across native communities. Internal lines within the burn units will not be established except, as necessary, to avoid more intensive wildfire management or as required for obtaining burn authorizations for ecologically-appropriate coverage or schedule. Any naturally occurring fire or those fires that burn outside of prescription will be deemed 'wildfires'. Any fire lines or ecological damage that results from extinguishing such fires shall be restored by the Permittee within two weeks of its occurrence. All burn units shall have the same overall burn objectives and schedule, except for the delayed restoration area described as the "Management Exclusion Area" in Figure D-1.

Primary resource objectives

The objective of this burn plan is to apply fire to the project area by phase to facilitate replacement of planted pine community with several different vegetative communities including: wet prairies, bogs, dome swamps, seepage streams, mesic pine flatwoods, and sandhills. The burns are intended to mimic natural burn frequencies and the burn objectives are best described as ecological. The initial burns are intended to consume standing biomass, kill woody shrubs (primarily titi) and to encourage the growth of fire-dependent grasses and forbs. Later burns are intended to maintain structure and enhance diversity and density of the groundcover. Burn coverage of 80% or more in uplands and wet prairie is the criterion by which mitigation credits will be released. Bog areas will be burned at the ecotone, and over the course of successive burns, will extend well into the interior of the bog; however, success criteria may be achieved if at least 25% of the bog area in each phase has been burned.

Site preparation

Roads and natural features were used to delineate ten units. A permanent firebreak that utilizes existing features will be maintained along the boundaries of the mitigation area. In light of the ecological objectives of this management activity, disking will be utilized in lieu of plowing. Disking will cause minimal soil disturbance while exposing enough mineral soil to serve as a firebreak.

Safety and smoke considerations

Numerous safety zones are present utilizing the internal logging roads. All personnel present at the burn will carry Personal Protective Equipment (PPE). All radio communications will utilize plain language. Signs will be available for posting on County Highways in the event conditions cause low visibility on this roadway. All adjacent landowners will be contacted in writing at least thirty days prior to burn. Prescriptions must pass smoke screening provisions, and care must be taken to avoid smoking Steelfield and Bunker roads. Based on fuel type and burn unit area (3,254 - acres) a smoke sensitive radius of 3-miles is warranted. The Steelfield fish camp and the town of Bunker lies within the smoke sensitive radius. Prescriptions for the burn units are sensitive to this feature, and can be accomplished only under prescribed wind direction for each unit. The timing of the burn is critical to smoke management AND ecological objectives: both will be the over-riding parameters for firing the units.

Burn schedule

The burn units will be burned on an ~two year rotation as fuel and weather conditions allow, and recognizing the importance of growing season burns for obtaining the ecological objectives. Therefore, some flexibility in schedules is expected; however, all burn units shall initiate a prescribed burn no later than 3 years after the previous burn or the Department shall be contacted to provide the reason for delay and develop an alternative plan.

Prescription Phase 1, Unit 1 - 279 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northwest	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road on north boundary	

Prescription Phase 1, Unit 2 - 363 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northwest	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1 and Phase 2	

Prescription Phase 1, Unit 3 - 695 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Southwest	South
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1 and Phase 2	

Prescription Phase 2, Unit 1 - 281 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	NE to E	Northerly
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1	

Prescription Phase 2, Unit 2 - 643 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northeast	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1	

Prescription Phase 3, Unit 1 - 96 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	North to East	Northerly
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Hand Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield fish camp north of unit, Steelfield road east of unit.	

Prescription Phase 3, Unit 2 - 194 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	East to SE	E -SE
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns Note Cemetery in NE corner	Steelfield fish camp north of unit, Steelfield road east of unit.	

Prescription Phase 3, Unit 3 - 184 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	East to SE	E -SE
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road east of unit, Bunker road south of unit.	

Prescription Phase 3, Unit 4 - 145 acres

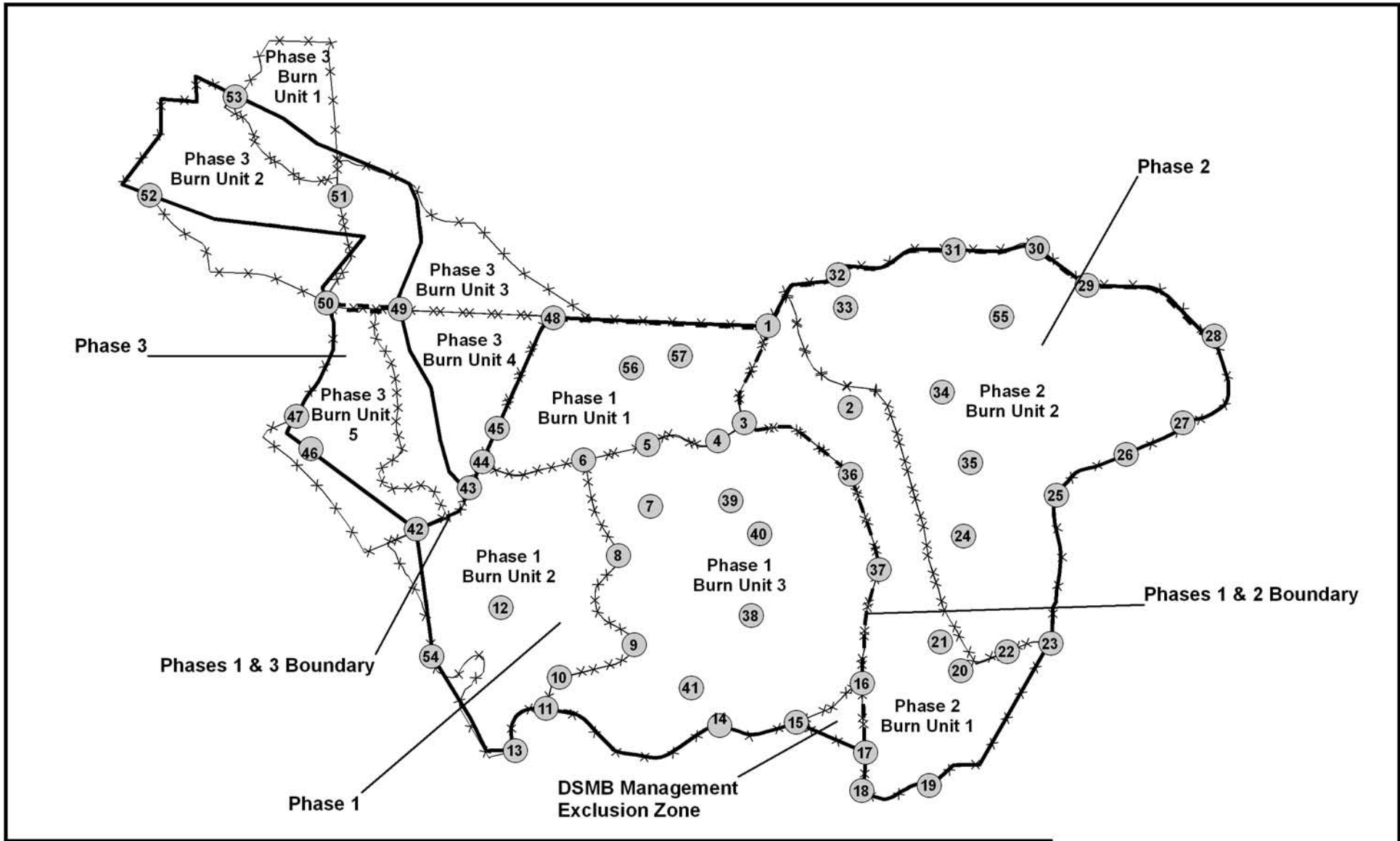
Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	W - NW	W - NW
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Bunker road north of unit.	

