# Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary


**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 4, 2004

Mr. Raymond A. Pavelka
Mariner Properties Development, Inc.
13451 McGregor Blvd. #31
Ft. Myers, FL 33919

Dear Mr. Pavelka:

File No: 0198035-001, Lee County
Project: Corkscrew Regional Mitigation Bank

Enclosed is Mitigation Bank Permit, Permit No. 0198035-001 issued pursuant to Part IV of Chapter 373, Florida Statutes, and Title 62, Florida Administrative Code.

The permit contains conditions that must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. If you have any questions about the document, please contact me at 850-245-8492.

Sincerely,

Victoria K. Tauxe
Office of Submerged Lands and
Environmental Resources

Enclosure
cc: DEP, Office of General Counsel
Lucy Blair, DEP, Southwest District Office, Ft. Myers
Michael Nowicki, U. S. Army Corps of Engineers, Jacksonville
Ross T. Mortin, SFWMD
Marjorie Moore, SFWMD, West Palm Beach
Ron Miedema, USEPA, West Palm Beach
Spencer Simon, US Fish & Wildlife Service, Vero Beach
Jim Beever, Fish and Wildlife Conservation Commission, Ft. Myers
Rosiland Moore, NRCS, Gainesville

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# ENVIRONMENTAL RESOURCE/MITIGATION BANK PERMIT

**PERMITTEE:**
Mariner Properties Development, Inc.
c/o Mr. Raymond A. Pavelka
13451 McGregor Blvd. #31
Ft. Myers, FL 33919

**PROJECT:** Corkscrew Regional Mitigation Bank
Permit Number: 0198035-001
Date of Issue: June 4, 2004
Expiration Date: Perpetual
County: Lee

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This permit is issued under the authority of Part IV of Chapter 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/environmental 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 (USACOE) for review. The USACOE 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 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:

The applicant, Mariner Properties Development, Inc., applied on April 19, 2002 to the Department of Environmental Protection for a permit/water quality certification to establish the Corkscrew Regional Mitigation Bank (CRMB) on a 632.5± acre site. The project is designed to enhance water quality and wetland function by eliminating agricultural drainage and removing cattle, by grading and planting pasture areas to restore or create natural communities, by treating and managing exotic and nuisance vegetation on native lands, and by implementing a long-term management program, including prescribed fires. The project will enhance and restore a mosaic of freshwater marsh, wet prairie, hydric pine flatwoods, cypress and mixed wetland forests to be used as mitigation for future impacts to wetlands typical of these historic or disturbed systems within the service area. The work will be conducted in phases, and is allowed a total of 351.78 potential mitigation bank credits.

## PROJECT LOCATION:

The proposed bank site is in Section 20, Township 46 South, Range 27 East, Lee County north of Corkscrew Road (Figure 1), Class III waters, and has a service area that includes portions of Lee, Hendry and Collier Counties (Figure 2). The location of CRMB is partially bordered by conservation properties that extend to the southwest, eventually connecting to Corkscrew Swamp and the Everglades.

## GENERAL CONDITIONS:

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within seven days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual;

A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

4. The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department an "Environmental Resource Permit Construction Commencement" notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date.

5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "Annual Status Report Form" (Form No. 62-343.900(4), F.A.C.). Status Report Forms shall be submitted the following June of each year.

6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No. 62-343.900(5), F.A.C.). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, has submitted a "Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase" (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 62-343.110(1)(d), F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

13. The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20.302(4), F.A.C., also known as the "No Notice" rule.

14. The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

16. The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

17. Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.

19. The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

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

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, such as Indian canoes, are discovered at any time within the project site the permittee shall immediately notify the district office and the Bureau of Historic Preservation, Division of Historical Resources, South Florida Regional Office at (954) 467-4990 or headquarters at (800) 847-7278, R. A. Gray Building, 500 S. Bronough St., Tallahassee, Florida 32399-0250.

**Commencement requirements**

3. For each phase, at least 48 hours prior to commencement of work authorized by this permit, the permittee shall notify the Department of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399, and the South District Office, 2295 Victoria Ave., Ste. 364, Ft. Myers, FL., 33901 in writing of this commencement.

4. Unless otherwise specified, all reports and other information required for this permit shall be submitted to the Florida Department of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

5. The permittee shall not commence any land grading or modifications to the surface water management system authorized by this permit in any phase until the following requirements are completed for that phase:

a. A certified copy of the recorded Conservation Easement has been received by the Department as required in Specific Condition 8;

b. A qualified mitigation supervisor is retained as required in Specific Condition 7; and

c. Applicant is in compliance with Specific Condition 9 regarding documentation of financial assurance.

6. This mitigation bank permit shall automatically expire five years from the date of issuance if the permittee has not started the permitted restoration activities in accordance with the permit requirements or has not obtained an extension for start of restoration construction under DEP Rule 62-343.110(1)(c) F.A.C. Except as provided above, this mitigation bank permit shall be perpetual unless revoked or modified.

7. Project Oversight. Prior to commencement of any construction activities, the permittee shall retain a qualified mitigation supervisor (QMS) to oversee all aspects of mitigation bank site implementation, management, monitoring, and corrective actions in this permit until final success criteria are met.

a. The QMS shall have the responsibility to ensure that the mitigation bank work is conducted in accordance with the permit.

b. Not less than 30 days prior to commencing any construction and/or eradication activities authorized in this permit, the permittee shall submit the name of the QMS retained to oversee the mitigation work and provide supporting documentation demonstrating that the QMS is qualified to oversee this work. The QMS must be approved by the Department prior to commencement of the mitigation bank work.

c. Within 30 days of the discharge of any approved QMS, the permittee shall submit the name and supporting documentation of a new QMS to the Department for its review and approval.

d. The permittee shall have the approved 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, these changes shall be incorporated into this permit as a minor modification.

8. Protection and Preservation. Prior to commencing any land grading, modifications to surface water management systems, or the release of credits, the Corkscrew Regional Mitigation Bank property, or phase thereof, shall be preserved and protected in accordance with a conservation easement granted to the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. A copy of the draft language to be used is contained in the permit application file; however, prior to executing the conservation easement, the permittee shall provide the final draft of the easement to the Department for approval.

The permittee shall also provide the following with the recorded conservation easement:

a. A title insurance policy updated to the date of conveyance.
b. Subordination, release, or joinder agreements for any lien on the property, as identified by the Title Commitment, unless such lien does not adversely affect the ecological viability of the Bank (Rule 62-342.650 F.A.C.).
c. Legal descriptions and sketches of the conservation easement certified by a Florida registered land surveyor.
d. A clerk-of-the-court certified copy of the conservation easement.

9. Financial Assurance. The permittee shall provide the Department with the financial responsibility mechanisms required by Rule 62-342.700 F.A.C. The permittee shall secure financial assurance for implementation (construction activities, monitoring, maintenance, and reporting prior to success), and for long-term management activities as follows:

a. For each phase, the permittee shall establish the financial assurance for implementation of that phase prior to a credit release for the phase (Rule 62-342.700 (4), F.A.C.). The form of this assurance shall be consistent with Rule 62-342.700(4)(b) F.A.C. The dollar amount is based on 110% of the estimated costs for construction, monitoring and maintenance of the phase prior to success. The permittee may request a partial reduction in the amount of the implementation assurance after the successful completion of construction, initial exotic eradication activities or other significant activities, based upon a revised cost estimate. The permittee may request a release from its implementation financial assurance obligation upon the determination that the bank (or appropriate phase) has been completely constructed, implemented, has reached the 3rd level of success in compliance with criteria as set forth in Specific Condition 23, and the long-term management has been properly funded.

b. The permittee shall establish the financial assurance for perpetual management at least 60 days prior to the withdrawal of credits from the Mitigation Bank, or any applicable phase thereof (Rule 62-342.700(9), F.A.C.). The form of this assurance shall be consistent with Rule 62-342.700(9)(a), F.A.C. The amount of financial responsibility provided shall be sufficient to generate annual revenue equal to the anticipated annual cost of perpetual management at an assumed average rate of return of 6% per annum. Prior to the determination of final success in accordance with Specific Condition 22, the long-term management trust fund for all phases shall be fully funded in cash.

All cost-estimates shall be reviewed and appropriate financial responsibility adjustments shall be conducted by the banker on a minimum of two-year intervals, in accordance with Rule 62-342.700 (11) F.A.C. The permittee may choose to consolidate financial mechanisms for more than one phase; however, all requests for modifications of financial documents shall be accompanied by an updated cost estimate.

**Mitigation Activities**: Figure 3 shows the existing community types and configuration. The goal of the mitigation activities, schematically represented in Figure 4 and defined in Specific Conditions 10-13, 19, 22, and 23, is to establish a mosaic of native wetland and upland habitats in the existing pasture and enhance the native lands resulting in the community configuration shown in Figure 5. The mitigation activities are to be implemented in four phases, and each phase consists of one or more "cells" (Figure 4 and Exhibit 6-A).

10. Construction. The engineering details for the construction elements of the project are presented in the attached TKW Consulting Engineers, Inc., drawings (Exhibit 6).

a. At the initiation of any phase, all cattle shall be removed and isolated from that phase by a secure fence or barrier.

b. As part of the implementation of Phase I, a permanent adjustable outfall structure shall be constructed in Cell 1 at the southwestern corner of the site, in accordance with Exhibit 6-A and 6-D, to regulate hydroperiod fluctuations. Prior to or as part of the implementation of Phase IV, a similar outfall structure shall be constructed in Cell 2 at the southeastern corner of the site in accordance with Exhibit 6-A and 6-D.

c. In each phase, the farm field restoration cell within that phase (Cells 5-8) shall be separated from other non-restored cells by a temporary 2-foot earthen berm, as shown in Exhibits 6-A and 6-D, constructed from material from adjacent on-site areas. Temporary adjustable weirs shall be incorporated into the berm to allow manipulation of water levels to optimize plant establishment and growth. The berm shall be stabilized with annual grasses or other non-invasive vegetation to minimize turbid discharge into adjacent cells or offsite to waters of the State. These temporary berms and control structures shall be removed as the target vegetation becomes established and prior to the release of credits associated with the phase achieving 2nd level success, as defined in Specific Conditions 23. In the first planting season

after the removal of the berm, graded areas shall be planted as defined in the approved planting plan (Attachment A and Specific Condition 11).

d. After construction of the temporary berms, Cells 5-8 shall be graded, during implementation of the respective phases, to the elevations shown in Exhibits 6-B and 6-C, to eliminate both drainage swales and pasture grasses. The contours are designed to provide the proper elevation for the proposed communities. Cut material shall be used for onsite fill for temporary berms or deposited offsite in an appropriate upland or permitted area. The overall cut and fill plan is shown in Exhibit 6-G. Within the designed contour elevations, slight variations (0.1 – 0.2 feet) may be incorporated to add topographic diversity. Proposed elevations are designed to meet the specific hydrological targets below for the proposed communities, assuming a wet season water elevation of approximately 28 ft. NGVD:

   i. Hydric Pines: wet season water levels 0.1 to 0.2 feet above ground surface for 3± months;

   ii. Cypress: wet season water levels 0.3 to 1.0 feet above ground surface for three to five months.

   iii. Marshes: wet season water levels 0.5 to 2.0 feet above ground surface for five to six months. Small deeper pockets (<10% of marsh area), containing standing water throughout the year may be created within these marshes.

e. Cells 1 and 2 in Phases I and IV, respectively, shall also be graded in association with the installation of the outfall structures to remove exotic vegetation and create a cypress depression and upland buffer adjacent to Corkscrew Road.

f. At the completion of the construction work for each phase and prior to the release of credits associated with construction activities, as-built certifications, prepared by the Engineer of Record licensed in the State of Florida consistent with General Condition 6, shall be submitted to document the achievement of grade and completion of any associated temporary or permanent water management structures. Additionally, this submittal shall be accompanied by a written statement from the QMS summarizing the construction activities and testifying that, within his/her supervision, those activities were conducted in accordance with permit drawings and conditions or indicating why, when, and where any construction plans were altered.

11. Planting. Prior to any planting described below, all graded areas shall be inspected by the QMS and the project manager(s) contracted to implement the planting plan to ensure that the elevations, site preparation and soils are appropriate for the proposed vegetation, and to determine whether any modifications to the permitted construction or planting plans are warranted. All graded areas shall be planted in accordance with the planting plan in Attachment A for the proposed community types shown in Figure 5. The groundcover planting and tree installation shall be conducted at a season that optimizes the plants' growth and survival. Prior

to the release of credits associated with the completion of the planting plan, the permittee shall submit a report documenting the completion of the seeding and planting for that phase.

12. Exotic and nuisance vegetation control. Invasive exotic and nuisance vegetation, including but not limited to Brazilian pepper, melaleuca, torpedo grass, West Indian marsh grass, bahia grass, cattail, and primrose willow, shall be controlled by appropriate measures including herbicide application and/or physical removal. Within the native areas, woody exotic vegetation will be treated by the cut stump method with application of appropriate herbicide. Herbaceous exotic/nuisance species will be controlled by physical removal (farm field grading, hand pulling) or treated by the application of appropriate approved herbicide. Non-target species shall be protected using best management practices. Exotic and nuisance species control will be conducted under the direction of the QMS and the direct supervision of a state-licensed professional herbicide applicator. Recommended methods for treatment of exotic/nuisance species are identified in the following table; however, methods based on effective, ecologically preferable updates may be implemented, and noted in progress reports.

**Recommended Treatment Methods, Herbicides, Surfactants, and Minimum Percentage Solutions for Exotic and Nuisance Species**

| Control Technique | Herbicide | Surfactant | Percent Solution | Target Species |
|---|---|---|---|---|
| Cut-stump | Arsenal[3] | Comply with labeling | 10 percent | Melaleuca |
| | Rodeo | | 25 percent | |
| | Garlon 4 | Water | 50 percent[2] | Brazilian Pepper |
| Basal Bark | Garlon 4 | Stalker 3 percent | 10 percent[2] | Brazilian Pepper, Woody shrubs |
| Foliar | Rodeo | Comply with herbicide labeling | 2 percent | Cattail, Primrose Willow, Torpedo Grass, Bahia Grass, Bermuda Grass |

1. Rates will vary depending upon size of trees/shrubs and site specific conditions.
2. Rates for cut-stump and basal bark treatments were obtained from The Brazilian Pepper Management Plan for Florida (Ferriter 1997).
3. Arsenal herbicide can be used in aquatic systems by government institutions under the Arsenal Supplemental Label.
4. Alternate herbicides/concentrations may be used in accordance with site specific conditions.
5. Banker may use Garlon 3A to treat cut stump Melaleuca following presentation, and acceptance by SFWMD, of pre-restoration on-site testing and documentation of successful results.

After the initial exotic vegetation treatment within Cells 3 & 4 of Phase I and prior to the credit release associated with that treatment, the permittee shall submit documentation, signed by the QMS and licensed professional herbicide applicator, that the site was treated, and provide a summary of the treatment areas, exotic density, herbicide used and any other information helpful for future maintenance.

13. Fire Management Plan: Prescribed fire shall be implemented to attain the proposed enhancement and as a long-term management tool to sustain the proposed communities and function. The site has been divided into six burn units, which shall be burned in accordance with the approved fire management plan in Attachment B. A conceptual fire prescription is included

in the fire management plan; however, each prescribed burn activity will be developed and supervised by a certified burn specialist. A successful burn shall be implemented in Cells 3 and 4 within 2 years after the initial exotic vegetation treatment, and prior to release of credits associated with that burn. Additionally, pursuant to Specific Conditions 23 and 24, a successful prescribed fire shall be implemented in at least one phase of restored farm fields prior to a final success determination for the bank. Following each prescribed burn activity conducted at the bank, the permittee shall submit documentation, signed by the QMS and certified burn specialist, that a burn was conducted, and provide a summary of the unit(s) and acres treated with assessment of burn success, including photographs. For the purposes of this permit, a successful burn shall mean the fire shall carry over a minimum of 70% of each targeted community within the phase, the herbaceous groundcover is regenerating ("greening up") in the burned area, and tree mortality attributed to the fire is less than 5% within the native areas and 15% within the planted pine areas.

14. Site Security: Access to the site shall be restricted by a series of locked gates at all access points and fencing around the entire property perimeter with signs that say "South Florida Water Management District - No Trespassing – Environmentally Sensitive Lands". Maintenance and inspection of security issues shall be conducted pursuant to Special Condition 25.

15. Work schedule: The Corkscrew Regional Mitigation Bank is to be implemented in four phases. The sequence of proposed activities is outlined in the following timetable.

| Activity | Approximate Time Post Issuance | | | |
|---|---|---|---|---|
| | **Phase I - Cells 1, 3, 4, 5** | **Phase II – Cell 7** | **Phase III – Cell 6** | **Phase IV – Cells 8 & 2** |
| Conservation Easement & Financial Assurance/ Phase | ~ 3 mo. | ~ 1 – 2 yr | ~ 2 – 3 yr | ~ 3 – 4 yr |
| Exotic in Cells 3 & 4 | 3 – 6 mo. | | | |
| Construction/Planting | ~ 1 – 1.5 yr | ~ 1.5 – 2.5 yr | ~ 2.5 – 3.5 yr | ~ 3.5 – 4.5 yr |
| Burn in Cells 3 & 4 | < 2 yr | | | |
| Level 1 Success | ~ 2 – 2.5 yr | ~ 3 – 4 yr | ~ 4 - 5 yr | ~ 3.5 – 4.5 yr |
| Level 2 Success | ~ 3 – 4 yr | ~ 4 - 5 yr | ~ 5 – 6 yr | ~ 5 – 6 yr |
| Level 3 Success | ~ 5 yr | ~ 5 – 6 yr | ~ 6 – 7 yr | ~ 6 – 7 yr |
| Bankwide Success | ~ 8 yr | ~ 8 yr | ~ 8 yr | ~ 7 – 8 yr |

The permittee intends to begin restoration in Phase I, with subsequent phases to commence in successive years, beginning 12-18 months after the start of Phase I; however, dates are estimates subject to weather, availability of plant material, and on-site conditions. Regardless, once a phase is initiated, all construction and planting activities for that phase shall be completed within 2 years. The order or configuration of the phases may only be changed by minor modification of the permit.

