Sand Hill Lakes Mitigation Bank

Mitigation Banking Instrument

Northwest Florida Water Management District
81 Water Management Drive
Havana, FL 32333-4712
850-539-5999

Contact: Duncan Cairns (duncan.cairns@nwfwmd.state.fl.us)

February 2006

Contents

Sand Hill Lakes Mitigation Bank

Mitigation Banking Instrument

1.0 Preamble.

This Mitigation Banking Instrument (MBI) regarding the establishment, use, operation, and perpetual maintenance of the Sand Hill Lakes Mitigation Bank (Bank) has been prepared by the Northwest Florida Water Management District (NWFWMD—sponsor of the Bank) in consultation with the Mitigation Bank Review Team (MBRT). For this project, the MBRT is composed of representatives from the US Army Corps of Engineers (Corps), the US Environmental Protection Agency (EPA), the US Fish and Wildlife Service (FWS), the Florida Department of Environmental Protection (FDEP), and the Florida Fish and Wildlife Conservation Commission (FWC). This document serves as the federal MBI (Corps Permit SAJ-2002-5061 MB-DEB). A state permit (FDEP Mitigation Bank Permit No. 0227351-001) was issued separately for the Bank on September 6, 2005 (Exhibit 1). This MBI does not obviate the NWFWMD from obtaining necessary federal dredge and fill permits for Bank activities.

The text of this MBI is based on, and makes use of, publicly available documents including the "Green Book" (i.e., the "*Joint State/Federal Mitigation Bank Review Team Process for Florida, Operational Draft, October 1998*"), the 1995 "Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks" (60 FR 58605 et seq.), relevant Florida Statutes, and examples of other mitigation banking instruments including the *Garcon Peninsula Mitigation Bank MBI*, the *Breakfast Point Mitigation Bank MBI*, and the *Devils Swamp Mitigation Bank MBI*. Essential elements of this Bank (i.e., location, mitigation service area, hydrology, existing and post-restoration vegetation communities, and mitigation and management activities) are summarized by black & white line-drawing maps (Exhibit 2).

This MBI regarding the establishment, use, operation, and perpetual maintenance of the Sand Hill Lakes Mitigation Bank is made and entered into by and among the Northwest Florida Water Management District, the US Army Corps of Engineers, the US Environmental Protection Agency, and the US Fish and Wildlife Service.

1.1 Purpose of the Bank

The primary purpose of the Bank is to satisfy current and anticipated future Florida Department of Transportation (FDOT) wetland compensatory mitigation needs, pursuant to Florida Statutes 373.4137, within the Bank mitigation service area (MSA), as necessitated by Corps and FDEP permits issued to FDOT. Because of the linear nature of FDOT projects, impacts outside of the MSA may, with regulatory approvals, also be mitigated for at the Bank. The Bank MSA includes portions of the Choctawhatchee River and St. Andrew Bay watersheds (Exhibit 3). With regulatory approvals, wetland credits may also be made available to other public and private sector entities that have mitigation needs within the MSA.

Impacted wetlands within the MSA which may be mitigated "in-kind" using the Bank, subject to regulatory approvals, include hydric pine flatwoods, cypress swamps, bayhead wetlands, mixed forested wetlands, herbaceous and other wetland types. With approval of the regulatory authorities, "out-of-kind" impacts and minimal wetland impacts (e.g., *de minimus* impacts) from outside the MSA may also be mitigated using the Bank. However, use of the Bank may be inappropriate when it will result in unacceptable cumulative impacts to a water body, or when an impact is to a locally unique species, feature or community. Mitigation credits at the Bank are established using the Florida Unified Mitigation Assessment Method (UMAM) for state requirements (298.40 maximum potential credits), and the Wetland Rapid Assessment Procedure (WRAP) for federal requirements (284.03 maximum potential credits). Both UMAM and WRAP credits are allotted among three categories as follows: hydric pine flatwoods (41.25%), mixed hardwood wetlands (48.96%), and herbaceous wetlands (9.79%).

1.2 Objectives

The objectives of the Bank are:

- **Wetlands Preservation and Management (~600 acres)**—Preservation and ecological management of high-quality cypress, bayhead, emergent and similar wetland types.
- **Wetlands Enhancement / Restoration (~250 acres)**—Enhancement and restoration of degraded hydric pine flatwoods, seepage slope, cypress swamp and other wetland types.
- **Aquatic Habitat Preservation (~150 acres)**—Preservation and ecological management of karst ponds and undeveloped sand hill lakes with fringe emergent wetlands.
- **Hydrologic Enhancements**—Hydrologic enhancement of wetlands and surface flows via road abandonment and removal of road-fill at three (3) road stream-crossings, construction of bridges at five (5) sites to replace dilapidated bridges and culverts, replacement of one (1) collapsed hydrologic control structure (Black Pond dam), and the removal of one (1) hydrologic control structure (Dykes Mill Pond dam).
- **Erosion Control**—Stabilization of 10 eroding areas that are impacting wetlands.
- **Uplands Enhancement / Restoration (~1,150 acres)**—Enhancement, restoration and ecological management of ~650 acres of longleaf pine / wiregrass community, coupled with enhancement and management of ~500 acres of oak / pine forest and other upland buffer habitats.
- **Natural Corridor Protection**—Component of protected lands and natural corridors between the Econfina Creek Water Management Area and the Choctawhatchee Water Management Area (both owned and managed for ecological integrity by NWFWMD).

The Bank will preserve, enhance and restore 2,155.3 acres of wetlands, natural lakes and associated upland buffers. Post-restoration communities will consist of approximately 850 acres of wetlands, 150 acres of lakes and ponds, and 1,150 acres of uplands. Uplands management will include restoration and perpetual management of ~650 acres of longleaf pine / wiregrass community, and the preservation and perpetual management of ~500 acres of mesic uplands dominated by oaks and pine.

1.3 Fundamental Assurances

As stated in Section 1 of the "Green Book," pursuant to Chapter 373 Florida Statues, and the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks [Federal Register: 28 Nov 95 (Vol. 60, No. 228, pp. 58605-58614], the mitigation bank applicant must provide reasonable assurance that the following 10 requirements will be met:

1. Assurances the mitigation bank "will improve ecological conditions of the regional watershed."

Ecological conditions of the two regional watersheds (Choctawhatchee River and St. Andrew Bay) that the Bank occurs in are degraded by intensive silviculture and growing residential and commercial development. Undeveloped natural lakes, such as those found at the Bank, are becoming uncommon to rare. Regionally, a substantial amount of historic wetland acreage has been converted to pine plantation or otherwise lost to development. Longleaf pine / wiregrass community, once the dominant uplands habitat, has largely been extirpated. The Bank "will improve ecological conditions of the regional watershed" by perpetual preservation and ecological management of high-quality wetlands habitat including extensive cypress swamp, enhancement and restoration of hydric pine flatwoods and similar wetlands, restoration of longleaf / wiregrass community, enhancement of other upland habitats, and protection of groundwater recharge areas from septic tanks and other impacts associated with development.

2. Assurances the mitigation bank "will provide viable and sustainable ecological and hydrological functions for the proposed mitigation service area."

Natural surface-flows of water from Pine Log Creek and several smaller tributaries, coupled with precipitation and groundwater interactions, will maintain the hydrological functioning of wetlands at the Bank and improve the overall ecological condition and function of the Choctawhatchee River watershed. Hydrologic inputs to the St. Andrew Bay watershed will be enhanced by the protection of areas of groundwater recharge at the Bank. Reliance upon natural hydrological flows, without any requirements for human intervention such as pumping or manipulation of weirs, will ensure perpetual maintenance and support of the wetland communities and "will provide viable and sustainable ecological and hydrological functions for the proposed mitigation service area."

3. Assurances the mitigation bank "will be effectively managed in perpetuity."

The NWFWMD, a governmental entity created by the Florida Water Resources Act of 1972, given taxing authority by a Florida constitutional amendment in 1973, with jurisdictional boundaries covering 16 counties established in Florida Statutes 373.069, manages over 200,000 acres in the Florida Panhandle for water resources protection and ecosystem integrity. Florida Statutes 373.1391 mandates ecological management of NWFWMD lands while allowing for multiple uses:

373.1391 Management of real property.--

(1)(a) Lands titled to the governing boards of the districts shall be managed and maintained, to the extent practicable, in such a way as to ensure a balance between public access, general public recreational purposes, and restoration and protection of their natural state and condition. Except when prohibited by a covenant or condition described in s. 373.056(2), lands owned, managed, and controlled by the district may be used for multiple purposes, including, but not limited to, agriculture, silviculture, and water supply, as well as boating and other recreational uses.

(b) Whenever practicable, such lands shall be open to the general public for recreational uses. General public recreational purposes shall include, but not be limited to, fishing, hunting, horseback riding, swimming, camping, hiking, canoeing, boating, diving, birding, sailing, jogging, and other related outdoor activities to the maximum extent possible considering the environmental sensitivity and suitability of those lands.

The NWFWMD Governing Board prioritizes conservation and protection of water resources and protection and restoration of ecosystems over other uses such as public access. The NWFWMD has in place the organization, experience, personnel and statutory obligation to ensure that the Sand Hill Lakes Mitigation Bank "will be effectively managed in perpetuity."

In addition to statutory requirements for NWFWMD-owned lands that mandate restoration and protection of water resources and ecosystem management, per F.A.C. 62-342.850(2), the NWFWMD "shall maintain the land within the Regional Mitigation Bank pursuant to the terms of the Mitigation Bank Permit. Any change in the land use shall require a modification of the Mitigation Bank Permit." The terms of this Mitigation Banking Instrument, including ecological management in perpetuity, are binding on the NWFWMD. Furthermore, as required by the MBRT, a conservation easement has been placed on the Bank property (Exhibit 4).

4. Assurances the mitigation bank "will not destroy areas with high ecological value."

The NWFWMD has extensive experience in ecosystem management, and is mandated to protect water resources and ecological habitat. It is committed to the preservation, enhancement and restoration of high-quality wetland and upland habitat at the Bank. No "areas with high ecological value" will be destroyed by the Bank. No wetlands will be created from upland habitat.

5. Assurances the mitigation bank "will achieve mitigation success."

NWFWMD personnel have extensive ecological restoration and land management experience in both wetlands and upland buffers. The hydrologic regime of restored and enhanced wetlands at the Bank will be maintained through natural surface-water and groundwater flows and will not require human intervention. Success criteria have been established which must be met and certified by the MBRT before mitigation credits are released. Perpetual ecological management, long-term site-monitoring and MBRT oversight will ensure that the Bank "will achieve mitigation success."

6. Assurances the mitigation bank "will be adjacent to lands that will not adversely affect the perpetual viability of the mitigation bank due to unsuitable land uses or conditions."

Wetlands at the Bank are generally well-buffered by uplands that are part of the Bank. Approximately 650 acres of upland buffer will be restored to longleaf pine / wiregrass community, with the remaining 500 acres of upland buffer being managed as oak and oak/pine forest. Land-use adjacent to the Bank generally consists of forested parcels and low-density rural-residential tracts. Although changes in adjacent land-use are anticipated due to increasing residential development in the area, these changes are not expected to "adversely affect the perpetual viability of the mitigation bank."

7. Assurances the mitigation bank "will meet the requirements of all other applicable state or federal law."

NWFWMD personnel have extensive experience with state and federal permitting. All necessary permits will be obtained for Bank operation. NWFWMD personnel will ensure that the Bank "will meet the requirements of all other applicable state or federal law."

8. Assurances the mitigation bank "will be implemented to ensure that any surface water management system constructed, altered, operated, maintained, abandoned, or removed within the mitigation bank will meet the requirements of state and federal law."

The NWFWMD asserts that the mitigation bank "will be implemented to ensure that any surface water management system constructed, altered, operated, maintained, abandoned, or removed within the mitigation bank will meet the requirements of state and federal law." All applicable permits will be obtained for Bank operations including the replacement of the Black Pond dam, removal of the Dykes Mill Pond dam, removal of road-fill from three (3) road stream-crossings, and construction of five (5) bridges to replace dilapidated culverts and bridges. NWFWMD personnel (including an FDEP-approved "Qualified Mitigation Supervisor (QMS)" as required by the state permit) shall oversee all construction phases and ensure that plans and appropriate BMPs approved in this MBI are followed.

9. Assurances "applicant has sufficient legal or equitable interest in the property to ensure perpetual protection and management of the land within a mitigation bank."

The NWFWMD holds fee simple title to the Bank lands, and will be directed by Ch. 62-342.850(2) F.A.C. "Land Use Restrictions on District Mitigation Banks. The District shall maintain the land within the Regional Mitigation Bank pursuant to the terms of the Mitigation Bank Permit. Any change in the land use shall require a modification of the Mitigation Bank Permit." As a resource agency of the State of Florida with an established record of successful management and preservation of over 200,000 acres of conservation and mitigation lands, the NWFWMD is able to provide added assurances regarding preservation in perpetuity. For private mitigation properties throughout the state, water management districts are typically the ultimate grantee of both successful and failed mitigation banks. The NWFWMD is negotiating with the Gulf Power Company, owner of the power line easement, to take over all maintenance of this

right-of-way. Maintenance of the power line right-of-way will not interfere with management of the Bank. No mitigation credits are associated with the power line right-of-way.

10. Assurances the applicant "can meet the financial responsibility requirements prescribed for mitigation banks."

The NWFWMD has established a mitigation fund that has sufficient funds ear-marked for Bank implementation and subsequent long-term management and monitoring. Funds generated by the sale of mitigation credits will be available for Bank management.

As stated in F.A.C. 62-342.850(4):

> District Financial Responsibility. A portion of the funds contributed to a District Mitigation Bank from the sale of credits shall be dedicated for the construction and implementation of the Mitigation Bank, and a portion of the funds shall be dedicated for the long-term management of the bank as set forth in the Mitigation Bank Permit. Funds derived from the sale of Mitigation Credits which are not necessary for the construction, implementation, and long-term management of a District Regional Mitigation Bank shall be dedicated for the initiation of other District Mitigation Banks, or expansion of other District land acquisition or restoration projects which improve regional ecological conditions.

Cost estimates for the implementation and long-term management of the Bank are included in Exhibit 5. These cost estimates will be reviewed and adjusted every two years in accordance with F.A.C. 62-342.700 (11) (a) and (b). As a governmental entity created by the Florida Water Resources Act of 1972, given taxing authority by a Florida constitutional amendment in 1973, with jurisdictional boundaries covering 16 counties as established in Florida Statutes 373.069, and manager of over 200,000 acres in the Florida Panhandle for water resources protection and ecosystem integrity, the NWFWMD is committed financially to assuring the implementation and success of the Bank.

1.4 General Site Description

The Bank consists of 2,155.3 acres in the southern portion of Washington Co. in the Sand Hill Lakes region of the Florida Panhandle (Exhibit 6). It is just west of the intersection of SR 77 and SR 279, and is within Township 1 North, Range 14 & 15 West. It contains approximately 850 acres of wetlands including high quality cypress, with emergent vegetation, degraded hydric pine flatwoods, bayhead wetlands, and similar wetland types. Approximately 150 acres are natural solution ponds (isolated, steep-sided karst ponds and shallow, gently-sloped lakes connected by streams and ditches). The remaining 1,150 acres of consist of secondary-growth upland buffer communities (sand pine plantation, slash pine plantation, and mixed hardwoods including turkey oak, live oak, bluejack oak, and laurel oak).

The Bank occurs on the divide between the Choctawhatchee and St. Andrew Bay watersheds (US Geological Survey 8-digit Hydrologic Unit Code 03140203 & 03140101). Based on 8-digit HUC boundaries, the majority of the proposed Bank is in the surface headwaters of Pine Log Creek, which flows westerly and southwesterly to Pine Log State Forest and ultimately to the Choctawhatchee River and Bay. However, because of the karst nature of

the Sand Hill Lakes region, absolute watershed boundaries are problematic and the defined 8-digit HUC boundaries are suspect. Studies by the US Geological Survey and other state geological surveys indicate that in karst regions, substantial groundwater flows will cross HUC boundaries that are delineated solely on surface topography. Two groundwater studies by the NWFWMD Groundwater Bureau ("Delineation of the Floridan Aquifer zone of contribution for Econfina Creek and Deer Point Lake," Christopher J. Richards, NWFWMD, 1997 and "Econfina Creek Spring Inventory, Washington and Bay Counties, Florida," K. Barrios and A. Chelette, NWFWMD Water Resources Special Report 04-02, July 2004) indicate that most of the proposed Bank is a recharge area for Econfina Creek, which, via Deer Point Lake, is the water supply for Panama City.

1.5 Ownership

The land for the Bank, acquired in October 2002 for the explicit purpose of establishing a publicly-owned mitigation bank, will be owned and managed for ecological integrity in perpetuity by the NWFWMD. A high-voltage power line right-of-way easement (owned by Gulf Power Co.) crosses the Bank property, and two single-lane dirt roads in the southwestern portion of the Bank property serve as access easements to a private parcel. These easements (Exhibit 7) are compatible with the Bank objectives. Measures will be taken to ensure that maintenance of these easements does not conflict with Bank objectives. The NWFWMD intends to assume from Gulf Power responsibility for maintenance of the power line right-of-way. Growing-season burns on uplands adjacent to mitigation wetlands were reestablished in 2003 as part of the initial establishment of the Bank.

1.6 Potential Historic/Archaeological Resources

The Florida Division of Historical Resources (DHR) maintains a computer database and paper file (i.e., the Florida Master Site File) of all known historical and archaeological sites in Florida. All Florida Master Site File locations are also plotted by DHR on USGS 7.5" quad maps. A check of this database and the accompanying USGS quad maps listed no known sites occurring on the Bank.

Although the DHR Florida Master Site File lists no known sites, the old Greenhead School, a dilapidated two-room structure dating apparently from the late 1800s, is located on Bank lands. Mitigation activities will not affect this structure. There are no apparent remains of a mill assumed to have been located on Dykes Mill Pond. Some of the early ditching, as reported in a 1960 *Florida Wildlife Magazine* article, apparently dates from 1873.

Prior to initiation of any earth moving activities, a systematic professional archaeological and historic survey will be conducted with findings submitted to DHR for review and approval. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures or early colonial or American settlement, are encountered at any time within the project site area, the permitted project will cease all activities involving subsurface disturbance in the

immediate vicinity of such discoveries. In such instances, the Bank, or other designee, will immediately contact DHR at 800-847-7278, Division of Historical Resources, R.A. Gray Bldg., 500 S. Bronough St., Tallahassee, FL 32399-0250. Project activities will not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work will stop immediately and the proper authorities notified in accordance with Florida Statutes 872.05.

1.7 Surrounding Land Use

Numerous homesteads and developments are adjacent to the Bank (Exhibit 8). A fish camp at Joiner Lake with housing ranging from trailers to substantial homes borders the east side of the Bank property. High-end homes associated with Chain Lake Lodge Development, Inc., have been built at Negro Lake which is to the west of the Bank. A gated community at Major Lake, part of the Leisure Lake Development, Inc., is within ½ mile to the west and southwest of the Bank. The Sunny Hills subdivision, located approximately 2 miles northeast of the Bank, is developing and has an estimated capacity of some 20,000 homes.

Large and small parcels listed for sale in this area are common and indicative of increased real estate activity. This recent trend of changing land use from extensively rural land use toward more dense development will accelerate with the anticipated four-laning of SR 77 and SR 79 as well as the massive development slated for northern Bay County (e.g., large-scale international airport, associated facilities and increased development by the St. Joe Co. and Arvida, Inc. within the West Bay "Sector Plan") (Exhibit 9). If a proposed limited access corridor moves forward and provides even more connection to Interstate 10 and Alabama highways and interstates, future development of this region may approach that of coastal areas to the immediate south.

Long-range FDOT plans call for the four-laning of SR 77 throughout Washington Co. Although SR 77 comes within ½ mile of the Bank, four-laning is not expected to have any direct impacts on the proposed Bank and will in no way affect its long-term viability as a bank.

1.8 Baseline Conditions

1.8.1 Hydrology

The Bank occurs in a karst landscape and is characterized by both isolated karst ponds and natural ponds connected by streams and ditches. Pine Log Creek, whose headwaters occur adjacent to the bank and is the major stream flowing through the Bank. Portions of Pine Log Creek at the Bank dry during drought. Two smaller first-order streams, Greenhead Branch and Boggy Branch, flow into Pine Log Creek at the Bank. Although surface drainage is within the Choctawhatchee River watershed, studies by the Groundwater Section of the NWFWMD indicate there may be substantial groundwater flows from the Bank to the St. Andrew Bay watershed (Exhibit 10).

The surface-water flow paths at the Bank have been substantially modified over the last 100+ years (Exhibit 11) with the earliest ditching apparently dating to 1873. During the 1950s, Fitzhugh Carter, the landowner from whom the Bank lands were purchased in 2002, further altered the hydrology of the site via extensive ditching in an attempt to prevent ponds used for fishing from drying during drought. At Dry Pond, Fitzhugh used a case of dynamite and a bulldozer to plug a sinkhole. Incoming flows from Joiner Lake, which had previously flowed into Garrett Pond and thence into Dykes Mill Pond via an earlier system of ditches, were redirected to Dry Pond (part of the Black Pond / Dry Pond / Green Ponds basin). These efforts raised average water levels in the Black Pond / Dry Pond / Green Ponds system. Water levels in this system were controlled by a dam and outlet channel dug from Black Pond to Warmouth Pond (via Power Line Pond). At Dykes Mill Pond (current control elevation of dam equals 76.15 FT AMSL) the height of the existing dam was increased several feet to convert areas of emergent wetlands to open water.

The collapsed dam at Black Pond, based on surveys of the remains of the dam, may have had a control elevation of 72.71 FT AMSL, although it is likely that the pond levels were typically kept below this maximum. Current control elevation exercised by the remains and rubble of the dam is approximately 66.5 FT AMSL. Indications of vegetation stress, such as adventitious rooting, suggest past impacts to the extensive cypress swamp, apparently caused by artificially high water levels when the Black Pond dam was fully functioning (~1950s to the 1980s). With the collapse of the Black Pond dam, average water elevations have dropped and stabilized at more appropriate levels. However, if no action is taken at Black Pond, the remains of the dam will erode out and the resulting down-cutting of the outlet channel to Power Line Pond and Warmouth Pond will cause substantial drainage and significant long-term changes in the existing hydrologic regime of the Black Pond / Dry Pond / Green Ponds basin.

Eroding areas at several road stream-crossings and other areas contribute sediment loads to wetlands. On-site culverts and bridges are generally in poor condition. Several road stream-crossings interfere with natural hydrologic flows. Ditching in the 1950s in predominantly sandy soils has caused substantial sediment plumes that cover aquatic habitat in Power Line Pond and Warmouth Pond.

1.8.2 Existing and Targeted Wetlands and Uplands

The Bank contains approximately 850 acres of wetlands, 150 acres of natural lakes and ponds, and 1,150 acres of upland buffers. Existing and targeted land cover has been classified and mapped into Florida Land Use Cover and Forms Classification System (FLUCCS) categories (Exhibit 12). In most cases involving wetland polygons, the existing and targeted FLUCCS category will remain the same after implementation of extensive enhancement and restoration activities. Although GIS coverages provide precise acreages for each mapped community, in reality one community type will grade into another. The absolute boundary between two communities is subjectively determined. Tables of existing land cover, targeted land cover, and anticipated changes in land cover follow:

Existing Land Cover By FLUCCS*				
Level II FLUCCS	Description	Acres	Level III FLUCCS / Notes	Acres
420	Upland Hardwood Forest	739.201	421 – Xeric Oak	516.832
			427 – Live Oak	222.369
440	Tree Plantation	395.019	441 – Sand Pine Plantation	296.830
			441 – Slash Pine Plantation (Hydric)	11.532
			441 – Slash Pine Plantation	86.657
520	Lake	170.785	Undifferentiated 520	170.785
610	Wetland Hardwood Forest	127.868	611 – Bay Swamp	41.704
			615 – Stream and Lake Swamp	3.153
			616 – Inland Ponds and Sloughs	7.700
			617 – Mixed Wetland Hardwoods	75.311
620	Wetland Coniferous Forest	605.666	621 – Cypress Swamp	454.499
			625 – Hydric Pine Flatwoods	146.680
			626 – Hydric Pine Savanna	4.487
630	Wetland Forested Mixed	5.213	Undifferentiated 630	5.213
640	Vegetated Non-Forested Wetland	92.658	Undifferentiated 640	2.847
			641 – Freshwater Marsh	31.006
			643 – Wet Prairie	1.692
			644 – Emergent Aquatic Vegetation	57.113
810/830	Transportation / Utilities	18.890	814 – Roads (Stream Crossings)	0.252
			832 – Power Line Right-of-Way	18.638
	Total	2155.3		2155.3

*****Florida Land Use, Cover and Forms Classification System.

Targeted Land Cover By FLUCCS*				
Level II FLUCCS	Description	Acres	Level III FLUCCS / Notes	Acres
410	Upland Coniferous Forest	643.568	411 - Mesic Pine Flatwoods dominated by longleaf pine/wiregrass	643.568
420	Upland Hardwood Forest	479.12	421 – Xeric Oak	256.751
			427 – Live Oak	222.369
520	Lake	145.905	Undifferentiated 520	145.905
610	Wetland Hardwood Forest	152.839	611 – Bay Swamp	41.795
			615 – Stream and Lake Swamp	3.153
			616 – Inland Ponds and Sloughs	32.580
			617 – Mixed Wetland Hardwoods	75.311
620	Wetland Coniferous Forest	617.359	621 – Cypress Swamp	454.660
			625 – Hydric Pine Flatwoods	158.212
			626 – Hydric Pine Savanna	4.487
630	Wetland Forested Mixed	5.213	Undifferentiated 630	5.213
640	Vegetated Non-Forested Wetland	92.658	Undifferentiated 640	2.847
			641 – Freshwater Marsh	31.006
			643 – Wet Prairie	1.692
			644 – Emergent Aquatic Vegetation	57.113
830	Transportation / Utilities	18.638	832 – Power Line Right-of-Way	18.638
	Total	2155.3		2155.3

*****Florida Land Use, Cover and Forms Classification System.

ANTICIPATED CHANGE IN FLUCCS CATEGORIES*		
Existing FLUCCS & Acreage	**Target FLUCCS & Acreage**	
421 – Xeric Oak (516.832 acres)	411 - Mesic Pine Flatwoods (260.081 acres)	421 – Xeric Oak (256.751 acres)
427 – Live Oak (222.369 acres)	No Change	---
441 – Pine Plantation (Sand Pine) (296.830 acres)	411 - Mesic Pine Flatwoods (296.830 acres)	---
441 – Pine Plantation (Slash Pine) (86.657 acres)	411 - Mesic Pine Flatwoods (86.657 acres)	---
441 – Pine Plantation (Slash / Hydric) (11.532 acres)	625 – Hydric Pine Flatwoods (11.532 acres)	---
520 – Lake (170.785 acres)	520 – Lake (145.905 acres)	616 – Inland Ponds & Sloughs (24.880 acres)
611 – Bay Swamp (41.704 acres)	No Change	---
615 – Stream and Lake Swamp (3.153 acres)	No Change	---
616 – Inland Ponds and Sloughs (7.700 acres)	No Change	---
617 – Mixed Wetland Hardwoods (75.311 acres)	No Change	---
621 – Cypress Swamp (454.499 acres)	No Change	---
625 – Hydric Pine Flatwoods (146.680 acres)	No Change	---
626 – Hydric Pine Savanna (4.487 acres)	No Change	---
630 – Wetland Forested Mixed (5.213 acres)	No Change	---
640 – Vegetated Non-Forested Wetland (2.847 acres)	No Change	---
641 – Freshwater Marsh (31.006 acres)	No Change	---
643 – Wet Prairie (1.692 acres)	No Change	---
644 – Emergent Aquatic Vegetation (57.113 acres)	No Change	---
814 – Roads (Stream Crossings) (0.252 acre)	611 – Bay Swamp (0.091 acre)	621 – Cypress Swamp (0.161 acre)
832 – Power Line Right-of-Way (18.638 acres)	No Change	---

*****Florida Land Use, Cover and Forms Classification System.

See Exhibit 12 for descriptions of FLUCCS categories applicable to the Bank.