Prescription Phase 3, Unit 5 - 174 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	W - SW	W - SW
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method - Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Bunker road north and east of unit.	

Burn Assessment

The prescribed burning of Devils Swamp Mitigation Bank is recorded by photographs distributed throughout the bank at fixed intersections and crossroads within a particular burn unit. After the initial baseline photo documentation is recorded, additional archival photos will be taken within 4 weeks of a prescribed fire at the fixed points as shown in Figure D-1. After each prescribed burn event at the bank, a certified prescribed fire applicator will survey the burn blocks to determine the extent and thoroughness of the prescribe burn. Burn unit photographs and GPS points will be used to support the observations of the certified prescribed fire applicator. All burn unit photographs will be archived for future comparison. In addition, photographs taken at fixed points along the qualitative transects will support burn block observations determined and recorded by the certified prescribed fire applicator.




Legend

- DSMB Burn Assessment Points
- ▭ Site Boundary
- - - Phase Boundaries
- ⊗ DSMB Burn Units

0 1,375 2,750 5,500 Feet

N
1:33,000

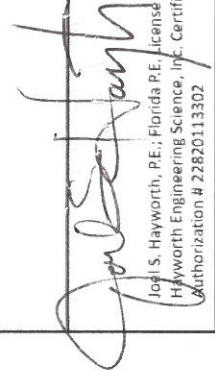
Figure D-1. Burn Plan Map
Devils Swamp Mitigation Bank


Ecological Resource Consultants, Inc.

MKS 08.24.10
 ERC #10-130

ATTACHMENT E - Hydrology Restoration Plans

- Exhibit 1. List of Exhibits
- Exhibit 2. Locations of Proposed Improvements (aerial)
- Exhibit 3. Locations of Proposed Improvements (schematic)
- Exhibit 4. Typical Low Water Crossing


 Joel S. Hayworth, P.E., Florida P.E. License # 53926
 Hayworth Engineering Science, Inc. Certificate of
 Authorization # 22820113302


Hayworth Engineering Science, Inc.
 309 West 5th Street, Suite A
 Panama City, FL 32401
 (850) 215-2068
www.hayworth-es.com

DEVIL'S SWAMP MITIGATION BANK
 THE ST. JOE COMPANY
EXHIBIT 1
LIST OF EXHIBITS

Project Number: DSMB Drawn By: LFJ Sheet Number: 1 of 4	Date: July 29, 2010 Scale: Not To Scale Revision:
---	---