**Banking Operations**

16. As specified in Rule 62-342.470(6) 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 released or withdrawn. Mitigation credits shall again be available if the permittee comes back into compliance.

17. Assessment of Credits: As a result of mitigation activities, the Corkscrew Regional Mitigation Bank, has the potential to provide for a total of 269.65 forested freshwater mitigation

credits and 82.13 herbaceous freshwater mitigation credits following final bank wide success. Credits were assessed using the Unified Mitigation Assessment Method (UMAM), Chapter 62-345, F.A.C., and therefore include the assessment of time-lag and risk. An explanation of the credit assessment is included in Attachment C. These credits will be released incrementally, as detailed in Specific Condition 19.

18. Ledger: In order to track credit releases and withdrawals, a ledger shall be kept indicating all potential, released, withdrawn and available credits. The format for the ledger, indicating potential credits, is attached as Attachment D.

19. Credit Release Schedule: The release of credits will be tied to the completion of specified restoration activities and the attainment of the three levels of success as described in Specific Condition 23. The releases, by phase, are based on the sum of their component cells' potential credits for the activities listed below, with the schedules being slightly different for natural habitat enhancement (Cells 3 and 4) *vs.* farm field restoration (Cells 1, 2, 5, 6, 7, and 8), as shown in the following tables. All credits associated with the creation of wetlands from existing uplands shall be retained until that entire phase attains Success Level 3.

**Enhancement (Cells 3 and 4)**

| % Credit Release | Activity By Cell |
|---|---|
| 15 | Conservation Easement and Financial Assurance |
| 35 | Initial exotic vegetation treatment |
| 10 | Implementation of successful prescribed burn |
| 15 | Attain Success Level 1 |
| 15 | Attain Success Level 2 |
| 5 | Attain Success Level 3 |
| 5 | Attain Success Level 3 in all eight cells |
| 100% | Total Credit Release |

**Restoration and Planting (Cells 1, 2, 5, 6, 7 and 8)**

| % Credit Release | Activity By Cell |
|---|---|
| 15 | Conservation Easement and Financial Assurance |
| 35 | Grade and plant farm field and install berms and weirs, Time Zero report |
| 15 | Attain Success Level 1 |
| 15 | Attain Success Level 2 |
| 15* | Attain Success Level 3 |
| 5 | Attain Success Level 3 in all phases |
| 100% | Total Credit Release |

* 15% plus creation retainage credits for cells 2, 7, and 8

This credit release schedule was considered during the credit assessment, including time-lag and risk. The following table represents a summary of the credit assessment and release by activity, type and phase. All credits are allocated and released as "freshwater herbaceous," which includes marsh and wet prairie, and as "freshwater forested," which includes hydric pine flatwoods, cypress and mixed hardwood wetlands.

| Activity | Specific Condition | Phase 1 | | Phase 2 | | Phase 3 | | Phase 4 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Forest | Herb | Forest | Herb | Forest | Herb | Forest | Herb | Forest | Herb |
| Conservation Easement and Financial Assurance | 5, 8, & 9 | 19.14 | 4.29 | 7.66 | 3.07 | 4.71 | 1.44 | 8.95 | 3.52 | 40.45 | 12.32 |
| Initial Exotic Treatment in Cells 3 and 4 | 12 | 24.4 | 3.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 24.4 | 3.19 |
| Grade/Plant Farm Field & Complete Construction | 10 &11 | 19.86 | 6.21 | 16.32 | 6.05 | 10.98 | 2.82 | 15.44 | 1.06 | 62.60 | 16.14 |
| Prescribed Burn in Cells 3 and 4 | 13 | 6.97 | .91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.97 | 0.91 |
| Success Level 1 | 23 | 18.97 | 4.03 | 6.99 | 2.59 | 4.71 | 1.21 | 6.62 | 0.46 | 37.29 | 8.28 |
| Success Level 2 | 23 | 18.97 | 4.03 | 6.99 | 2.59 | 4.71 | 1.21 | 6.62 | 0.46 | 37.29 | 8.28 |
| Success Level 3 | 23 | 12.16 | 3.38 | 7.66 | 3.07 | 4.71 | 1.44 | 8.95 | 3.52 | 33.48 | 11.41 |
| Creation Retainage | | .73 | 1.15 | 2.86 | 2.06 | 0.00 | 0.99 | 10.10 | 13.28 | 13.69 | 17.49 |
| All Cells Success Level 3 | 22 | 6.38 | 1.43 | 2.55 | 1.02 | 1.57 | 0.48 | 2.98 | 1.17 | 13.48 | 4.11 |
| Total Potential Credits | | 127.58 | 28.61 | 51.05 | 20.47 | 31.38 | 9.58 | 59.66 | 23.47 | 269.65 | 82.13 |

Whenever a credit release activity has been successfully completed in accordance with the appropriate Specific Conditions, the permittee shall submit a minor modification request (with fee), along with supporting documentation, for the release of the appropriate number of credits. This request shall be made in writing to the Office of Submerged Lands and Environmental Resources. The Department shall review the documentation, conduct a site visit to determine if the documentation is representative of on-site conditions, 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.

20. Mitigation Credit Withdrawal: Withdrawal of the mitigation bank credits as mitigation for wetland impacts shall be accomplished though a minor modification of this permit. Modification requests for credit withdrawal shall not require a modification fee. Modification requests shall be made in writing to the Office of Submerged Lands and Environmental Resources in Tallahassee. Minor modification requests shall only be submitted by the bank permittee. The modification request shall include:

a. a complete list of all Department or Water Management District permits (or other applicable regulatory actions) that require mitigation credits from the CRMB,
b. the permit number, issue date and environmental permit processor/reviewer,
c. an identification of the number and type of wetland credits required under each of these permits.

Minor modification approvals for credit withdrawal shall be issued only to the bank permittee. An updated mitigation bank credit ledger sheet shall be included by the Department as an attachment to each minor modification approval for credit withdrawal.

21. 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 Corkscrew Regional Mitigation Bank is depicted in Figure 2 and is generally described as lands west of SR 29, south of SR 80 and CR 867, and north and east of the landward edge of the Gulf of Mexico and Estero Bay. The MSA includes lands within Lee, Hendry, and Collier Counties.

As noted on Figure 2, the Bank will not be used as mitigation for marine, estuarine, barrier island, or coastal island habitat impacts or for impacts to riverine habitats associated with the Caloosahatchee River where they may occur within the MSA described above.

**Success Criteria**

22. Final Success: The bank shall enhance, restore or create the following communities: hydric and upland pine flatwoods, marsh and wet prairie, cypress heads and mixed wetland hardwoods. The Bank shall be deemed successful when all of the following criteria have been met.

a. **Acreage:** The communities listed above shall be enhanced or restored in the approximate configuration and acreage shown in Figure 5, with at least 530 acres determined to be wetlands or other surface waters pursuant to Chapter 62-340, F.A.C., based on as-built drawings, QMS certification and Department concurrence.
b. **Phases:** All communities in all four phases (8 cells) have achieved 3rd level success for vegetation, wildlife utilization, and hydrology parameters, as identified in Specific Condition 23.
c. **Exotic and Nuisance Vegetation:** The bank shall maintain less than 2% cover per acre with exotic vegetation (as listed in the FEPPC's 2003 Category 1) and less than 5% cover per acre with nuisance vegetation (including, but not limited to *Typha spp., Ludwigia peruviana, Eupatorium capillifolium,* and *Ambrosia spp.).* Additionally, *Myrica cerifera, Baccharis halimifolia,* and *Salix caroliniana* within the hydric pine flatwoods and herbaceous communities shall be less than 25% combined cover per acre.
d. **Prescribed Burn:** At least one successful prescribed burn as described in Specific Condition 13 and Attachment B has been implemented within the native lands and within at least one phase of the farm field restoration.
e. **Hydrology and Construction:** As-built documentation has been submitted for structures and graded areas in accordance with Specific Condition 10.f., and hydrological targets have been met in accordance with Specific Condition 23.
f. **Compliance**: The structures in the bank have operated as designed, and the permittee has conducted all monitoring, inspection and maintenance activities required and submitted all required reports to the satisfaction of the Department.
g. **UMAM Assessment**: Using the monitoring data and reports and in conjunction with the permittee, the Department shall inspect the site and conduct an UMAM analysis of each predominant community type in each phase. The overall UMAM score derived from this assessment shall indicate that each phase has attained or is clearly trending toward the "with bank" scores, as shown in Attachment C, that were used to determine the potential credits for the bank.

23. Interim Release Criteria: Progressive environmental enhancement or trending towards success provides environmental lift for which credits may be released incrementally prior to achieving all of the final success criteria. Therefore, a set of interim success criteria have been identified to document functional enhancement. These criteria are defined by community type, and are the basis for interim credit releases, as outlined in Specific Condition 19. In order to release credits for a phase having achieved a certain level of success, all communities within that phase shall meet or exceed the criteria for that level of success.

## Upland and Hydric Pine Flatwoods Success Criteria

### Canopy/Shrub (Vegetation ≥ 1" DBH)

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum average trees per acre | 250 | 200 | 150[1] |
| Minimum average tree height | 3 | 4.5 | 6 |
| Minimum % of trees greater than 10 feet in height | -- | -- | 20 |
| No exotic (EPPC 2003 List Category 1) trees or shrubs present | yes | yes | yes |
| Evidence of trees or shrubs producing seed | -- | -- | yes |

1. For Level 3 success, overall densities of pine trees within the planted hydric pine flatwoods shall approximate that of the native areas, and the Banker shall reduce the density, as necessary and in consultation with the MBRT, to achieve this goal.

### Ground Cover

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum % cover by native herbaceous species listed as OBL, FACW, or FAC [2] | 30 | 50 | 70 |
| Maximum % cover by nuisance/inappropriate species | 10 | 10 | 5 |
| Maximum % cover by exotic (EPPC 2003 List Category 1) species immediately following maintenance activities | 5 | 2 | <1[3] |
| Minimum # species of native plants within sampling plots[4] | 10 | 20 | 30 |
| Evidence of natural reproduction of ground cover species | -- | yes | yes |

2. Upland assessment areas may also include UP species. Pursuant to 62-340, F.A.C. , *Aristida stricta* is a FAC species.
3. Level 3 requires no more than 2% per acre cover by exotic species immediately prior to final maintenance event.
4. Does not apply to Upland Assessment Areas. The native species appropriate for Hydric Pine flatwoods groundcover must be from approved species list (Attachment E, Table E-1).

### Wildlife Utilization*

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Qualitative evidence of wildlife utilization | yes | yes | yes |
| Qualitative evidence of wildlife utilization, including use by native wetland dependant bird and mammal species | | yes | yes |
| Evidence of wetland dependant amphibian/reptile species (or no fewer than 1 species less than occurring at reference wetland[5]) | -- | Yes | 6 species in 3 groups[6] |
| Evidence of wetland dependant bird species (or no fewer than 2 species less than occurring at reference wetland[5]) | -- | Yes | 10 species in 3 groups[7] |
| Evidence of wetland dependant mammal species (or no fewer than 1 species less than occurring at reference wetland[5]) | -- | Yes | 4 species with 1 predator |

* Upland Assessment Areas are presumed to have appropriate wildlife usage if hydric flatwoods meet wildlife utilization criteria.
5. Reference wetlands may be used at Level 3 only.
6. Amphibian/reptile functional groups include alligators, turtles, snakes, salamanders, tree frogs, and deep water frogs.
7. Bird functional groups include wading birds, shore birds, raptors, perching birds, anhinga/cormorants, and waterfowl.

**Hydrology (not required for Upland Communities)**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum days of soil saturation (water levels within 6 in of surface) or inundation during June-Oct. of a typical rainfall year[8] | -- | 90 | 90 |
| Plants appear healthy with no stress resulting from an improper hydroperiod | yes | yes | yes |

8. Target hydroperiod criteria are based on typical rainfall during June-October. Should the Bank not receive typical rainfall for the second level of success determination, the Banker and DEP shall use an alternate mutually acceptable hydrologic criteria to determine success; however, for third level of success, the Bank shall demonstrate at least 2 years of success with typical rainfall.

## Cypress/Mixed Wetland Hardwoods Success Criteria

**Canopy/Shrub (Vegetation ≥ 1" DBH)**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum average appropriate trees per acre | 500 | 450 | 400 |
| Minimum average tree height | 3 | 4.5 | 6 |
| Minimum % of trees greater than 10 feet in height | -- | -- | 20 |
| No exotic (EPPC 2003 List Category 1) trees or shrubs present | yes | yes | yes |
| Evidence of trees or shrubs producing seed | -- | -- | yes |

**Ground Cover**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum % cover by native species listed as OBL, FACW, or FAC | 25 | 50 | 75[1] |
| Maximum % cover by nuisance/inappropriate species | 10 | 10 | 5 |
| Maximum % cover by exotic (EPPC 2003 List Category 1) species immediately following maintenance activities | 5 | 2 | <1[2] |
| Minimum species richness of native plants within sampling plots | 5 | 10 | 15 |
| Evidence of natural reproduction of ground cover species | -- | yes | yes |

1. A lower % cover that is attributable to appropriate amounts of open water or shading will not count against success attainment.
2. Level 3 requires no more than 2% cover by exotic species immediately prior to final maintenance event.

**Wildlife Utilization**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Qualitative evidence of wildlife utilization | yes | yes | yes |
| Qualitative evidence of wildlife utilization, including use by native wetland dependent bird and mammal species | | yes | yes |
| Evidence of native species of fish (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 3 species |
| Evidence of native wetland dependant amphibian/reptile species (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 8 species in 4 groups[3] |
| Evidence of native wetland dependant bird species (or no fewer than 2 species less than occurring at reference wetland[2]) | -- | 1 species | 10 species in 4 groups[4] |
| Evidence of native wetland dependant mammal species (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 4 species w/ 1 predator |

2. Reference wetlands may be used at Level 3 only.
3. Amphibian/reptile functional groups include alligators, turtles, snakes, salamanders, tree frogs, and deep water frogs.
4. Bird functional groups include wading birds, shore birds, raptors, perching birds, anhinga/cormorants, and waterfowl.

**Hydrology**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum days of soil saturation (water levels within 6 in of surface) or inundation during June-Nov. of a typical wet season rainfall year[5] | -- | 120 | 120 |
| Plants appear healthy with no stress resulting from an improper hydroperiod | yes | yes | yes |

5. Target hydroperiod criteria are based on typical rainfall during June-November. Should the Bank not receive typical rainfall for the second level of success determination, the Banker and DEP shall use an alternate mutually acceptable hydrologic criteria to determine success; however, for third level of success, the Bank shall demonstrate at least 2 years of success with typical rainfall.

## Marsh Success Criteria

**Ground Cover**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum % cover by native herbaceous species listed as OBL, FACW, or FAC, predominantly OBL and FACW | 25 | 50 | 85 |
| Maximum % cover by nuisance/inappropriate species | 15 | 10 | 5 |
| Maximum % cover by exotic (EPPC 2003 List Category 1) species immediately following maintenance activities | 5 | 2 | <1[1] |
| Minimum #species of native herbaceous plants within sampling plots | 5 | 10 | 15 |
| Evidence of natural reproduction of ground cover species | -- | yes | yes |

1. Level 3 requires no more than 2% cover by exotic species immediately prior to final maintenance event.

**Wildlife Utilization**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Qualitative evidence of wildlife utilization | yes | yes | yes |
| Qualitative evidence of wildlife utilization, including use by native wetland dependent bird and mammal species | | yes | yes |
| Evidence of native species of fish (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 3 species |
| Evidence of native wetland dependant amphibian / reptile species (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 7 species in 4 groups[3] |
| Evidence of native wetland dependant bird species (or no fewer than 2 species less than occurring at reference wetland[2]) | -- | 1 species | 12 species in 3 groups[4] |
| Evidence of native wetland dependant mammal species (or no fewer than 1 species less than occurring at reference wetland[2]) | -- | 1 species | 2 species |

2. Reference wetlands may be used at Level 3 only.
3. Amphibian/reptile functional groups include alligators, turtles, snakes, salamanders, tree frogs, and deep water frogs.
4. Bird functional groups include wading birds, shore birds, raptors, perching birds, anhinga/cormorants, and waterfowl.

**Hydrology**

| Ecological Parameter | Level 1 | Level 2 | Level 3 |
|---|---|---|---|
| Minimum days of soil saturation (water levels within 6 in of surface) or inundation during June to Dec. of a typical wet season rainfall year[5] | -- | 150 | 150 |
| Plants appear healthy with no stress resulting from an improper hydroperiod | yes | yes | yes |

5. Target hydroperiod criteria are based on typical rainfall during June-December. Should the Bank not receive typical rainfall for the second level of success determination, the Banker and DEP shall use an alternate mutually acceptable hydrologic criteria to determine success; however, for third level of success, the Bank shall demonstrate at least 2 years of success with typical rainfall.

**Maintenance and Monitoring Provisions**

24. Turbidity Monitoring: Best management practices for the control of turbidity and erosion shall be implemented during all work on site. Prior to the start of any construction activity, all dredge and fill areas for that activity shall be delimited by erosion control and/or turbidity barriers. To ensure that water quality standards are not violated, erosion and turbidity control measures shall be inspected regularly, and turbidity monitored as described below until construction work has been completed and stabilized.