Approximately 1,150 acres of the Bank consists of upland buffer. Upland areas that historically consisted of longleaf pine / wiregrass communities have been converted to sand pine and slash pine with few native species and low diversity. The historic longleaf pine / wiregrass communities have been extensively logged. Nearly all longleaf pines have been removed. However, extensive areas of wiregrass remain on the site. The resulting community has shifted, due largely to fire exclusion, to a turkey oak dominated community with live oak islands. Restoring upland buffers will improve the functional values of adjacent wetlands. Long-term management goals of the Bank will enhance and restore much of the upland buffer communities to longleaf / wiregrass community while also retaining extensive hardwoods.

1.8.3 Soils

The 1965 Soil Conservation Service Soil Survey for Washington County identifies 16 soils types as occurring at the Bank (Exhibit 13). The soils of the wetland polygons at the Bank meet hydric criteria.

1.8.4 Erosion / Dirt Roads

Erosion is actively impacting some of the wetlands at the Bank. Ten erosion sites with a total area of approximately one acre will be stabilized (Exhibit 14). Erosion from these sites has led to smothering of aquatic habitat and decreased water quality. These sites include eroding borrow pits (previously used for road-fill for stream-crossings), gullying into sinkholes, eroding roads and unvegetated areas, and bank erosion along deeply incised ditches. Stabilization may include vehicle exclusion and re-vegetation.

Selected roads at the Bank will be closed and allowed to recover through natural re-vegetation, while others will be maintained only for management access. Internal gating will limit authorized public vehicular access (Exhibit 15).

1.8.5 Timber Stands

When the property for the Bank was acquired, approximately 385 acres consisted of upland pine plantation (see Management Unit 11 in Exhibit 16). No area at the Sand Hill Lakes Mitigation Bank will be managed for timber. Within one year of permit issuance, barring delay by on-the-ground conditions such as extended wet periods, all existing upland sand pine and slash pine plantation at the Bank (Management Unit 11) will be harvested or eradicated. Best Management Practices (BMPs) will be used to minimize impacts to soils, groundcover, non-target vegetation and adjacent wetlands. Harvesting will not occur when soils are wet, and equipment that may cause substantial damage to the soil will not be allowed. If extended wet periods delay harvesting of sand and slash pine, harvesting will occur as soon as conditions allow. After harvesting of sand and slash pine plantation, these areas will be replanted with longleaf pine in a random pattern at a rate of 436 trees / acre. The target restoration community for these areas will be longleaf pine / wiregrass community. Supplemental seeding and/or

plantings of wiregrass tubelings (direct seeding at 2-5 lbs / acre or tubelings on 3' centers) will occur in all areas of former pine plantation where the wiregrass cover is less than 25%. The ultimate target stocking rate of longleaf pine is 100 to 200 trees per acre. If longleaf pine densities are greater than 200 trees per acre, they will be thinned to no greater than 200 trees per acre prior to a final determination of success.

Approximately 11.5 acres (Management Unit 3) consist of slash pine plantation in a wetland area. Within one year of permit issuance, the slash pine in Management Unit 3 will be thinned to 200 or fewer trees per acre. Thinning of slash will not occur when soils are wet, and equipment that may cause substantial damage to the soil will not be allowed. If extended wet periods delay thinning of slash pine, thinning will occur as soon as conditions allow. Supplemental seeding and/or plantings of wiregrass tubelings (direct seeding at 2-5 lbs / acre or tubelings on 3' centers) will occur in all areas of former pine plantation where the wiregrass cover is less than 25%.

Details and timeframes for habitat restoration of existing slash and sand pine plantation (Management Unit 11 and Management Unit 3) are given in Exhibit 16.

1.8.6 Species

Preliminary surveys at the Bank identified ~400 plant and animal species (Exhibit 17). This includes 11 Threatened and Endangered (T&E) plant species. Based on appropriate habitat and data from the Florida Natural Areas Inventory (FNAI), at least another four (4) T&E plant species likely occur at the Bank. Animal surveys identified 23 amphibians and reptiles, 45 birds, and 12 mammals at the Bank including eight (8) Threatened, Endangered or Species of Special Concern. Data from the FNAI and the FWC's "Closing the gaps in Florida's wildlife habitat conservation system – 1994" indicate that the natural communities at the Bank likely support an additional five (5) animal Threatened, Endangered, or Species of Special Concern.

1.9 Establishment of Mitigation Credits

Both the Florida Unified Mitigation Assessment Method (Florida UMAM) and the Wetland Rapid Assessment Procedure (WRAP) were used to assess potential mitigation credits available at the Bank. The Florida Unified Mitigation Assessment Method (UMAM), used to satisfy state requirements, yields a potential of 298.40 credits for the Bank (Exhibit 18). WRAP, used to satisfy federal requirements, after adjustments for risk, time lag and bank site suitability, yields a potential of 284.03 credits for the Bank (Exhibit 19). The actual number of credits released will be decided by the MBRT in conjunction with the Credit Release Schedule (Exhibit 20) and achievement of success criteria (see Exhibit 16).

1.10 Use of Mitigation Credits

The initial use of mitigation credits at the Bank will be for current and foreseeable future FDOT road projects that require wetlands mitigation. Use of a mitigation bank is especially appropriate for linear projects such as FDOT road projects that cross basin boundaries (see Federal Guidance). Mitigation credits at the bank may also be made available to other, as yet unidentified entities, both public and private, as appropriate. Use of the Bank may be inappropriate when it will result in unacceptable cumulative impacts to a water body, or when an impact is to a locally unique species, feature or community.

1.11 Mitigation Bank Review Team (MBRT)

Agency	Representative
FDEP – Tallahassee	Vicki Tauxe – vicki.tauxe@dep.state.fl.us Connie Bersok – connie.bersok@dep.state.fl.us
Corps – Panama City	Don Hambrick – gordon.a.hambrick@saj02.usace.army.mil Dale Beter – dale.e.beter@saj02.usace.army.mil
EPA – Atlanta	Haynes Johnson – johnson.haynes@epa.gov
FWS – Panama City	Mary Mittiga – mary_mittiga@fws.gov Hildreth Cooper – hildreth_cooper@fws.gov
FWC – Tallahassee	Mike Allen – mike.allen@fwc.state.fl.us

The MBRT agrees to provide appropriate oversight in carrying out the provisions of this banking instrument.

- The MBRT agrees to review and provide comments on all project plans, monitoring reports, credit review reports, contingency plans, and necessary permits for the bank in a timely manner.
- The MBRT agrees to review and confirm reports on the evaluation of success criteria prior to approving credits within the Bank.
- The MBRT agrees to conduct compliance inspections, as necessary, as determined by the Corps and FDEP in consultation with the NWFWMD, to verify credits available in the bank, recommend corrective measures, if any, until the terms and conditions of the banking instrument have been fully satisfied or until all credits are sold, whichever is later.
- The Corps and FDEP will make a good faith effort, within 30 days (except for good cause) of receipt of the written request for release and success determination, to either approve the request for release and success determination or provide the Sponsor with a written explanation of why the determination has been denied.

- The MBRT shall conduct site inspections jointly to determine the progress of the project for purposes of release and success determinations, and other general compliance. If the MBRT is unable to meet within a reasonable time, those representatives that can, will conduct inspections in a timely manner when responding to written requests to release or success determinations.
- Persons and/or entities may make application to the MBRT to use the site for activities that are consistent with the bank objectives (e.g., academic research). The MBRT shall review all such requests and provide a written response to the applicant within 30 days except for good cause.

2.0 Authorities

The establishment, use, operation of the Sand Hill Lakes Mitigation Bank is carried out in accordance with the following authorities:

A. Federal:
   1. Clean Water Act Section 404 (33 U.S.C. 1344).
   2. Rivers and Harbors Act of 1899 Section 10 (33 U.S.C. 403 et seq.).
   3. Environmental Protection Agency, Section 404(b)(1) Guidelines (40 CFR Part 230). Guidelines for Specification of Disposal Sites for Dredged or Fill Material.
   4. Department of the Army, Section 404 Permit Regulations (33 CFR Parts 320-330). Policies for evaluating permit applications to discharge dredged or fill material.
   5. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning Determination of Mitigation Under the Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990).
   6. Title XII Food Security Act of 1985 as amended by the Food, Agriculture, Conservation and Trade Act of 1990 (16 U.S.C. 3801 et seq.).
   7. National Environmental Policy Act (42 U.S.C. 4321 et seq.), including the Council on Environmental Quality's implementing regulations (40 CFR Parts 1500-1508).
   8. Fish and Wildlife Coordination Act (16 USC 661 et. seq.).
   9. Fish and Wildlife Service Mitigation Policy (46 FR pages 7644-7663, 1981).
   10. Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).
   11. National Marine Fisheries Service Habitat Conservation Policy (48 FR pages 53142-53147, 1983).
   12. Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (60 FR pages 58605-58614, 1995).

B. State:
   1. Part IV of Chapter 373, Florida Statutes.
   2. Title 62, Florida Administrative Code.

3.0 Establishment of the Bank

The NWFWMD (sponsor of the Bank) agrees to perform all necessary work, in accordance with the provisions of this Mitigation Banking Instrument, to establish and maintain in perpetuity the Sand Hill Lakes Mitigation Bank. The NWFWMD must demonstrate to the satisfaction of the agencies represented on the MBRT (acting through the Co-chairs) that the project complies with all conditions contained herein. The NWFWMD will obtain all appropriate environmental documentation, permits or other authorizations needed to establish and maintain the proposed Bank. This Banking Instrument does not fulfill or substitute for such authorization.

3.1 Mitigation Plan

Mitigation efforts at the Bank will entail:

- **Wetlands Preservation and Management (~600 acres)**—Preservation and ecological management of high-quality cypress, bayhead, emergent and similar wetland types.
- **Wetlands Enhancement / Restoration (~250 acres)**—Enhancement and restoration of degraded hydric pine flatwoods, seepage slope, cypress swamp and other wetland types.
- **Aquatic Habitat Preservation (~150 acres)**—Preservation and ecological management of karst ponds and undeveloped sand hill lakes with fringe emergent wetlands.
- **Hydrologic Enhancements**—Hydrologic enhancement of wetlands and surface flows via road abandonment and removal of road-fill at three (3) stream-crossing sites, construction of bridges at five (5) sites to replace dilapidated bridges and culverts, rehabilitation of one (1) highly degraded hydrologic control structure (Black Pond Dam), and the removal of one (1) hydrologic control structure (Dykes Mill Pond Dam).
- **Erosion Control**—Stabilization of 10 eroding areas that are impacting wetlands.
- **Uplands Enhancement / Restoration (~1,150 acres)**—Enhancement and restoration of longleaf pine / wiregrass community, live oak forest and other upland buffer habitats.

The Bank will provide for perpetual ecological management, including exotic and invasive species control, and appropriate fire regime for all areas of the site. Plans for Management Units at the Bank, with goals, success criteria, specific tasks, timeframes, monitoring, and target fire regime are given in Exhibit 16. A fire management plan is provided in Exhibit 21, and a beaver and feral hog management plan is provided in Exhibit 22. "Tracking tables" that will be used to track implementation of management for each specific base polygon (i.e., polygons burned, polygons planted with longleaf pine, polygons with pine plantation removed, polygons with oak ≤ 12" dbh removed) are provided in Exhibit 23.

3.1.1 Hydrologic Enhancements

Hydrologic enhancements of surface flows and wetlands will be a component of the mitigation efforts at the Bank (see numbered points in Exhibit 24). However, existing surface flow directions will not be altered. Water levels and the existing hydrologic regime of the Green

Ponds / Dry Pond / Black Pond system will not be altered. Surface flows of Pine Log Creek will not be blocked, altered or redirected. The earthen berm that separates Dykes Mill Pond from Dry Pond will not be breached, though the dam at Dykes Mill Pond will be removed and the pond basin restored to pre-impoundment wetland conditions. Replacement of failing culverts and bridges at five (5) sites will enhance natural flow regimes, and will allow access for restoration and management. BMPs, including turbidity controls, will be implemented during all construction phases. Road-fill at three (3) road stream-crossings will be excavated to natural grade with the road footprint restored to wetland conditions (see engineering drawings for bridges, culverts, road-fill removal, dam construction in Exhibit 25).

No action is proposed for the ditch around Dykes Mill Pond. The ditch is blocked in three (3) places and has no surface connection to any water bodies. This ditch provides small-scale, isolated wetland habitat.

At **Point No. 1 (Dykes Mill Pond)**, the deteriorating dam will be removed. The Dykes Mill basin, currently occupied by a pond, will be allowed to return to a forested/marsh wetland. Existing cypress areas will be enhanced by reestablishment of a natural hydrology with water levels fluctuating according to prevailing weather. The dam at Dykes Mill Pond will be removed and water levels will be returned to pre-impoundment levels. Historically, Dykes Mill Pond was a shallow system dominated by a diverse marsh and ringed with gum and cypress trees. Areas that become exposed from lower water levels may be restored to a gum/cypress swamp via natural recruitment and/or plantings, with wetter areas being maintained as freshwater marsh. Where appropriate after removal of the Dykes Mill dam, trees (cypress and black gum) will be planted (~300 trees/acre) in areas where water levels are low enough to support establishment of black gum and cypress seedlings. If survivorship is < 75% after five years, additional gum/cypress may be planted. The dike that rings the western edge of Dykes Mill Pond, and separates Dykes Mill Pond from Dry Pond, will be left in place (removal would be intrusive and provide marginal ecological benefits). In addition to removal of the dam, the existing bridge at Dykes Mill Pond will be replaced with a new structure. The new bridge will not affect hydrologic flows, yet will ensure management access to other areas at the Bank.

At **Point No. 2 (Black Pond)**, the outfall ditch will be stabilized, if necessary, with riprap or other appropriate measures to alleviate erosion and deposition of sediment downstream into Power Line Pond. A hydrologic control structure that facilitates adaptive lake management will also be reestablished. This dam will allow the flexibility to raise water levels in Black Pond by 1-2 feet, and allow drawdowns of several feet. Stop-logs on the hydrologic control structure shall not exceed an elevation of 68.1' NGVD, unless authorized by a minor permit modification. It is anticipated that current water levels will be maintained and natural water level fluctuations maintained. Water levels will not be raised to 1950s – 1980s levels which caused deleterious effects in the cypress swamp. Any substantive manipulation of the existing hydrologic regime would only be done in consultation and approval by the MBRT. If no action is taken, the existing rubble of the collapsed dam will most likely erode out. Down cutting of the outflow ditch to Power Line Pond would cause substantial lowering and long-term changes in the hydrologic regime of the Black Pond / Dry Pond / Green Ponds basin.

At **Point No. 3** (ditch connecting Power Line Pond with Warmouth Pond), the current dilapidated culvert will be replaced with a bridge. Hydrologic flows will not be affected. However, the new bridge will allow continued management access to other portions of the Bank.

At **Point No. 4** (road stream-crossing over Pine Log Creek), the crossing will be abandoned, road-fill excavated to natural grade, and the road footprint planted with bare-root cypress at an approximate density of 300 trees/acre. Although survivorship of planted cypress is generally very high, if after five years survivorship is < 75% additional trees may be planted. Removal of road-fill will enhance hydrologic flows of Pine Log Creek and improve the hydrologic condition of the cypress/gum swamp.

At **Point No. 5** (road stream-crossing between Deep Edge Pond and Little Deep Edge Pond), the crossing will be abandoned, road-fill will be excavated to natural grade, and the road footprint planted with bare-root cypress at an approximate density of 300 trees/acre. If survivorship is < 75% after five years, additional cypress may be planted. Removal of road-fill will enhance hydrologic flows and allow high water stages at Deep Edge Pond to "pop-off" to Little Deep Edge Pond as they did prior to establishment of the road stream-crossing.

At **Point No. 6** (road stream-crossing between Little Deep Edge Pond and an arm of Dykes Mill Pond), the crossing will be abandoned, road-fill will be excavated to natural grade, and the road footprint planted with bare-root cypress at an approximate density of 300 trees/acre. If survivorship is < 75% after five years, additional cypress may be planted. Removal of road-fill will enhance hydrologic flows and restore pre-disturbance hydrologic regime. Current water levels in Little Deep Edge Pond are elevated by the damming effect of the road stream-crossing.

At **Point No. 7** (road stream-crossing over Greenhead Branch), the blown out culvert will be replaced with a bridge and eroding areas will be stabilized. This will improve hydrologic flows of Greenhead Branch and prevent further degradation of wetlands from sediment inputs. The replacement bridge is necessary to provide management access to other portions of the Bank.

At **Point No. 9** (wooden bridge over ditch connecting Joiner Lake with Dry Pond), the aging bridge will be replaced with a new structure. Hydrologic flows will not be affected. Replacement of this bridge will ensure continue management access to other portions of the Bank.

At **Point No. 10** (road stream-crossing between Joiner Lake and the Green Ponds), the existing culvert is in very poor condition. This culvert will be replaced with a bridge and a secondary culvert. This will enhance hydrologic flows, alleviate upstream ponding of water, and ensure continued management access to other portions of the Bank.

Construction activities in and adjacent to waterbodies have been minimized such that there is minimal potential for downstream impacts. Nevertheless, all construction will be undertaken utilizing appropriate BMPs and with appropriate sediment controls. Turbidity monitoring in downstream waters will be done with regard to all constructions activities and will

follow all appropriate regulatory guidelines (e.g., bridge and dam replacement, erosion control). All structures will be inspected periodically by qualified NWFWMD personnel.

HYDROLOGIC ENHANCEMENTS

Site No.	Task	Estimated Dimensions	Estimated Cut Volume (Cubic Yds.)
1	Removal of Dykes Mill Pond Dam & Fill	27' length / 5'height	20
	Replacement of Bridge	30' span / 12' width	None
2	Replacement of Black Pond Dam	24' length / 12' height	12
3	Replacement of Culvert with Bridge—Power Line Pond	30' span / 12' width	None
4	Removal of Road-fill—Pine Log Creek	300' x 10' x 6'	670
5	Removal of Road-fill—Deep Edge / L. Deep Edge	400' x 10' x 8'	1,185
6	Removal of Road-fill—L. Deep Edge / Dykes Mill	350' x 10' x 6'	780
7	Replacement of Culvert with Bridge—Greenhead Branch	65' span / 12' width	590
9	Replacement of Bridge—Joiner Lake / Dry Pond	40' span / 12' width	None
10	Replacement of Culvert with Bridge and New Culvert—Joiner Lake / Green Ponds	Bridge—20' span / 12' width	35
		Culvert—5'span / 12' width	5

3.1.2 Fire Management

Prescribed fire will be an integral part of the mitigation efforts at the Bank. The site has been mapped into 14 Management Units (see Exhibit 16), of which six will be actively managed with fire. A Fire Management Plan (see Exhibit 21) has been developed that includes details of timing, frequency, method of tracking burned acreage, conditions necessary for a burn, and what constitutes a successful burn. Approximately 1,300 acres of uplands and wetlands will be periodically burned (generally on 1 to 7-year cycles depending on specific habitat requirements and fuel loads). The remaining areas at the Bank consist of karst ponds, emergent wetlands, cypress swamp and other wetlands that are not appropriately managed with fire. Generally, existing dirt roads, ponds, streams and wetlands will be used as firebreaks. Fire may be allowed to burn into adjacent wetlands except when catastrophic damage (e.g., crown fires) might result. All burns will be conducted by a Certified Burn Manager in accordance with Florida Statutes.

3.1.3 Wetlands Preservation, Enhancement and Restoration

When mitigation is fully implemented at the Bank, 13 wetland and aquatic habitats (see Post-Restoration Land Use / Cover map in Exhibit 12) will be represented as follows:

FLUCCS 520 – Lakes (145.905 acres). The Bank will preserve and manage 145.905 acres of solution lakes and isolated karst ponds. These ponds include classic sinkholes with steep sides and no surface water inflows or outflows, formerly isolated karst ponds that are now connected by ditching, and large, irregular-shaped, solution ponds with gentle slopes that are connected by natural and modified stream channels. Undeveloped natural karst ponds and lakes are increasingly rare in this region. The littoral zone of these wetlands include significant

communities of *Hypericum lissophloeus*, which is endemic to the Sand Hill Lakes region. A hydrologic structure at Black Pond will be replaced to ensure continuation of the current hydrologic regime. Although limited public fishing will be allowed (Exhibit 26), subject to MBRT approvals, the public will be barred from launching motor boats on any lake, pond or water course.

FLUCCS 611 – Bay Swamp (41.795 acres). These areas at the Bank, primarily on Greenhead Branch, Boggy Branch, and adjacent to Dry Pond, Deep Edge and Little Deep Edge ponds will be preserved in their current high-quality state. Management will be passive, with enhancements derived primarily from buffer restoration such as conversion of pine plantation to longleaf pine / wiregrass community, and stabilization of adjacent erosion areas.

FLUCCS 615 – Swamp and Lake Swamp (Bottomland) (3.153 acres). This area follows the natural connection from Joiner Lake to the Green Ponds. Bottomland management will be passive preservation, although hydrologic enhancement will result from installation of a bridge and culvert at Site No. 10 (see Exhibit 24).

FLUCCS 616 – Inland Ponds and Sloughs (32.580 acres). At Dykes Mill Pond, 24.880 acres of this community type will be restored via hydrologic restoration from removal of the Dykes Mill dam, coupled with natural recruitment of wetland vegetation. Another 7.700 acres of Inland Ponds and Sloughs will be passively preserved with enhancements being derived from buffer enhancements.

FLUCCS 617 – Mixed Wetland Hardwoods (75.311 acres). This habitat, located to the west of Dry Pond will be passively preserved with enhancements being derived from buffer improvements.

FLUCCS 621 – Cypress Swamp (454.660 acres). The Bank will preserve 414.170 acre of cypress swamp through passive management, and will enhance and/or restore 40.490 acres of cypress swamp at Dykes Mill Pond, Deep Edge Pond, and road stream-crossings at Pine Log Creek and between Deep Edge and Little Edge Ponds.

FLUCCS 625 – Hydric Pine Flatwoods (158.212 acres). Management of these habitats will entail the most intensive wetland restoration efforts at the Bank. In Management Unit 2, shrub biomass (primarily titi, gallberry and fetterbush) will be reduced as necessary by fire and roller chopping, gyrotrak, or hydro-axe apparatus to enhance the growth of herbaceous groundcover. An initial dormant-season fuel-reduction burn will reduce titi and lyonia scrub competition. Within 12 months, grass, herb and forb diversity should increase from seed bank. If necessary, reestablishment of groundcover may be enhanced through direct seeding of groundcover species obtained from a managed mixed wet prairie / flatwoods habitat site. Perpetual ecological management will include the reintroduction of prescribed growing-season fire (3-5 year burn cycles anticipated) to enhance and maintain habitat. The area of slash pine plantation (Management Unit 3) will be converted to hydric pine flatwoods by thinning of slash pine, roller chopping and/or use of hydro-axe as necessary, prescribed fire and direct seeding of groundcover species if needed.

FLUCCS 626 – Hydric Pine Savanna (4.487 acres). Pitcher plant and other hydric pine savanna species are present in overgrown areas. Initial dormant-season fuel-reduction burns will reduce competition. Within 12 months, grass, herb and forb diversity should increase from seed bank. Perpetual ecological management will include the reintroduction of prescribed growing season burns to enhance and maintain habitat. Fire should allow grass, herb and forb diversity to increase from seed bank. If necessary, reestablishment of groundcover may be enhanced through direct seeding of groundcover species obtained from a managed mixed wet prairie / flatwoods habitat site.

FLUCCS 630 – Wetland Forested Mixed (5.213 acres). These wetlands will be passively preserved with enhancements being derived from buffer enhancements.

FLUCCS 640 – Vegetated Non-Forested Wetlands (2.847 acres). These wetlands consist of ditches. Management will consist of passive preserved with enhancements being derived from buffer improvements.

FLUCCS 641 – Freshwater Marsh (31.006 acres). Management of these wetlands will consist of passive preserved with enhancements being derived from buffer improvements.

FLUCCS 643 – Wet Prairie (1.692 acres). Management of these wetlands will consist of passive preserved with enhancements being derived from buffer improvements. Prescribed fire from adjacent upland buffers will be allowed to carry through these wetlands if able to.

FLUCCS 644 – Emergent Aquatic Vegetation (57.113 acres). Management of these wetlands will consist of passive preserved with enhancements being derived from buffer improvements.

3.1.4 Upland Buffer Restoration and Management

Approximately 650 acres of upland buffer will be restored to longleaf pine / wiregrass community. Existing sand pine plantation and slash pine plantation (~385 acres) will be harvested within one year of permit issuance, and then restored to longleaf pine / wiregrass community. Turkey oak "regrowth" areas (~265 acres) will be restored to longleaf / wiregrass via removal of oaks ≤ 12" dhb, herbicide treatment of stumps, prescribed fire and planting of longleaf at 436 trees/acre. Growing season prescribed fire will be employed to enhance and maintain the longleaf / wiregrass habitat in perpetuity.