Existing Culvert

Low Water Crossing

Surface Water

Flow Direction



DEVIL'S SWAMP MITIGATION BANK

THE ST. JOE COMPANY

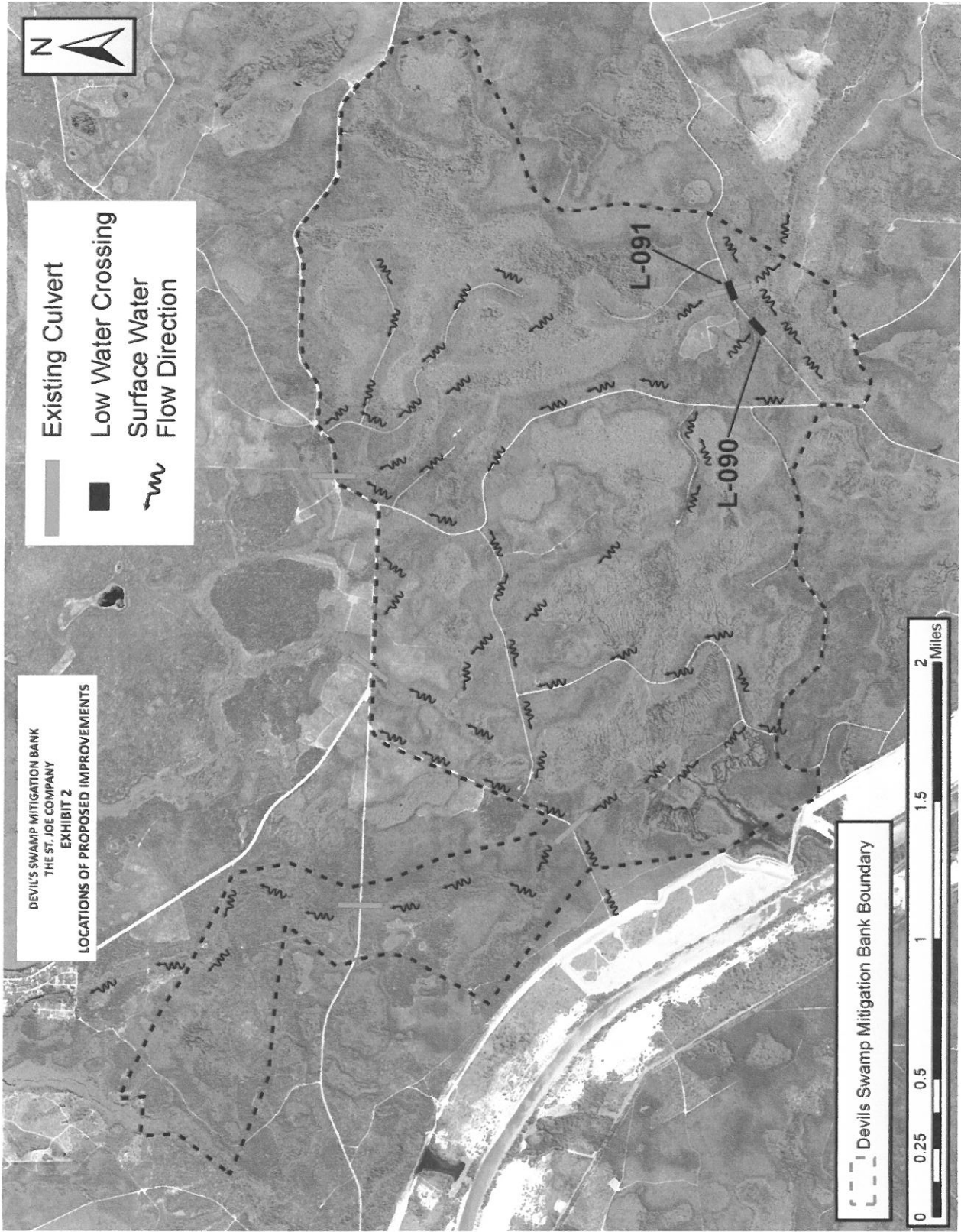
EXHIBIT 2

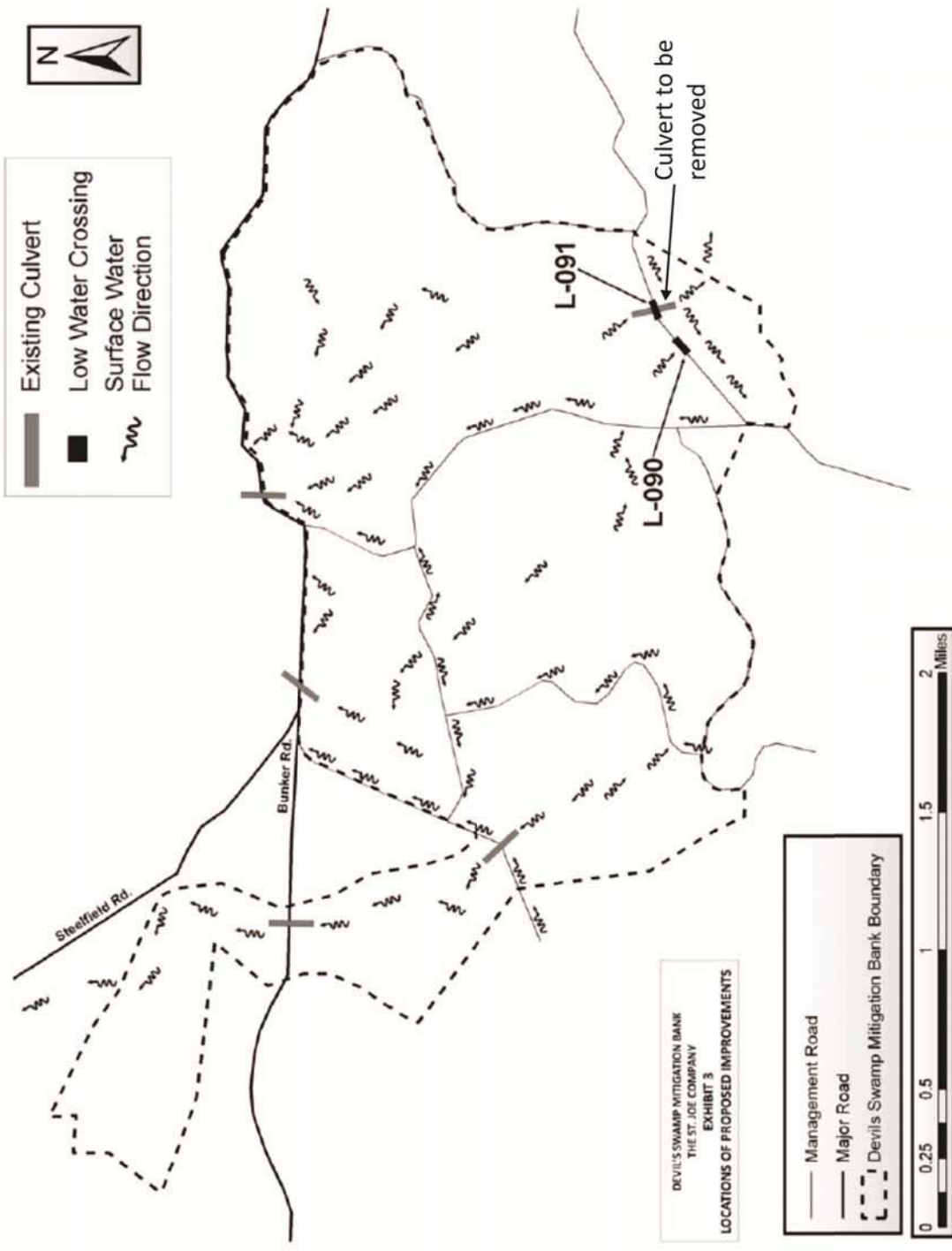
LOCATIONS OF PROPOSED IMPROVEMENTS

L-091

L-090

Devils Swamp Mitigation Bank Boundary





DEVILS SWAMP MITIGATION BANK
THE ST. JOE COMPANY
EXHIBIT 3
LOCATIONS OF PROPOSED IMPROVEMENTS

- Management Road
- Major Road
- - - Devils Swamp Mitigation Bank Boundary



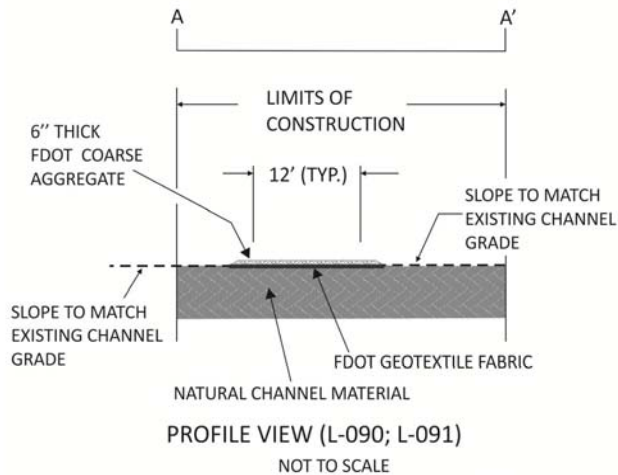
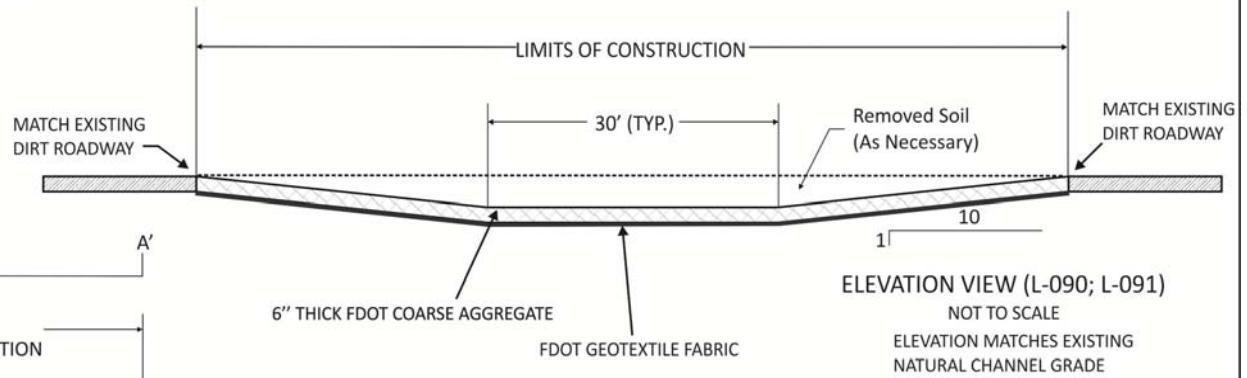
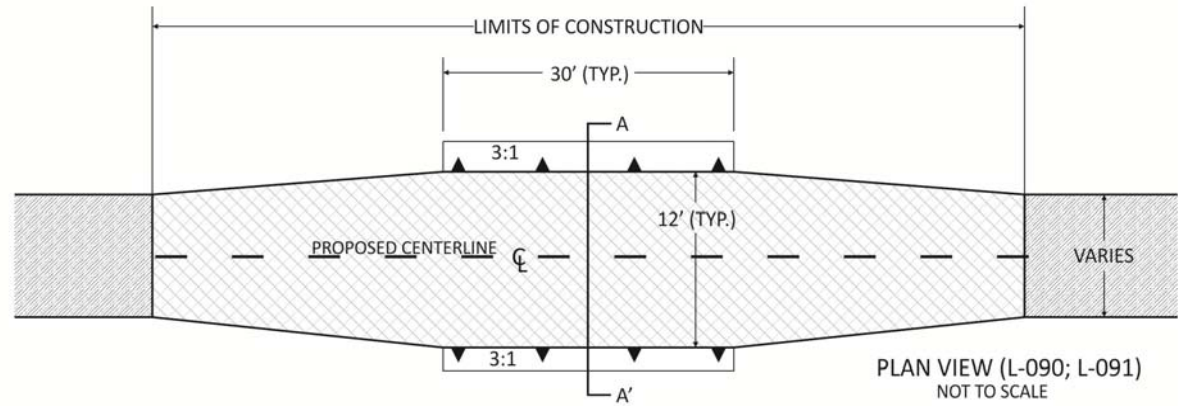
- █ Existing Culvert
- █ Low Water Crossing
- ~ Surface Water Flow Direction