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 following measures shall be taken by the permittee whenever construction activities result in turbidity levels within waters of the state surrounding the project site that exceed state water quality standards pursuant to Rule 62-302, F.A.C.:

a. Immediately cease all work contributing to the exceedence of the water quality standard.

b. Modify the work procedures that were responsible for the exceedence, install more turbidity controls if necessary, and repair any non-functioning turbidity containment devices.

c. Notify the Office, 850-245-8474, and the South District office, 239-332-6975, within 24 hours of the time the exceedence is first detected.

Turbidity monitoring shall be conducted daily using a portable turbidimeter within the Corkscrew Road drainage canal during construction activities whenever there is discharge to this waterbody. 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. Turbidity monitoring data shall be compiled and submitted to the Department on a monthly basis. It is the responsibility of the permittee to quickly rectify any problems found and to inform the Department by phone, FAX or e-mail (with follow-up written memo) of any violations of water quality standards.

25. Inspections: The permittee shall conduct inspections to include the following elements. Inspections shall be conducted semi-annually in perpetuity. Inspection field sheets shall be submitted with the semi-annual status reports (Specific Condition 28) and summarized in the annual reports (Specific Condition 29). These inspections will be for the specific purpose of identifying any problems or issues and resolving these as part of bank management and maintenance activites. At a minimum, the following items shall be reviewed during inspections.

a. Construction: During implementation, the QMS shall inspect and oversee all mitigation activities (construction, planting, burning, exotic removal), inspect construction area, temporary berms, and outfall structures, and ensure that all procedures are being applied

to optimize ecological enhancement and to not degrade wetland and/or surface water resources. After implementation, the permittee shall continue to regularly inspect structures and planted areas for maintenance needs. The efficacy of the activities and structures and any remedial actions planned or conducted shall be reported.

b. Security: Inspection for security shall include signs, fences, and gates associated with the site, and notations of any unauthorized use or vandalism shall be reported and corrected. The condition and efficacy of the security feature and any remedial actions planned or conducted shall be reported.

c. Exotic Vegetation: During all inspections and monitoring site visits, any occurrence of invasive exotic vegetation within the completed phases should be noted for follow-up treatment and reported.

26. Management and Maintenance: The wetlands are expected to be self-sustaining once the exotics are controlled, the hydrology enhanced, and native vegetation communities re-established. Monitoring data and the QMS's professional judgement will dictate the type and frequency of maintenance activities during implementation. Maintenance activities after success shall continue in perpetuity. Bank maintenance activities shall include, but are not limited to:

a. Manipulating control structures as necessary to optimize water levels during and after establishment of vegetation;

b. Conducting prescribed burns, using licensed personnel and approved methodologies and in accordance with Specific Condition 13 and the fire management plan;

c. Conducting semi-annual inspections and treatment of exotic vegetation for the first year, with annual treatments thereafter, as needed;

d. Removing feral/exotic terrestrial animals such as feral hogs;

e. Seeding or planting supplemental wetland vegetation as necessary to maintain the wetland functions and values;

f. Maintaining temporary and permanent structures to repair washout or weakened areas, and remove debris; and

g. During implementation, maintaining staff gauges and piezometers to ensure the proper monitoring of surface and ground waters.

27. Monitoring: The Department has reviewed the proposed monitoring plan in Attachment E. Required monitoring includes:

a. Annual qualitative vegetation monitoring;
b. Quantitative vegetation monitoring for interim and final success determination;
c. Water level monitoring weekly during the wet season and monthly during the dry season, referenced to continuous recording gauges;
d. Qualitative and semi-quantitative wildlife monitoring.

This plan has been determined to be substantively adequate to evaluate progress toward restoration goals, identify potential roadblocks that may hamper attaining those goals, provide opportunities for scientific assessment of wetland functions and processes, and ultimately demonstrate that the Bank's success criteria have been met. However, in order to accommodate

any changes necessitated by other permitting conditions and/or operational restrictions, the permittee shall submit, for the Department's written approval, a final monitoring plan 60 days prior to conducting monitoring for this permit. This plan shall include the following attributes for each of the major sampling parameters (hydrology, vegetation cover including nuisance and exotic species, plant community acreage and composition, and wildlife utilization):

a. a figure showing all sampling locations;
b. a table indicating all sampling frequencies and/or dates;
c. a detailed description of all sampling methods to be utilized;
d. samples of field sheets and data tables;
e. photographic information.

In addition, this Monitoring Plan shall include a section detailing the proposed analyses and reporting that will be conducted using the collected data. This section shall include:

a. proposed reporting format;
b. sample data summary tables and graphs;
c. proposed analytical assessments and discussion contents; and
d. a success/progress assessment

28. Progress Reports: Beginning the first July or January after permit issuance and every six months thereafter until final success determination, the permittee shall submit semi-annual status reports or letters containing the following information for each phase within the bank:

a. Dates permitted construction or other mitigation activities were conducted or are anticipated;
b. Brief description and extent of work completed since the previous report or since permit was issued;
c. Site plan indicating areas where work has been completed;
d. A description of any problems encountered and solutions undertaken;
e. A brief description of the work and/or site management activities the permittee anticipates commencing, continuing or completing in the next six months;
f. Site management undertaken, including type of management activities and dates each activity was undertaken; and
g. A summary of the inspections conducted pursuant to Specific Condition 25.

29. Annual Reports: The Annual Report is a summary of the yearly quantitative and qualitative monitoring for success and an assessment of the degree to which the bank, or any phase thereof, is attaining success. This report shall be submitted within 45 days after completion of the vegetation monitoring and shall be prepared according to the format required and approved in accordance with Specific Condition 27. This report shall be submitted, by the end of January each year, 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 22 shall also include the following information:

a. a summary of all of the previous Annual Reports, including, as appropriate, timeline graphics;
b. a list of each success criteria and documentation of how and when it was attained;
c. a notation of problems encountered in attaining the success criteria and how the problems were solved, and a notation of any exceptionally successful activity;
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.

30. Compliance: Prior to the initial credit release, the permittee shall prepare a checklist showing all compliance activities required in this permit, and the actual or relative dates for these activities. This checklist, with appropriate items "checked", shall be included with each annual monitoring report submittal or credit release modification request.

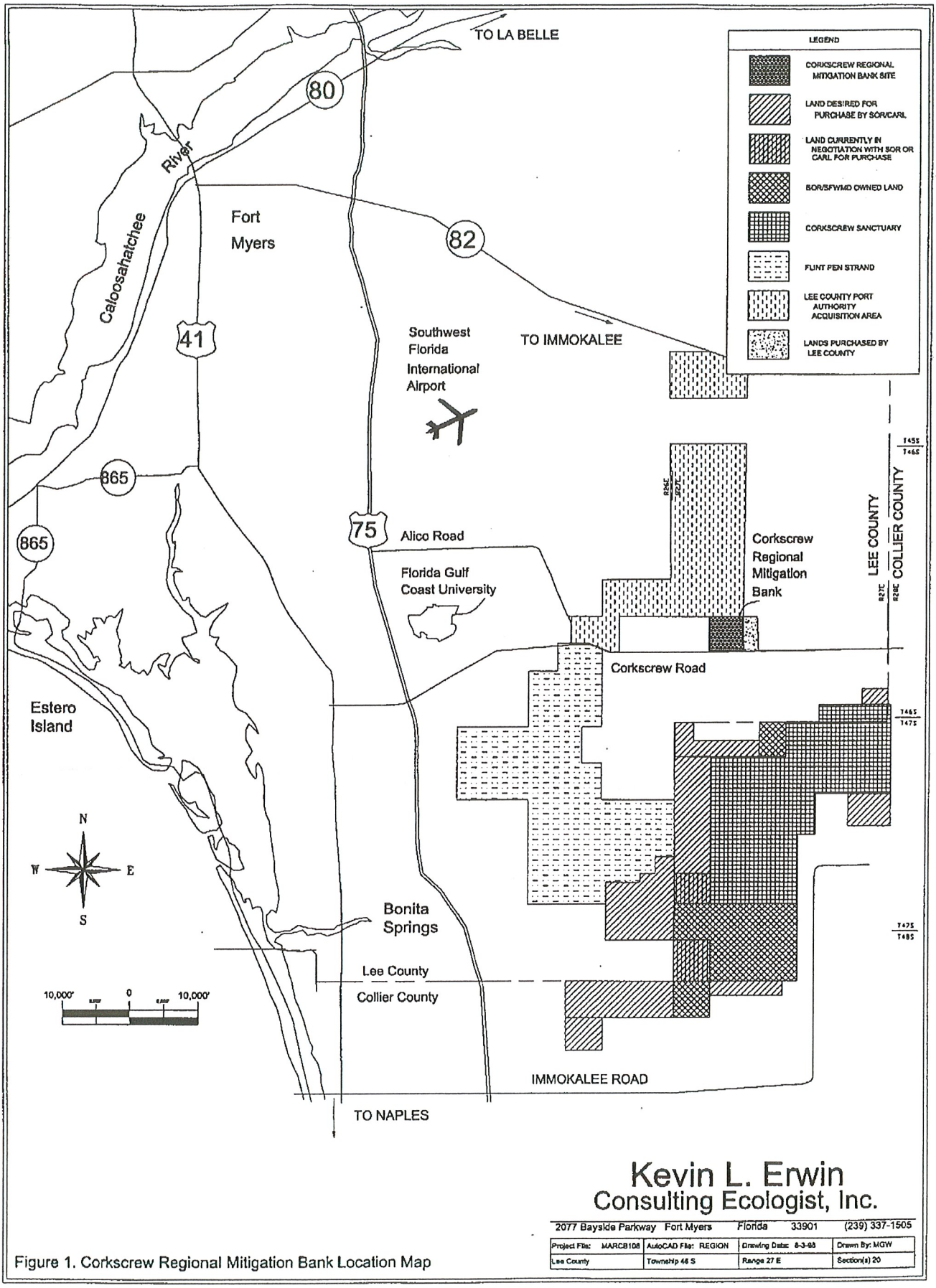
Figures 1-5 and Exhibit 6A-6G: Figures and Engineering Drawings
Attachment A: Planting Plan
Attachment B: Fire Management Plan
Attachment C: Credit Assessment
Attachment D: Ledger
Attachment E: Monitoring Plan

Recommended by:

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Richard W. Cantrell

Richard Cantrell, Deputy Director
Division of Water Resource Management




Kevin L. Erwin
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| | | | |
|---|---|---|---|
| Project File: MARCB108 | AutoCAD File: REGION | Drawing Date: 8-3-98 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |

Figure 1. Corkscrew Regional Mitigation Bank Location Map

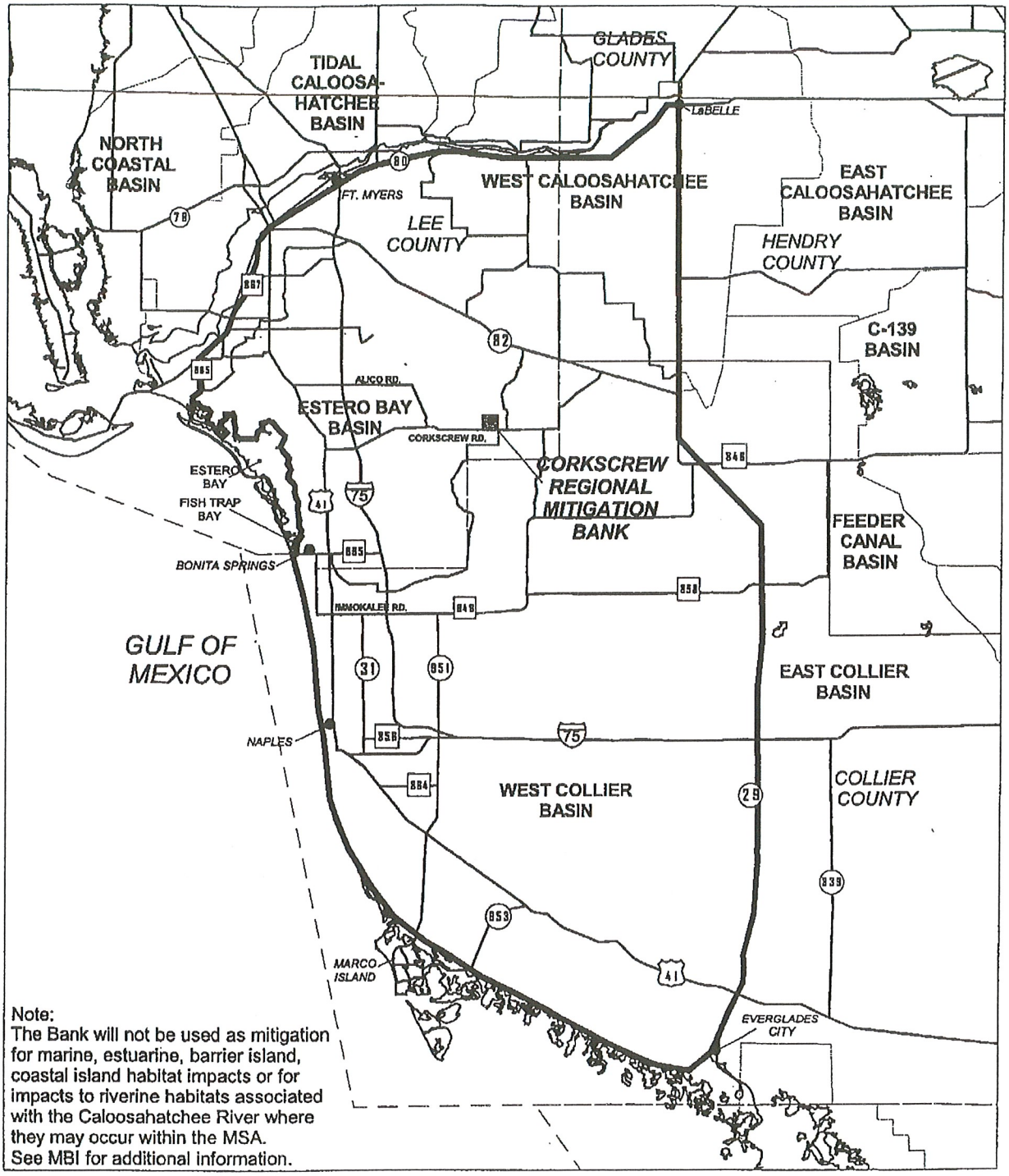


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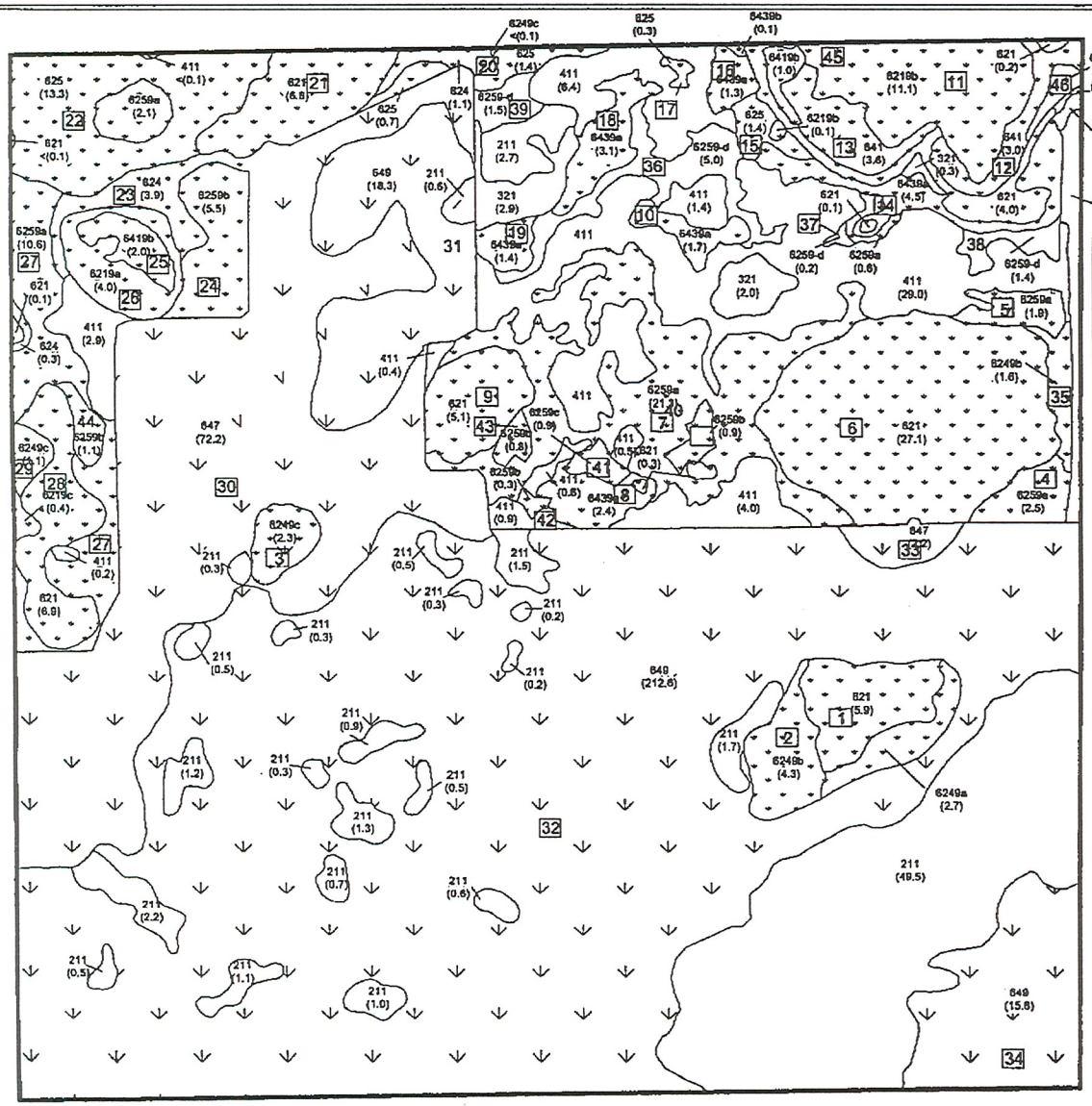
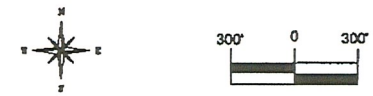
Figure 2. Corkscrew Regional Mitigation Bank Service Area