3.1.5 Stabilization of Eroding Sites

Ten sites are eroding and causing impacts to wetlands at the Bank (see Exhibit 14). Impacts include degradation of water quality, smothering of aquatic habitat, and degradation of upland buffer quality. Impacts are particularly severe at Greenhead Branch, Power Line Pond, Cat Pond, Deep Edge Pond, Little Deep Edge Pond, and Warmouth Pond.

EROSION STABILIZATION SITES

Site	Location	Approx. Acres	Severity	Proposed Work	Timeframe
1	Cat Pond – Northwest	0.0272	Moderate	Re-vegetation; railroad ties / contouring	Within one year of permit issuance
2	Cat Pond – East	0.0371	Moderate	Re-vegetation; railroad ties / contouring	"
3	Deep Edge / Little Deep Edge	0.1063	Moderate	Vehicle exclusion; Re-vegetation	"
4	Greenhead Branch	0.1927	Severe	Vehicle exclusion; Re-vegetation	"
5	Greenhead Crossing – South	0.2002	Severe	Vehicle exclusion; Re-vegetation	"
6	Little Deep Edge / Dykes Mill	0.0321	Low	Vehicle exclusion; Re-vegetation	"
7	Greenhead Crossing – North	0.2471	Moderate	Vehicle exclusion; Re-vegetation	"
8	Dykes Mill Dam	0.0741	Low	Vehicle exclusion; Re-vegetation	"
9	Power Line / Warmouth Ditch	0.0173	Severe	Re-vegetation	"
10	Boggy Branch	0.1161	Severe	Re-vegetation; railroad ties / contouring	"
		1.0502			

As necessary, these sites will be stabilized through re-vegetation with native non-invasive species. Some sites appear to be stabilizing through natural re-vegetation. BMPs such as vehicle exclusion may be sufficient for these sites. Other sites may require minor topographic re-contouring (i.e., smoothing out of eroded area) and railroad ties. A biodegradable fabric may be used to stabilize sites and assist establishment of vegetation when appropriate.

3.2 Implementation Timetable

Activity	Estimated Completion Date
Conservation Easement, QMS	2005
Fencing and signage of site.	Completed 3/05
Site security / law enforcement / internal gating / road closures	Ongoing
Stabilization of 10 erosion sites	2005/2006
Hydrologic enhancements -Replacement of Black Pond dam -Removal of Dykes Mill Pond dam -Removal of road-fill at (3) sites -Construction of (5) bridges	2005/2006
Removal of pine plantation and replanting with longleaf pine	2006
Removal of oak overgrowth and replanting with longleaf	2006
80% completion of initial growing-season burns in areas to be maintained as oak / pine community	2006
Initial thinning, roller chopping and fuel-reduction burns in hydric pine	2006
Supplemental wiregrass seeding if necessitated by onsite conditions.	2006
Installation of water level gages.	2005
Baseline assessments of vegetation.	2004/2005
Fire Management / Monitoring Year 1 / Annual Report preparation.	2007/2008(report)
Fire Management / Monitoring Year 2 / Annual Report preparation.	2008/2009(report)
Fire Management / Monitoring Year 3 / Annual Report preparation.	2009/2010(report)
Fire Management / Monitoring Year 4 / Annual Report preparation.	2010/2011(report)
Fire Management / Monitoring Year 5 / Final Report preparation.	2011/2012(report)
Perpetual ecological management.	2012+

4.0 Operation of Bank

4.1 Mitigation Service Area (MSA)

The mitigation service area (MSA) was developed by the NWFWMD in consultation with the MBRT based on Florida Statutes, Federal Guidance, and the Joint State/Federal Mitigation Bank Review Team Process for Florida (Operational Draft 1998). The MSA (see Exhibit 2) for the Bank includes portions of the St. Andrew Bay and Choctawhatchee River watersheds (USGS 8-digit HUC 03140203 & 03140101). The 100-year floodplain of the Choctawhatchee River, as defined from Federal Emergency Management Agency (FEMA) maps, the Black Creek drainage to the Choctawhatchee Bay, and all portions of the "Deer Point Reservoir Protection Zone" defined by the Bay County Comp Plan (December 1999), are excluded from the MSA.

Federal guidance (12/28/95) concerning the establishment of mitigation banks states that "a more inclusive service area may be appropriate for mitigation banks whose primary purpose is to compensate for linear projects that typically involve numerous small impacts in several different watersheds." Thus, the Bank may be appropriate mitigation for current and future FDOT impacts on SR 77, SR 79 and other FDOT and mitigation projects within the region. With regulatory approvals, mitigation credits may also be made available for purchase by other

public and private entities requiring mitigation in the area. Use of the Bank may be inappropriate when it will result in unacceptable cumulative impacts to a water body, or when an impact is to a locally unique species, feature or community.

4.2 Adaptive Management

The MBRT accepts that all ecological restoration projects are site specific, that multiple endpoints are possible owing to the stochastic nature of ecological processes, and that human activities offsite and beyond the control of the mitigation bank may influence the course of restoration. For these reasons, the NWFWMD, with approval of the MBRT, may change the restoration strategy, modify the objectives, and adjust the performance standards and monitoring protocols at any time prior to full project release. Such changes must be made in writing and must qualify as adaptive management in response to site specific conditions. The NWFWMD must demonstrate good-faith efforts to comply with restoration requirements and cannot invoke an alleged need for adaptive management as a pretext for non-compelling reasons. Likewise, changes made by the MBRT shall not prolong the project or cause an increase in the overall cost of restoration to the NWFWMD. Any changes at the Bank will be made with full consultation with, and approval by, the MBRT.

Management actions will be designed to facilitate the Bank's overall restoration goals and to respond to situations that could potentially jeopardize the project's success. Intensive management is to be avoided; however, the ability to introduce prescribed fire, plant target species, and to remove invasive plants if problems arise is essential to the long-term sustainability of the bank. A responsive management approach will correct problems identified during monitoring, prevent deterioration of wetland functions, and respond to unforeseen changes that may occur. Planting and eradication will be used as needed to insure compliance with success criteria. If problems are identified during implementation of the Bank, the NWFWMD shall take appropriate remedial actions for the Bank in coordination with the MBRT.

4.3 Provisions for Site Audits

Representatives of the MBRT will have full access to the Bank at any reasonable time to perform site inspections. Reasonable time, as determined by the MBRT, may depend on the nature of the concern being investigated. Regular inspections may be scheduled by the MBRT following restoration and management activities.

4.4 Site Security, Hunting, Fishing and Passive Recreation

The Bank shall be fenced, posted with appropriate signage and held secure. Limited public access, such as passive recreation, and restricted hunting and fishing that does not conflict with mitigation bank goals will be allowed. The Bank is under a Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Area designation. The FWC will provide site security, including random daily patrols throughout the year and enforcement of

adopted hunting and fishing rules and regulations and trespass. The NWFWMD has developed a hunting/fishing/public access plan for the Bank property (Exhibit 26). All management at the Bank, including that associated with fishing and hunting and other public access would be subservient to the mitigation goals of the Bank and the terms set forth in this MBI. Annually, the NWFWMD will evaluate public access to the site to determine if any modifications are warranted. If potential adverse impacts or conflicts are identified, the MBRT will be consulted and the public access plans revised as appropriate. Any adverse impacts to the restoration of the bank caused by public access will be immediately remediated, as far as is reasonably attainable. Mitigation bank goals trump all other uses of the Bank.

4.5 Success Criteria

Success criteria have been established for each of the 14 Management Units at the Bank (see Exhibit 16). The Bank or phase thereof shall be deemed successful when all success criteria are met.

4.6 Schedule of Credit Availability

In accordance with Federal Guidance, the number of wetland credits available for release (i.e., debiting) will generally be commensurate with the level of wetland and aquatic functions attained at the Bank at the time of debiting. Credit releases shall occur as specific tasks are met (Exhibit 20). Upon submittal of all appropriate documentation by the NWFWMD and subsequent approval by the Corps and FDEP in consultation with other MBRT members, the mitigation credits will become available for use by the NWFWMD. All credit releases shall be allocated as “hydric pine flatwoods,” “other forested wetlands,” and “herbaceous,” in the same ratio as the Bank’s total potential credits (41.25% hydric pine flatwoods, 48.96% hardwood forested wetlands, and 9.79% herbaceous).

4.7 Procedures for Credit Release

Whenever the NWFWMD believes that the Bank has achieved specified success criteria, it shall request a determination of success and credit release from the MBRT. For the FDEP, this request shall be in the form of a minor modification to the bank permit. For the Corps, the request shall be sent by mail to the Corps office in Panama City.

4.8 Conditions for Debiting of Bank Wetland Credits

Credits will be withdrawn from the mitigation bank through standard dredge and fill permitting. The NWFWMD (Sponsor of the Bank) will coordinate with the Corps, FDEP and the applicants for wetland impacts to provide information on the MSA and type of available credits. When and if dealing with non-FDOT applicants, the responsibility for demonstrating

that credits from the Bank constitute adequate and appropriate compensation for proposed impacts lies with the impact applicant.

If the impact is authorized, the Permittee shall provide an agreement for the transfer of mitigation credits from the bank. This agreement, accompanied by a current total of available credit, will be signed by the Permittee and the Sponsor (or representative) and be attached to the permit instrument.

Because the application of UMAM and WRAP resulted in very similar mitigation credit assessments, the US Army Corps may use either UMAM or WRAP in the debiting of credits from the Bank to facilitate state and federal use and concurrence in the debit process over the life of the bank. Under Florida Statutes, FDEP must use the UMAM methodology for determining mitigation bank credits and debits.

4.9 Ledger of Available Mitigation Credits

A ledger (Exhibit 27) of available mitigation credits will be maintained by the Sponsor and updated with each credit transfer or release. An updated copy of the ledger will be provided to the Corps and FDEP following each debit or release.

5.0 Maintenance and Monitoring

5.1 Management and Monitoring

The monitoring methodologies selected have been chosen to efficiently cover the areas monitored and to effectively record those aspects of site condition necessary to determine project success and ongoing management needs. A minimum level of monitoring will occur in all 14 Management Units (see Exhibit 16). Larger units and those with the most intensive restoration efforts (as opposed to passive preservation units) will receive more monitoring efforts. Detailed information, including specific management tasks, timeframes, specific monitoring protocols and targeted fire regime for each Management Unit (No. 1 – 14) is provided in Exhibit 16.

5.2 Reporting and Record Keeping

The NWFWMD shall submit annual reports to the Corps and FDEP until a determination of final success is made. These reports may include, yet are not limited to the following:

- Date permitted activities were begun or are anticipated to begin
- Brief description of work completed
- Maps indicating location of implemented mitigation such as:
    - Bridges built
    - Pine plantation harvested
    - “Regrowth” turkey oak removed

  - Areas burned
  - Areas roller chopped / hydro-axe
  - Erosion areas stabilized
- Description of any problems encountered and solutions tendered
- Description of work anticipated for coming year
- Description and dates of management activities
- Monitoring data and an assessment of the degree to which the Bank is attaining success

5.3 Contingency Plans

In the event the Bank fails to achieve success criteria, the NWFWMD shall take remedial action in consultation with the MBRT. Failure to achieve interim or final mitigation success criteria (as detailed in Exhibit 16) will result in the MBRT delaying release of mitigation credits.

5.4 Long-term Management Responsibilities

The Bank lands will be preserved and managed for ecological integrity by the NWFWMD in perpetuity. The NWFWMD will be directed by Ch. 62-342.850(2) F.A.C. "Land Use Restrictions on District Mitigation Banks. The District shall maintain the land within the Regional Mitigation Bank pursuant to the terms of the Mitigation Bank Permit. Any change in the land use shall require a modification of the Mitigation Bank Permit." The NWFWMD is required under Florida Statutes to manage lands for ecological integrity.

6.0 Other Provisions

6.1 Force Majeure Clause

The requirements of this permit shall not be enforceable against the Bank Sponsor or the letter of credit if the Bank Sponsor has been precluded from performing the conditions of the permit due to acts of God, rebellion, strikes, or natural disaster, including but not limited to hurricane, flood, or fire. In the event such occurrence causes substantial damage to the project to preclude completion of that particular phase of the project, FDEP/Corps shall release the balance of any letter of credit for such phase of the project. If the acts of war, acts of God, rebellion, strikes, or natural disaster, including but not limited to hurricane, flood, or fire do not preclude the Sponsor from performing the project without unreasonable expense, then it shall not be relieved of its obligations under this document.

6.2 Dispute Resolution

Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (60 F.R. 58605 et seq., November 28, 1995).

7.0 Signature Page: Sand Hill Lakes Mitigation Banking Instrument

US Army Corps of Engineers

12/22/06

Lawrence C. Evans — Date
Chief, Regulatory Division, Jacksonville District

US Environmental Protection Agency

Ronald J. Mikulak — Date
Chief, Wetlands Regulatory Section, Region IV

US Fish and Wildlife Service

Gail Carmody — Date
Project Leader, Panama City Ecological Services Office

Northwest Florida Water Management District

Douglas E. Barr — Date
Executive Director

7.0 Signature Page: Sand Hill Lakes Mitigation Banking Instrument

US Army Corps of Engineers

Lawrence C. Evans — Date
Chief, Regulatory Division, Jacksonville District

US Environmental Protection Agency

4/13/06

Ronald J. Mikulak — Date
Chief, Wetlands Regulatory Section, Region IV

US Fish and Wildlife Service

Gail Carmody — Date
Project Leader, Panama City Ecological Services Office

Northwest Florida Water Management District

Douglas E. Barr — Date
Executive Director

7.0 Signature Page: Saud Hill Lakes Mitigation Banking Instrument

US Army Corps of Engineers

Lawrence C. Evans — Date
Chief, Regulatory Division, Jacksonville District

US Environmental Protection Agency

Ronald J. Mikulak — Date
Chief, Wetlands Regulatory Section, Region IV

US Fish and Wildlife Service

Gail Carmody — 3/24/06
Gail Carmody — Date
Project Leader, Panama City Ecological Services Office

Northwest Florida Water Management District

Douglas E. Barr — Date
Executive Director

7.0 Signature Page

US Army Corps of Engineers

Lawrence C. Evans — Date
Chief, Regulatory Division, Jacksonville District

US Environmental Protection Agency

Ronald J. Mikulak — Date
Chief, Wetlands Regulatory Section, Region IV

US Fish and Wildlife Service

Gail Carmody — Date
Project Leader, Panama City Ecological Services Office

Northwest Florida Water Management District

Douglas E. Barr — Date
Executive Director

8.0 List of Exhibits

1. FDEP Permit
2. Summary B&W line-drawing maps regarding establishment of Bank
   -Location of Bank in Panhandle / directions to Bank
   -Mitigation service area (MSA)
   -Direction of surface water flows
   -Existing vegetation communities
   -Post-restoration vegetation communities
   -Mitigation activities
   -Bank "Management Unit" polygons
3. Map of 2004 DOQ of mitigation service area (MSA)
4. Conservation easement
5. Long-term cost estimates of Bank operation
6. Supporting maps / documents
   -Map of topography (USGS quad map)
   -Map of 1999 DOQ
   -Map of 1949 B&W aerials
   -Title insurance / legal description of Bank property
7. Map of easements at Bank
8. Map of adjacent development
9. Map of regional development
10. Map of groundwater recharge zones
11. Surface water flow directions
    -Map of presumed pre-1900 flow paths
    -Map of presumed pre-1950s flow paths
    -Map of post-1950s (current) flow paths
12. Land use / cover (FLUCCS)
    -Map of existing land use / cover (FLUCCS)
    -Map of post-restoration land use / cover (FLUCCS)
    -Descriptions of applicable FLUCCS codes
13. Map of Bank soils / Table of soils occurring at Bank
14. Map of erosion / soil stabilization sites
15. Map of roads at Bank
16. Management and monitoring plan for each Management Unit (Units 1 – 14)
17. Species (flora and fauna) at Bank
18. Florida UMAM scores and supporting maps
19. WRAP scores, supporting maps and mitigation site suitability index
20. Credit release schedule
21. Fire management plan
22. Beaver and feral hog management plan
23. Tables tracking polygon-by-polygon implementation of mitigation
24. Maps of structures (dams, bridges, road-fill removals)
25. Drawings (Black Pond dam, typicals of bridges, culverts, road-fill removal)
26. Security and public use plan
27. Credit ledger

Exhibit 1

MITIGATION BANK PERMIT

PERMITTEE:

Northwest Florida Water Management District
c/o Doug Barr
81 Water Management Drive
Havana, FL 32333-4712

Permit No.: 0227351-001
Issue Date: September 6, 2005
County: Washington
Project: Sand Hill Lakes Mitigation Bank

This mitigation bank permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.) and Chapter 62-342, Florida Administrative Code (F.A.C.). It constitutes all necessary permits under Part IV of Chapter 373, Florida Statutes (F.S.). It also constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341. Where applicable (such as activities in coastal counties), issuance of this permit also constitutes 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). 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 described below.

PROJECT DESCRIPTION:

On February 12, 2004, the Northwest Florida Water Management District (NWFWMD or District) applied to the Department of Environmental Protection for a permit/water quality certification to establish the Sand Hill Lakes Mitigation Bank (SHLMB) on a 2,155 acre parcel known as the Carter Tract. The project includes the restoration or enhancement and preservation of upland pine and oak sandhills, wetland flatwoods and savannah, bayhead slopes and cypress communities, as well as preserving the lakes and ponds on the property. Restoration and enhancement will be accomplished by the removal of inappropriate vegetation, establishment of growing season prescribed fires, stabilization of erosion areas and enhancement of hydrologic connections and patterns by repairing an existing water control structure, removing other structures, roads and impediments to flow, and installing bridges. Additionally, the long term management plan, including prescribed burning and limited access, is designed to maintain native habitat. The mitigation was assessed by the Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, F.A.C.) as having a potential of 298.4 credits.

PROJECT LOCATION:

This project is located approximately 5 miles north of S.R. 20 and 1 mile west of S.R. 77, in Sections 1, 11, and 12, Township 1 North, Range 15 West; Sections 5-8, and 17, Township 1 North, Range 14 West; Section 36, Township 2 North, Range 15 West; and Section 31, Township 2 North, Range 14 West, Washington County, Class III Waters (Figure 1) and has a mitigation service area incorporating portions of Washington, Bay, Holmes, Jackson, Calhoun and Walton counties (Figure 2).

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other

Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

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

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

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

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

a. A description of and cause of noncompliance; and
b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be

responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

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

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

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

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

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

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

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

SPECIFIC CONDITIONS:

General

1. The permittee is hereby advised that 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. Prior to initiation of earth moving activities, a systematic professional archaeological and historic survey shall be conducted with findings submitted to the Division of Historical Resources (DHR) for review and approval. If historical or archaeological artifacts are discovered at any time within the project site the permittee shall immediately notify the Bureau of Historic Preservation at (800) 847-7278, Division of Historical Resources, R. A. Gray Building, 500 S. Bronough St., Tallahassee, Florida 32399-0250.

Commencement requirements

3. At least 48 hours prior to commencement of the construction authorized by this permit, the permittee shall notify the Department in writing of this commencement.

4. Unless otherwise specified, all reports, notices 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 construction activities authorized by this permit until the following requirements are completed and the Department has been notified in writing:

a. A Qualified Mitigation Supervisor is retained as required in Specific Condition 7, and
b. A copy of the recorded clerk-of-the-court certified Conservation Easement has been received as required in Specific Condition 8.

6. This mitigation bank permit shall automatically expire five years from the date of issuance if the permittee has not recorded a conservation easement in accordance with the permit and Rule 62-342.750 (2) F.A.C. Except as provided above, this mitigation bank permit shall be perpetual unless revoked or modified.

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

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

b. Within 30 days of issuance of 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 Department must approve the QMS prior to commencement of the mitigation bank work. The Department shall complete such approval within 30 days of receipt of a written request from the permittee for QMS approval.

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 qualified QMS review the conditions of this permit that pertain to environmental improvement. The purpose of this review is to ascertain whether any criteria need to be modified to ensure ecological success. If the Department concurs that any proposed modifications would improve the likelihood of mitigation success, these changes shall be incorporated into this permit as a minor modification.

8. Protection and Preservation. Prior to construction or release of credits, the Sand Hill Lakes Mitigation Bank property 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 draft language is contained in the permit application file; however, prior to recording the conservation easement, the permittee shall provide the final draft of the easement, survey and title commitment to the Department for approval.

After recording the conservation easement, the permittee shall also provide the following:

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

Perimeter fencing, gates and signs shall be installed in accordance with the Public Recreation & Security Plan in Attachment A. Notwithstanding that the conservation easement is designed to preserve the site in its enhanced condition, limited public access shall be allowed for hunting, fishing, canoeing and other outdoor recreational activities, provided there is no ecological degradation from current condition. Some roads and structures are also allowed in support of these activities and site management. The public access, roads and structures, and security measures to regulate the conservation easement are set forth in Attachment A. Any deviation of public use management activities as described in the Attachment A and permitted herein that are not directly supporting the achievement or maintenance of the ecological goals set forth in Specific Condition 22, shall require a modification of this permit.

9. Financial Assurance. The permittee agrees to establish one or more mitigation fund accounts to receive payment from sales of mitigation credits and to ensure adequate funding for the implementation and long-term management of the bank, in accordance with Ch. 62-342.850, F.A.C. The cost-estimate for the mitigation and management activities defined in this permit are provided in Attachment B. All cost-estimates shall be reviewed and adjusted every two years in accordance with Rule 62-342.700 (11)(a) and (b) F.A.C.

Mitigation Activities

Existing topography and communities on the site are shown in Figures 3 and 4, respectively. Habitat enhancement relies on the successful completion of the following aspects of the mitigation and management plan, as depicted in Figures 5 - 7: harvesting pine plantation and removal of inappropriate vegetation, planting appropriate vegetation, fire management and hydrologic enhancement. The communities expected to result from these enhancements are shown in Figure 8, and described in Attachment C.

10. Community restoration.

a. Pine removal: Within the mitigation bank site, there are approximately 383 acres of upland pine plantation and 11.5 acres of wetland pine plantation, shown as Management Units 11 and 3, respectively, in Figure 7. Within one year after permit-issuance, all of the planted pine in Management Unit 11will be cut and removed using Best Management Practices (BMP) and any additional precautions to minimize disturbance of groundcover and non-target vegetation. In Management Unit 3, the planted slash pine will be thinned to 200 or fewer trees per acre. Some of the healthiest trees may remain as necessary to accomplish an appropriate density of pine for the target community and the success criteria in Specific Condition 22. Harvesting will occur during dry times using low-impact equipment so that there is minimum soil disturbance.

b. Brush reduction: In Management Unit 12, the permittee shall reduce densities of turkey oak and live oak trees and saplings to attain an average of no more than 150 trees per acre. This reduction in oak density will further enhance the groundcover and the effectiveness of fire management. Oaks will be cut at ground level by chainsaw and the stump sprayed with herbicide to prevent re-growth. Oak reduction shall also be conducted in portions of Management Unit 10 as directed by the QMS to facilitate fire management or enhance groundcover development. Additionally, within the wet flatwoods areas, Management Units 2 and 3, the standing biomass of shrubs (primarily titi, gallberry and fetterbush) and slash pine saplings shall be reduced by roller chopping, gyrotrak or hydro-axe in such a way as to diminish the density of shrubs to promote the carrying of fire and to enhance the growth of herbaceous groundcover. Vegetation reduction activities will be under the direction of the QMS.

c. Re-vegetation: A planting plan for each management unit is detailed in Attachment D, and key aspects of this plan are highlighted as follows. After the initial removal of the planted slash and sand pine in the sandhill community, Management Units 11 and 12, longleaf pine seedlings shall be planted in a random pattern to ensure adequate pine density to attain the success criteria in Specific Condition 22. Remnant wire grass cover currently occurs throughout these Management Units. Following planted pine removal or oak reduction, wire grass cover will be evaluated. Supplemental seeding and/or plantings of wire grass tubelings will occur in all areas where the wire grass cover is less than 25%. In areas where the cover of wire grass or other native herbaceous forbes and grasses is insufficient to carry fire, additional seeding of the uplands with 2-5 pounds of wire grass seed per acre will occur in year 5.

Road fill removal areas in Management Unit 9 will be planted with cypress and black gum saplings (similar proportion to the adjacent communities) at a rate of 300 trees per acre. Shrub and understory species are anticipated to naturally regenerate. However, if after two years, less than 50% cover of desirable understory is present, native wetland species

appropriate to the community will be planted. Following the removal of the Dykes Mill control structure, a mixture of cypress and black gum saplings will be planted in Management Unit 5 at a rate of 300 trees per acre. Herbaceous and shrub species are anticipated to naturally regenerate. However, if after two years, the native wetland understory cover is less than 50%, native wetland species appropriate to the community will be planted on 6' centers.

Finally, for the wetland flatwoods community, Management Units 2 and 3, a mixture of long leaf and slash pine seedlings will be planted within Management Unit 2 to ensure adequate pine density to attain the success criteria in Specific Condition 22, and wire grass tubelings will be planted on 3' centers in both Management Units. In addition, direct seeding of wet flatwood and wet prairie species will occur where desirable wet prairie and wet flatwood species cover is less than 40% after year 2. Direct seeding may occur over a period of 3 years depending on the availability of appropriate seed source.

11. Prescribed fire. The fire management plan to be used is detailed in Attachment E. If the appropriate climatic conditions exist, the initial burn shall be conducted within 6 months after permit issuance in a manner to optimize fuel management, enhancement of appropriate vegetation and eradication of nuisance or inappropriate woody shrubs. Thereafter, prescribed burns shall be conducted in accordance with the fire management plan during early summer growing season every 1-7 years (depending on fuel and climatic conditions) to promote the reproduction and establishment of desirable species. A prescribed fire will be defined as "successful" if at least 80% of the appropriate areas within a burn unit are burned.