Joel S. Hayworth

Joel S. Hayworth, P.E.; Florida P.E. License # 53926
 Hayworth Engineering Science, Inc. Certificate of
 Authorization # 22820113302



**Hayworth
 Engineering
 Science, Inc.**

309 West 5th Street, Suite A
 Panama City, FL 32401
 (850) 215-2068
 www.hayworth-es.com

DEVIL'S SWAMP MITIGATION BANK
 THE ST. JOE COMPANY
EXHIBIT 4
TYPICAL LOW WATER CROSSING

Project Number: DSMB
 Drawn By: LFJ
 Sheet Number: 4 of 4

Date: August 30, 2010
 Scale: Not To Scale
 Revision: 2

ATTACHMENT F - MONITORING PLAN

Summary

Ecologic restoration of plant communities is dynamic and is expected to go through various successional stages until success is attained. The community targets are included in the permit Success Criteria, Attachment C and Figures 6 and 7. Annual monitoring provides quantitative and qualitative information to track progress toward the goals and as a basis for management decisions.

Ecological monitoring or sampling techniques as described in this monitoring plan allow for the objective determination of species composition, species richness, and proportional distribution for each of three main structural habitat forms (groundcover, shrubs and vines, and canopy). Further, this plan provides assessment methodologies for evaluating the hydrological improvements and prescribed fires.

I. Vegetative Monitoring

A. Quantitative Methods

The initial quantitative monitoring will be carried out, pre-restoration, in the late summer/fall and annually thereafter until success criteria are attained as specified in the permit. The primary methodology for describing changes in each plant community is a quantitative transect-based series of procedures to objectively measure changes in habitat structure. Habitat structural categories are evaluated and include groundcover, shrubs, and trees (with notes regarding vines and subcanopy when present). Specific quantitative methods for evaluating each category are described below.

1. *Groundcover, Shrubs, and Vines*

- a) Identify and choose polygons to represent each habitat type. A particular habitat type may not be contiguous throughout the site, and thus may be represented by more than one polygon. The most representative polygons for each habitat type are chosen.
- b) Within the representative polygons, establish one permanent 100 meter transect, as shown on the attached map (Figure F-1). All transects will be located and recorded on a GPS unit, marked with metal poles and photographed for visual reference.
- c) Establish sample points every 10 meters per transect, for a total of ten (10) sampling points per transect. For each transect, the first sampling point is located at 10 meters and the tenth point is located at 100 meters. Each point is georeferenced and permanently marked by inserting an iron stake.

d) Measure and apply three adjacent 1m X 1m quadrats (plots). Three quadrats are placed perpendicular to the transect at each of the ten sample points. In total, 30 quadrats are used to sample each transect. The plots are arranged in a rectangular sampling area of 3 square meters perpendicular to the transect. Each plot is photographed to provide visual support to the quantitative data collected. This methodology samples 3 square meters at each point for a total of 30 square meters per 100 meter transect. The organization of transects, points, quadrats and plots is shown in Figure F-2.

e) Identify and estimate coverage for each species. All groundcover, shrub, and vine species are identified. Data collected for each plot includes species name, percent cover by species, percent bare ground, and notes. The total coverage of each species within the plot is estimated using the following percentage classes: 100%, 75%, 50%, 25%, 12%, 6%, 3%. These classes represent successive divisions of the square by one-half (after 75%), and are readily and consistently applied in the field. Bare ground/leaf litter and/or open water will also be recorded using the same coverage classes listed above.

f) Along the entire 6m X 100m transect, plant species will be recorded and will be counted towards the species richness index. These data will not be used for the relative measurements described below.

2. *Trees*

For the purposes of restoration and management of the plant communities found on this site, it is more informative to measure the density of trees per acre. Within this landscape, allowing the appropriate tree species to mature at the appropriate density will eventually result in the desired basal area. To record the change in the canopy resulting from management, a tenth-acre plot will be established at one representative point along each 100 meter transect. Trees will be identified, counted within the tenth acre plot, and a diameter tape will be used to measure the trunk of each tree species at breast height (or 1.5 m above the ground). Trees will be defined and separated from the other vegetative categories as follows:

- a) Trees include all woody plants (excluding typical shrub species such as titi that may become tree-like due to fire suppression) with a main trunk greater than 10 cm (4 in) diameter at breast height (1.5 m) and have a stem at least 3 m tall. Diameter at breast height (DBH) of trees is determined from trunk circumference measured 1.5 m above the ground.
- b) Saplings include all other woody plants that typically develop into trees (excluding typical shrub species such as titi that may become tree-like due to fire suppression) such as cypress, tupelo, pines, sweet bay, swamp bay, loblolly bay and red maple and/or longleaf pine seedlings that have a stem at least 0.5 meter tall.

- c) Tenth Acre Plot Method – One sample or plot is established at 50 m measure of each transect (see Figure F-2). Each plot is a circle with a radius of 37.2 ft (11.34m). The area of a circle of this radius is equivalent to a tenth of an acre. Within each plot, the species and DBH of each tree are recorded. Saplings will also be counted. To calculate the number of trees or saplings per acre the total number of trees or saplings measured per plot is multiplied by 10.

B. Plot Sampling Statistics

1. Methodology

From the raw data and for each separate transect, sum separately:

- (1) the % coverage of each species from all plots
- (2) the # of individuals (stems or clumps) of each species from all plots
- (3) the total % cover of all species sampled in plots (i.e., 100% - % non-vegetated area)
- (4) the #'s of individuals of all species sampled in plots

2. Relative Coverage

To calculate the **Relative Coverage**, divide the total coverage of each species by the total coverage of all species; i.e., $RC = (1)/(3)$

3. Relative Density

To calculate the **Relative Density**, divide the total # of individuals of each species by the total #'s of individuals of all species; i.e., $RD = (2)/(4)$

4. Relative Frequency

- (5) Determine species frequency as the total # of sample plots that a species occurred in divided by total # of plots
- (6) Sum species frequency for all species

To calculate the **Relative Frequency**, divide the frequency of each species by the total frequencies of all species; i.e., $RF = (5)/(6)$

5. Importance Value Percentage

The **Importance Value Percent** is the sum of all Relative values for each species * 100.

$$\text{Importance Value} = (RC+RD+RF) * 100$$

C. Qualitative Monitoring.

The initial qualitative monitoring will be carried out, pre-restoration and annually thereafter through the time period as specified in the permit. Qualitative monitoring includes walking transects to record species coverage, diversity and observations on the overall health, fecundity, distribution, and wildlife usage and natural history, as well as

sightings of invasive exotics. The qualitative transects are depicted on the attached map, Figure F-1. The walking paths are designed to provide thorough coverage of all typical landscape/plant community types. Permanent points are established along the transect within each plant community traversed. Descriptive data and photos are taken at the points to show landscape changes annually. The qualitative transects are designed to capture the management and change in plant communities at the landscape scale and to augment the quantitative data.