## FLUCCS LEGEND

| FLUCCS | | ACRES | % OF TOTAL |
|---|---|---|---|
| 210 | CROPLAND & PASTURE LAND | 3.0 | 0.5% |
| 211 | IMPROVED PASTURE | 68.6 | 10.8% |
| 321 | PALMETTO PRAIRIE | 5.2 | 39.0% |
| 411 | PINE FLATWOODS | 46.3 | 11.8% |
| 4119a | PINE FLATWOODS, DISTURBED | 0.3 | 0.8% |
| 621 | CYPRESS | 17.1 | 7.3% |
| 6219a | CYPRESS, DISTURBED | 39.0 | 0.1% |
| 6219b | CYPRESS, DISTURBED | 8.6 | 2.7% |
| 6219c | CYPRESS, DISTURBED | 0.9 | 5.2% |
| 625 | PINE FLATWOODS, HYDRIC | 8.1 | 1.4% |
| 6259a | PINE FLATWOODS, HYDRIC, DISTURBED | 56.5 | 0.1% |
| 6259b | PINE FLATWOODS, HYDRIC, DISTURBED | 4.0 | 1.3% |
| 6259c | PINE FLATWOODS, HYDRIC, DISTURBED | 11.2 | 8.9% |
| 6259-d | PINE FLATWOODS, HYDRIC, DRAINED | 0.5 | 0.6% |
| 624 | CYPRESS-PINE-CABBAGE PALM | 5.3 | 1.8% |
| 6249a | CYPRESS-PINE-CABBAGE PALM, DISTURBED | 2.7 | 0.1% |
| 6249b | CYPRESS-PINE-CABBAGE PALM, DISTURBED | 5.9 | 0.8% |
| 6249c | CYPRESS-PINE-CABBAGE PALM, DISTURBED | 3.4 | 0.4% |
| 641 | FRESHWATER MARSH | 6.6 | 0.9% |
| 6419b | FRESHWATER MARSH, DISTURBED | 3.7 | 0.5% |
| 6438a | WET PRAIRIE, DISTURBED | 14.4 | 1.0% |
| 6439b | WET PRAIRIE, DISTURBED | 0.1 | 0.8% |
| * 647 | HYDRIC PASTURE | 74.4 | 2.3% |
| * 649 | FARMED WETLAND PASTURE | 246.7 | <0.1% |
| | TOTAL | 632.5 | 100.0% |

* FOR THIS PERMIT, 647 & 649 REPRESENT TYPES OF WETLAND PASTURE LANDUSE WITHIN THE 640 SERIES OF FLUCCS CODES

JURISDICTIONAL NATIVE WETLANDS

JURISDICTIONAL AGRICULTURAL LANDS

30 ASSESSMENT AREA


Kevin L. Erwin
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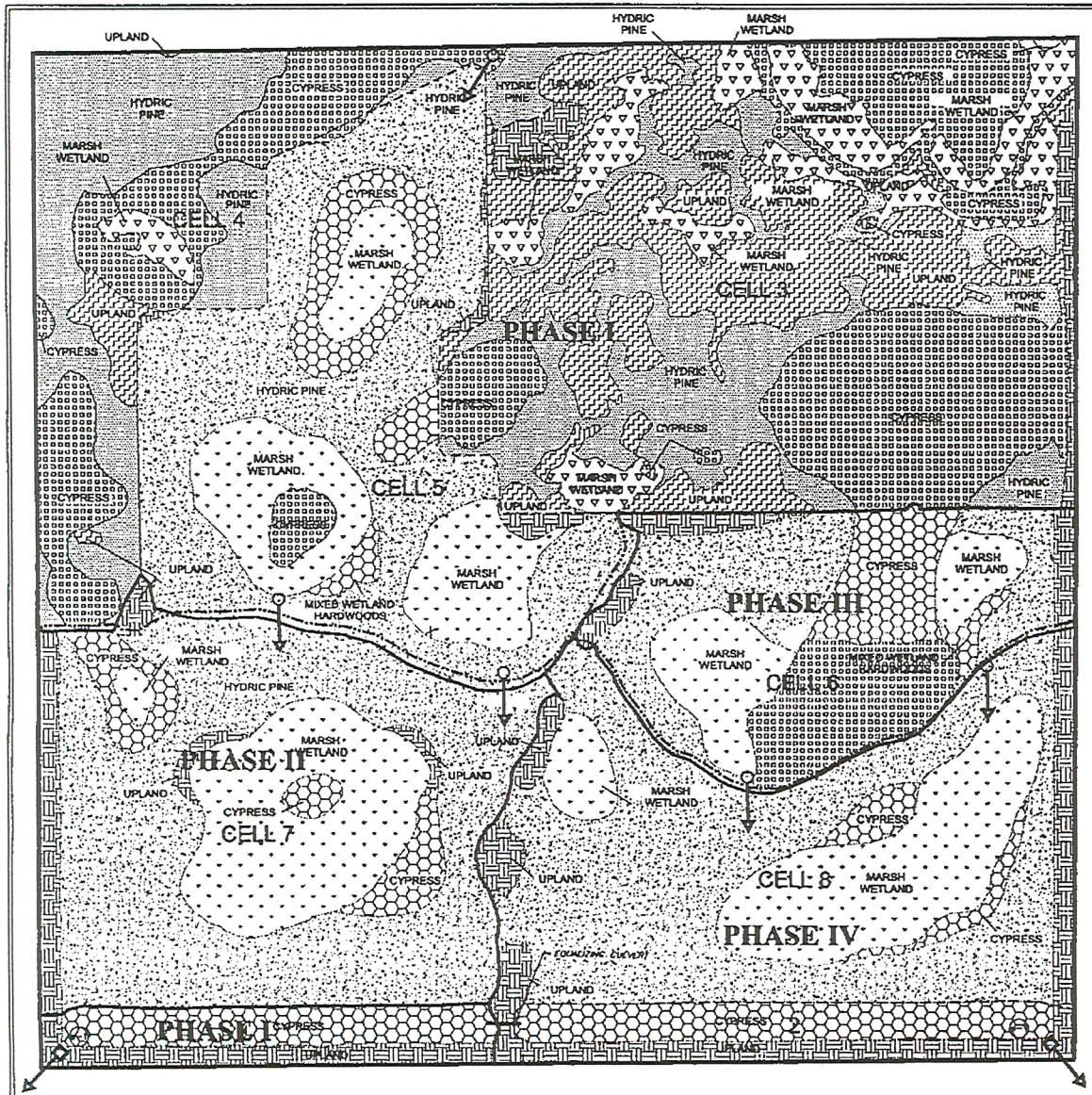
| | | | |
|---|---|---|---|
| Project File: MARC8108 | File: 600ERP_VEG-MAP | Drawing Date: 6-3-04 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |
| Revision Date: | Comments | | Verified By: |
| 6-4-04 | note to flucss legend | | MJF |
| | | | |
| | | | |

Figure 3. Corkscrew Regional Mitigation Bank Existing FLUCCS map




HATCH LEGEND

- ENHANCED CYPRESS, CYPRESS-PINE-CABBAGE PALM - 89.5 ACRES
- *ENHANCED MARSH WETLAND - 24.8 ACRES
- ENHANCED HYDRIC PINE- 73.7 ACRES
- ENHANCED UPLAND - 51.8 ACRES
- PLANTED CYPRESS, CYPRESS-PINE-CABBAGE PALM, MIXED WETLAND HARDWOODS - 55.2 ACRES
- *PLANTED MARSH WETLAND - 89.0 ACRES
- PLANTED HYDRIC PINE- 206.1 ACRES
- PLANTED UPLAND - 42.4 ACRES

* MARSH WETLANDS MAY HAVE INCLUSIONS OF WET PRAIRIE AND/OR WET PRAIRIE LIKE TRANSITIONAL AREAS.

- PHASE BOUNDARY
  PHASE I CONTAINS CELLS 1, 3, 4, & 5: PHASE II CONTAINS CELL 7
  PHASE III CONTAINS CELL 6: PHASE IV CONTAINS CELLS 2 & 8
- CELL BOUNDARY
- TEMPORARY BERM
- TEMPORARY WEIR
- TEMPORARY PIPE
- PERMANENT WEIR

NOTES

1) Project boundary provided by Deni Associates, Inc.
2) Cells 3 and 4 are primarily native lands to be enhanced.
3) Phase numbers show anticipated restoration schedule.

N W E S

300' 0 300'

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| | | | |
|---|---|---|---|
| Project File: MARCB106 | File: ERP_plan.plan | Drawing Date: 12-19-03 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |
| Revision Date: | Comments | | Verified By: |
| 4-8-04 | Revise legend, title & add weir & berms | | MJF |

Figure 4. Corkscrew Regional Mitigation Bank Mitigation Plan


HATCH LEGEND

- ENHANCED CYPRESS, CYPRESS-PINE-CABBAGE PALM - 89.5 ACRES
- *ENHANCED MARSH WETLAND - 24.8 ACRES
- ENHANCED HYDRIC PINE- 73.7 ACRES
- ENHANCED UPLAND - 51.8 ACRES
- PLANTED CYPRESS, CYPRESS-PINE-CABBAGE PALM, MIXED WETLAND HARDWOODS - 55.2 ACRES
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- PLANTED HYDRIC PINE- 206.1 ACRES
- PLANTED UPLAND - 42.4 ACRES

* MARSH WETLANDS MAY HAVE INCLUSIONS OF WET PRAIRIE AND/OR WET PRAIRIE LIKE TRANSITIONAL AREAS.

PERMANENT WEIR

NOTES

1) Project boundary provided by Deni Associates, Inc.

N W E S

300' 0 300'

Figure 5. Corkscrew Regional Mitigation Bank Restoration Plan


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| | | | |
|---|---|---|---|
| Project File: MARCB108 | File: ERP_restoral | Drawing Date: 4-8-04 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |
| Revision Date: | Comments | | Verified By: |

# Attachment A : Planting Plan

The restoration plan will restore 206.1 ± acres of hydric pine flatwoods, 52.6± acres of cypress, 2.6± acres of mixed wetland hardwoods, 89.0± acres herbaceous wetlands, and 36.7± acres of uplands. An ecotone between the hydric flatwoods and cypress habitats will be established by planting a mixture of both pine and cypress.

**Groundcover establishment in Hydric Pine**

The objective is to restore a diverse hydric flatwoods groundcover to the wet prairie and hydric pine flatwood areas within the existing bahia pasture. The pasture will be prepared through sod and soil removal (required to achieve appropriate wetland grade) so there will be less impact from weedy species surviving in the seed bank or as vegetative parts that could reproduce. Native seed will be harvested from a donor site and seeded directly onto the re-contoured pasture.

The direct seeding is intended to produce a diverse groundcover on the seeding site with a density that approximates natural sites. The process will be initiated in early summer of each year and progress through the following steps:

a. One or more donor sites with healthy and diverse gramminoid-dominated groundcover will be located in the vicinity of the project site to ensure the appropriate mix and populations of groundcover vegetation.
b. The donor site will be burned in early summer to stimulate seeding.
c. When the seeds ripen (usually around November 10th to December 10th), they will be mechanically harvested. Burned and unburned areas will also be surveyed at different times for species that can be hand collected if seeds are expected to ripen before the time of mechanical harvest or would be too short to be mechanically harvested. The hand-collected seed will be kept dried and stored until site seeding begins.
d. Mechanical harvesting will be done with a green silage cutter that can be raised and lowered during operation to get a maximum of seed with as little chaff as possible (usually 16 - 18 inches). The material is then collected by screw, slightly chopped, and blown into an attached wagon and transported to the seeding site. On an open site, about 24 acres can be harvested per day.
e. The seeding machine is a modified sod sprigger that consists of a wagon with a moving bed that pushes the material forward into rotating prongs that distributes the seeding material over an opening in the bottom of the wagon. Hand-collected seed is scattered over the freshly harvested seed for distribution. Most material is seeded within one day of harvest. The seeding rate generally varies from 25 to 50 seed per square foot.
f. Seeding of individual cells (5-8) is expected to occur over a period of 4 years.

**Establishment of trees in forested communities**

The specific target communities will be graded to achieve a specific seasonal water depth and hydroperiod, as identified in the permit, and will be planted and seeded in order to provide for a diverse native vegetative structure. The tree species to be planted on-site

will be obtained from local nurseries. The primary species to be planted on-site are south Florida slash pine and cypress. "Improved" varieties of these species are not appropriate and therefore will not be planted. The anticipated approximate size and contribution (i.e. percent of total number of trees planted in the community type) for each species to be planted by community type is provided in Table 1.

**Table 1. Typical Planted Tree Species by Habitat Type**

**Hydric Pine Community**

| Common Name | Taxon | Height | Contribution |
|---|---|---|---|
| Slash pine | *Pinus elliottii* | 12 - 18" (bare root) | 60 % |
| Slash pine | *Pinus elliottii* | 3- 4' (1 gallon pot) | 30% |
| Cabbage palm | *Sabal palmetto* | 3- 6' (1 gallon pot) | <5 % |
| Laurel oak | *Quercus laurifolia* | 3- 4' (1 gallon pot) | <5 % |
| Dahoon holly | *Ilex cassine* | 3- 4' (1 gallon pot) | <5 % |

**Cypress Community**

| Common Name | Taxon | Height | Contribution |
|---|---|---|---|
| Cypress | *Taxodium* sp. | 3- 4' (1 gallon pot) | 95 % |
| Slash pine | *Pinus elliottii* | 3- 4' (1 gallon pot) | 5 % |

**Mixed Wetland Hardwoods Community**

| Common Name | Taxon | Height | Contribution |
|---|---|---|---|
| Cypress | *Taxodium* sp. | 3- 4' (1 gallon pot) | 35 % |
| Laurel oak | *Quercus laurifolia* | 3- 4' (1 gallon pot) | 15 % |
| Red maple | *Acer rubrum* | 3- 4' (1 gallon pot) | 15 % |
| Cabbage palm | *Sabal palmetto* | 3- 6' (1 gallon pot) | 10 % |
| Dahoon holly | *Ilex cassine* | 3- 4' (1 gallon pot) | 10 % |
| Pop ash | *Fraxinus caroliniana* | 3- 4' (1 gallon pot) | 10 % |
| American elm | *Ulmus americana* | 3- 4' (1 gallon pot) | <5 % |
| Pond apple | *Annona glabra* | 3- 4' (1 gallon pot) | <5% |
| Swamp bay | *Persea palustris* | 3- 4' (1 gallon pot) | <5% |
| Sweet bay | *Magnolia virginiana* | 3- 4' (1 gallon pot) | <5% |

a. Hydric Pine Flatwoods

Slash pine will be planted in the area at an average density of approximately 300 trees per acre. These trees will be planted in a non-linear fashion and in varying densities in order to produce a more natural appearance. Other flatwoods species, such as cabbage palm, laurel oak, and dahoon holly, will also be planted in low densities at appropriate areas within the flatwoods restoration.

b. Cypress and Mixed Hardwoods

These forest systems will be planted at densities of approximately 640 trees per acre, with planting of trees in a non-linear fashion. Native wetland ground cover species will be established by a combination of direct seeding, planting, and/or mulching. Direct seeding, as described above, will be used within the outer transitional area of the cypress and hardwood planting zone where they abut the pine flatwoods. Additional ground cover planting will be established at approximately three-foot centers (approximately 4,800 plants per acre) within the interior of these systems, as described below.

**Establishment of marsh, cypress and hardwoods groundcover**

Native wetland ground cover species will be established by a combination of direct seeding, planting, and/or mulching. Direct seeding, as described above, will be used within the outer transitional areas of the marsh planting zone. Additional species, such as maidencane, pickerelweed, spikerush, arrowhead, bulrush, fire flag, and water-lily, will be planted in interior, more deeply inundated portions of the planted marsh, cypress and mixed hardwood habitats. The ground cover for the restored marsh, cypress and mixed hardwood habitats areas will be planted at densities of 4,800 plants per acre (approximately three-foot centers). The species that may be planted in the marsh and forested communities, subject to availability and conditions at the time of planting, are summarized in Table 2.