12. Hydrologic enhancements. Hydrologic enhancements include the complete removal of 3 fill-road crossings, installation of bridges at 5 crossings and a culvert at 1 crossing, the removal or replacement of 2 failing water control structures, the remediation of 10 erosion areas and the stabilization of 1 boat launching site. Figures 5, 9 and 10, and the Construction Drawing Sheets 1-7 provide the location and detail for these activities, along with the following conditions:

a. Three fill-road crossings of wetland or stream connections shall be removed to restore natural contours and vegetation. The road fill and any culverts shall be excavated to attain natural grade or, when apparent, to the native soils. Fill material will be removed to an appropriate upland site. Care will be taken to leave a surface area that has appropriate soils for colonization by native plants and that blends with the surrounding areas. During construction and stabilization, silt fences and staked hay bales shall be used to minimize turbid run-off into waters of the State. In addition, the graded areas shall be stabilized and seeded with a season-appropriate, non-invasive annual grass to reduce potentially turbid runoff.

b. Five bridge crossings of wetland or stream connections shall be installed to maintain road crossings with minimal impact on natural contours and vegetation. The removal of

road fill and any culverts shall be executed in accordance with 12.a. above. Additional excavation and stabilization of stream banks necessary to install and stabilize a railcar bridge or equivalent shall be executed in accordance with the construction drawings and overseen by the QMS to insure minimal impact or turbid discharge into waters of the State. In addition, at one bridge crossing (site #10B on Figure 10), a culvert will be placed in an adjacent, currently impounded channel of the flow-way to accommodate higher flows and enhance sheet-flow.

c. The existing water control structures at Dykes Mill and Black Pond shall be removed in a manner to minimize turbid run-off and impacts to the associated wetland. During removal and stabilization, silt fences and turbidity barriers will be used. All water control structure debris will be removed from the wetland and disposed of in an approved upland dump site. At Dykes Mill Pond, the area shall be excavated and stabilized, as necessary, to achieve natural grade and restore un-impeded flows. At Black Pond, a new structure shall be constructed in accordance with BMPs and the attached construction drawings. The new structure will incorporate adjustable stop-logs to provide flexibility and facilitate management during construction and stabilization; however, the final elevation shall not exceed the existing elevation of 68.1' NGVD, unless authorized by a minor modification of this permit.

d. Ten sites where extensive erosion has occurred shall be stabilized and re-vegetated using techniques deemed appropriate by the QMS, as anticipated in the following table. Stabilization techniques may include contouring, use of railroad ties, and use of biodegradable fabrics.

EROSION STABILIZATION SITES					
Site	**Location**	**Acres**	**Severity**	**Proposed Work**	**Timeframe**
1	Cat Pond – Northwest	0.0272	Moderate	Re-vegetation; railroad ties / contouring may be necessary	Within 1 year of permit issue
2	Cat Pond – East	0.0371	Moderate	Re-vegetation; railroad ties / contouring may be necessary	"
3	Deep Edge / Little Deep Edge	0.1063	Moderate	Vehicle exclusion; Re-vegetation	"
4	Greenhead Branch	0.1927	Severe	Vehicle exclusion; Re-vegetation	"
5	Greenhead Crossing – South	0.2002	Severe	Vehicle exclusion; Re-vegetation	"
6	Little Deep Edge / Dykes Mill	0.0321	Low	Vehicle exclusion; Re-vegetation	"
7	Greenhead Crossing – North	0.2471	Moderate	Vehicle exclusion; Re-vegetation	"
8	Dykes Mill Dam	0.0741	Low	Vehicle exclusion; Re-vegetation	"
9	Power Line / Warmouth Ditch	0.0173	Severe	Re-vegetation	"
10	Boggy Branch	0.1161	Severe	Re-vegetation; railroad ties / contouring may be necessary	"
	TOTAL =	1.0502			

e. At fill and dam removal sites and erosion re-vegetation sites, planting will occur in accordance with Attachment D and under the direction of the QMS to ensure rapid stabilization of soils and progression to the success criteria in Specific Condition 22.

f. To ensure public safety and sediment stabilization, a 10 X 20 foot boat launch ramp will be installed at an existing dirt launching area on Dry Pond. The ramp will consist of interlocking concrete revetment installed at existing grade with revetment gaps and the launch-dirt road interface areas filled with crushed rock.

g. All culverts, internal fencing and rubbish, including silt fences (after graded areas are stabilized) shall be removed from the site to an appropriate disposal area.

h. Within 30 days after construction activities are successfully completed, the permittee shall submit a written statement of completion and certification and “as-built” engineering drawings. The certification and drawings shall be signed and sealed by an engineer registered in the State of Florida. 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. If any deviation from the approved drawings is 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. 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.

i. After submittal of the as-built report, the permittee shall arrange a post-construction site visit including the Department, the QMS, the construction engineer, if possible, and any MBRT members that are available to inspect the construction, review the permit drawings and conditions, and discuss the next management/compliance activities. The permittee shall submit a summary of the site visit for the file to facilitate future compliance reviews.

13. Turbidity controls. Best management practices for the control of turbidity and erosion shall be implemented during all work on site. All construction activities shall be conducted in accordance with state and federal NPDES regulations as set forth in Section 403.0885, F.S., Chapter 62-621.300(4), F.A.C. and an approved Stormwater Pollution Prevention Plan (SWPPP). Erosion and turbidity control measures shall be inspected regularly and turbidity monitored in accordance with Specific Condition 24 until work has been completed to ensure that water quality standards are not violated.

The graded areas shall be stabilized within 48 hours of attaining final grades and at any other time necessary to prevent erosion, siltation and turbid discharges in violation of state water quality standards.

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 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 of Submerged Lands and Environmental Resources at 850-245-8492, or local DEP District office within 24 hours of the time the exceedence is first detected.

14. Work schedule. Bank activities are expected to occur over a five to six year period. The sequence of activities and dates given below are relative estimates to be used as guidelines. Variations in this schedule may be authorized with concurrence of the Department upon written request.

Activity	Estimated Completion Date
Conservation Easement, QMS	2005
Fencing and signage of site.	Completed 3/05
Site security / law enforcement / internal gating / road closures	Ongoing
Stabilization of 10 erosion sites	2005/2006
Hydrologic enhancements -Replacement of Black Pond dam -Removal of Dykes Mill Pond dam -Removal of road-fill at (3) sites -Construction of (5) bridges	2005/2006
Removal of pine plantation and replanting with longleaf pine	2006
Removal of oak overgrowth and replanting with longleaf	2006
80% completion of initial growing-season burns in areas to be maintained as oak / pine community	2006
Initial thinning, roller chopping and fuel-reduction burns in hydric pine	2006
Supplemental wiregrass seeding if necessitated by onsite conditions.	2006
Installation of water level gages.	2005
Baseline assessments of vegetation.	2004/2005
Fire Management / Monitoring Year 1 / Annual Report preparation.	2007/2008(report)
Fire Management / Monitoring Year 2 / Annual Report preparation.	2008/2009(report)
Fire Management / Monitoring Year 3 / Annual Report preparation.	2009/2010(report)
Fire Management / Monitoring Year 4 / Annual Report preparation.	2010/2011(report)
Fire Management / Monitoring Year 5 / Final Report preparation.	2011/2012(report)
Perpetual ecological management.	2012+

Banking Operations

15. This permit authorizes the permittee to implement a mitigation bank. The permittee is obligated to perform certain actions described herein. A material part of the reasonable assurances the Department is relying upon in issuing this permit is that the permittee will timely and completely implement all of the conditions in this permit. Failure to timely and completely comply with all of the conditions of this permit may result in a revocation or suspension of the permit, and release and withdrawal of mitigation credits may be suspended.

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 withdrawn. Mitigation credits shall again be available for withdrawal if the permittee comes back into compliance.

17. Potential Credits. The total number of potential of credits was determined by the UMAM methodology, with calculations detailed in Attachments F. The 298.4 total potential credits for the bank are allocated as 29.2 "herbaceous" (wet prairie, marsh and pond), 123.1 "flatwoods" (wet flatwoods, longleaf/wiregrass) and 146.1 "mixed hardwood" (cypress, mixed wetland hardwood, oak sandhills). These credits will be released and withdrawn in accordance with Specific Conditions 19.

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

19. Credit Release Schedule. Mitigation credits will be released for use according to the following Credit Release Schedule table based on the timeframes anticipated in Specific Condition 14. The actual credit release will be determined by when the specified activity is completed or criteria achieved, which may be before or after the estimated date in Specific Condition 14.

All credit releases shall be allocated as "herbaceous", "flatwoods" and "mixed hardwoods" in the same ratio as the bank's total potential credits, according to the following table.

Upon completion of a credit release activity, the permittee may submit a minor modification request (with fee), along with supporting documentation, for the release of the appropriate number of credits. 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.

CREDIT RELEASE SCHEDULE*						
Task	Specific Conditions	% Credit Release	Flatwoods Credits	Mixed Hardwoods Credits	Herb-aceous Credits	Total Credits
CE, QMS, financial, fencing	7, 8, 9	25	30.8	36.5	7.3	74.6
-Hydrologic enhancements -Erosion stabilization	12 12	10	12.3	14.6	2.9	29.8
-Removal of upland pine plantation, oak, roller chop / hydro-axe -Planting longleaf pine	10 10	10	12.3	14.6	2.9	29.8
- successful completion of initial growing-season burns (80%)	11	10	12.3	14.6	2.9	29.8
1st year attainment of interim success criteria	23	5	6.2	7.3	1.4	14.9
2nd year attainment of interim success criteria	23	5	6.1	7.3	1.5	14.9
3rd year attainment of interim success criteria	23	10	12.3	14.6	2.9	29.8
4th year attainment of interim success criteria	23	10	12.3	14.6	2.9	29.8
Attainment of success criteria Final	22	15	18.5	22.0	4.5	45.0
		100	123.1	146.1	29.2	298.4

* Reflects slight adjustments for rounding

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 permits (or other applicable regulatory actions) that require mitigation credits from the Sand Hill Lakes Mitigation Bank,
b. the permit number, issue date and wetland resource 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 Sand Hill Lakes Mitigation Bank includes portions of Washington, Bay, Holmes, Jackson, Calhoun and Walton counties as shown in Figure 2. The MSA represents portions of the Choctawhatchee River and the St. Andrew Bay basins. The bank will be available to offset losses to freshwater herbaceous (wet prairie, marsh and pond), flatwoods (wet flatwoods, longleaf/wiregrass) and mixed hardwoods (cypress, mixed wetland hardwoods, oak sandhills) wetlands within the MSA, as determined on a case-by-case method by the reviewing agency of the impact proposal.

Success Criteria

22. Final Success. The goal of the mitigation is to convert, enhance or preserve the existing communities shown in Figure 4 into the target communities shown in Figure 8 and as described in Attachment C. The bank shall be deemed successful when all of the following criteria, in addition to the community descriptions, have been met for a period of at least one full year without intervention in the form of artificial manipulation of water levels, prescribed burns, eradication of undesirable vegetation or replanting of desirable vegetation.

a. Site-wide: Invasive exotic species cover is less than 1% cover in any one acre and nuisance native species are less than 5% cover in any one acre.

b. Preservation Areas (UMAM Areas III and IV): Inspections and monitoring shall indicate that conditions are not exhibiting signs of degradation or impact, and that appropriate management is being conducted to maintain high function in the long term.

c. Upland pine flatwoods/sandhills (UMAM Areas I and II):

i. Fire-adapted, native herbaceous species shall average at least 70% cover;
ii. Woody shrubs are limited to a maximum of 20% cover;
iii. Long leaf pine averages 100-200/ trees per acre. If long leaf pine densities are greater than 200 tree/acre, the pines shall be thinned to achieve the target stocking rate prior to a final determination of success.

c. Wet flatwoods (UMAM Areas V and VII):

i. Gallberry, Wax Myrtle, Titi, and other woody shrubs are no taller than the coppice sprouts that could have arisen from root crowns following the most recent fire.
ii. Fire-adapted, native, wet flatwoods/wet prairie herbaceous species shall average at least 55% cover;
iii. The average cover of graminoids is 60 % or greater of the herbaceous groundcover, and the collective cover of pioneer *Andropogon spp*. (except *A. liebmannii*) does not exceed 25% of the graminoids.
iv. Long leaf pine averages 100-200/ trees per acre. If long leaf pine densities are greater than 200 tree/acre, the pines shall be thinned to achieve the target stocking rate prior to a final determination of success.

d. Slough area and road removal areas (UMAM Area VI):

i. Non vegetated open water area shall be less than 20% of Management Unit 5 area.

ii. Non-nuisance, native wetland ground and shrub species are healthy, reproducing naturally and exhibiting the cover and diversity typical of the habitat as described in Attachment C and reference wetland data, such as found in Florida Natural Areas Inventory or other such literature. Groundcover and emergent species cover are 70% or greater (except in open water area) when canopy cover is less than 30% cover, due to immature trees. As canopy matures, lower percentage groundcover may be appropriate due to shading, and this decrease will not preclude a success determination.

iii. The desirable canopy tree cover is increasing annually, and determined to be successful when at least 30% canopy cover has been achieved, not including shrub species, such as titi.

iv. The plants are reproducing naturally, either by normal, healthy vegetative spread (in ways that would be normal for each wetland species) or though seedling establishment, growth and survival.

d. Erosion areas:

i. Soils are stabilized with no evidence of erosion.

ii. Non-nuisance, native vegetation is healthy, reproducing naturally and exhibiting the cover and diversity typical of the surrounding landscape.

e. Compliance:

i. All of the graded areas in the bank are stabilized.

ii. The bridge, dam and road-removal sites are appropriately vegetated with no signs of erosion, and have required no repairs beyond minor maintenance specified in Specific Condition 25 for at least three years.

iii. The dam at Black Pond is effectively regulating flow and water elevations have been stabilized at 68.1 ft. NGVD, with no signs of piping or erosion, and has required no repairs beyond minor maintenance specified in Specific Condition 25 for at least three years.

iv. The permittee has conducted inspections, monitoring and management, including the appropriate schedule of prescribed burns, as defined herein and in the attachments, and has submitted all required reports to the satisfaction of the Department.

f. UMAM Assessment: Utilizing the monitoring data and reports and in conjunction with the permittee and available members of the Mitigation Bank Review Team, the Department shall inspect the site and conduct a UMAM analysis to determine that, under the permitted maintenance requirements, all polygons have reached, or are expected to reach and maintain, the criteria required to attain the “with bank” scores, as shown in Attachment F, that were used to determine the potential credits for the bank.

23. Interim release criteria. Progressive environmental enhancement or trending toward success provides environmental lift for which credit may be released incrementally prior to achieving all the final success criteria delineated in Specific Condition 22. Thirty percent (~89 credits) of the total potential credits are reserved for interim releases as indicated in Specific Condition 19. Credits will be released annually whenever representative inspection and monitoring data provided in Annual Reports, as verified by a Department site inspection, indicate that:

a. There is less than 2% exotic vegetation cover per acre;
b. Preservation areas are maintaining or improving in function;
c. Upland pine flatwoods and wet flatwoods are attaining success criteria or are measurably increasing in herbaceous groundcover and decreasing in woody vegetation cover;
d. Targeted oaks have been effectively reduced and are showing minimal re-growth;
e. Adequate numbers of planted pines necessary to reach success are surviving and healthy, but do not occur in an abundance that has a negative impact on the groundcover;
f. Planted slough area (UMAM VI) has enough healthy trees per acre (except the allowable 20% area for open water) to attain success and which, collectively, demonstrate annual measurable growth beginning 2 years after planting;
g. Prescribed burns have been conducted in accordance with the season and schedule described in Attachment E;
h. Erosion and road removal areas are stabilized and have increasing vegetation cover;
i. The project is in compliance with this permit.

24. Turbidity Monitoring. Monitoring during construction activities is intended to ensure compliance with best management practices, to minimize wetland impacts and to ensure that there are no turbidity plumes or violations of state water quality standards.

Turbidity monitoring shall be conducted daily during construction. The background monitoring site shall be upstream of the construction area, in the same waterbody, outside of the influence of construction activity. The compliance monitoring site shall be within 10 feet downstream of the turbidity containment area within any visible plume or in the main channel of the waterbody. Turbidity monitoring data shall be compiled and submitted to the Department on a weekly basis. It is the responsibility of the permittee to rectify any problems found and to inform the Department by phone, FAX or e-mail (with follow-up written memo) of these maintenance activities, according to Specific Condition 13.

25. Management and Maintenance. Monitoring data, observation and the QMS's professional judgement will dictate the type and frequency of management activities. Regular bank management requirements are summarized in the following table.

UMAM	Management Units	Community Description	Long Term Management Requirements
I	12	Sandhill Enhancement by long-leaf planting	Annual monitoring for invasive exotic and nuisance vegetation species, pine/oak/woody shrub management (fire, manual removal and/or herbicide). Supplemental planting, as necessary. Fire 1-5 years.
II	11	Sandhill Restoration from Plantation	Annual monitoring for invasive exotic and nuisance vegetation species, pine/oak/woody shrub management (fire, manual removal and/or herbicide). Supplemental planting, as necessary. Fire 1-3 years.
III	10	Oak/Sandhill Preservation	Annual monitoring for invasive exotic and nuisance vegetation species. Fire 3-7 years. Oak thinning as necessary to promote groundcover.
IV	1, 4, 6, 7, 8, 13, 14	Pond, marsh and Cypress/Gum Preservation	Annual monitoring for signs of degradation and for invasive exotic and nuisance vegetation species presence (manual removal and/or herbicide application).
V	2	Wet flatwoods Restoration from Plantation	Annual monitoring for invasive exotic and nuisance vegetation species, pine/woody shrub management (fire, manual removal and/or herbicide). Supplemental planting, as necessary. Fire 3-5 years.
VI	5, 9	Cypress/Gum Restoration	Annual monitoring for invasive exotic/nuisance species presence (manual removal and/or herbicide). Supplemental planting, as necessary.
VII	3	Wet flatwoods Enhancement	Annual monitoring for invasive exotic and nuisance vegetation species, pine/woody shrub management (fire, manual removal and/or herbicide). Supplemental planting, as necessary. Fire 1-3 years.

The following management activities shall also be required to achieve success and in the long term to ensure that success criteria are maintained:

a. Conducting prescribed burns in accordance w/ attached plan at a frequency and season optimal to promote desirable vegetation and wildlife, with a minimum of one growing season burn every 5 years in pine communities and every 7 years in oak sandhill communities;
b. Conducting exotic and nuisance plant control, as necessary, to avoid infestation of these species. At no time shall the cover of these species exceed 5% in any one acre prior to remedial eradication activities;
c. Quarterly inspection of the property for signs of trespassing, poaching or dumping and to ensure that the structures and security features are in good working order;
d. Reporting and timely maintenance, restoration, stabilization or repair of any damaged structures, fencing, equipment, roads or erosion areas identified in the quarterly inspection;
e. Removing feral/exotic animals that threaten the mitigation activities or success, such as feral hogs;
f. Annually collecting hunting, fishing and public use data, assessing the information to determine if such use is having a negative impact on wildlife or mitigation bank goals, and revising the public use criteria, as necessary, to prevent such impacts; and
g. Submitting an annual end-of-the-year report summarizing the activities conducted during the year and describing the current conditions of the property.

26. Monitoring. Qualitative and quantitative monitoring of vegetation and community structure shall be required until the bank is determined to have achieved the success criteria in Specific Condition 22. The Department has reviewed the proposed monitoring plan in Attachment H. This plan has been determined to be substantively adequate to evaluate progress toward restoration goals, identify potential roadblocks or impacts 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 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. The Department shall complete such approval within 60 days of receipt of a written submittal of the final monitoring plan. This plan shall include the following attributes:

a. a figure showing all sampling locations;
b. a table indicating all sampling frequencies and/or dates;
c. a detailed description of all sampling methodologies to be utilized;
d. samples of field 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 utilizing the collected data. This section shall include:

f. proposed reporting format;
g. sample data summary tables and graphs;
h. proposed analytical assessments and discussion contents; and
i. a success/progress assessment.

27. Progress Reports. Beginning the first June or December after permit issuance and every 6 months thereafter until final success determination, the permittee shall submit semi-annual status reports or letters containing the following information regarding the project:

a. Date permitted activities were begun or are anticipated to begin;
b. Brief description and extent of work completed since the previous report or since permit was issued;
c. Copies of permit drawings indicating areas where work has been completed;
d. A description of problems encountered and solutions undertaken;
e. A brief description of the work and/or site management the permittee anticipates commencing, continuing or completing in the next six months; and
f. Site management undertaken, including type of management and dates each type was undertaken.

28. Annual Reports. The Annual Report is a summary of the yearly monitoring for success and an assessment of the degree to which the bank is attaining success. This report shall be submitted after completion of the vegetation monitoring (conducted at end of growing season) and shall be prepared according to the format required and approved in accordance with Specific Condition 26. This report is due by January 1 and shall be submitted annually until the Bank site has been determined to be successful. The permitee may synchronize the reporting required in

Specific Condition 27 such that alternate progress reports may be included as a section in the Annual Report. 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 previous Annual Reports, including, as appropriate, timeline graphics;
b. a list of each success criterion 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 management 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.

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

List of Attachments:
Attachment A - Public Recreation and Security Plan
Attachment B - Cost Estimate
Attachment C - Community Descriptions
Attachment D - Planting Plan
Attachment E - Fire Management Plan
Attachment F - UMAM Assessment
Attachment G - Ledger
Attachment H - Monitoring Plan

Recommended by: _____
___ pages attached.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

_____
Richard W. Cantrell
Deputy Director
Division of Water Resource Management

FILING AND ACKNOWLEDGMENT: FILED, on this date, pursuant to 120.52(9), F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