Observations will be made for each segment of the transect representing a different community type. The specific parameters to be observed and recorded on the walking transects for each community type include the following:

1. Type of plant community sampled.
2. Date, time and weather conditions.
3. Estimate of aerial coverage of plants in the canopy, subcanopy and shrub strata and identification of the three dominant species in the each strata.
4. Estimated coverage of graminoids (grasses, sedges and rushes) and total coverage of groundcover including graminoids and forbs, based on the following cover classes as per a modified Braun/Blanquet scale (Barbour, et al., 1999): 1= 0-1%; 2= 1-5%; 3=5-25%; 4=25-50%; 5=50-75%; 6=75-100%.
5. Identification of the four dominant species in the groundcover by overall coverage.
6. Estimated abundance of weedy or ruderal species based on the following scale: 1 =absent; 2= occasional <5% of a given area; 3-5% of a given area.
7. Notes on the wildlife usage and natural history.
8. Identification of exotic species and estimated coverage of exotics as per Braun/Blanquet scale (Barbour, et al., 1980).
8. Estimate of appropriateness of tree density and health.
9. Notes on surface waters and hydrologic indicators.
10. Notes on the general aspect of the site, fuel loads and how adaptive management techniques might be used to better move toward restoration target/goals.

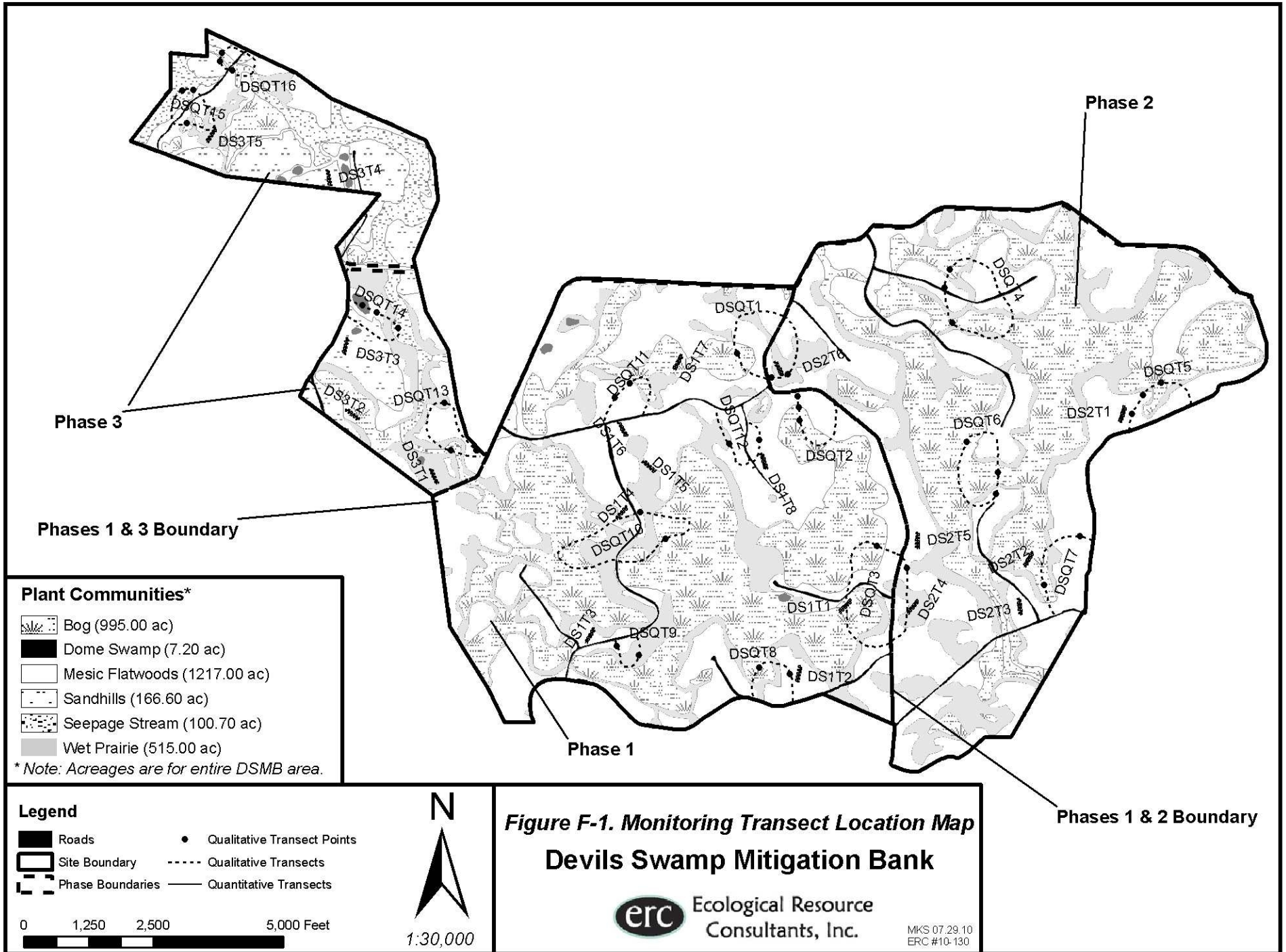
The observations collected as part of the qualitative measurements, photographs included will be summarized and included in the analysis of performance standards. This information will be included with the assessment of the performance standards and as support for the observations made of the quantitative measurements.

Reports

The annual report will summarize and review the Plot Sampling Statistics to assess management goals in relation to the achievement of final success criteria. From this assessment, identification of opportunities and recommendations for the use of adaptive management to further the restoration goals and achievement of final success criteria will be discussed in the conclusion of the annual report.

In January, the permittee shall submit an annual report that summarizes the yearly monitoring for success and an assessment of the degree to which the bank is attaining success. This report shall be submitted after completion of the vegetative monitoring. The following format will be used to report the monitoring and management at DSMB.

1. Executive Summary of Current Management and Report;
2. Project Overview;
3. Restoration and Maintenance Activities (last 12 months);
4. Table of Scheduled Tasks by Year;
5. Table Summarizing Credit Release Schedule;
6. Summary Table & Discussion of Community Requirements and Performance;
7. Standards per Phase;
8. Compliance of Hydrologic Improvements;
9. Summary of Quantitative and Qualitative Data (supporting data on CD);
10. Photographs of Qualitative and Quantitative Landscapes;
11. Semiannual reports;
12. Discussion and Conclusions (includes: progress toward goals, exceptional areas, data representativeness, management needs, success, points of interest, discussion of wildlife use, sustainability, other);
13. Map: Devils Swamp Mitigation Bank Location;
14. Map: Devils Swamp Mitigation Bank Annual Monitoring Overview;
15. Map: Devils Swamp Mitigation Bank Depicting Completed Tasks.