**Table 2. Typical Planted Ground Cover Species by Habitat Type**

| Common Name | Taxon | Marsh | Cypress | Mixed Hardwoods |
|---|---|---|---|---|
| Arrowhead | *Sagittaria* sp. | 5-10% | 1-5% | 1-5% |
| Beakrush | *Rhychospora* sp. | 1-5% | | |
| Blue maidencane | *Amphicarpum muhlenbergianum* | | | 5-10% |
| Bulrush | *Scirpus sp.* | 10-15% | | |
| Cinnamon fern | *Osmunda cinnamomea* | | | 1-5% |
| Fire flag | *Thalia geniculata* | 5-10% | | |
| Maidencane | *Panicum hemitomon* | 10-20% | 20-30% | 20-30% |
| Lizard's tail | *Saururus cernuus* | | 1-5% | 1-5% |
| Pickerelweed | *Pontederia cordata* | 20-30% | 20-30% | |
| Rush | *Juncus* sp. | 5-10% | | |
| Sand cord grass | *Spartina bakeri* | 5-10% | | |
| Saw-grass | *Cladium jamaicense* | 5-10% | 5-10% | 5-10% |
| Smartweed | *Polygonum* sp. | 5-10% | 5-10% | 5-10% |
| Spatterdock | *Nuphar luteum* | 1-5% | | |
| Spikerush | *Eleocharis* sp. | 10-15% | 10-20% | |
| Swamp fern | *Blechnum serrulatum* | | 10-20% | 20-30% |
| Swamp lily | *Crinum americanum* | | 1-5% | 1-5% |
| Chain fern | *Woodwardia virginica* | | 5-10% | 5-10% |
| Water hyssops | *Baccopa caroliniana* | 5-10% | | |
| Water-lily | *Nymphaea odorata* | 1-5% | | |
| Yellow cana | *Cana flaccida* | 1-5% | | 1-5% |

*Approximate range of ground cover planting by species and habitat, species may be added/deleted with DEP approval

**Establishment of upland and buffer communities**

Upland areas are proposed within the restored farm fields to provide for ecotone and habitat variation similar to historic conditions. Additionally, uplands are proposed at the perimeters of the site to provide for buffer from adjacent land uses. Upland temporary berms are proposed to separate restored phases from the non-restored farm fields, but are to be removed after the phase reaches the second level of success.

a. Uplands: These areas include the perimeter of the site and upland islands created within the wetlands. Upland species such as laurel oak, slash pine, cabbage palm, saw palmetto, and wax myrtle will be planted in theses areas at average densities of 300± native trees and shrubs per acre. Direct seeding with native upland ground cover species may also be undertaken if suitable upland donor sites are available.
b. Temporary Berms: Temporary berms will be used as a management tool within cells 5-8, to allow short term manipulation of water levels until planted trees are established. Temporary berms will be seeded, as necessary for soil stabilization, with annual non-invasive grass species. Prior to achieving second level of success as defined by the permit, the temporary berms shall be removed. In the first appropriate planting season following removal of the berm the area shall be planted with trees in accordance to specifications developed for the hydric pine flatwoods.

# Attachment B: Prescribed Fire Management Plan

## Introduction and Objectives

This Fire Management Plan was developed as a means of restoring historical communities and enhancing the natural mosaic of the site's communities. Prescribed burning is a land management practice essential in the maintenance of native vegetation and wildlife communities in southwest Florida. Another important benefit of prescribed burning is fuel reduction, which prevents catastrophic wildfires and property damage.

The season of the prescribed burn has a marked effect on plant species. Most fires, including prescribed and natural burns, occur in March, April, May, and June. The literature suggests that late winter or early spring burns are more beneficial to slash pine while fall burns are more harmful. Summer burns are natural and beneficial to native grass species such as wiregrass. Native habitats within the Bank will be wet during the summer months (wet season), except during severe drought, making a summer prescribed burn difficult.

In addition to site restoration objectives and consideration, this burn plan has been prepared to comply with Florida's regulations regarding prescribed burning. All burns will be undertaken only under conditions that meet both the ecological goals as well as safety requirements. Adequate disked fire control lines will be installed and maintained around all burn units.

The prescribed burn fire management plan has been prepared by Craig M. Smith and William R. Cox of Kevin L. Erwin Consulting Ecologist, Inc. Mr. Smith has completed prescribed fire training (certificate number 932265), and Mr. Cox has been involved with prescribed burning in Florida since 1990.

The use of fire is a main component of the long term management of the Bank site. Prescribed burning will facilitate meeting the following management objectives:

- Maintaining an open midstory strata within the upland and hydric pine flatwood communities by retarding growth of hardwood tree and shrub species and encouraging ground cover growth.
- Improving wildlife habitat by encouraging a diverse and healthy ground cover community.
- Facilitating long term control of exotic species by killing colonizing plants before they mature and produce seed.
- Reducing potential for catastrophic fire by reducing otherwise potentially hazardous fuel loads.

## Site Preparation and Safety Precautions

Prior to initiation of the prescribed burn plan, all large melaleuca will be treated and removed from the burn unit. No burning shall occur in areas that contain seed bearing

melaleuca trees. (Fire has been shown to facilitate the spread of melaleuca when seed bearing trees are burned by stimulating the release of millions of seeds from the trees and by exposing the mineral soil to those seeds.) Additionally, all Brazilian pepper exceeding five feet in height should also be treated at least four months prior to burning.

A fire break will be installed and periodically maintained near the perimeter of the property. This break will consist of a disked line, mowed line, or foam line located several feet inside the property fence. The selection of fire line type will be based on safety considerations and will minimize disturbance to the site to the extent practicable. The line will run adjacent the wetland - planted upland buffer interface along the west, south, and east planted upland buffers. Internal fire breaks will also be established to divide the site into six burn units, A-F that are roughly equivalent to Cells 3-8, respectively, with Cell 1 included in Unit E and Cell 2 in Unit F (Figure B-1). By burning the site in increments (as opposed to burning the entire site at one time) the diversity of the plant cover, and therefore of the wildlife habitat, will be maximized.

As stated above fire lines of sufficient width for the fuel load in the burn unit will be in place and in good condition prior to ignition of a prescribed burn. All personnel present at the burn should carry Personal Protective Equipment including fire shelters. Local authorities (local fire department, highway patrol, sheriff's department) and adjacent landowners will be informed of the proposed burn schedule. Appropriate signage will be available on-site if smoke reduces visibility along Corkscrew Road. A cellular phone will be available on-site in case assistance is needed from the Division of Forestry.

**Burn Frequency and Season**

The frequency of prescribed burns will be based on fuel loads and will vary across the site. It is anticipated that the pine flatwoods will be burned at 2 – 5 year intervals. The pine flatwoods community planted in the existing farm fields will not be burned until there is sufficient fuel to carry the fire and the planted trees have attained a sufficient height to insure fire induced mortality is negligible. It is anticipated that the first prescribed burn within these areas will be 6 – 9 years after the trees have been planted.

Most prescribed burning occurs during the winter or early spring when temperatures are reduced and wind direction is more constant. The initial burn of each unit of the site will occur during the late winter. Winter burns are preferred to reduce high fuel loads. Backing or spot fire should be used when possible to consume dead fuels more completely and produce less smoke. Backing fires produce fewer pollutants and restrict visibility to a lesser degree than head fires. Following the initial burn, the season of year of prescribed burn will vary from late winter burns to early wet season burns. This will maximize the diversity of habitats created by the fire and increase biodiversity on the site.

The Bank is located in rural Lee County along the north side of Corkscrew Road. The site is greater than 9.5 miles southeast of the Southwest Florida International Airport, 8.5 miles east of US 75, and 5 miles south of SR 82. Potentially smoke sensitive features in the vicinity of the Bank are: Corkscrew Road to the south, scattered homes along Happy

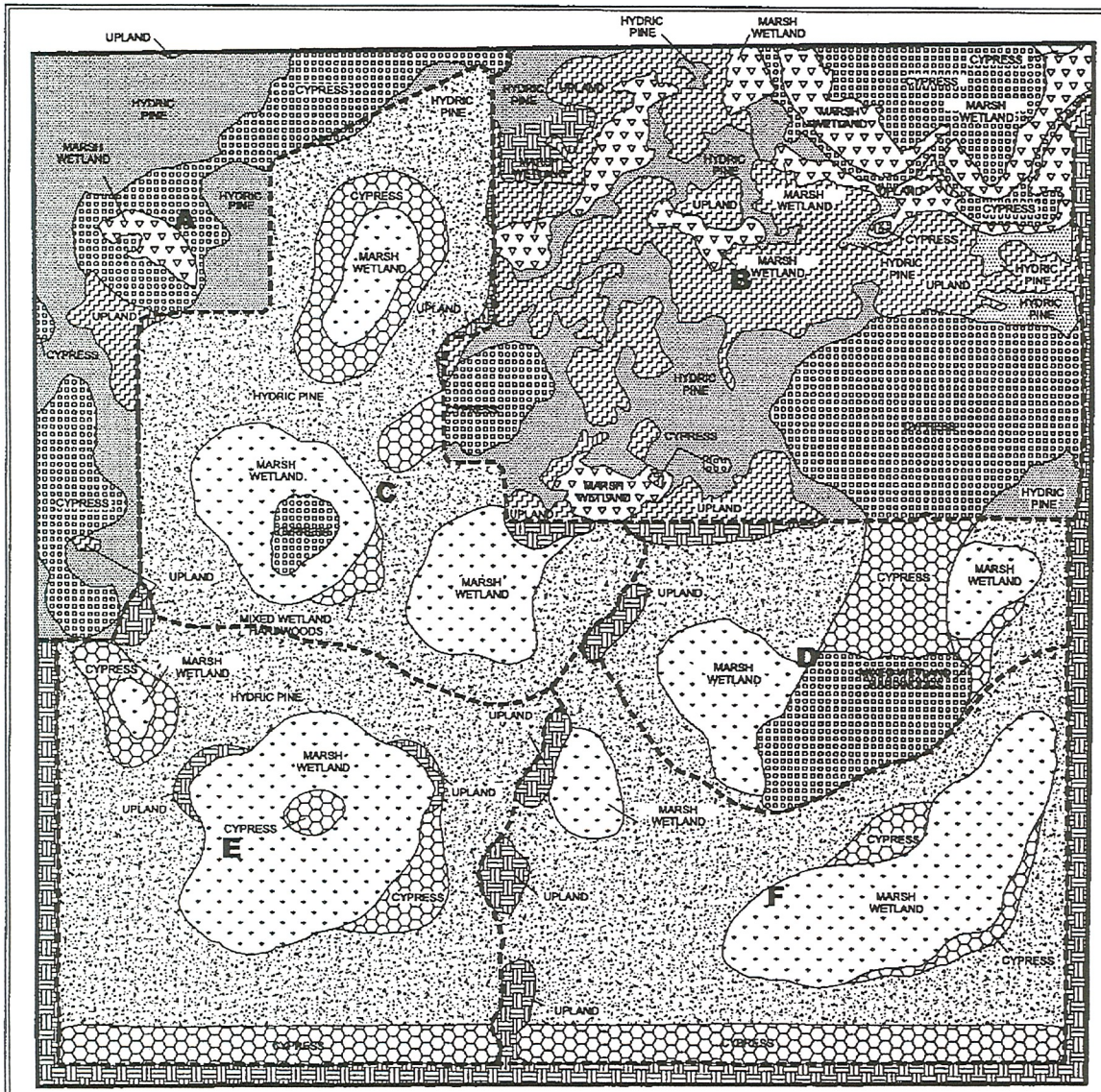
Dale Lane 0.7± miles to the southeast and along Six L's Farm Road 1.6± miles to the southwest. The Corkscrew County Store is located adjacent to the southeast corner of the site, on the south side of Corkscrew Road. However, these features should not preclude the use of fire as a management tool at the Bank because no smoke sensitive features are located within five miles to the north. The existing conservation lands to the north have burned on a periodic basis in the past to improve forage for cattle and will continue to be burned in the future as part of that site's environmental restoration plan.

**Prescription**

A prescribed burn plan (prescription) will be prepared for each burn unit and will meet the Department of Forestry's prescribed burning requirements pursuant to The Prescribed Burning Act of 1990, 590.026 FS and associated administrative rules. This plan should define the range of conditions (temperature, humidity, wind direction and speed, minimum mixing height, dispersion index, and fuel moisture) and geographical area under which a fire will be allowed to burn or be ignited to obtain the given objectives. The parameters listed below provide the typical conditions under which burns will be conducted.

| **Parameter** | **Desired Conditions** |
|---|---|
| Wind Direction | SW to SE |
| | Any direction (northern native lands only) |
| Wind Speed (20' Forecast) | 3 – 15 MPH |
| Transport Wind | 7 - 20 MPH |
| Mixing Height | > 1,700 Feet |
| Dispersion Index | > 40 |
| Relative Humidity | >35 % |
| Fine Fuel Moisture | Moderate |

One of the objectives of the prescribed burn plan is to facilitate the control of exotic species. Therefore, backing fires that produce higher temperatures for longer time periods at the base of seedling trees and shrubs will be the predominant firing technique. Other techniques, such as flanking fire or strip head fire, may also be used as conditions warrant. The burn program and the exotic control program will be coordinated so that adequate time from the treatment of exotics to ignition of the fire will occur to allow seeds dispersed during the exotic control activity to germinate and begin to grow. Small seedling melaleuca and Brazilian pepper are susceptible to fire provided there are adequate fuel levels.




## HATCH LEGEND

- ENHANCED CYPRESS, CYPRESS-PINE-CABBAGE PALM - 89.5 ACRES
- *ENHANCED MARSH WETLAND - 24.8 ACRES
- ENHANCED HYDRIC PINE- 73.7 ACRES
- ENHANCED UPLAND - 51.8 ACRES
- PLANTED CYPRESS, CYPRESS-PINE-CABBAGE PALM, MIXED WETLAND HARDWOODS - 55.2 ACRES
- *PLANTED MARSH WETLAND - 89.0 ACRES
- PLANTED HYDRIC PINE- 206.1 ACRES
- PLANTED UPLAND - 42.4 ACRES

* MARSH WETLANDS MAY HAVE INCLUSIONS OF WET PRAIRIE AND/OR WET PRAIRIE LIKE TRANSITIONAL AREAS.

BURN UNIT BOUNDARY

## NOTES

1) Location of burn unit boundaries are approximate and may be adjusted based on site specific conditions prior to burning.
2) Multiple burn units may be burned concurrently based on site specific conditions at the time of the prescribed burn.

N W E S

300' 0 300'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| | | | |
|---|---|---|---|
| Project File: MARCB108 | File: BURN.dwg | Drawing Date: 7-9-02 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |
| Revision Date: | Comments | | Verified By: |
| 4-8-04 | legend, notes, title | | MJF |
| | | | |
| | | | |

Figure B-1. Corkscrew Regional Mitigation Bank Prescribed Burn Plan

## Attachment C – Credit Assessment

In January 2001 (prior to the permit application), the Mitigation Bank Review Team (MBRT) met onsite to perform a WRAP assessment of the site. Twenty-one sites were scored representing a total of 46 wetland polygons or assessment areas defined by the bank consultant. In January 2004, the permittee elected to conduct a credit assessment using the Florida Unified Mitigation Assessment Method (UMAM) (Ch 62-345 F.A.C.) which will be the method used for state ERP permitting, and to account for the time lag and risk not assessed with the WRAP. The UMAM assessment was conducted by the Department in conjunction with the permittee using the field information obtained during the WRAP assessment and the additional information provided during the permit application review. The attached Table C-1 represents the scores and Table C-2 provides a summary of the credit assessment.

Assessment areas were established based on whether they were native lands to be enhanced, farm fields to be restored, created wetlands, or uplands. They were further divided by existing and proposed community types and proximity to non-compatible land uses in either the current or proposed condition. Finally, polygons were sub-divided based on the degree of severity of exotic infestation or drainage in the current condition. Each of the upland and wetland assessment areas was scored in the current condition and in the reasonably expected condition, and the difference or anticipated "delta" was determined.

In general, the farm field assessment areas scored in the low range of minimal wetland function in the existing condition (<0.2) and in the near-optimal range for all of the proposed restored or created community types (~0.9), with an average delta of ~ 0.75. The current condition score for native lands ranged from a minimal functional score (~0.4) for those adjacent to and adversely affected by the pasture landuse to a moderate function (~0.8) for those areas distant from the pasture and drainage systems and better supported by surrounding land uses. Most of these assessment areas have a reasonable expectation that, with the proposed enhancement and management activities, they will obtain an optimal function. The average delta in the native lands was 0.35.

The deltas of each assessment area were further assessed for time lag and risk. The credit release schedule, the criteria required for each credit release, and the long term management requirements were considered in determining the ecological risk, such that risk was determined to be *de minumus* (risk factor of 1.0). Time lag was assigned to the project with consideration of the release schedule which withholds all creation credits until 3rd level of success is attained and also withholds 5% of the total credits until all phases have reached 3rd level success. It was determined that 10 years (or a t-factor of 1.25) would be required after success criteria are reached for forested communities created or restored from farm fields to attain the expected UMAM scores. The 10 year assessment accounts for an average of the expected time for cypress communities and for hydric pine communities and in consideration of the phased project that is expected to take 6-10 years from the initial credit release to the final credit release for the whole bank. A timelag of 5 years (or a t-factor of 1.14) was assigned to the upland 'enhancement' in the farm fields (which predominately functions as buffer around the bank and will have a more shrubby community, along with cypress in some areas). The native-land enhancement, restored and created marsh assessment areas are not expected to require additional time after the final success determination and credit release.