_____
Clerk Date

Figure 1 - Location Map

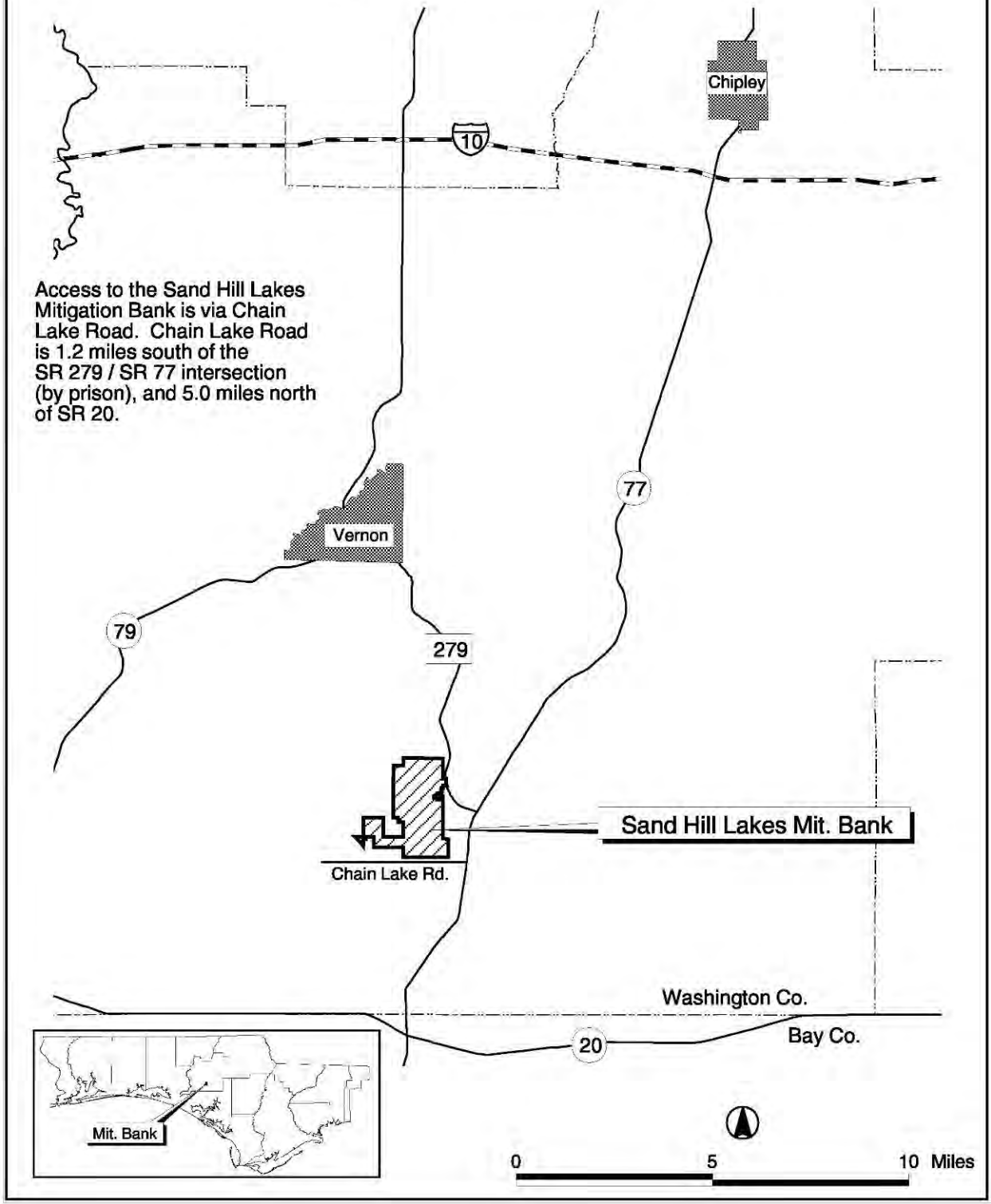


Figure 2 - Mitigation Service Area

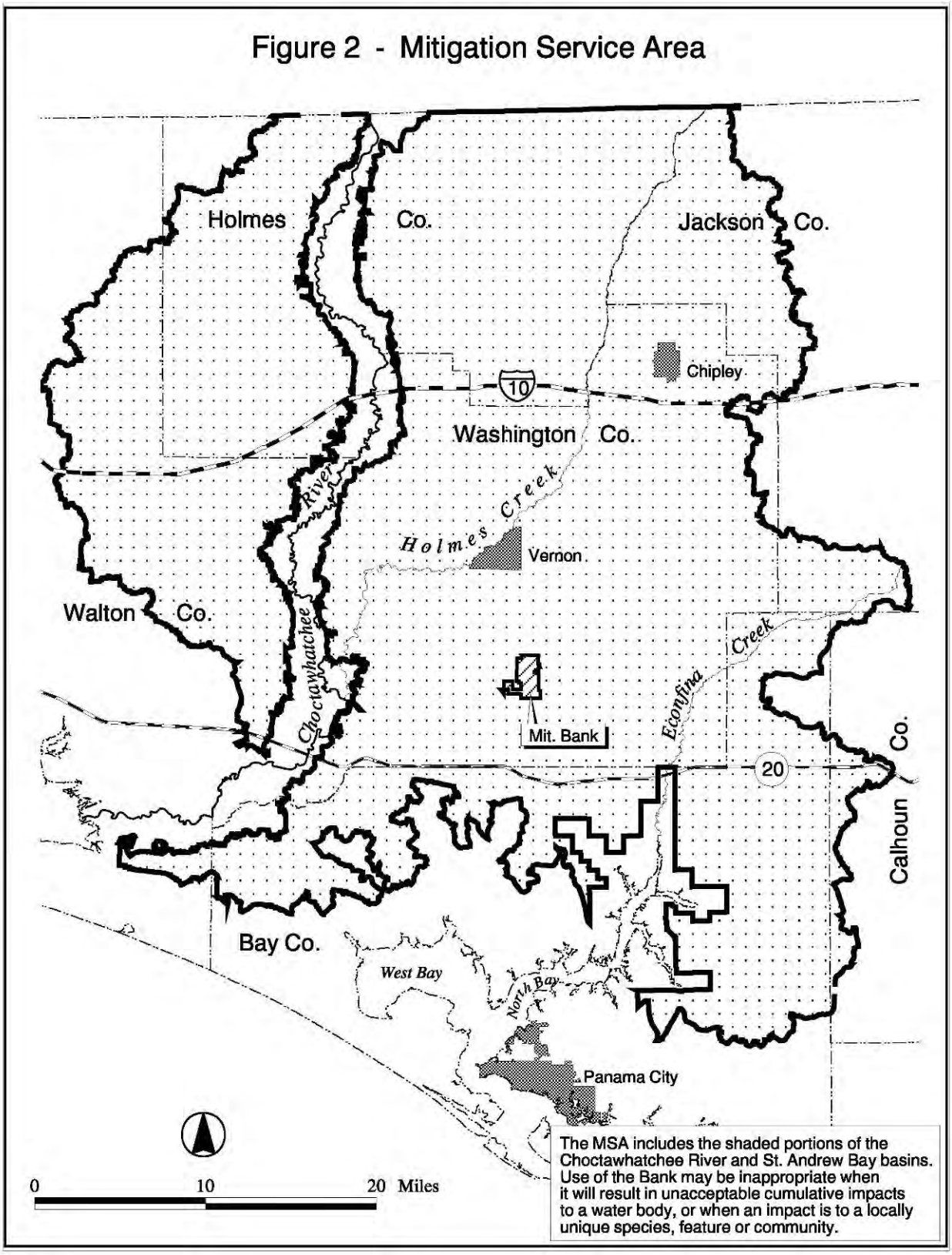


Figure 3 - USGS Quad Map

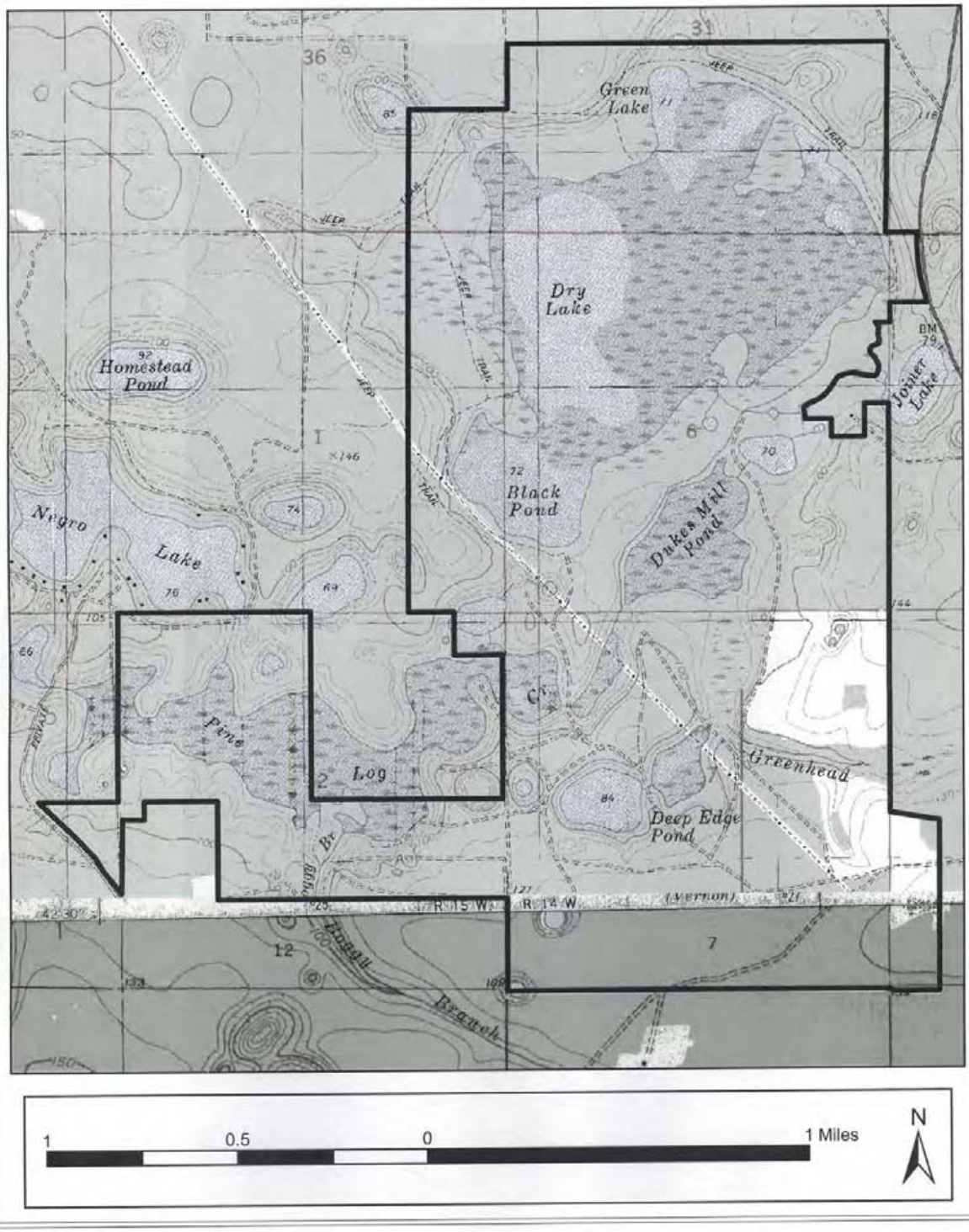


Figure 4 - Existing FLUCCS

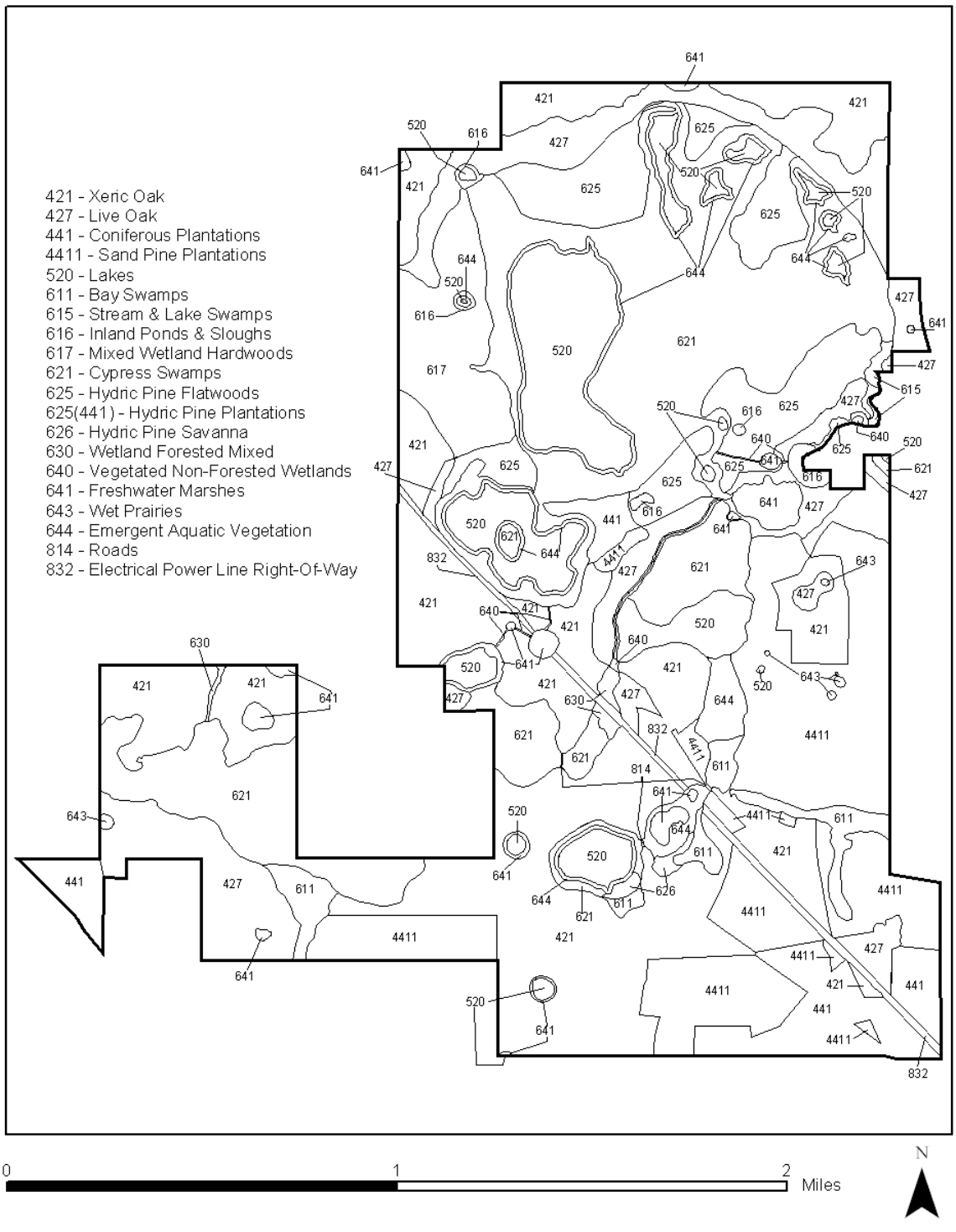


Figure 5 - Hydrologic Features and Activities

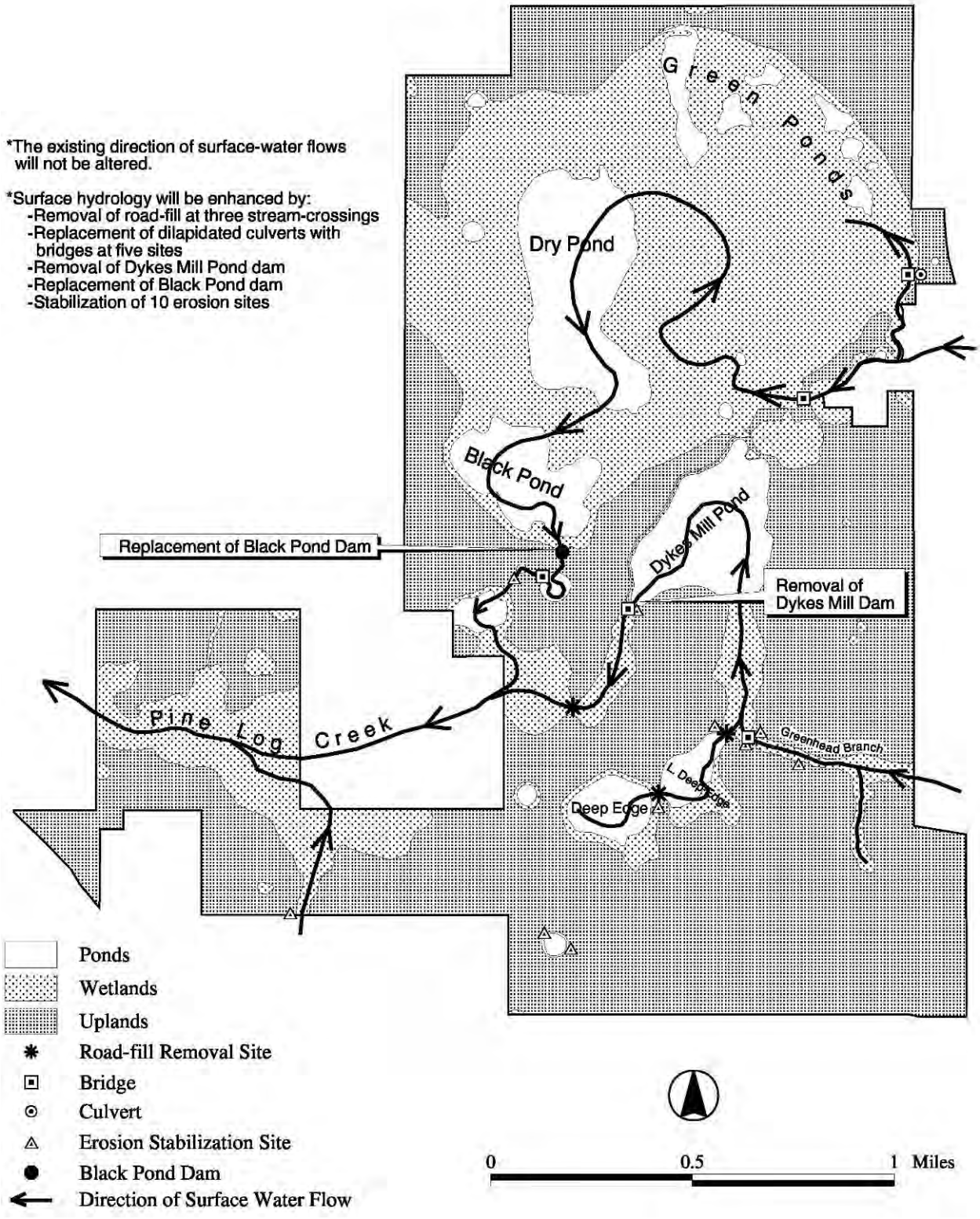


Figure 6 - Mitigation Activities

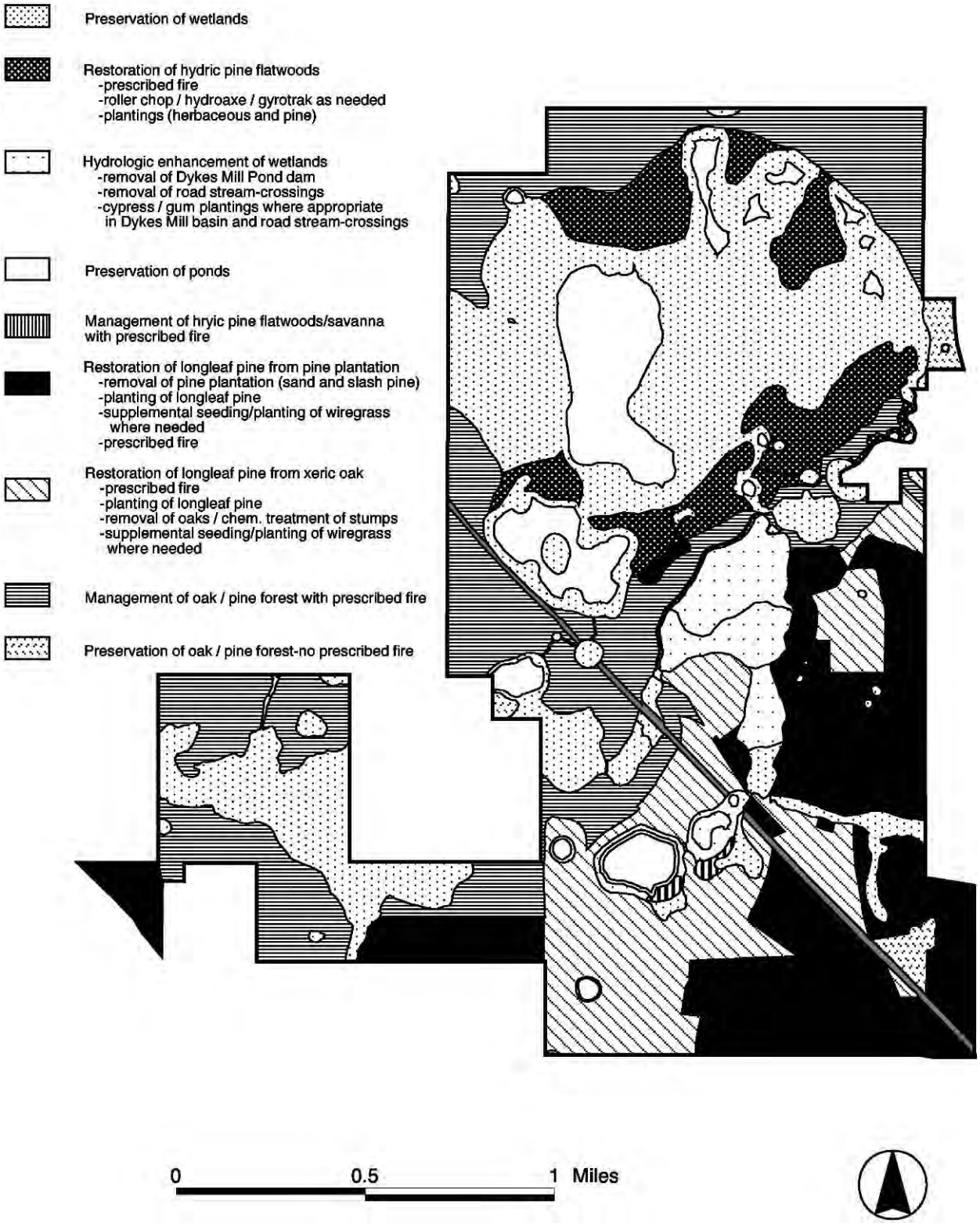


Figure 7 - Management Units

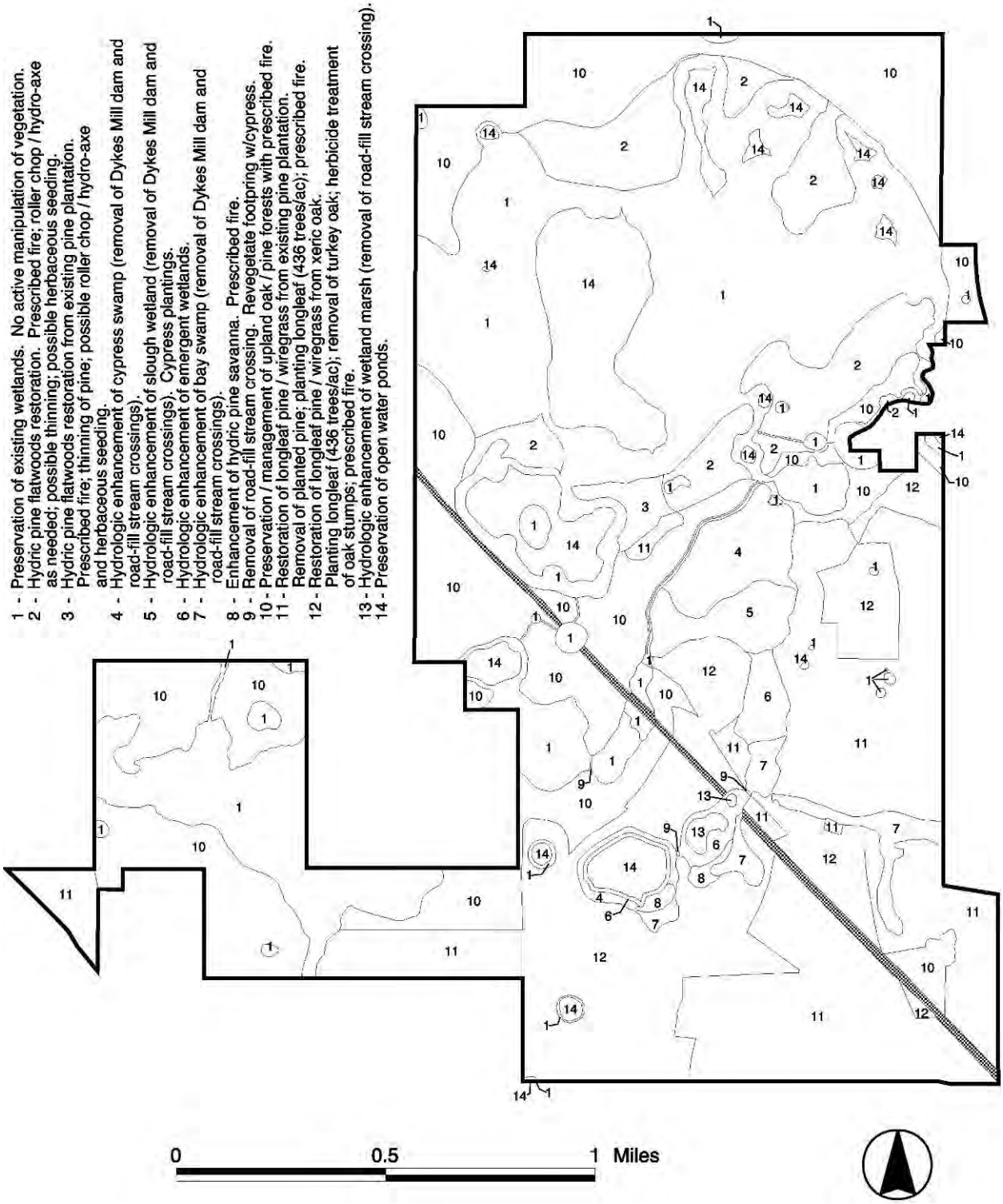


Figure 8 - Post-restoration FLUCCS

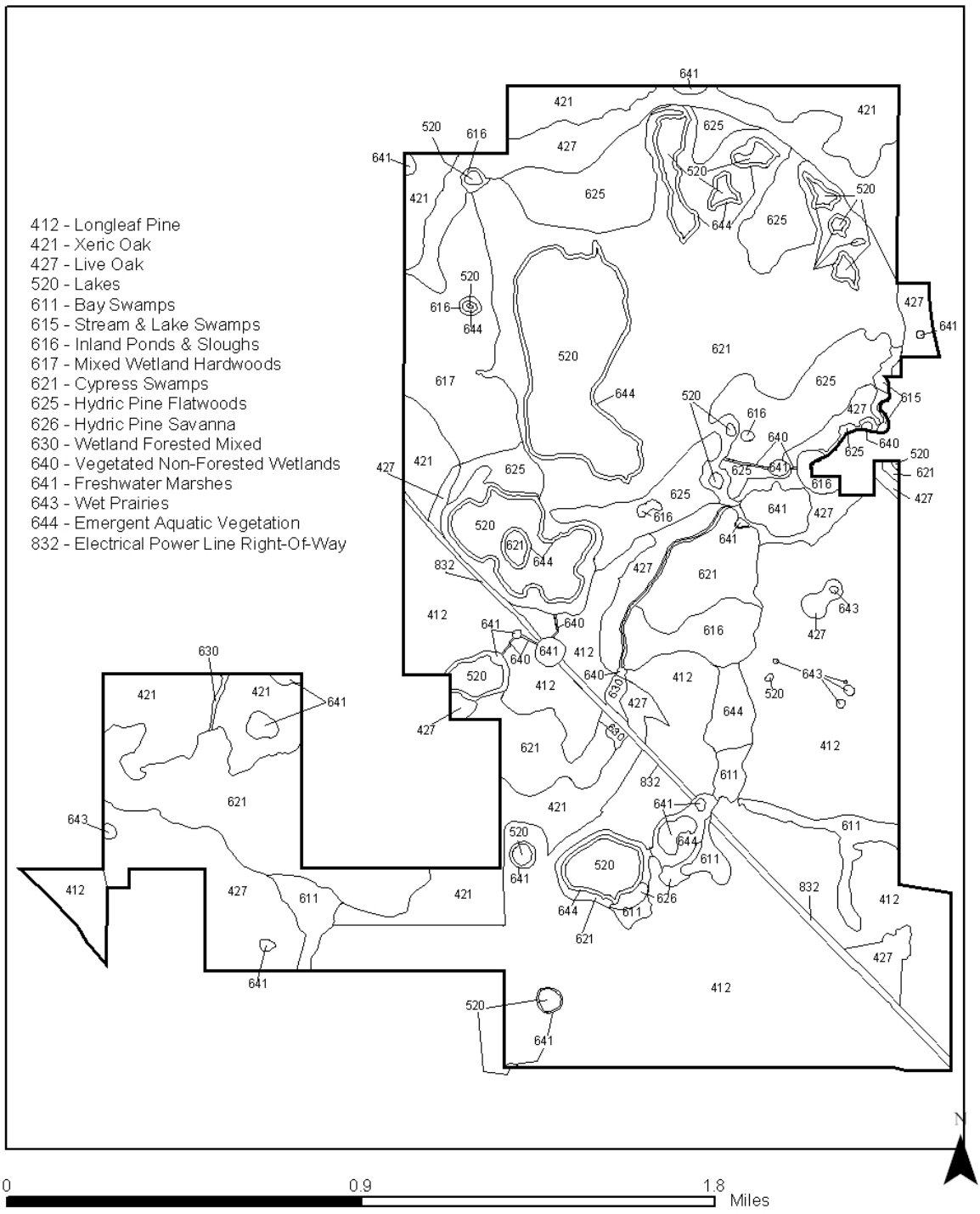


Figure 9 - Erosion Stabilization Sites

Site	Acres	Sq. Ft.
1	0.0272	1,200
2	0.0371	1,600
3	0.1063	4,600
4	0.1927	8,400
5	0.2002	8,700
6	0.0321	1,400
7	0.2471	10,800
8	0.0741	3,200
9	0.0173	800
10	0.1161	5,000

	1.0502	

Stabilization methods may include vehicle exclusion, revegetation, low berms and railroad ties.