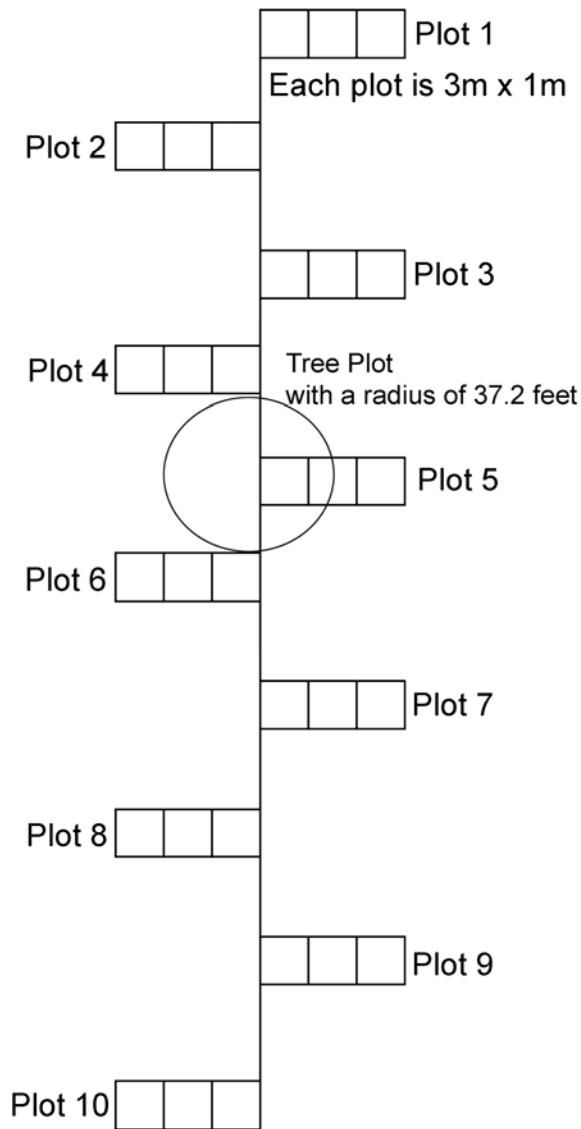


Figure F-2. Diagrammatic arrangement of 100 meter transect with ten, 3m x 1m plots, used to measure herbs and woody plants (shrubs) in the groundcover; with a circular tree sample plot with a radius of 37.2 feet, used to measure all woody plants (trees) with a woody stem 10 cm or greater in diameter at breast height.

ATTACHMENT G - List of Potential Plant Species that Could Occur in the Devils Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*						Federal Status	State Status
		MF	SS	WP	Bog	DS	SH		
<i>Acer rubrum</i>	Red maple		x		x	x			
<i>Agalinis spp.</i>	False foxglove	x		x	x		x		
<i>Aletris lutea</i>	Yellow colic-root		x	x	x				
<i>Amphicarpum muhlenbergianum</i>	Little blue maidencane	x	x	x	x				
<i>Andropogon arctatus</i>	Pine-woods bluestem		x	x	x			N	LT
<i>Andropogon capillipes</i>	Chalky bluestem	x	x	x	x				
<i>Andropogon glomeratus</i>	Bushy beardstem	x	x	x	x				
<i>Andropogon virginicus</i>	Broomsedge bluestem	x	x	x	x		x		
<i>Arnoglossum album</i>	White-flowered Plantain		x						LE
<i>Aristida palustris</i>	Longleaf threeawn		x	x	x				
<i>Aristida simpliciflora</i>	Southern three-awned grass		x	x				N	LE
<i>Aristida spiciformis</i>	Bottlebrush Threeawn	x	x	x					
<i>Aristida stricta</i>	Wiregrass	x	x	x					
<i>Aronia arbutifolia</i>	Chokeberry	x	x	x	x				
<i>Asclepias lanceolata</i>	Fen-flower milkweed		x	x	x				
<i>Asclepias michauxii</i>	Michaux's milkweed	x							
<i>Asclepias viridula</i>	Southern milkweed	x						N	LT
<i>Asclepias spp.</i>	milkweed	x	x	x			x		
<i>Aster spp. (incl. Symphyotr</i>	Asters	x	x	x			x		
<i>Baccharis halimifolia</i>	Saltbush	x	x						
<i>Bacopa spp.</i>	Water hyssop		x	x	x				
<i>Balduina uniflora</i>	Oneflower honeycombhead		x	x	x				
<i>Bidens mitis</i>	Beggerticks		x	x	x	x			
<i>Bigelovia nudata</i>	Rayless goldenrod		x	x	x				
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	x	x	x				N	LT
<i>Carex verrucosa</i>	Caric sedge		x	x	x	x			
<i>Carphephorus odoratissimus</i>	Deer tongue	x							
<i>Cassia fasciculata</i>	Partridge-pea	x							
<i>Cassia nictitans</i>	Sensitive briar	x							
<i>Centella asiatica</i>	Coinwort		x	x	x				
<i>Chaptalia tomentosa</i>	Sun-bonnets		x	x	x				
<i>Chrysopsis spp.</i>	Golden-asters	x					x		
<i>Cleistes divaricata</i>	Spreading Pogonia		x	x	x			N	LT
<i>Clethra alnifolia</i>	Sweet pepperbush		x	x	x	x			
<i>Cliftonia monophylla</i>	Black titi		x	x	x	x			

<i>Coelorachis tuberculosa</i>	Florida jointtail grass		x	x	x				N	LT
<i>Conradina canescens</i>	False rosemary	x						x		
<i>Coreopsis nudata</i>	Georgia tickseed		x	x	x					
<i>Coreopsis spp.</i>	Tickseeds	x	x	x	x					
<i>Ctenium aromaticum</i>	Toothache grass		x	x						
<i>Cyperus spp.</i>	Flat sedges	x	x	x	x			x		
<i>Cyrilla racemiflora</i>	White titi	x	x	x	x	x				
<i>Desmodium strictum</i>	Pineland beggarweed	x								
<i>Desmodium incanum</i>	Creeping beggarweed	x								
<i>Dicanthelium scabriusculum</i>	Woolly Panicum		x	x	x					
<i>Dicanthelium spp.</i>	Panicums	x	x	x	x			x		
<i>Dichromena spp.</i>	White-topped sedges		x	x	x					
<i>Diodia teres</i>	Poor Joe	x	x	x	x					
<i>Diodia virginiana</i>	Virginia buttonweed	x	x	x	x	x	x			
<i>Drosera capillaris</i>	Pink sundew		x	x	x	x				
<i>Drosera intermedia</i>	Spoon-leaved sundew		x	x	x				N	LT
<i>Drosera tracyi</i>	Gulf Coast sundew		x	x						
<i>Eleocharis spp.</i>	Spikerushes		x	x	x	x				
<i>Eragrostis spp.</i>	Lovegrass	x	x	x				x		
<i>Erianthus giganteus</i>	Sugarcane plumegrass		x	x	x					
<i>Erigeron vernus</i>	Robin's-plantain		x	x	x					
<i>Eriocaulon compressum</i>	Flattened pipewort		x	x	x					
<i>Eriocaulon decangulare</i>	Ten-angled pipewort		x	x	x					
<i>Eriogonum tomentosum</i>	Wild buckwheat							x		
<i>Eryngium integrifolium</i>	Blue-flower coyote thistle	x	x	x						
<i>Eryngium baldwinii</i>	Baldwin's coyote thistle	x	x	x						
<i>Eupatorium spp.</i>	Dog fennels	x	x	x	x			x		
<i>Euphorbia inundata</i>	Spurge	x	x	x						
<i>Euphorbia telephioides</i>	Telephus Spurge	x							LT	LE
<i>Euthamia graminifolia</i>	Flat-topped goldenrod	x	x	x	x					
<i>Fimbristylus spp.</i>	Fringe-rushes	x	x	x	x					
<i>Fraxinus caroliniana</i>	Carolina ash				x	x				
<i>Fuirena spp.</i>	Umbrellagrasses		x	x	x					
<i>Fuirena squarrosa</i>	Hairy umbrellasedge		x	x	x					
<i>Gaylussacia dumosa</i>	Dwarf huckleberry	x								
<i>Gaylussacia frondosa</i>	Dangleberry		x							
<i>Gaylussacia mosieri</i>	Mosier's huckleberry		x	x	x					
<i>Gelsemium spp.</i>	yellow jessamine	x	x					x		
<i>Gentiana pennelliana</i>	Wiregrass gentian			x					N	LE
<i>Gordonia lasianthus</i>	Loblolly bay		x							
<i>Gratiola spp.</i>	Hedgehyssop	x	x	x	x	x				
<i>Helenium spp.</i>	Sneezeweed	x	x	x	x					
<i>Helianthus spp.</i>	Sunflowers	x	x	x						