## Table C-1 - Corkscrew Regional Mitigation Bank

**UMAM Assessment**

### Phase I

**Assessment Areas or "Polygons" (Cells 1 and 5 - Farmfields'**

| Poly # | Cell # | FLUCCS Pre | FLUCCS Post | Wetland Acreage | Current Condition Scores: Location | Water | Structure | With Mitigation Scores: Location | Water | Structure |
|---|---|---|---|---|---|---|---|---|---|---|
| 32b | 1 | 649 | 625/621 | 9.8 | 2 | 1 | 0 | 8 | 7 | 9 |
| 3 | 5 | 6249c | 624 | 2.3 | 3 | 3 | 4 | 10 | 9 | 10 |
| 31 | 5 | 649 | 625/621 | 15.9 | 2 | 1 | 0 | 10 | 9 | 9 |
| 32a | 5 | 649 | 625/621 | 15.1 | 2 | 1 | 0 | 9 | 9 | 9 |
| 30 | 5 | 6471 | 625/621 | 41.3 | 3 | 2 | 1 | 10 | 9 | 9 |
| Up | 5 | 211 | 625/621 | 1.5 | 0 | 0 | 0 | 10 | 9 | 9 |
| Forested Mitigation in Farmfields Subtotal | | | | 84.3 | | | | | | |
| 30 | 5 | 6471 | 641/643 | 13.6 | 3 | 2 | 1 | 10 | 9 | 9 |
| 31 | 5 | 649 | 641/643 | 1.9 | 2 | 1 | 1 | 10 | 9 | 9 |
| 32a | 5 | 649 | 641/643 | 7.8 | 2 | 1 | 0 | 9 | 9 | 9 |
| Up | 5 | 211 | 641/643 | 1.9 | 0 | 0 | 0 | 10 | 9 | 9 |
| Herbaceous Mitigation in Farmfields Subtotal | | | | 25.2 | | | | | | |
| 32b | 1 | 649 | Up | 5.8 | 2 | 1 | 0 | 8 | - | 9 |
| 30 | 5 | 6471 | Up | 0.2 | 3 | 2 | 1 | 8 | - | 9 |
| 31 | 5 | 649 | Up | 0.5 | 2 | 1 | 1 | 8 | - | 9 |
| 32 | 5 | 649 | Up | 0.7 | 2 | 1 | 1 | 9 | - | 9 |
| Up | 5 | 211 | Up | 0.7 | 0 | - | 0 | 10 | - | 9 |
| Upland Restoration/Preservation Subtotal | | | | 7.9 | | | | | | |
| Restoration Subtotal for Farmfield Cells | | | | 119.0 | | | | | | |

* For this permit, 647 and 649 represent types of wetland pasture land use within the 640 series of FLUCCS codes

**Assessment Areas or "Polygons" (Cells 3 and 4 - Native Lands'**

| Poly # | Cell # | FLUCCS Pre | FLUCCS Post | Wetland Acreage | Current Condition Scores: Location | Water | Structure | With Mitigation Scores: Location | Water | Structure |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 3 | 6259a | 625 | 2.5 | 6 | 6 | 7 | 10 | 10 | 10 |
| 5 | 3 | 6259a | 625 | 1.9 | 7 | 7 | 7 | 10 | 10 | 10 |
| 7 | 3 | 6259a | 625 | 21.5 | 7 | 7 | 7 | 10 | 10 | 10 |
| 15 | 3 | 625 | 625 | 1.4 | 7 | 7 | 8 | 10 | 10 | 10 |
| 17 | 3 | 625 | 625 | 0.3 | 7 | 7 | 8 | 10 | 10 | 10 |
| 36 | 3 | 6259d | 625 | 5.0 | 6 | 5 | 4 | 10 | 10 | 10 |
| 37 | 3 | 6259d | 625 | 0.2 | 6 | 5 | 4 | 10 | 10 | 10 |
| 38 | 3 | 6259d | 625 | 1.4 | 6 | 5 | 4 | 10 | 10 | 10 |
| 40 | 3 | 6259b | 625 | 0.9 | 5 | 4 | 6 | 10 | 10 | 10 |
| 41 | 3 | 6259c | 625 | 0.9 | 5 | 4 | 5 | 10 | 10 | 10 |
| 42 | 3 | 6259b | 625 | 0.3 | 5 | 4 | 6 | 10 | 10 | 10 |
| 43 | 3 | 6259b | 625 | 0.8 | 5 | 4 | 6 | 10 | 10 | 10 |
| 20 | 4 | 625 | 625 | 3.2 | 5 | 6 | 8 | 10 | 10 | 10 |
| 22 | 4 | 625 | 625 | 15.4 | 7 | 6 | 8 | 10 | 10 | 10 |
| 24 | 4 | 6259b | 625 | 5.5 | 5 | 4 | 6 | 10 | 10 | 10 |
| 27 | 4 | 6259a | 625 | 11.0 | 5 | 6 | 6 | 10 | 10 | 10 |
| 39 | 4 | 4159-d | 625 | 1.5 | 5 | 5 | 4 | 10 | 10 | 10 |
| 44 | 4 | 6259b | 625 | 1.1 | 5 | 4 | 6 | 10 | 10 | 10 |
| 35 | 3 | 6249b | 624 | 1.6 | 5 | 5 | 6 | 10 | 9 | 10 |
| 23 | 4 | 624 | 624 | 3.9 | 7 | 7 | 8 | 10 | 10 | 10 |

**Phase I - Assessment Areas or "Polygons" (Cells 3 and 4 - Native Lands) con't**

| Poly # | Cell | FLUCCS | | Wetland | Current Condition Scores | | | With Mitigation Scores | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Pre | Post | Acreage | Location | Water | Structure | Location | Water | Structure |
| 29 | 4 | 6249c | 624 | 1.5 | 5 | 4 | 5 | 10 | 9 | 10 |
| 6 | 3 | 621 | 621 | 27.1 | 8 | 8 | 8 | 10 | 10 | 10 |
| 9 | 3 | 621 | 621 | 5.1 | 7 | 7 | 7 | 10 | 10 | 10 |
| 11 | 3 | 6219b | 621 | 15.3 | 8 | 9 | 8 | 10 | 10 | 10 |
| 21 | 4 | 621 | 621 | 6.8 | 6 | 7 | 8 | 10 | 10 | 10 |
| 26 | 4 | 6219a | 621 | 4.0 | 7 | 7 | 7 | 10 | 10 | 10 |
| 28 | 4 | 621 | 621 | 6.9 | 6 | 5 | 5 | 10 | 9 | 10 |
| Forested Mitigation Native Cell Subtotal | | | | 147.0 | | | | | | |
| 8 | 3 | 6439a | 643 | 2.5 | 6 | 6 | 4 | 10 | 10 | 10 |
| 10 | 3 | 6439a | 643 | 1.7 | 7 | 7 | 4 | 10 | 10 | 10 |
| 14 | 3 | 6439a | 643 | 5.2 | 7 | 7 | 4 | 10 | 10 | 10 |
| 16 | 3 | 6439a | 643 | 1.4 | 7 | 7 | 4 | 10 | 10 | 10 |
| 18 | 3 | 6439a | 643 | 3.1 | 7 | 7 | 4 | 10 | 10 | 10 |
| 19 | 3 | 6439a | 643 | 1.4 | 7 | 7 | 4 | 10 | 10 | 10 |
| 12 | 3 | 641 | 641 | 3.2 | 8 | 8 | 7 | 10 | 10 | 10 |
| 13 | 3 | 641 | 641 | 3.6 | 8 | 8 | 7 | 10 | 10 | 10 |
| 45 | 3 | 6419b | 641 | 1.0 | 8 | 8 | 4 | 10 | 10 | 10 |
| 46 | 3 | 641b | 641 | 0.7 | 8 | 8 | 4 | 10 | 10 | 10 |
| 25 | 4 | 6419b | 641 | 2.0 | 7 | 7 | 6 | 10 | 10 | 10 |
| Herbaceous Mitigation Native Cell Subtotal | | | | 25.4 | | | | | | |
| Up | 3 | 4119a | 411 | 0.3 | 6 | - | 5 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 4.0 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 6.4 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 29.0 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 1.4 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 0.5 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 0.6 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 0.9 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 411 | 411 | 0.4 | 6 | - | 6 | 10 | - | 10 |
| Up | 4 | 411 | 411 | 2.9 | 6 | - | 6 | 10 | - | 10 |
| Up | 4 | 411 | 411 | 0.2 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 321 | 321 | 2.9 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 321 | 321 | 2.0 | 5 | - | 6 | 10 | - | 10 |
| Up | 3 | 321 | 321 | 0.3 | 6 | - | 6 | 10 | - | 10 |
| Up | 3 | 211 | Up | 2.7 | 5 | - | 4 | 10 | - | 10 |
| Up | 3 | 210 | Up | 3.0 | 4 | - | 4 | 8 | - | 9 |
| Native Upland Restore/Preservation Subtotal | | | | 57.5 | | | | | | |
| Restoration Subtotal for Native Lands | | | | 230.3 | | | | | | |

| Phase I Total (Cells 1, 3, 4 and 5) | |
|---|---|
| Forested Mitigation Subtotal | 232.9 |
| Herbaceous Mitigation Subtotal | 31.0 |
| Upland Restoration/Preservation Subtotal | 65.4 |
| **Totals For Phase I** | 349.3 |

## Phase II

**Assessment Areas or "Polygons"**

| Poly | Cell | FLUCCS | | Wetland | Current Condition Scores | | | With Mitigation Scores | | |
|---|---|---|---|---|---|---|---|---|---|---|
| # | # | Pre* | Post | Acreage | Location | Water | Structure | Location | Water | Structure |
| 30 | 7 | 6471 | 625/621 | 12.6 | 3 | 2 | 1 | 10 | 9 | 9 |
| 32a | 7 | 649 | 625/621 | 53.4 | 2 | 1 | 0 | 9 | 9 | 9 |
| Up | 7 | 211 | 625/621 | 5.9 | 0 | 0 | 0 | 10 | 9 | 9 |
| Forested Mitigation Subtotal | | | | 71.9 | | | | | | |
| 30 | 7 | 6471 | 641/643 | 1.0 | 3 | 2 | 1 | 10 | 9 | 9 |
| 32a | 7 | 649 | 641/643 | 20.7 | 2 | 1 | 0 | 9 | 9 | 9 |
| Up | 7 | 211 | 641/643 | 3.4 | 0 | 0 | 0 | 10 | 9 | 9 |
| Herbaceous Mitigation Subtotal | | | | 25 | | | | | | |
| 30 | 7 | 6471 | Up | 3.5 | 3 | 2 | 1 | 10 | - | 9 |
| 32a | 7 | 649 | Up | 3.1 | 2 | 1 | 0 | 9 | - | 9 |
| Up | 7 | 211 | Up | 0.7 | 0 | - | 0 | 10 | - | 9 |
| Upland Restoration/Preservation Subtotal | | | | 7.3 | | | | | | |
| **Restoration Total For Phase II** | | | | **104.3** | | | | | | |

## Phase III

**Assessment Areas or "Polygons"**

| Poly | Cell | FLUCCS | | Wetland | Current Condition Scores | | | With Mitigation Scores | | |
|---|---|---|---|---|---|---|---|---|---|---|
| # | # | Pre* | Post | Acreage | Location | Water | Structure | Location | Water | Structure |
| 1 | 6 | 621 | 621 | 5.9 | 3 | 3 | 4 | 10 | 9 | 10 |
| 2 | 6 | 6249b | 624 | 7.0 | 3 | 3 | 4 | 10 | 9 | 10 |
| 33 | 6 | 647 | 625/621 | 2.2 | 3 | 2 | 1 | 10 | 9 | 9 |
| 32 | 6 | 649 | 625/621 | 29.1 | 2 | 1 | 0 | 9 | 9 | 9 |
| Forested Mitigation Subtotal | | | | 43.2 | | | | | | |
| 32 | 6 | 649 | 641/643 | 10.5 | 2 | 1 | 1 | 9 | 9 | 9 |
| Up | 6 | 211 | 641/643 | 1.7 | 0 | 0 | 0 | 9 | 9 | 9 |
| Herbaceous Mitigation Subtotal | | | | 12 | | | | | | |
| 32 | 6 | 649 | Up | 4.7 | 2 | 1 | 0 | 9 | - | 9 |
| Upland Restoration/Preservation Subtotal | | | | 4.7 | | | | | | |
| **Restoration Total For Phase II** | | | | **61.1** | | | | | | |

## Phase IV

**Assessment Areas or "Polygons"**

| Poly | Cell | FLUCCS | | Wetland | Current Condition Scores | | | With Mitigation Scores | | |
|---|---|---|---|---|---|---|---|---|---|---|
| # | # | Pre* | Post | Acreage | Location | Water | Structure | Location | Water | Structure |
| 32a | 8 | 649 | 625/621 | 37.7 | 2 | 1 | 0 | 9 | 9 | 9 |
| 32b | 2 | 649 | 625/621 | 3.4 | 2 | 1 | 0 | 8 | 8 | 9 |
| 34a | 8 | 649 | 625/621 | 8.5 | 2 | 1 | 0 | 9 | 9 | 9 |
| 34b | 2 | 649 | 625/621 | 3.1 | 2 | 1 | 0 | 8 | 8 | 9 |
| Up | 8 | 211 | 625/621 | 16.4 | 0 | 0 | 0 | 9 | 9 | 9 |
| Up | 2 | 211 | 625/621 | 5.6 | 0 | 0 | 0 | 8 | 8 | 9 |
| Forested Mitigation Subtotal | | | | 74.7 | | | | | | |
| 32a | 8 | 649 | 641/643 | 3.8 | 2 | 1 | 0 | 9 | 9 | 9 |
| Up | 8 | 211 | 641/643 | 22.7 | 0 | 0 | 0 | 9 | 9 | 9 |
| Herbaceous Mitigation Subtotal | | | | 26.5 | | | | | | |
| 32a | 8 | 649 | Up | 4.9 | 2 | 1 | 0 | 9 | - | 9 |
| 32b | 2 | 649 | Up | 2.1 | 2 | 1 | 0 | 6 | - | 9 |
| 34a | 8 | 649 | Up | 1.8 | 2 | 1 | 0 | 9 | - | 9 |
| 34b | 2 | 649 | Up | 2.4 | 2 | 1 | 0 | 6 | - | 9 |
| Up | 8 | 211 | Up | 3.0 | 2 | - | 0 | 9 | - | 9 |
| Up | 2 | 211 | Up | 2.4 | 2 | - | 0 | 6 | - | 9 |
| Upland Restoration/Preservation Subtotal | | | | 16.6 | | | | | | |
| **Restoration Total For Phase IV** | | | | **117.8** | | | | | | |

* For this permit, 647 and 649 represent types of wetland pasture land use within the 640 series of FLUCCS codes

## Table C-2 - Corkscrew Regional Mitigation Bank

**Summary UMAM Assessment**

**Phase I Total (Cells 1, 3, 4, and 5)**

| Mitigation Activity | Total Wetland Acreage | Delta | Time Lag | **Total Adjusted Credits** | Credit Release Schedule | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CE/FE | Exotic Treatment | Constr./ Planting | Prescribed Burn | Level 1 | Level 2 | Level 3 | Creation Release | Retainage |
| Upland Enhance/Preserve (cells 3,4) | 57.50 | 0.41 | 1.00 | **23.67** | 3.55 | 8.28 | | 2.37 | 3.55 | 3.55 | 1.18 | | 1.18 |
| Upland Enhance/Preserve (cells 1,5) | 7.90 | 0.76 | 1.14 | **5.30** | 0.79 | | 1.85 | | 0.79 | 0.79 | 0.79 | | 0.26 |
| Upland Enhance/Preserve Total | 65.40 | 0.45 | | **28.97** | 4.35 | 8.28 | 1.85 | 2.37 | 4.35 | 4.35 | 1.98 | | 1.45 |
| Forested Enhancement Subtotal (Cells 3,4) | 147.00 | 0.31 | 1.00 | **46.04** | 6.91 | 16.12 | | 4.60 | 6.91 | 6.91 | 2.30 | | 2.30 |
| Forested Enhancement Subtotal (Cells 1,5) | 2.30 | 0.63 | 1.00 | **1.46** | 0.22 | | 0.51 | | 0.22 | 0.22 | 0.22 | | 0.07 |
| Forested Restoration Subtotal (Cells 1,5) | 82.10 | 0.76 | 1.25 | **49.98** | 7.50 | | 17.49 | | 7.50 | 7.50 | 7.50 | | 2.50 |
| Forested Creation Subtotal (Cells 1,5) | 1.50 | 0.93 | 1.25 | **1.12** | 0.17 | | | | | | 0.17 | 0.73 | 0.06 |
| Forested Mitigation Total | 232.90 | 0.48 | | **98.60** | 14.79 | 16.12 | 18.00 | 4.60 | 14.62 | 14.62 | 10.19 | 0.73 | 4.93 |
| Herbaceous Enhancement Subtotal (Cells 3,4) | 25.80 | 0.35 | 1.00 | **9.11** | 1.37 | 3.19 | | 0.91 | 1.37 | 1.37 | 0.46 | | 0.46 |
| Herbaceous Restoration Subtotal (Cells 1,5) | 23.30 | 0.76 | 1.00 | **17.73** | 2.66 | | 6.21 | | 2.66 | | 2.66 | | 0.89 |
| Herbaceous Creation Subtotal (Cells 1,5) | 1.90 | 0.93 | 1.00 | **1.77** | 0.27 | | | | | 0.00 | 0.27 | 1.15 | 0.09 |
| Herbaceous Mitigation Total | 51.00 | 0.56 | | **28.61** | 4.29 | 3.19 | 6.21 | 0.91 | 4.03 | 4.03 | 3.38 | 1.15 | 1.43 |
| **Totals For Phase I** | **349.30** | **0.49** | | **156.18** | **23.43** | **27.59** | **26.06** | **7.88** | **22.99** | **22.99** | **15.55** | **1.88** | **7.81** |