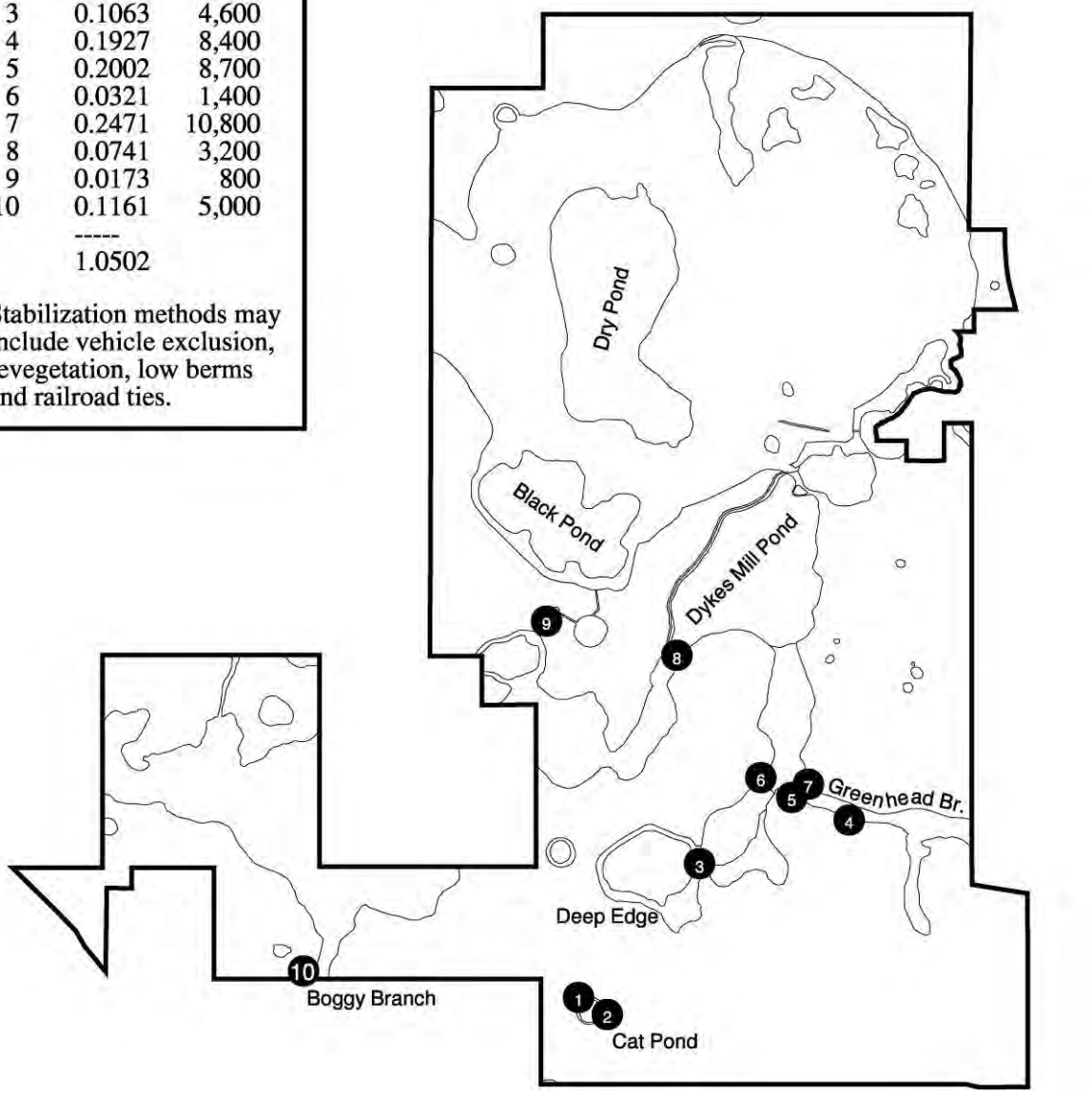
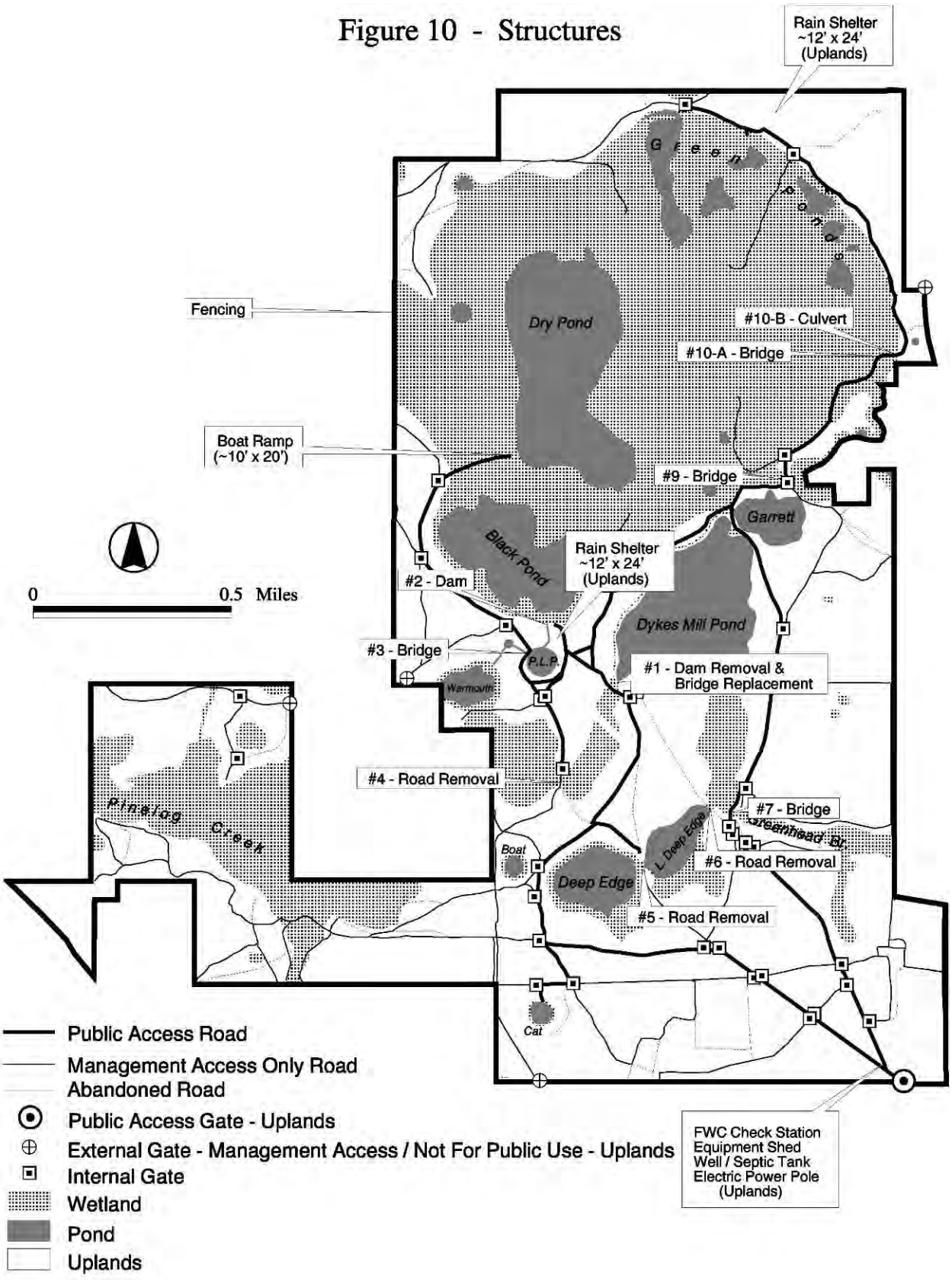


Figure 10 - Structures

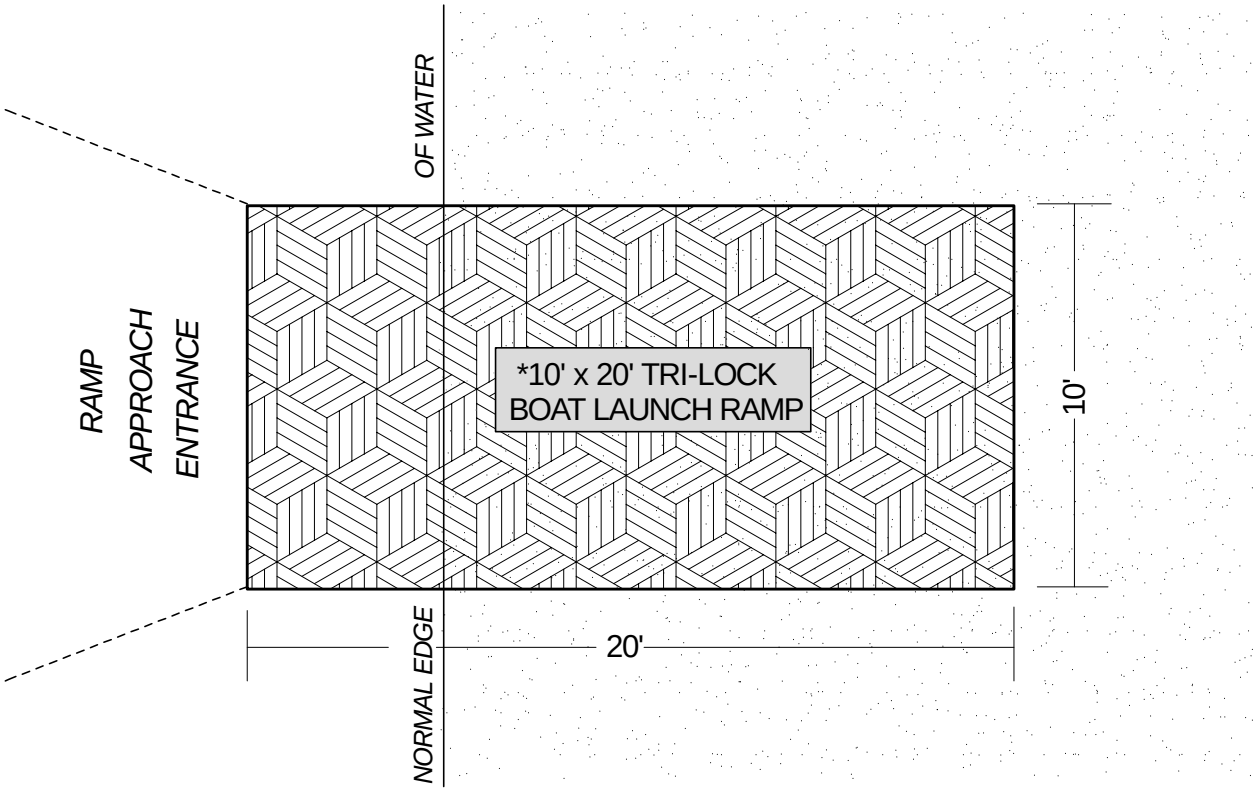


CONSTRUCTION DRAWINGS SHEETS 1-7

SHEET 1 ..... Boat Ramp
SHEET 2 ..... Typical Bridge Design
SHEET 3 ..... Typical Road Cut
SHEET 4 ..... Culvert Details
SHEET 5 ..... Black Pond Weir – Front Oblique
SHEET 6 ..... Black Pond Weir – Plan View
SHEET 7 ..... Black Pond Weir – Cross Section

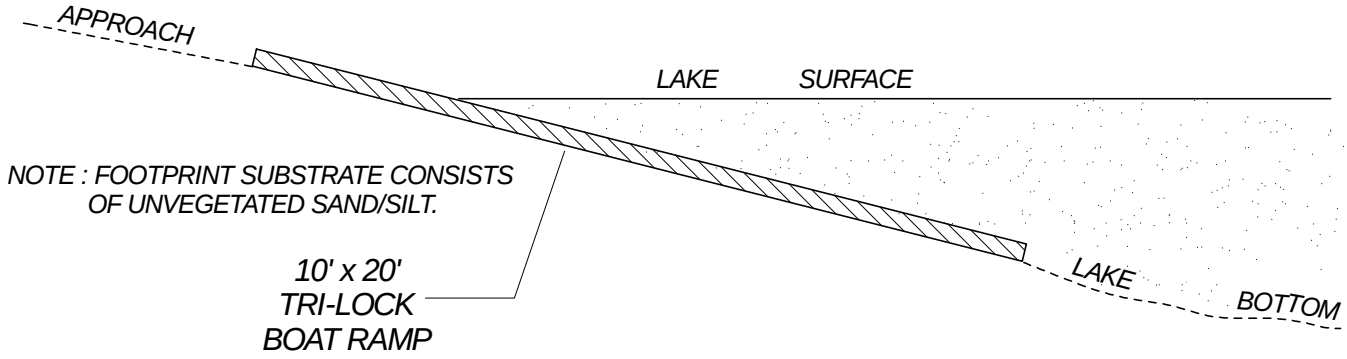
See "Figure 10 – Structures" for location of above detail drawings.

BOAT RAMP



PLAN VIEW

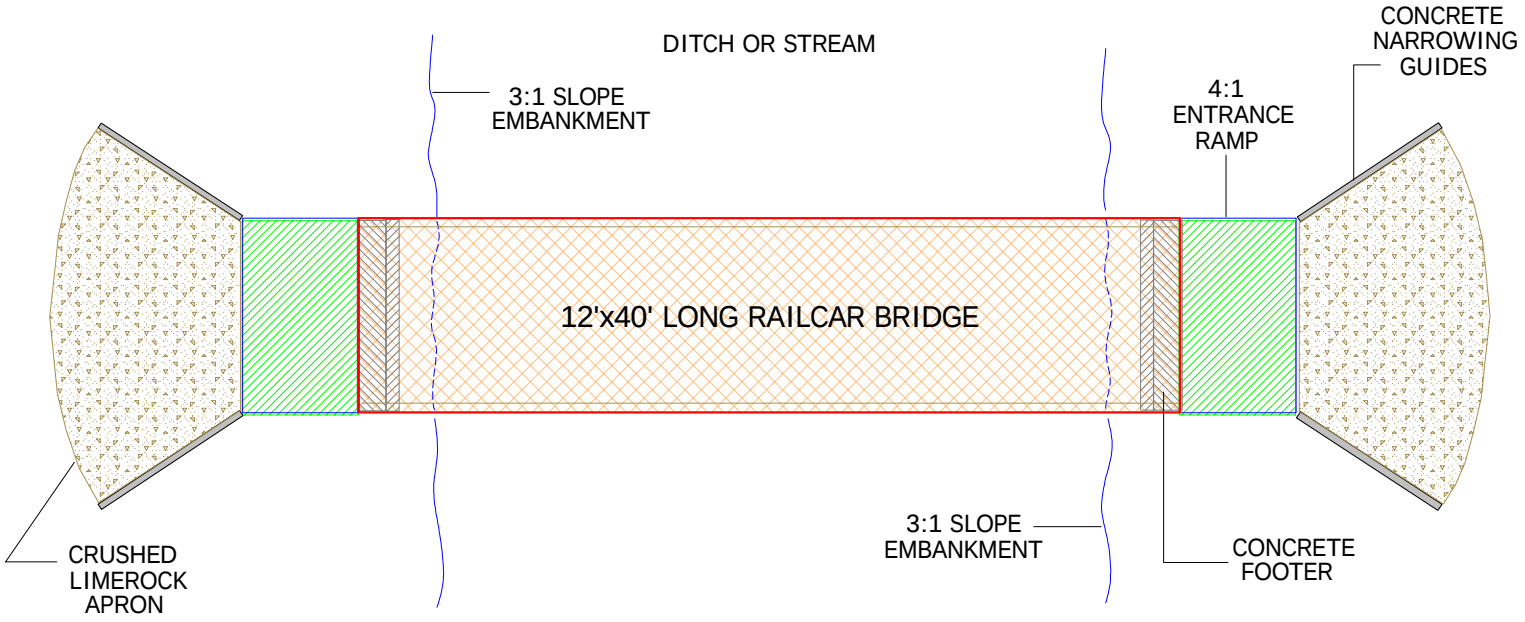
**TRI-LOCK (ARTICULATED CONCRETE REVETMENT) OR SIMILAR MATERIAL.*
USE CRUSHED ROCK TO BACKFILL VOIDS IN CONCRETE BLOCKS.



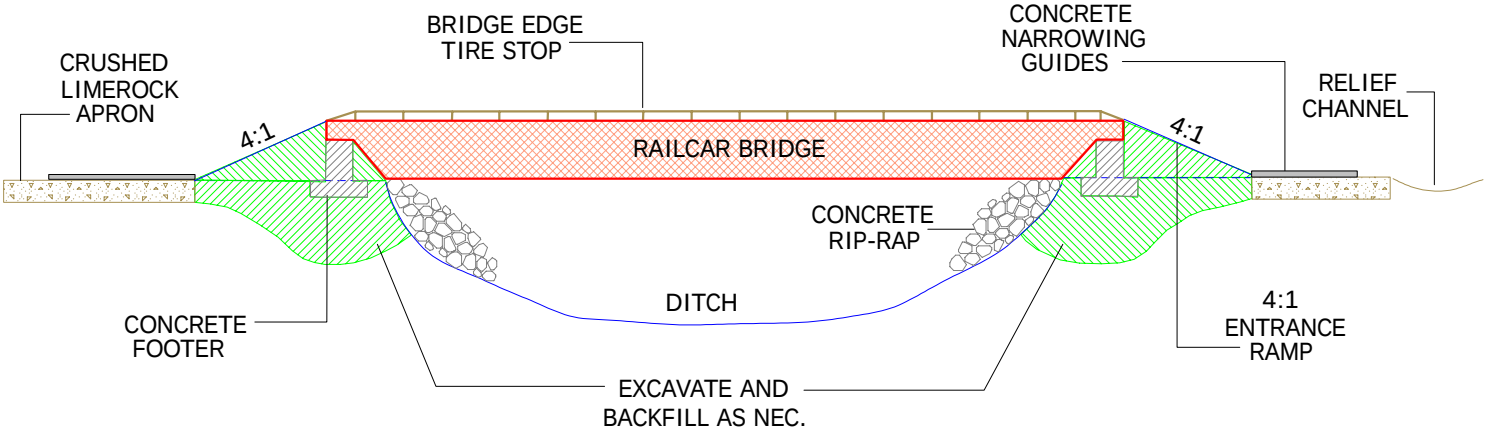
PROFILE

TYPICAL BRIDGE DESIGN

NOT TO SCALE



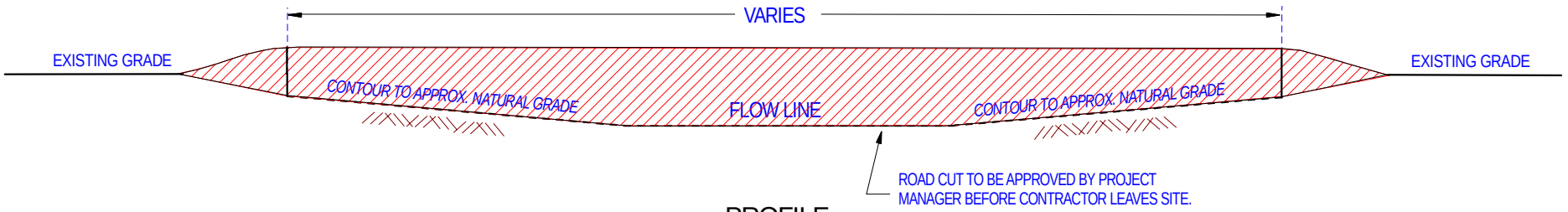
PLAN VIEW



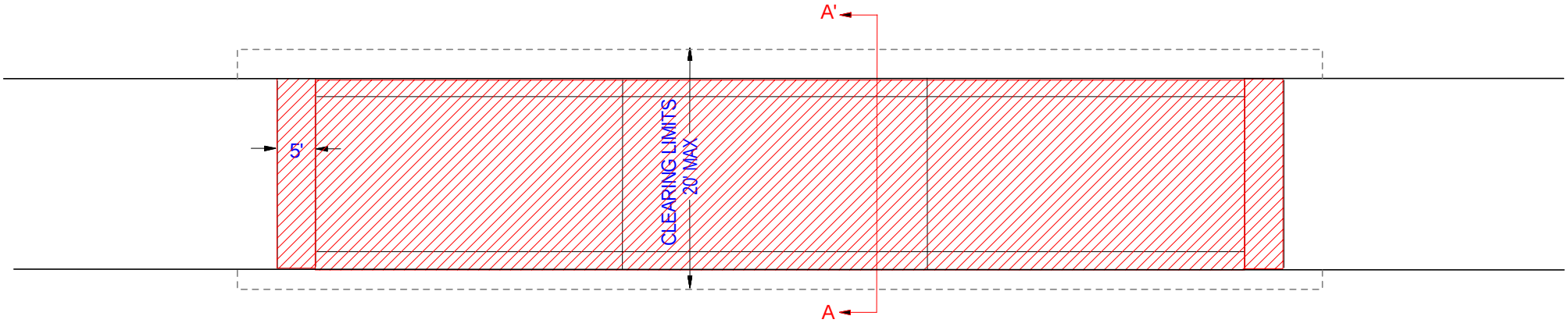
PROFILE VIEW

TYPICAL ROAD CUT

(NOT TO SCALE)



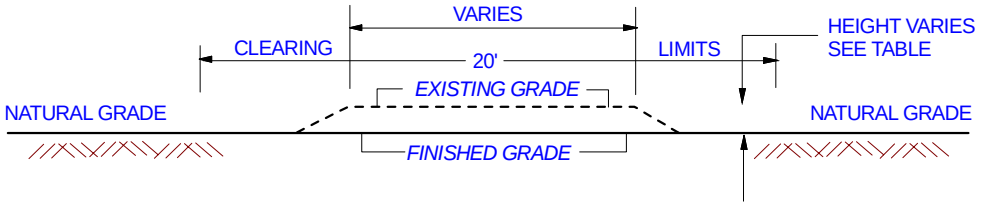
PROFILE



PLAN VIEW

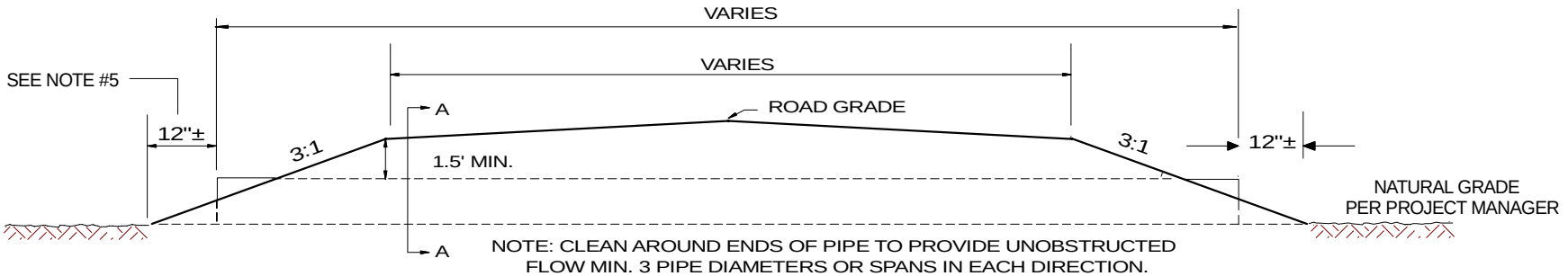
NOTES:

1. REMOVED MATERIAL TO BE PLACED IN ERODING UPLANDS OR OTHER APPROPRIATE UPLAND DISPOSAL SITE.
2. ALL MATERIALS TO BE PROVIDED FROM SITE.
3. VEGETATION ALONG SIDES OF ROAD TO BE REMOVED BY CONTRACTOR WHERE NECESSARY.
4. REPLANT FORMER ROAD FOOT PRINT TO MATCH SURROUNDING COMMUNITY.

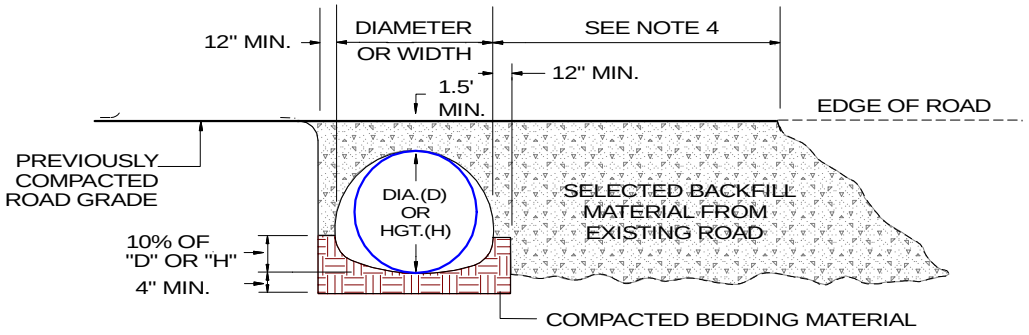


SECTION A-A'