<i>Heterotheca subaxillaris</i>	Camphor weed	x						x		
<i>Hydrocotyle</i> spp.	Water pennywort	x	x	x	x					
<i>Hypericum cistifolium</i>	St. Peter's-wort	x	x	x	x					
<i>Hypericum crux-andeae</i>	St. Peter's-wort	x								
<i>Hypericum fasciculatum</i>	Sandweed		x	x	x					
<i>Hypericum hypericoides</i>	St. Andrew's cross	x								
<i>Hypericum microsepala</i>	St. Johns wort	x								
<i>Hypericum tetrapetalum</i>	St. Johns wort	x								
<i>Hypoxis juncea</i>	Common stargrass	x	x	x						
<i>Ilex coriacea</i>	Sweet gallberry		x	x	x	x				
<i>Ilex glabra</i>	Gallberry	x	x	x						
<i>Ilex myrtifolia</i>	Myrtle-leaved holly				x	x				
<i>Ilex vomitoria</i>	Yaupon	x						x		
<i>Iris tridentata</i>	Savannah iris		x	x						
<i>Itea virginica</i>	Virginia willow		x		x	x				
<i>Iva microcephala</i>	Little marsh elder		x	x						
<i>Juncus marginatus</i>	Needlerush	x	x	x	x					
<i>Juncus megacephalus</i>	Large-headed rush		x	x	x					
<i>Juncus polycephalos</i>	Manyhead rush		x	x	x					
<i>Juncus repens</i>	Prostrate rush				x	x				
<i>Kalmia hirsuta</i>	Hairy wicky	x								
<i>Lachnanthes caroliniana</i>	Redroot		x	x	x					
<i>Lachnocaulon anceps</i>	Bog button		x	x	x					
<i>Liatris spicata</i>	Tall gayfeather	x		x	x					
<i>Liatris</i> spp.	Gayfeather	x		x	x					
<i>Leersia hexandra</i>	Cutgrass		x	x	x					
<i>Leucothoe</i> spp.	Dog-hobble/hurrah bush				x	x				
<i>Licania michauxii</i>	Gopher apple							x		
<i>Lilium catesbaei</i>	Catesby lily			x					N	LT
<i>Linum</i> spp.	Flax	x	x	x						
<i>Liriodendron tulipifera</i>	Tuliptree		x							
<i>Lobelia brevifolia</i>	Lobelia		x	x						
<i>Lobelia glandulosa</i>	Lobelia		x	x	x					
<i>Lophiola americana</i>	Goldcrest		x	x	x					
<i>Ludwigia maritima</i>	Seaside plain seedbox	x	x	x						
<i>Ludwigia pilosa</i>	Hairy primrosewillow		x	x	x					
<i>Lycopodium alopecuroides</i>	Foxtail clubmoss		x	x						
<i>Lyonia ferruginea</i>	Rusty staggerbush	x								
<i>Lyonia lucida</i>	Fetterbush	x	x	x	x	x				
<i>Magnolia grandiflora</i>	Southern magnolia		x							
<i>Magnolia virginiana</i>	Sweetbay magnolia			x	x	x				
<i>Myrica cerifera</i>	Wax myrtle	x	x	x	x	x				
<i>Myrica heterophylla</i>	Bayberry		x	x	x					
<i>Myrica inodora</i>	Odorless wax myrtle		x	x	x					
<i>Nyssa ogeche</i>	Ogeechee tupelo		x							

<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo						x			
<i>Nyssa ursina</i>	bear tupelo		x	x	x	x				
<i>Osmunda cinnamomea</i>	Cinnamon fern		x	x	x	x				
<i>Osmunda regalis</i>	Royal fern		x	x	x	x				
<i>Oxypolis filiformis</i>	Dropwort		x	x	x					
<i>Panicum anceps</i>	peaked Panicum	x	x	x	x					
<i>Panicum hemitomom</i>	Maidencane		x	x	x	x				
<i>Panicum verrucosum</i>	Warty Panicum	x	x	x	x	x				
<i>Panicum virgatum</i>	Switchgrass	x	x	x	x					
<i>Persea palustris</i>	Swamp bay		x	x	x	x				
<i>Physostegia godfreyi</i>	Apalachicola dragonhead		x						N	LT
<i>Pieris phyllireifolia</i>	Vine wicky		x		x	x				
<i>Pinckneya bracteata</i>	Fever tree		x							LT
<i>Pinguicula lutea</i>	Yellow butterwort			x					N	LT
<i>Pinus elliotii</i>	Slash pine	x	x	x	x	x				
<i>Pinus palustris</i>	Longleaf pine	x						x		
<i>Platanthera ciliaris</i>	Yellowfringed orchid			x					N	LT
<i>Platanthera integra</i>	Yellow fringeless orchid			x					N	LE
<i>Platanthera nivea</i>	Snowy orchid			x					N	LT
<i>Pluchea odorata</i>	Salt marsh fleabane	x	x	x	x					
<i>Pluchea rosea</i>	Perennial marsh fleabane		x	x	x					
<i>Pogonia ophioglossioides</i>	Rose Pogonia			x					N	LT
<i>Polygala cruciata</i>	Drumhead			x						
<i>Polygala cymosa</i>	Tall milkwort			x	x					
<i>Polygonum hydropiperoides</i>	Wildwater-pepper		x		x					
<i>Pontederia cordata</i>	Pickerelweed		x		x	x				
<i>Proserpinaca palustris</i>	Marsh mermaid weed		x		x	x				
<i>Proserpinaca pectinata</i>	Combleaf mermaid weed		x		x	x				
<i>Pteridium aquilinum</i>	Bracken fern	x								
<i>Pterocaulon pycnostachyum</i>	Blackroot	x								
<i>Quercus incana</i>	Bluejack oak							x		
<i>Quercus leavis</i>	Turkey oak							x		
<i>Quercus laurifolia</i>	Laurel oak		x							
<i>Quercus minima</i>	Runner oak	x								
<i>Quercus myrtifolia</i>	Myrtle oak	x						x		
<i>Quercus pumila</i>	Running oak	x								
<i>Quercus virginiana</i> var. <i>geminata</i>	Sand live oak	x						x		
<i>Rhexia alifanus</i>	Meadowbeauty	x	x	x	x					