**Phase II Total (Cell 7)**

| Mitigation Activity | Total Wetland Acreage | Delta | Time Lag | **Total Adjusted Credits** | Credit Release Schedule | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CE/FE | Exotic Treatment | Constr./ Planting | Prescribed Burn | Level 1 | Level 2 | Level 3 | Creation Release | Retainage |
| Upland Enhance/Preserve | 7.30 | 0.79 | 1.14 | **5.06** | 0.76 | | 1.77 | | 0.76 | 0.76 | 0.76 | | 0.25 |
| Forested Enhancement Subtotal | 0.00 | | | | | | | | | | | | |
| Forested Restoration Subtotal | 66.00 | 0.79 | 1.25 | **41.57** | 6.24 | | 14.55 | | 6.24 | 6.24 | 6.24 | | 2.08 |
| Forested Creation Subtotal | 5.90 | 0.93 | 1.25 | **4.41** | 0.66 | | | | | | 0.66 | 2.86 | 0.22 |
| Forested Mitigation Total | 71.90 | 0.80 | | **45.97** | 6.90 | | 14.55 | | 6.24 | 6.24 | 6.90 | 2.86 | 2.30 |
| Herbaceous Enhancement Subtotal | 0.00 | | | | | | | | | | | | |
| Herbaceous Restoration Subtotal | 21.70 | 0.80 | 1.00 | **17.29** | 2.59 | | 6.05 | | 2.59 | 2.59 | 2.59 | | 0.86 |
| Herbaceous Creation Subtotal | 3.40 | 0.93 | 1.00 | **3.17** | 0.48 | | | | | | 0.48 | 2.06 | 0.16 |
| Herbaceous Mitigation Total | 25.10 | 0.82 | | **20.47** | 3.07 | | 6.05 | | 2.59 | 2.59 | 3.07 | 2.06 | 1.02 |
| **Totals For Phase II** | **104.30** | **0.80** | | **71.50** | **10.73** | | **22.37** | | **9.59** | **9.59** | **10.73** | **4.93** | **3.58** |

**Phase III Total (Cell 6)**

| Mitigation Activity | Total Wetland Acreage | Delta | Time Lag | Total Adjusted Credits | Credit Release Schedule | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CE/FE | Exotic Treatment | Constr./ Planting | Prescribed Burn | Level 1 | Level 2 | Level 3 | Creation Release | Retainage |
| Upland Enhance/Preserve | 4.70 | 0.80 | 1.14 | **3.30** | 0.49 | | 1.15 | | 0.49 | 0.49 | 0.49 | | 0.16 |
| Forested Enhancement Subtotal | 12.90 | 0.63 | 1.00 | **8.17** | 1.23 | | 2.86 | | 1.23 | 1.23 | 1.23 | | 0.41 |
| Forested Restoration Subtotal | 31.30 | 0.80 | 1.25 | **19.91** | 2.99 | | 6.97 | | 2.99 | 2.99 | 2.99 | | 1.00 |
| Forested Creation Subtotal | 0.00 | | | | | | | | | | | | |
| Forested Mitigation Total | 44.20 | 0.75 | | **28.08** | 4.21 | | 9.83 | | 4.21 | 4.21 | 4.21 | | 1.40 |
| Herbaceous Enhancement Subtotal | 0.00 | | | | | | | | | | | | |
| Herbaceous Restoration Subtotal | 10.50 | 0.77 | 1.00 | **8.05** | 1.21 | | 2.82 | | 1.21 | 1.21 | 1.21 | | 0.40 |
| Herbaceous Creation Subtotal | 1.70 | 0.90 | 1.00 | **1.53** | 0.23 | | | | | | 0.23 | 0.99 | 0.08 |
| Herbaceous Mitigation Total | 12.20 | 0.79 | | **9.58** | 1.44 | | 2.82 | | 1.21 | 1.21 | 1.44 | 0.99 | 0.48 |
| **Totals For Phase III (Cell 6)** | **61.10** | **0.76** | | **40.96** | **6.14** | | **13.80** | | **5.91** | **5.91** | **6.14** | **0.99** | **2.05** |

**Phase IV Total (Cells 2 & 8)**

| Mitigation Activity | Total Wetland Acreage | Delta | Time Lag | Total Adjusted Credits | Credit Release Schedule | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CE/FE | Exotic Treatment | Constr./ Planting | Prescribed Burn | Level 1 | Level 2 | Level 3 | Creation Release | Retainage |
| Upland Enhance/Preserve | 16.60 | 0.74 | 1.14 | **10.74** | 1.61 | | 3.76 | | 1.61 | 1.61 | 1.61 | | 0.54 |
| Forested Enhancement Subtotal | 0.00 | | | | | | | | | | | | |
| Forested Restoration Subtotal | 52.70 | 0.79 | 1.25 | **33.38** | 5.01 | | 11.68 | | 5.01 | 5.01 | 5.01 | | 1.67 |
| Forested Creation Subtotal | 22.00 | 0.88 | 1.25 | **15.54** | 2.33 | | | | | | 2.33 | 10.10 | 0.78 |
| Forested Mitigation Total | 74.70 | 0.82 | | **48.92** | 7.34 | | 11.68 | | 5.01 | 5.01 | 7.34 | 10.10 | 2.45 |
| Herbaceous Enhancment Subtotal | 0.00 | | | | | | | | | | | | |
| Herbaceous Restoration Subtotal | 3.80 | 0.80 | 1.00 | **3.04** | 0.46 | | 1.06 | | 0.46 | 0.46 | 0.46 | | 0.15 |
| Herbaceous Creation Subtotal | 22.70 | 0.90 | 1.00 | **20.43** | 3.06 | | | | | | 3.06 | 13.28 | 1.02 |
| Herbaceous Mitigation Total | 26.50 | 0.89 | | **23.47** | 3.52 | | 1.06 | | 0.46 | 0.46 | 3.52 | 13.28 | 1.17 |
| **Totals For Phase IV (Cells 2 & 8)** | **117.80** | **0.82** | | **83.13** | **12.47** | | **16.51** | | **7.07** | **7.07** | **12.47** | **23.38** | **4.16** |

**Corkscrew Regional Mitigation Bank Credit Summary for All Phases**

| Mitigation Activity | Total Wetland Acreage | Delta | Time Lag | **Total Adjusted Credits** | Credit Release Schedule | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CE/FE | Exotic Treatment | Constr./ Planting | Prescribed Burn | Level 1 | Level 2 | Level 3 | Creation Release | Retainage |
| Upland Enhance/Preserve (3,4) | 57.50 | 0.41 | 1.00 | **23.67** | 3.55 | 8.28 | | 2.37 | 3.55 | 3.55 | 1.18 | | 1.18 |
| Upland Enhance/Preserve (1,2,5,6,7,8) | 36.50 | 0.76 | 1.14 | **24.40** | 3.66 | | 8.54 | | 3.66 | 3.66 | 3.66 | | 1.22 |
| Upland Enhance/Preserve Total | 94.00 | 0.55 | | **48.07** | 7.21 | 8.28 | 8.54 | 2.37 | 7.21 | 7.21 | 4.84 | | 2.40 |
| Forested Enhancement Subtotal (3,4) | 147.00 | 0.31 | 1.00 | **46.04** | 6.91 | 16.12 | | 4.60 | 6.91 | 6.91 | 2.30 | | 2.30 |
| Forested Enhancement Subtotal (1,2,5,6,7,8) | 15.20 | 0.63 | 1.00 | **9.63** | 1.44 | | 3.37 | | 1.44 | 1.44 | 1.44 | | 0.48 |
| Forested Restoration Subtotal | 232.10 | 0.78 | 1.25 | **144.85** | 21.73 | | 50.70 | | 21.73 | 21.73 | 21.73 | | 7.24 |
| Forested Creation Subtotal | 29.40 | 0.90 | 1.25 | **21.07** | 3.16 | | | | | | 3.16 | 13.69 | 1.05 |
| Forested Mitigation Total | 423.70 | 0.62 | | **221.58** | 33.24 | 16.12 | 54.07 | 4.60 | 30.08 | 30.08 | 28.63 | 13.69 | 11.08 |
| Herbaceous Enhancement Subtotal (3,4) | 25.80 | 0.35 | 1.00 | **9.11** | 1.37 | 3.19 | | 0.91 | 1.37 | 1.37 | 0.46 | | 0.46 |
| Herbaceous Enhancement Subtotal (1,2,5,6,7,8) | 0.00 | | | | | | | | | | | | |
| Herbaceous Restoration Subtotal | 59.30 | 0.78 | 1.00 | **46.12** | 6.92 | | 16.14 | | 6.92 | 6.92 | 6.92 | | 2.31 |
| Herbaceous Creation Subtotal | 29.70 | 0.91 | 1.00 | **26.91** | 4.04 | | | | | | 4.04 | 17.49 | 1.35 |
| Herbaceous Mitigation Total | 114.80 | 0.72 | | **82.13** | 12.32 | 3.19 | 16.14 | 0.91 | 8.28 | 8.28 | 11.41 | 17.49 | 4.11 |
| **Totals For CRMB** | **632.50** | **0.63** | | **351.78** | **52.77** | **27.59** | **78.75** | **7.88** | **45.57** | **45.57** | **44.89** | **31.18** | **17.59** |

# ATTACHMENT D – Ledger

Corkscrew Regional Mitigation Bank
Permit Number 198035-001

**Forested Freshwater** **total =** **269.65**

| Release Mod./ Impact Permit | Permit Date | Issuing Agency | Ledger Modification | Credits Added | Credits Used | Balance |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

**Herbaceous Freshwater** **total =** **82.13**

| Release Mod./ Impact Permit | Permit Date | Issuing Agency | Ledger Modification | Credits Added | Credits Used | Balance |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |

# ATTACHMENT E: Monitoring Plan

**Abstract:** The monitoring of the restoration at the bank consists of both quantitative and qualitative monitoring. The quantitative vegetation monitoring will be conducted in each phase after planting and prior to attainment of each level of success and will accompany the request for credit release. Monitoring will be reported by phase for all phases that have been planted within the bank. Parameters to be monitored consist of percent cover by species or grouping, species richness, and cover by exotic and nuisance species. Monitoring will also contain information on planted tree height and stem density. Qualitative monitoring information to be included in the annual reports will consist of an overall hydrologic assessment of the wetland, an estimation of the percent cover and dominant species in each community, documentation of the presence or spread of nuisance species, wildlife utilization, and general biological integrity of the restored wetland. Monitoring activities will be initiated within each phase upon the completion of initial restoration activities and will cease upon attainment of Success Level 3. The specific monitoring techniques to be employed in the monitoring of these wetlands are described below.

## A. Quantitative Monitoring

i. Vegetation: Quantitative vegetation monitoring will occur at the end of the growing season (mid-September to mid-November) in the first season following restoration activities (as a baseline) and in association with each request for a determination of success level attainment.

The percent vegetation cover within the enhanced and restored wetlands will be monitored using the line intercept methodology. One or more 300± feet long transects will be established in representative portions of each enhanced and restored community in each phase as shown in Figures E-1 and E-2. A measuring tape will be stretched along the transect and the plant occurring directly below (ground cover) and above (canopy) the tape will be recorded at precise 3 feet intervals along the transect. Canopy species consists of all woody plants (trees and shrubs) greater than three feet in height. Ground cover species include all vegetation less than three feet in height and will be reported; however, percent cover will be totaled for each of the following categories: native herbaceous species, exotic species, nuisance species and wax myrtle, Carolina willow and saltbush, as listed in success criteria. Bare ground or water and open sky will also be recorded in this manner.

Species richness will be measured within 200 feet x 300 feet plots centered along the 300 feet line intercept transects. All ground cover species occurring within the plot will be recorded. The number of native herbaceous species will be reported for marsh and cypress/mixed forest communities. The number of native herbaceous species that are listed in the attached Table E-1 will be reported for the hydric pine community.

To document tree density, growth and viability in planted areas, tree species, stem density and height will be monitored using the "line strip" (belt transect) technique (Lindsay 1955, Woodin and Lindsay 1954, Bauer 1943). These transects will be located in each phase associated with each vegetation transect in the planted forest communities (Figure E-1).

The belt transects will be 300± feet in length and 33± feet in width (Figure E-2). Within each belt transect, the height of each planted tree will be recorded. Water depths and qualitative notes on the condition of each tree, including evidence of seed production or natural recruitment, will also be recorded.

ii. Wildlife Utilization: During the vegetation monitoring described above, observations of wildlife utilizing the wetlands will be recorded. These observations will consist of direct sightings, scat, tracks, or vocalizations. The species, relative abundance and, if apparent, the use (foraging, nesting, cover, etc.) of wildlife observed will be recorded for each community. For Success Levels 1 and 2 this semi-quantitative wildlife monitoring will be conducted along with the quantitative vegetation monitoring. Additional similar wildlife monitoring surveys may be conducted at other times during the year to integrate seasonal wildlife usage.

At Success Level 3 an additional quantitative monitoring will be conducted. This will consist of observations of amphibian, reptiles, mammals, and birds within each community at intervals along established pedestrian transects shown in Figure E-1.
Five pedestrian surveys, occurring just after dawn or just before dusk, will be conducted in both the wet season and the dry season. In addition to the pedestrian surveys, trapping may be conducted along drift fences if needed to document attainment of Success Level 3. Trapping may occur for a period of eight days three times a year (approximately April, June, and September). In the event that reference wetlands are used to meet the success criteria, the same monitoring methodology will be used during the same time period at the reference wetlands.

iii. Hydrologic Monitoring: Staff gauges and/or shallow ground water wells will be established in representative areas of each phase (Figure E-1). Ground elevations will be surveyed for each monitoring location. Water elevations will be recorded monthly from November through May and weekly from June through October, and reported relative to ground elevation. At least one continuous recording monitoring well will be established in each phase on-site to document hydrological patterns and serve as a reference for the other monitoring sites, and at least one of these wells shall be located in enhanced hydric pine. Water levels will be recorded at 24-hour intervals, and downloaded when the staff gauges are monitored. Rainfall data will be collected weekly from an on-site rain gauge.

iv. Permanent Photographic Stations: Panoramic photographs will be taken from permanently established stations at each transect (Figure E-2) during each qualitative and quantitative vegetation monitoring event. These photographs will provide additional documentation of the conditions within the wetland.

v. Monitoring Locations: The proposed monitoring locations are shown in the attached figures. Figure E-1 depicts the approximate location of the proposed vegetation transects, photo stations, staff gauges, and wildlife and qualitative vegetation pedestrian transects within phases. Figure E-2 depicts the approximate configuration of the percent ground cover monitoring transect, tree density and height monitoring plot, the species richness monitoring plot, and photo station for each monitoring location.

## B. Qualitative Monitoring

i. Vegetation: Qualitative vegetation monitoring will occur annually at the end of the growing season. The condition of the vegetation, both ground cover and planted trees, will be qualitatively evaluated. This evaluation will consist of making observations throughout the enhanced, restored and created wetlands and at the established monitoring transects, as noted in Figure E-1. Notes on general health and reproductive status of vegetation, estimates of cover and dominant species, notation of recruitment of new species, the presence or spread of nuisance/exotic species, and the hydrologic condition of the enhanced and restored wetlands will be recorded. An evaluation will be made regarding how representative the monitoring areas are relative to the community being measured. Potential problems and appropriate solutions will be identified.

ii. Photographic Stations: Panoramic photographs will be taken from the permanently established stations at each transect. Additional photographs representing typical conditions will be taken. These photographs will provide additional documentation on the conditions within the wetland. Aerial photographs of the site will be taken annually to provide a view of the status of the restoration and vegetation. One or more photos may be used to cover the site and the photographs may be oblique.

iii. Wildlife Utilization: During the vegetation monitoring described above, observations of wildlife utilizing the restored wetlands will be recorded. These observations will consist of direct sightings, scat, tracks, or vocalizations.

## C. Reporting

i. Frequency: An annual monitoring report will be prepared after the vegetation monitoring is completed and analyzed and is due by January 31 of each year. This report may also contain a section that incorporates the required "Progress Report" for the previous 6 months. Data reported and analyzed will be segregated by phase.