CULVERT INSTALLATION

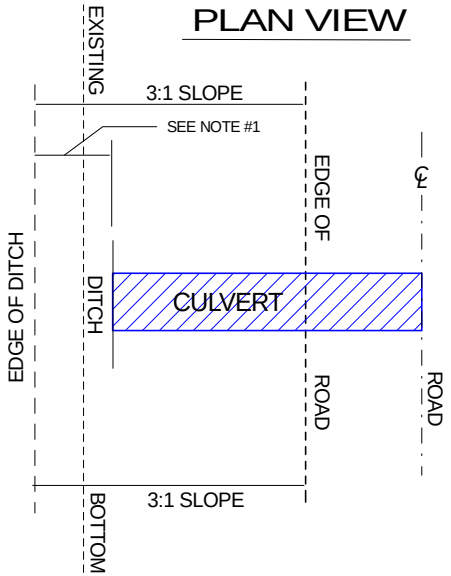


PROFILE



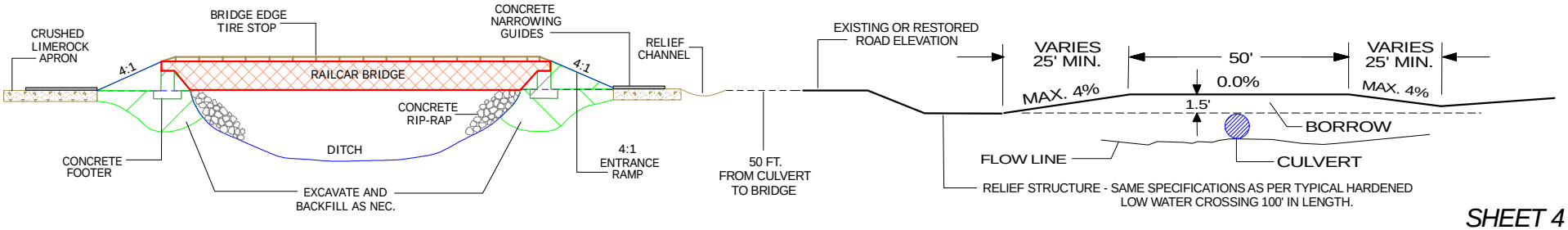
SECTION A-A

PLAN VIEW



RAILCAR BRIDGE (10A) AND CULVERT (10B) INSTALLATION

ROAD PROFILE
AT BRIDGE & CULVERT LOCATION

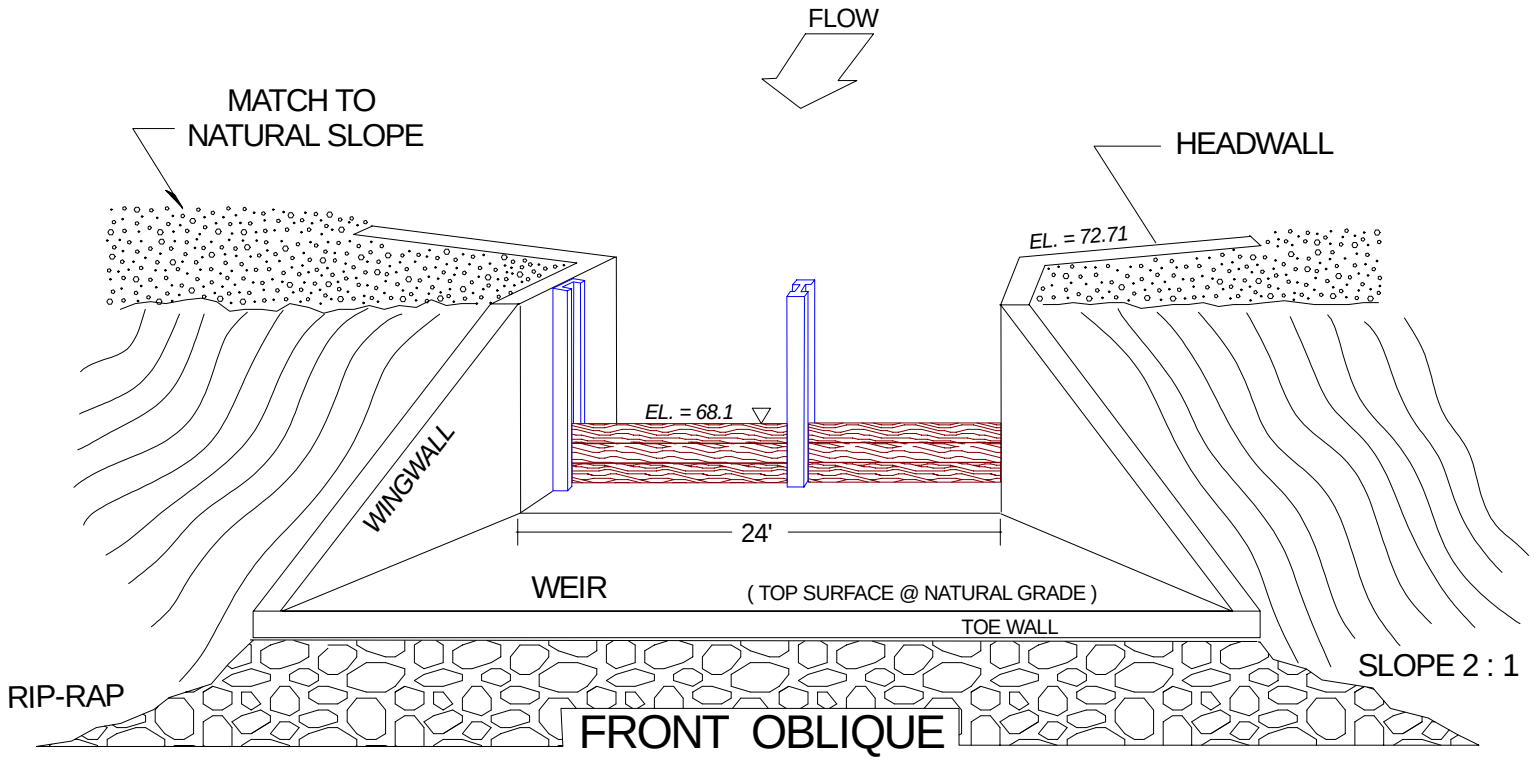


BLACK POND

WEIR DETAIL

N. T. S.

ALL MEASUREMENTS ARE APPROXIMATE



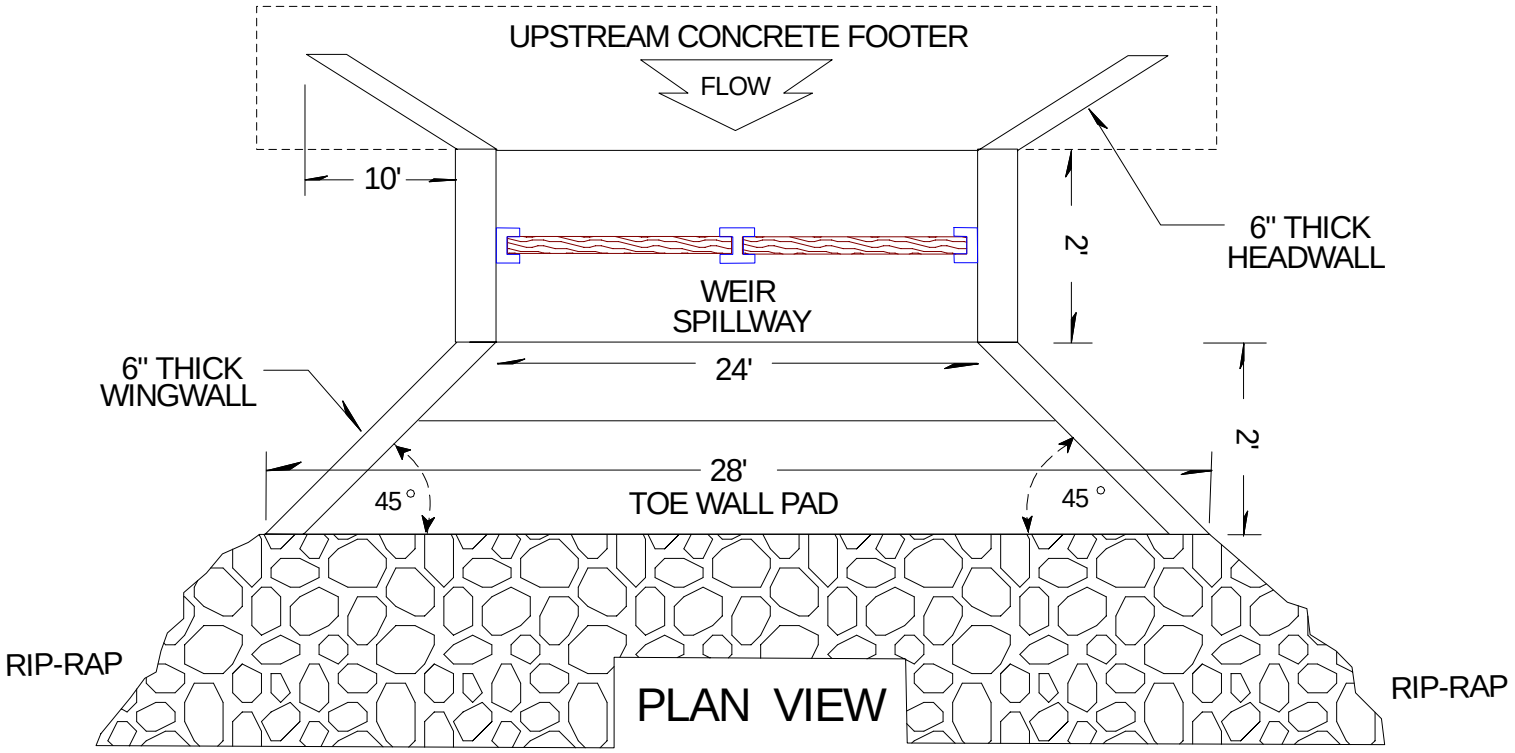
ALL ELEVATIONS IN NGVD 1929

BLACK POND

WEIR DETAIL

N. T. S.

ALL MEASUREMENTS ARE APPROXIMATE

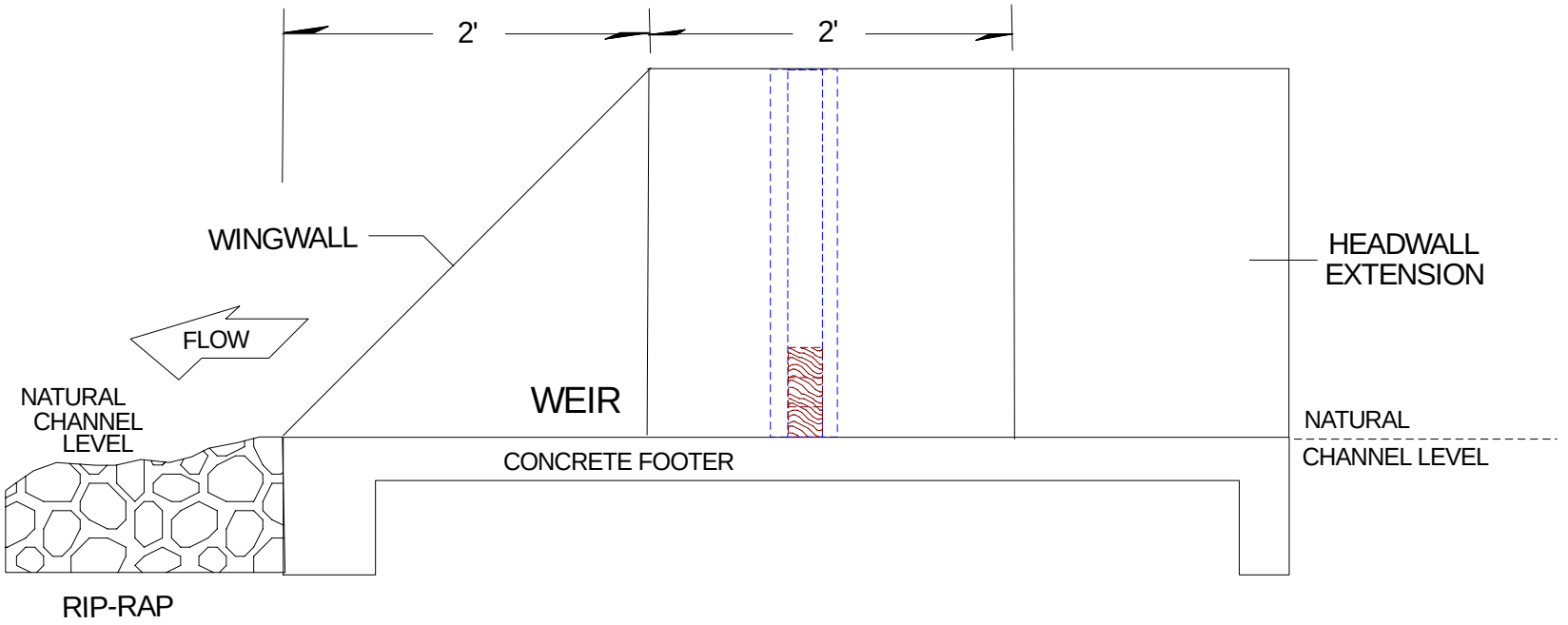


BLACK POND

WEIR DETAIL

N. T. S.

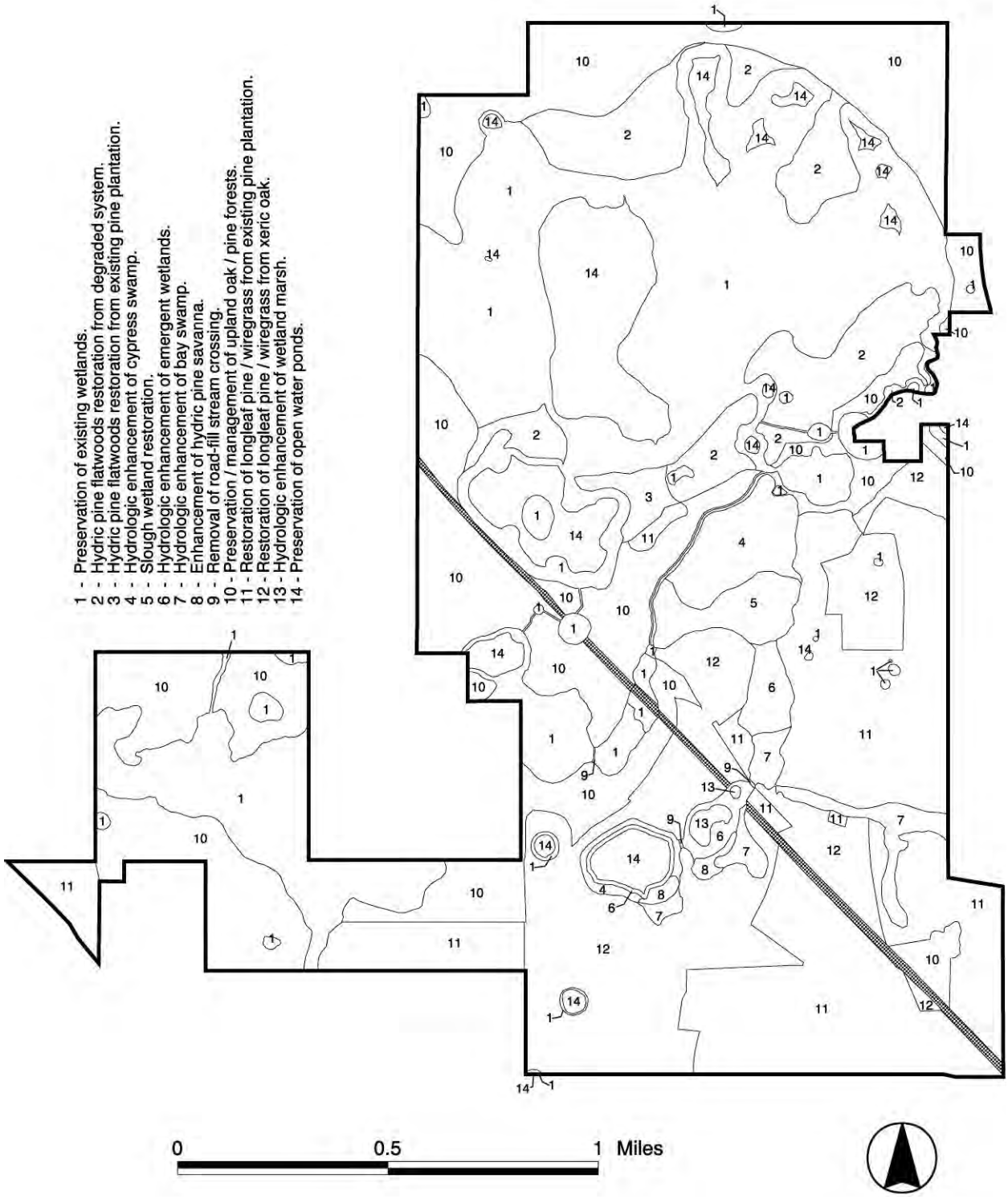
ALL MEASUREMENTS ARE APPROXIMATE



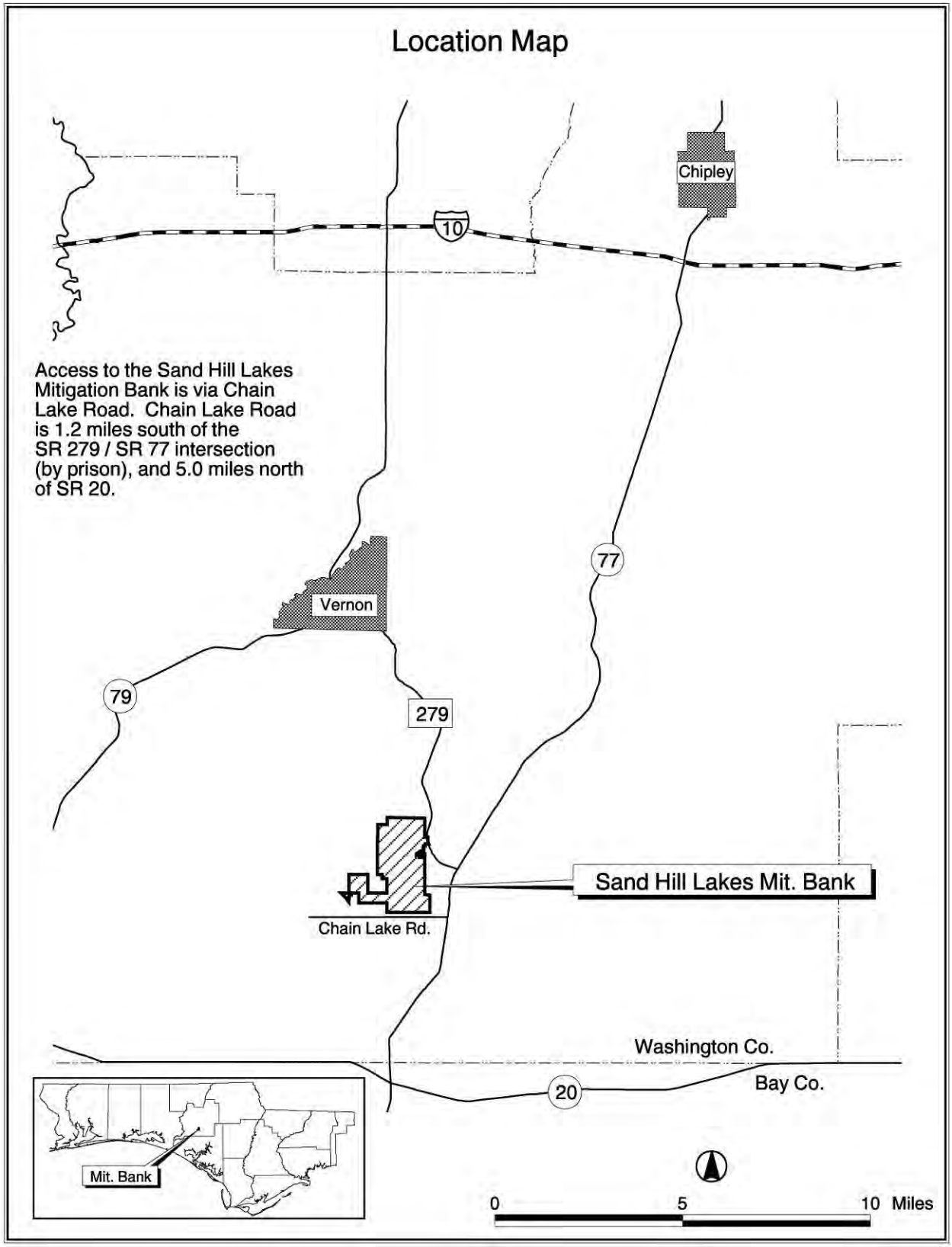
CROSS - SECTION

Exhibit 2

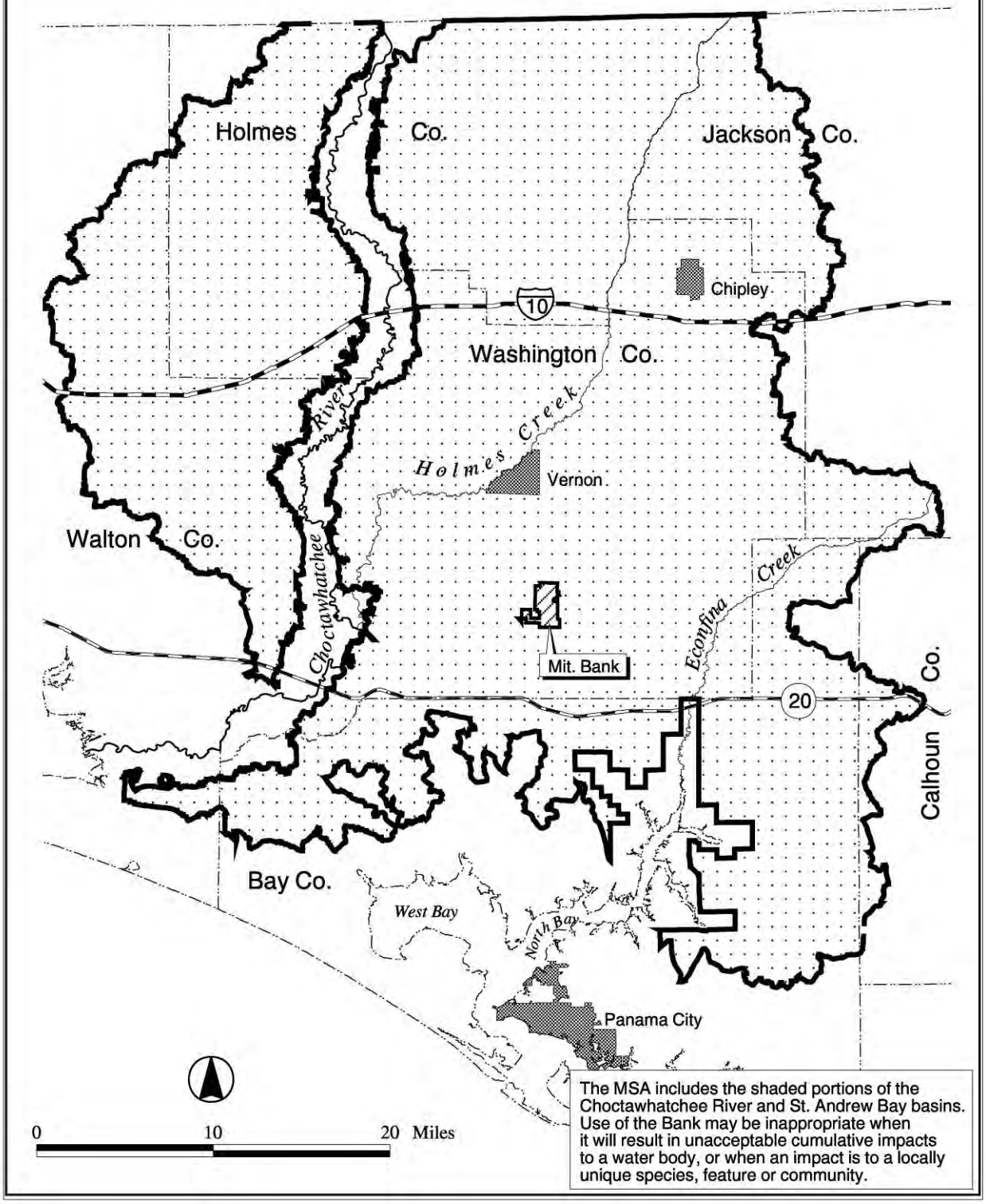
Management Units



Location Map

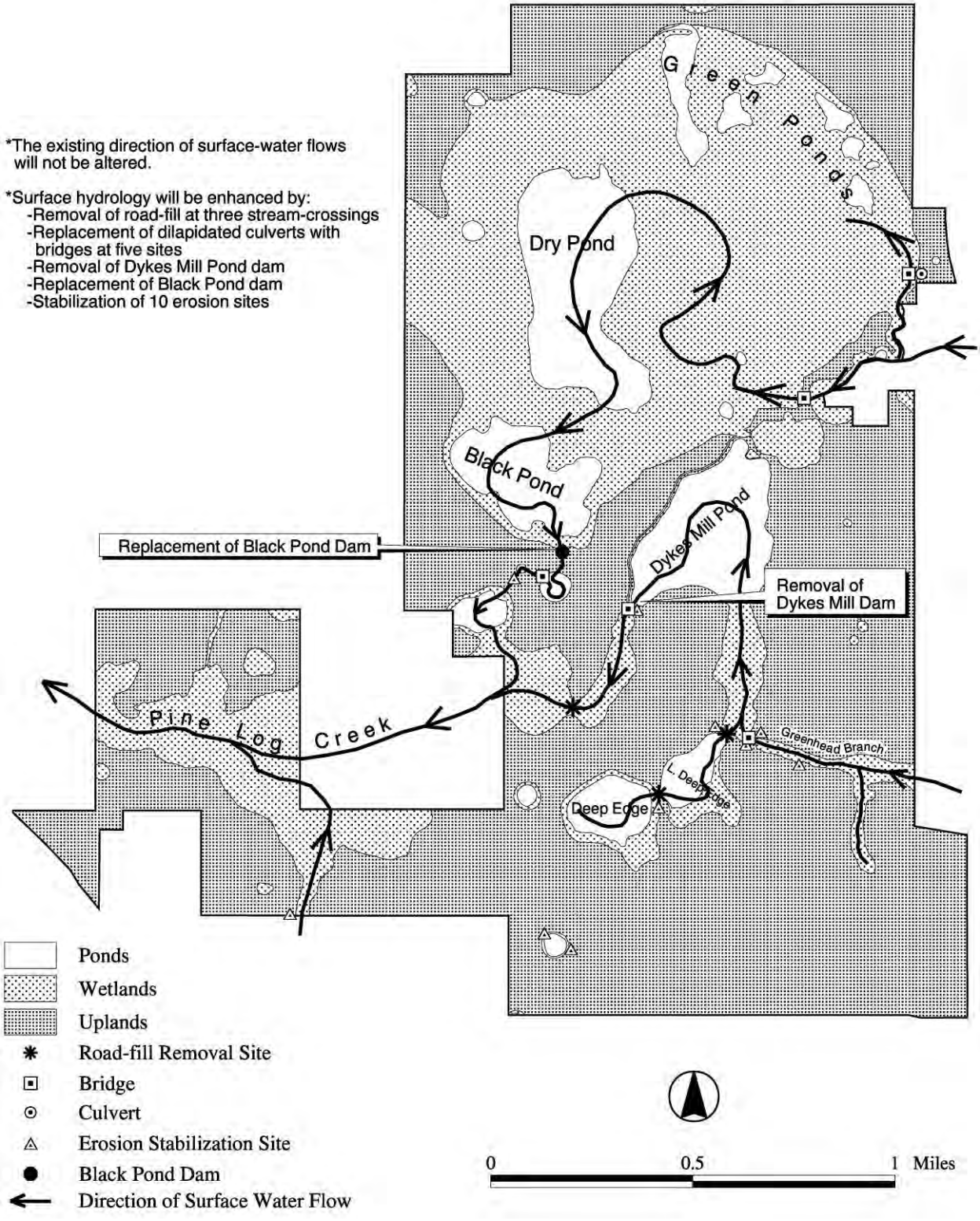


Mitigation Service Area

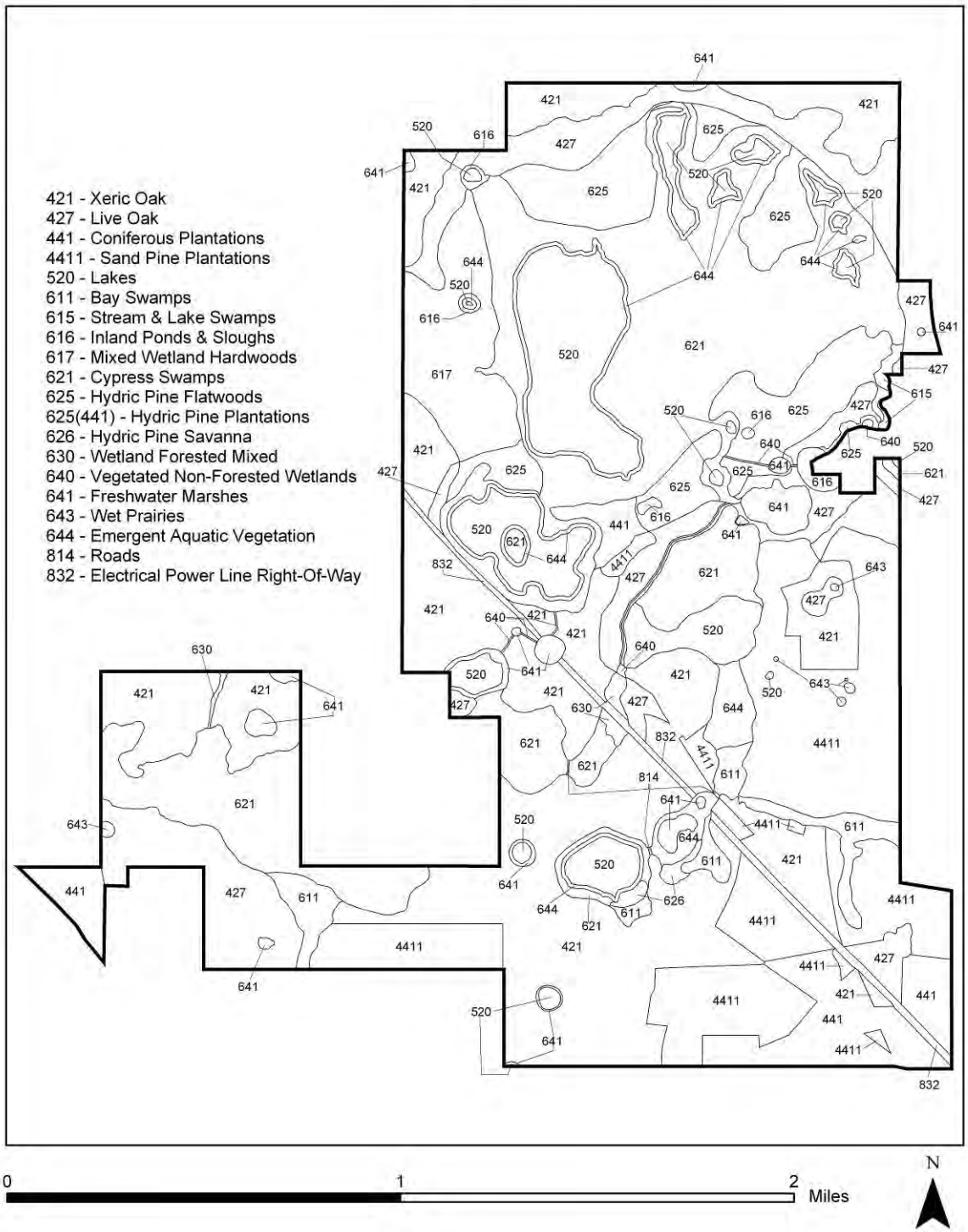


The MSA includes the shaded portions of the Choctawhatchee River and St. Andrew Bay basins. Use of the Bank may be inappropriate when it will result in unacceptable cumulative impacts to a water body, or when an impact is to a locally unique species, feature or community.