<i>Rhexia lutea</i>	Meadowbeauty		x	x					
<i>Rhexia mariana</i>	Pale meadowbeauty	x	x	x					
<i>Rhus copallina</i>	Winged sumac	x							
<i>Rhynchospora corniculata</i>	Beakrush		x		x	x			
<i>Rhynchospora filifolia</i>	Beakrush			x	x				
<i>Rhynchospora spp.</i>	Beakrush	x	x	x	x	x	x		
<i>Rubus argutus</i>	Blackberry	x	x	x					
<i>Rubus trivialis</i>	Dewberry	x					x		
<i>Rumex sp.</i>	Docks	x							
<i>Sabatia spp.</i>	Marsh pinks		x	x	x				
<i>Sarracenia flava</i>	Trumpets			x	x				
<i>Sarracenia leucophylla</i>	white-top pitcher-plant			x	x				LE
<i>Sarracenia psitticina</i>	Parrot pitcher plant			x	x			N	LT
<i>Sarracenia purpurea</i>	Purple pitcher plant		x						LT
<i>Saururus cernuus</i>	Lizard's tail				x	x			
<i>Schizacharium scoparium</i>	Bluestems	x							
<i>Scleria baldwinii</i>	Nutrushes		x	x	x				
<i>Serenoa repens</i>	Saw palmetto	x					x		
<i>Sisyrinchium spp.</i>	Blue-eyed grass	x	x	x					
<i>Smilax auriculata</i>	Greenbrier	x							
<i>Smilax laurifolia</i>	Bamboo-vine	x	x	x	x	x			
<i>Smilax pumila</i>	Sarsaparilla vine	x							
<i>Solidago rugosa</i>	Wrinkled goldenrod	x	x						
<i>Solidago odorata</i>	Goldenrods	x							
<i>Spiranthes spp.</i>	Ladies tresses	x	x	x	x				
<i>Sporobolus floridana</i>	Florida dropseed	x		x					
<i>Sporobolus junceus</i>	Pinewoods dropseed	x							
<i>Stillingia aquatica</i>	Corkwood			x	x	x			
<i>Stillingia sylvatica</i>	Queensdelight	x							
<i>Taxodium ascendens</i>	Pond cypress		x	x	x	x			
<i>Toxicodendron radicans</i>	Poison ivy	x	x						
<i>Utricularia spp.</i>	Purple bladderwort		x	x	x	x			
<i>Vaccinium arboreum</i>	Sparkleberry	x					x		
<i>Vaccinium elliotii</i>	Elliot's blueberry	x							
<i>Vaccinium myrsinites</i>	Low bush blueberry	x							
<i>Vaccinium stamineum</i>	Deerberry	x					x		
<i>Verbesina chapmanii</i>	Chapman's crownbeard		x	x	x			N	LT
<i>Viburnum nudum</i>	Possumhaw				x	x			
<i>Viola lanceolata</i>	Bog white violet		x	x	x				
<i>Vitis rotundifolia</i>	Muscadine grape	x	x						
<i>Woodwardia virginiana</i>	Virginia chain fern		x	x	x	x			
<i>Xyris spp.</i>	Yellow-eyed grasses	x	x	x	x				

*MF=Mescic flatwoods; SS=Seepage Stream; WP=Wet prairie; Bog=Bog; DS=Dome swamp; BG=Baygall; SH=Sandhill

Attachment H: DSMB Credit Ledger

Total Potential Credits = 517.99

Wet Prairie/Flatwoods Potential Credits = 223.35

<u>Release Mod./ Impact Permit</u>	<u>EMA (1,2,-)</u>	<u>Permit Date</u>	<u>Issuing Agency</u>	<u>Ledger Modification</u>	<u>Credits Added</u>	<u>Credits Used</u>	<u>Balance</u>	<u>Notes</u>
Release Phase I			DEP	7/9/07	20.60		20.60	CE, Financial
Release Phase II			DEP	7/9/07	25.70		46.30	CE, Financial
03-0221322-019	1	6/19/07	DEP	12/13/07		1.57	44.73	St Joe
Release Phase I			DEP	3/25/08	41.20		85.93	harvest
Release Phase II			DEP	3/25/08	51.30		137.23	harvest
Release Phase I			DEP	3/25/08	30.90		168.13	burn
Release Phase II			DEP	3/25/08	38.50		206.63	burn
43-0293015-001	1	2/12/10	DEP	4/2/10		8.79	197.84	florida transmission line

Cypress/Shrub/Forested Potential Credits = 294.64

ATTACHMENT I - REFERENCES

Clewell 1997

Clewell 1981

Clewell and Raymond 1995

Erickson and Raymond 1988

Ewel, K.C. 1990. Swamps. in Myers, R.L. and J.J. Ewel, eds. *Ecosystems of Florida*. University of Florida Press.

Fernald, E.A., and E.D. Purdum. 1998. *Water Resources Atlas of Florida*. Institute of Science and Public Affairs, Florida State University.

Florida Department of Agriculture and Consumer Services (FDACS). Rules of the Department of Agriculture and Consumer Services, Division of Plant Industry, Chapter 5B-40, Preservation of Native Flora of Florida.

Florida Department of Environmental Protection (FDEP), Bureau of Laboratories. 1999. Minibasin Study: Choctawhatchee River. May.

Florida Department of Transportation (FDOT). 1941, 1995, 1999. Aerial Photography of Bay County, Florida.

_____. 1940, 1942, 1995, 1999. Aerial Photography of Walton County, Florida.

_____. 1999. Florida Land Use and Forms Classification System (FLUCFCS).

Florida Geographic Data Library (FGDL). 2003. Version 3.0, Bay. Geoplan Center, University of Florida.

FNAI and Florida Department of Natural Resources (FDNR). 1990. Guide to the Natural Communities of Florida.

Haddock, Ace. 2001. Guidelines for Restoration of Historic Vegetation on Tate's Hell State Forest. Final Report for the Florida Department of Forest. FDACS-DOF, Tallahassee, FL.

James, F.C., C. Hess, T. Kennedy, T. Mitchell, M. Schrader, and E. Walters. 2003. Responses of the Red-cockaded woodpecker to a Large-scale Experiment in Fire Ecology. Paper presented for Symposium on Red-cockaded Woodpeckers. January.

Kindell, Carolyn. 1997. Historic Distribution of Wet Savannas in Tate's Hell State Forest. Final Report for the USFWS and NFWFMD. FNAI, Tallahassee, FL.

Kindell, Carolyn, Jamie Wojcik, & Vincent Birdsong. 2000. Historic Distribution of Tate's Hell State Forest. Final Report for the USFWS. FNAI, Tallahassee, FL.

- Kushlan, J.A. 1990. Freshwater Marshes. in Myers, R.L. and J.J. Ewel, eds. Ecosystems of Florida. University of Florida Press.
- Norquest 1984
- Reinhardt, R.D., M.C. Reinhardt, and M.M. Brinson. 2002. A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Wet Pine Flats on Mineral Soils in the Atlantic and Gulf Coastal Plains. The United States Army Corps of Engineers. May.
- Runde, D.E., J.A. Gore, J.A. Hovis, M.S. Robson, and P.D. Southall. 1991. *Florida Atlas of Breeding Sites for Herons and Their Allies. Update 1986-1989*. FFWCC Nongame Wildlife Program, Technical Report No. 10. September.
- Turner, E., A. Redmond, and J. Zedler. 2001. *Count it by Acre or Function - Mitigation Adds up to Net Loss of Wetlands*. National Wetlands Newsletter 23:6. Environmental Law Institute, Washington, DC.
- United States Army Corps of Engineers (the Corps). 2002. Mitigation Plan Needs Checklist Army Corps of Engineers' Regulatory Guidance Letter for Wetlands and Interagency National Wetlands Mitigation Action Plan. December 27.
- United States Department of Agriculture (USDA), Soil Conservation Service. 1981. Soil Survey of Bay County, Florida.
- _____. Soil Conservation Service. 1984. Soil Survey of Walton County, Florida.
- _____. Soil Conservation Service. 1989. 26 ecological communities of Florida.
- _____. 1993. Bay County, Florida, Comprehensive Hydric Soils List. December 14.
- United States Fish and Wildlife Service (USFWS). 1987. Habitat Management Guidelines for the Bald Eagle in the Southeast Region. Third Revision. January.
- Wolfe, S.H., J.A. Reidenauer & D.B. Means. 1988. An Ecological Characterization of the Fla. Panhandle. USFWS Biological Report 88 (12); Minerals Management Service. OCS Study\MMS 88-0063; 277 pp.