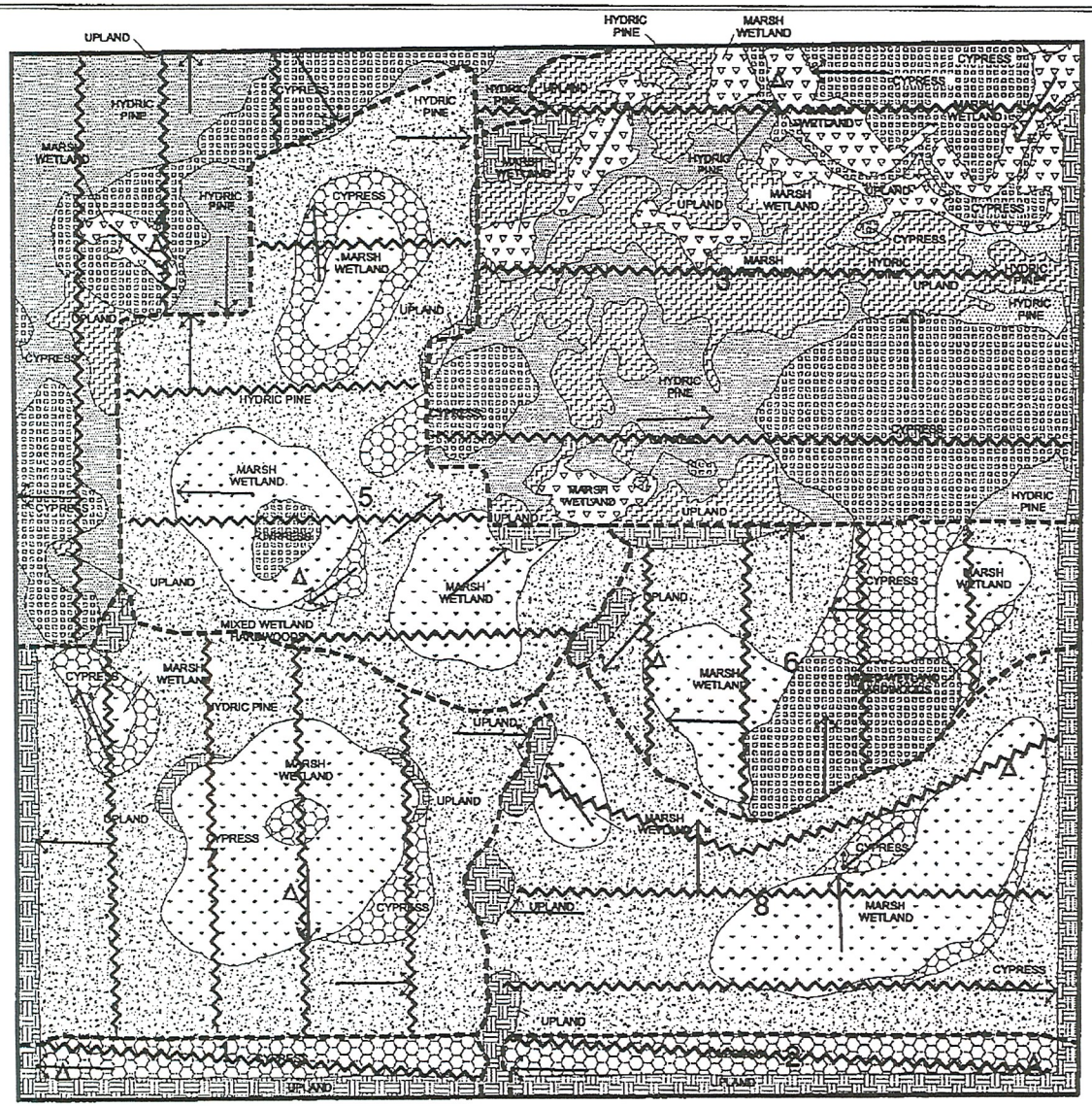
ii. Results: The report will contain a listing of all sampling dates and tabulated raw data for each type of data collected. Raw data include qualitative vegetation and wildlife field sheets for each transect, belt transect and sampling date, quantitative transect by transect, photographs, and hydrologic data by station and date. Raw data for vegetation will then be tabulated by transect for the appropriate success criteria per community. The raw hydrology data will also be presented on a single graph, with each monitoring location represented by a different point (or line, for continuous recording stations) at the same scale relative to ground elevation (in inches or feet above or below ground surface vs. time). Wildlife data may be pooled, by community, from all sampling locations within the phase.

iii. Analysis: An assessment of the qualitative data shall be discussed relative to its use in adaptive management, as a measure of the degree of trending toward success, and as an indicator of support for quantitative data. Analysis shall include a discussion of data relative to the criteria for each level of success in each community of each phase. To meet criteria for any success level for the phase:

1. each vegetation transect in the phase shall meet the appropriate community vegetation criteria, unless the preponderance of data indicate that the phase as a whole is attaining success criteria, and that any transect not meeting the criteria is, for some reason, not representative of site conditions;
2. each hydrology monitoring station in the phase shall meet the appropriate community hydrology criteria, unless the preponderance of data indicate that the phase as a whole is attaining success criteria, and that any location not meeting the criteria is, for some reason, not representative of site conditions; and
3. the wildlife data, pooled by community, for the phase shall meet the criteria for each community.

If it is noted during sampling that an established transect is not representative of site conditions, that transect shall be moved to an appropriate location within the community and phase, as approved by the Department.

For the final success determination, the report shall summarize all of the previous reports and provide information on when each phase attained level 3 success. It shall contain photographic and qualitative documentation that all phases have maintained that level of success of greater. Finally, it shall provide information useful for the continued successful management of the site.




## HATCH AND SYMBOL LEGEND

- ENHANCED CYPRESS, CYPRESS-PINE-CABBAGE PALM - 89.5 ACRES
- *ENHANCED MARSH WETLAND - 24.8 ACRES
- ENHANCED HYDRIC PINE- 73.7 ACRES
- ENHANCED UPLAND - 51.8 ACRES
- PLANTED CYPRESS, CYPRESS-PINE-CABBAGE PALM, MIXED WETLAND HARDWOODS - 55.2 ACRES
- *PLANTED MARSH WETLAND - 89.0 ACRES
- PLANTED HYDRIC PINE- 206.1 ACRES
- PLANTED UPLAND - 42.4 ACRES
- CELL BOUNDARY
- PEDESTRIAN WILDLIFE TRANSECT
- MONITORING PLOT/TRANSECT LOCATION
- PHOTO STATION
- STAFF GAUGE/WELL

* MARSH WETLANDS MAY HAVE INCLUSIONS OF WET PRAIRIE AND/OR WET PRAIRIE LIKE TRANSITIONAL AREAS.

## NOTES

1) Monitoring locations approximate and subject to refinement based on site conditions.

N
W E
S

300' 0 300'

Figure E-1. Corkscrew Regional Mitigation Bank Monitoring Plan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Consulting Ecologist, Inc.
2077 Bayside Parkway Fort Myers Florida 33901 (239) 337-1505


| | | | |
|---|---|---|---|
| Project File: MARCB108 | File: 3-01_monitplan | Drawing Date: 6-26-02 | Drawn By: MGW |
| Lee County | Township 46 S | Range 27 E | Section(s) 20 |
| Revision Date: | Comments | | Verified By: |
| 10-31-02 | REVISE PHOTO STATIONS | | CMS |
| 4-8-04 | NOTES, LEGEND, TITLE | | MJF |
| | | | |

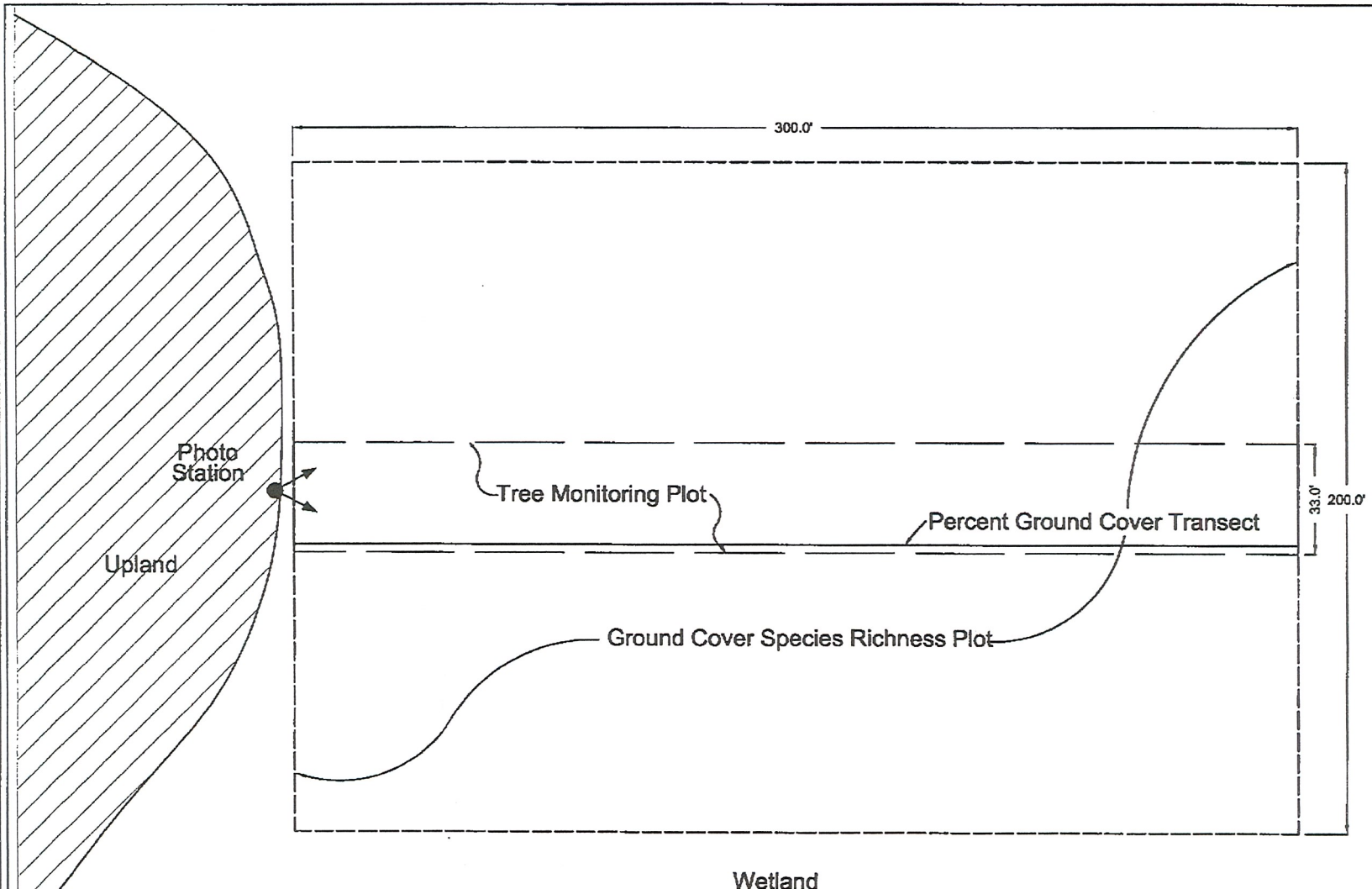


Figure E-2. Typical Wetland Monitoring Transect Configuration

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| | | | |
|---|---|---|---|
| Project: MARCB108 | File: 2002-trans | Date:5-27-02 | Drawn By: MGW |
| Lee County | Township 46S | Range 27E | Section(s) 20 |
| Revision Date | Comments | | Verified By: |
| 4-9-04 | TITLE | | MJF |
| | | | |
| | | | |

## Table E-1 - List of Acceptable Groundcover Species for Hydric Pine

| Scientific Name | Common Name |
|---|---|
| Agalinis sp. | False foxglove |
| Aletris lutea | Yellow colic-root |
| Amphicarpum muhlenbergianum | Blue maidencane |
| Andropogon brachystachyus | Shortspike bluestem |
| Andropogon glomeratus | Bushy bluestem |
| Andropogon glomeratus var. glaucopsis | Purple bluestem |
| Andropogon gyrans | Elliott's bluestem |
| Andropogon ternarius | Splitbeard bluestem |
| Aristida beyrichiana | Wiregrass |
| Aristida patula | Tall threeawn |
| Aristida purpurascens | Arrowfeather |
| Aristida spiciformis | Bottlebrush threeawn |
| Aster adnatus | Scaleleaf aster |
| Aster dumosus | Rice button aster |
| Aster subulatus | Annual marsh aster |
| Axonopus furcatus | Big carpet grass |
| Balduina angustifolia | Yellow buttons |
| Bigelowia nudata | Rayless goldenrod |
| Blechnum serrulatum | Swamp fern |
| Boltonia diffusa | Doll's daisy |
| Buchnera americana | Blue heart |
| Carphephorus subtropicanus | Pineland purple |
| Chaptalia tomentosa | Pine daisy |
| Cirsium horridulum | Yellow thistle |
| Cladium jamaicense | Sawgrass |
| Coreopsis floridana | Florida tickseed |
| Coreopsis leavenworthii | Leavenworth's tickseed |
| Cyperus haspan | Haspan flatsedge |
| Cyperus polystachyos | Manyspike flatsedge |
| Cyperus retrorsus | Pinebarren flatsedge |
| Dichanthelium commutatum | Witchgrass |
| Dichanthelium dichotomum | Witchgrass |
| Dichanthelium ensifolium | Low panicium |
| Dichanthelium erectifolium | Erectleaf witchgrass |
| Diodia viriniana | Virginia buttonwood |
| Drosera brevifolia | Dwarf sundew |
| Drosera capillaris | Pink sundew |
| Elecharis baldwinii | Spike-rush |
| Eleocharis geniculata | Spike-rush |
| Elephantopus elatus | Florida elephant's-foot |
| Elyonurus tripsacoides | Pan-american balsamscale |
| Elytraria caroliniensis | Elytraria |
| Eragrostis elliottii | Elliott lovegrass |
| Erigeon vernus | Early whitetop fleabane |
| Eriocaulon decangulare | Tenangle pipewort |

| Scientific Name | Common Name |
|---|---|
| Eryngium aromaticum | Fragrant eryngium |
| Eryngium baldwinii | Baldwin's coyote-thistle |
| Eryngium yuccifolium | Button snakeroot |
| Eupatorium mikaniodes | Semaphore thorough-wort |
| Eupatorium mohrii | Mohr's eupatorium |
| Eustachys glauca | Saltmarsh fingergrass |
| Euthamia caroliniana | Slender goldenrod |
| Fimbristylis puberula | Vahl's hairy fimbry |
| Flaveria lineatis | Yellow top |
| Fuirena breviseta | Umbrellagrass |
| Fuirena scirpoidea | Southern umbrella-sedge |
| Helianthus angustifolius | Swamp sunflower |
| Heliotropium polyphylum | Pineland heliotrope |
| Hydrocotyle umbellata | Water pennywort |
| Hypercium brachyphyllum | St John's wort |
| Hypericum cistifolium | St John's wort |
| Hypericum fasciculatum | Sandweed |
| Hypericum myrtifolium | Myrtle-leaf St.-John's-wort |
| Hypericum reductum | Atlantic St.-John's-wort |
| Hypericum tetrapetalum | Heart-leaved St. Peter's-wort |
| Hyptis alata | Musky mint |
| Juncus marginatus | Grassleaf rush |
| Lachnanthes caroliniana | Red-root |
| Leersia hexandra | Southern cutgrass |
| Liatris garberi | Garber's gayfeather |
| Liatris gracilis | Slender gayfeather |
| Liatris laevigata | Long-leaf blazing-star |
| Linum medium | Stiff yellow flax |
| Lobelia glandulosa | Coastal plain lobelia |
| Lobelia paludosa | White lobelia |
| Ludwigia curtissii | Curtiss' seedbox |
| Ludwigia maritima | Seaside seedbox |
| Ludwigia microcarpa | Small-fruit seedbox |
| Lygodesmia aphylla | Roserush |
| Melanthera nivea | Snow squarestem |
| Melochia spicata | Chocolate weed |
| Mitreola sessilifolia | Swamp hornpod |
| Muhlenbergia capillaris | Muhly grass |
| Oxypolis filiformis | Water dropwort |
| Panicum anceps | Beaked panicum |
| Panicum hemitomon | Maidencane |
| Panicum hians | Gaping panic grass |
| Panicum longifolium | Panicgrass |
| Panicum rigidulum | Red top panicium |
| Panicum tenerum | Bluejoint panicum |
| Paspalum blodgettii | Blodgett's paspalum |
| Paspalum caespitosum | Blue paspalum |
| Paspalum monostachyum | Gulfdune paspalum |
| Paspalum setaceum | Thin paspalum |

| Scientific Name | Common Name |
|---|---|
| Phyla nodiflora | Carpetweed |
| Physostegia purpurea | Purple dragonheaddd |
| Pinguicula pumila | Small butterwort |
| Piriqueta caroliniana | Piriqueta |
| Pityopsis graminifolia var. tracyi | Tracy's silkgrass |
| Pluchea rosea | Godfrey's marsh fleabane |
| Polygala grandiflora | Large-flowerwd polygala |
| Polygala lutea | Wild batchelor's button |
| Polygala rugellii | Yellow milkwort |
| Pterocaulon pycnostachyum | Blackroot |
| Rhexia mariana | Pale meadowbeauty |
| Rhynchospora breviseta | Shortbristle beaksedge |
| Rhynchospora colorata | White-top sedge |
| Rhynchospora divergens | Spreading beaksedge |
| Rhynchospora fascicularis | Fasciculate beaksedge |
| Rhynchospora filifolia | Threadleaf |
| Rhynchospora globularis | Globe beaksedge |
| Rhynchospora inundata | Narrowfruit horned beaksedge |
| Rhynchospora microcarpa | Southern beaksedge |
| Rhynchospora nitens | Shortback beaksedge |
| Rhynchospora odorata | Fragrant beaksedge |
| Rhynchospora pusilla | Fair beaksedge |
| Rhynchospora tracyi | Tracy's beakrush |
| Rubus trivialis | Southern dewberry |
| Sabatia brevifolia Raf. | Short-leaf rosegentian |
| Sabatia grandiflora | Large-flower rose-gentian |
| Schizachyrium rhizomatum | South Florida bluestem |
| Schizachyrium sanguineum | Crimson bluesten |
| Schizachyrium stoloniferum | Creeping bluestem |
| Scleria georgiana | Slenderfruit nutrush |
| Scleria pauciflora | Few-flowered nutrush |
| Scleria reticularis | Netted nutrush |
| Setaria geniculata | Knotroot foxtail |
| Setaria parviflora | Knotroot foxtail |
| Solidago fistulosa | Pinebarren goldenrod |
| Solidago odora var. chapmanii | Chapman's goldenrod |
| Solidago stricta | Goldenrod |
| Spartina bakeri | Sand cordgrass |
| Spiranthes vernalis | Spring ladies-tresses |
| Stillingia sylvatica | Queen's delight |
| Syngonanthus flavidulus | Yellow hatpins |
| Tripsacum dactyloides | Eastern gama grass |
| Xyris caroliniana | Carolina yelloweyed grass |
| Xyris difformis var. floridana | Florida bog yellow-eyed grass |
| Xyris elliottii | Elliott's yelloweyed grass |
| Xyris platylepis | Tall yelloweyed grass |
| Xyris smalliana | Small's yelloweyed grass |

Species may be added to or deleted from the list above with the mutual consent of the Banker and MBRT