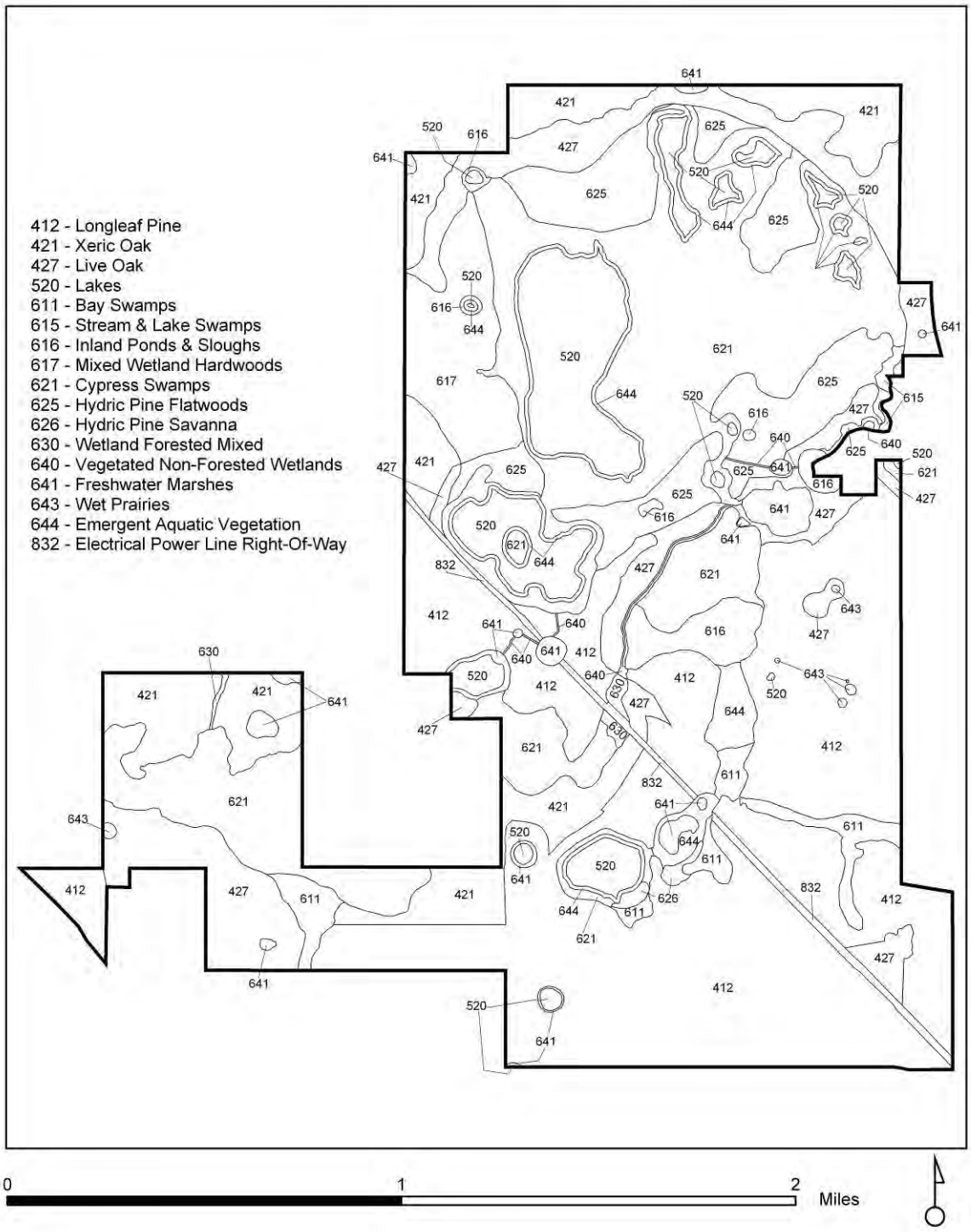
Hydrologic Features and Activities



Existing FLUCCS



Post-restoration FLUCCS



Mitigation Activities

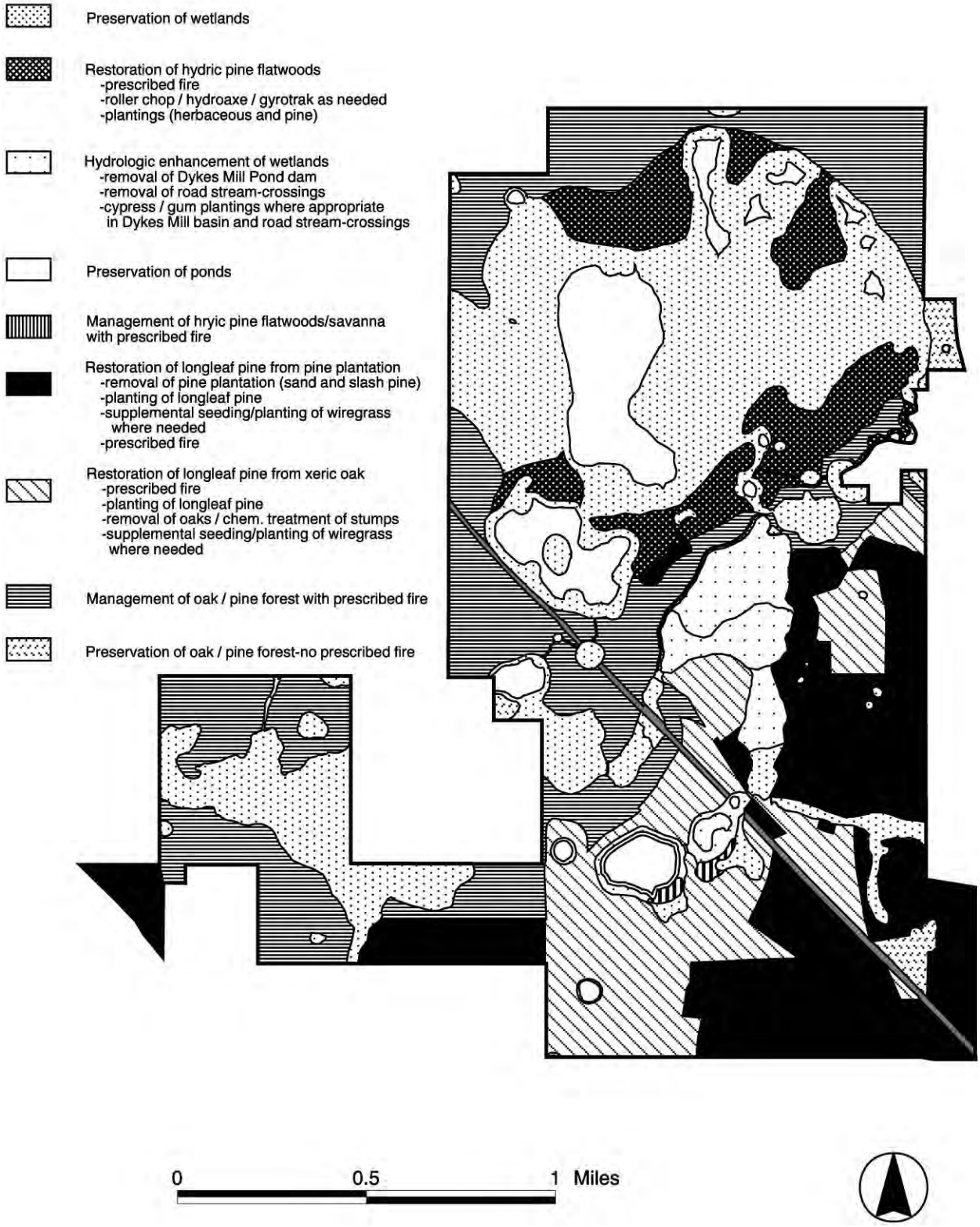
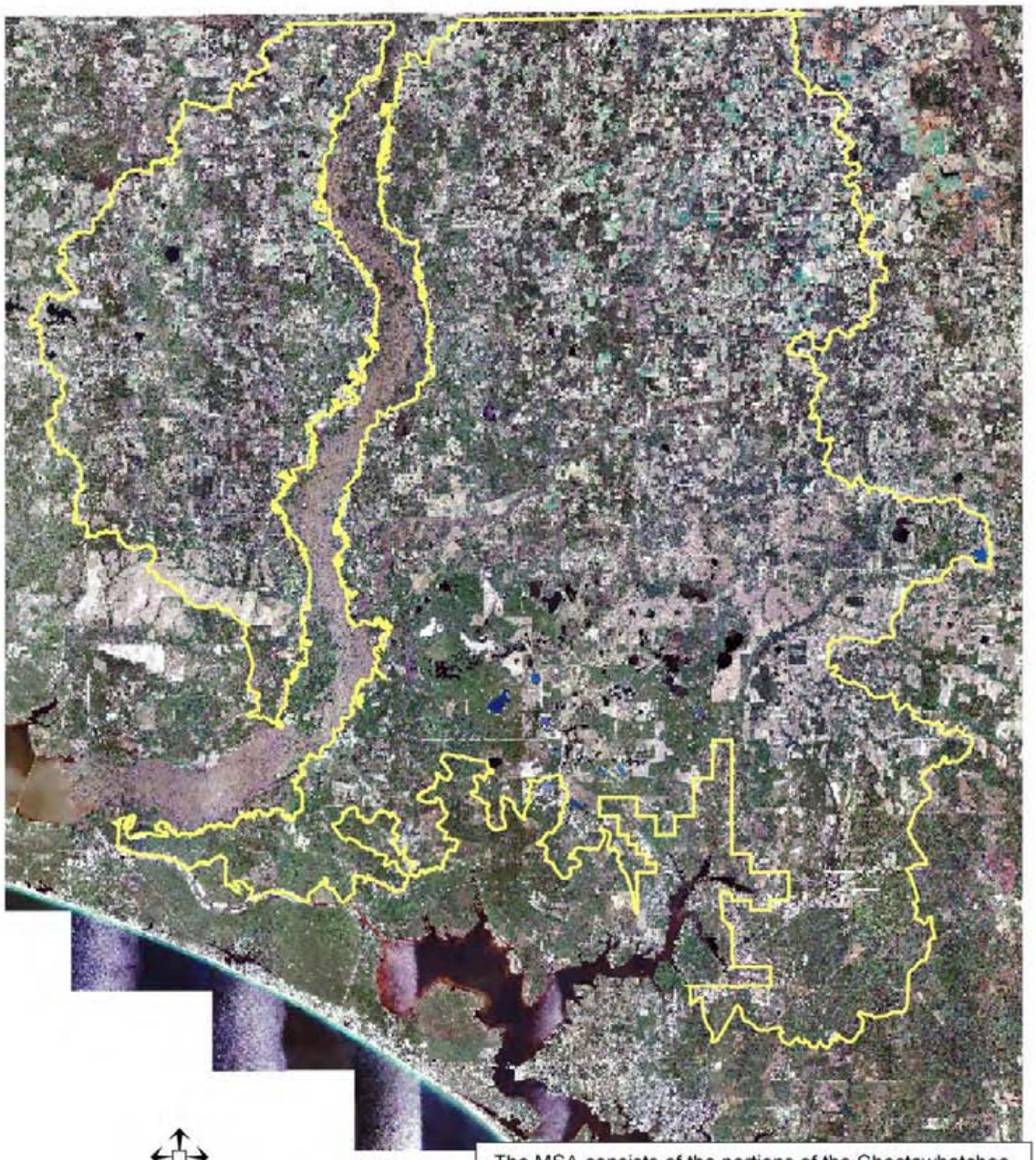


Exhibit 3

Mitigation Service Area



0 10 20 Miles

2004 DOQ

The MSA consists of the portions of the Choctawhatchee River and St. Andrew Bay basins outlined in yellow. Use of the Bank may be inappropriate when it will result in unacceptable cumulative impacts to a water body, or when an impact is to a locally unique species, feature or community.

Exhibit 4

DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is given this _____ day of _____ 20____, by THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT, having an address at 81 Water Management Drive, Havana, FL 32333-4712 (Grantor) to the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA (BOARD OF TRUSTEES), whose address is Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 130, Tallahassee, Florida 32399-3000 (Grantee). As used herein, the term Grantor shall include any and all heirs, successors or assigns of the Grantor, and all subsequent owners of the Property (as hereinafter defined) and the term Grantee shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, the Grantor is the sole owner in fee simple of certain lands situated in Washington County, Florida, more specifically described in Exhibit A attached hereto and incorporated herein (Property);

WHEREAS, the Grantor desires to implement the Sand Hill Lakes Mitigation Bank at a site in Washington County, which is subject to the regulatory jurisdiction of the Department of Environmental Protection (Department) under Part IV of Chapter 373 of the Florida Statutes;

WHEREAS, Department Permit No. 0227351-001 authorizes certain activities which affect waters in or of the State of Florida;

WHEREAS, the U.S. Army Corps of Engineers (Army Corps) authorizes certain activities in the waters of the United States and requires this conservation easement over the lands identified in Exhibit A as part of the Mitigation Bank Instrument (MBI) number SAJ-2002-5061 (MB-DEB);

WHEREAS The Army Corps is not authorized to hold conservation easements and the Grantee has agreed to hold the easement on behalf of the Corps;

WHEREAS, this Permit requires that the Grantor preserve, enhance, restore or mitigate wetlands or uplands under the Department's jurisdiction; and

WHEREAS, Grantor grants this conservation easement as a condition of the Permit issued by Grantee to offset and prevent adverse impacts to water quality and natural resources, such as fish, wildlife, and wetland or other surface water functions. Specifically, this conservation easement is intended to protect the mitigation area.

NOW THEREFORE, in consideration of the above and the mutual covenants, terms, conditions and restrictions contained herein, together with other good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, Grantor

hereby voluntarily grants and conveys a perpetual conservation easement, as defined in Section 704.06, Florida Statutes, for and in favor of the Grantee upon the Property which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature and character of this conservation easement shall be as follows:

1. Purpose. The purpose of this conservation easement is to retain land and water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland or upland areas included in the conservation easement which are to be enhanced or created pursuant to the Permit shall be retained and maintained in the enhanced or created conditions required by the Permit.

2. Rights of Grantee. To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. The right to take action to preserve and protect the environmental value of the Property;

b. The right to prevent any activity on or use of the Property that is inconsistent with the purpose of this conservation easement, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity or use;

c. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times, including the right to use vehicles and all necessary equipment to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this conservation easement; and

d. The right to enforce this conservation easement by injunction or proceed at law or in equity to enforce the provisions of this conservation easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities hereinafter set forth, and the right to require Grantor to restore such areas or features of the Property that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. Any activity on or use of the Property inconsistent with the purpose of this conservation easement is prohibited. Without limiting the foregoing, the following activities and uses are expressly prohibited, except for restoration, creation, enhancement, maintenance, and monitoring activities authorized by the Permit:

a. Construction or placing of structures on, above, or below the ground, including but not limited to: buildings, roads, docks, piers, billboards or other advertising; utilities, or other structures;

b. Dumping or placing of soil or other substances as land fill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Exploration for or extraction of oil or gas, and excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;

d. Surface use except for purposes that permit the land or water area to remain in its natural condition, except as provided in the Permit;

e. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking, dredging, and fencing, except as provided in the Permit;

f. Acts or uses detrimental to such aforementioned retention and maintenance of land or water areas, except as provided in the Permit;

g. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites, except as provided in the Permit, or properties of historical, architectural, archaeological, or cultural significance;

h. The use of All-Terrain Vehicles, except as provided in the Permit.

4. Reserved Rights. Grantor reserves to itself, its successors or assigns all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and that are not inconsistent with the Permit, any Department rules, criteria, or the intent and purposes of this conservation easement.

5. Public Access. No right of access by the general public to any portion of the Property is conveyed by this conservation easement.

6. Responsibilities of Parties. Grantor, its successors or assigns, shall take responsibility for any costs or liabilities related to the operation, upkeep or maintenance of the Property. In addition, Grantee, their successors or assigns, shall have no responsibility for any costs or liabilities related to the operation, upkeep or maintenance of the Property.

7. Taxes. Grantor, its successors or assigns, shall pay before delinquency any and all taxes, assessments, fees, and charges of whatever description levied on or assessed by competent authority on the Property, and shall furnish Grantee with satisfactory evidence of payment upon request.

8. Liability. Grantor, its successors or assigns, will assume all liability for any injury or damage to the person or property of third parties which may occur on the Property arising from ownership of the Property by the Grantor, its successors or assigns. Neither Grantor, its successors or assigns, nor any person or entity claiming by or through

Grantor its successors or assigns, shall hold Grantee liable for any damage or injury to person or personal property which may occur on the Property. Furthermore, the Grantor, its successors or assigns shall indemnify and hold harmless Grantee for all liability, any injury or damage to the person or property of third parties which may occur on the Property.

9. Hazardous Waste. Grantor covenants and represents that no hazardous substance or toxic waste exists nor has been generated, treated, stored, used, disposed of, or deposited in or on the Property, and that there are not now any underground storage tanks located on the Property. Grantor, its successors or assigns, further indemnify the Grantee for any and all liability arising from any subsequent placement or discovery of hazardous or toxic material on the property. In the event such material is discovered, Grantor, its successors or assigns, shall be responsible for the removal of the materials following coordination and written approval of the Department.

10. Enforcement Discretion. Enforcement of the terms, provisions and restrictions of this conservation easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights.

11. Rights of U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers shall have all the rights of grantee under this easement. The Corps shall be a party to a modification, alteration, release, or revocation of the conservation easement, and shall review and approve as necessary any additional structures or activities that require approval by the Grantee.

12. Venue and Enforcement Costs. Venue to enforce the terms of this conservation easement shall be in Leon County, Florida. If the Grantee prevails in an enforcement action, it shall be entitled to recover costs, including expert witness fees, as well as the reasonable cost of restoring the land to the natural vegetative and hydrologic condition existing at the time of execution of the conservation easement or to the vegetative and hydrologic condition required by the aforementioned Permit. These remedies are in addition to any other remedy, fine or penalty which may be applicable under Chapters 373 and 403, Florida Statutes.

13. Assignment of Rights. Grantee will hold this conservation easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this conservation easement except to another organization qualified to hold such interests under applicable state laws.

14. Recording in Land Records. Grantor shall record this conservation easement and any amendments hereto in a timely fashion in the Official Records of Washington County, Florida. Grantor shall pay all recording costs and taxes necessary to record this conservation easement in the public records.

15. Successors. The covenants, terms, conditions and restrictions of this conservation easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors and assigns and shall continue as a servitude running in perpetuity with the Property.

16. Notices. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

17. Subsequent Deeds. Grantor shall insert the terms and restrictions of this conservation easement in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Property. Grantor further agrees to give written notice to Grantee of the transfer of any interest at least twenty days prior to the date of such transfer. The failure of Grantor to perform any act required by this paragraph shall not impair the validity of this conservation easement or limit its enforceability in any way.

18. Severability. If any provision of this conservation easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this conservation easement shall not be affected thereby, as long as the purpose of the conservation easement is preserved.

19. Alteration or Revocation. This conservation easement may be amended, altered, released or revoked only by permit modification as necessary and written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in Washington County.

20. Controlling Law. The interpretation and performance of this conservation easement shall be governed by the laws of the State of Florida.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purpose imposed with this conservation easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said Property in fee simple; that the Property is free and clear of all encumbrances that are inconsistent with the terms of this conservation easement and all mortgages have been joined or subordinated; that Grantor has good right and lawful authority to convey this conservation easement; and that it hereby fully warrants and defends the title to the conservation easement hereby conveyed against the lawful claims of all person whomsoever.

IN WITNESS WHEREOF, the Grantor has executed this Conservation Easement on the day and year first above written.

Signed, sealed and delivered in our presence as witnesses:

Northwest Florida Water Management District

_____
Signature of Witness

By: _____
Print Name: Douglas E. Barr

_____
Printed/Typed Name

Title: Executive Director

_____
Signature of Witness

_____
Printed/Typed Name

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____ as _____ of the (corporation's name)_____. He/she is personally known to me or has produced _____ as identification.

(SEAL)

_____
Notary Public Signature

_____
Printed/Typed Name of Notary

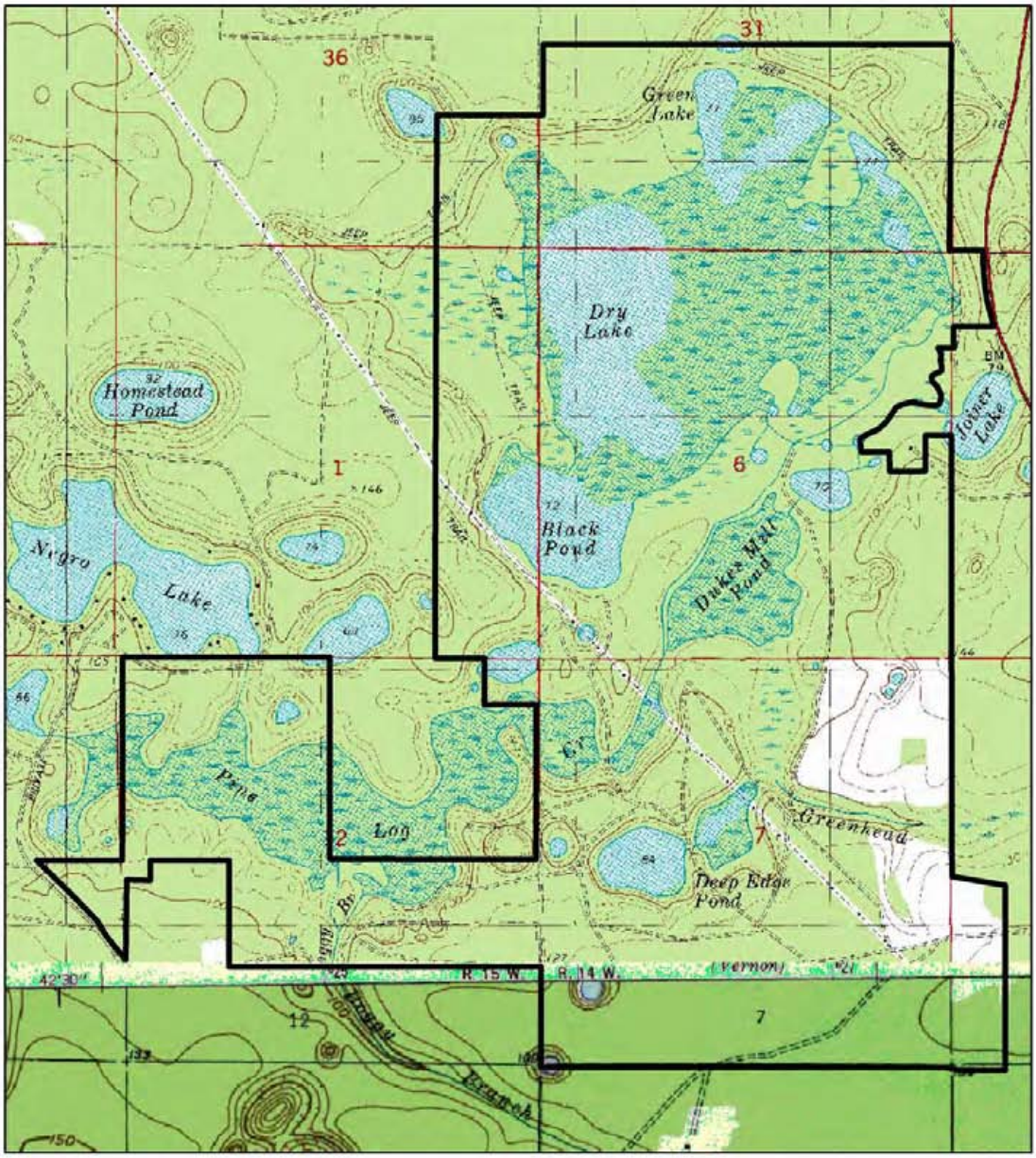
Commission No. _____
Commission Expires _____

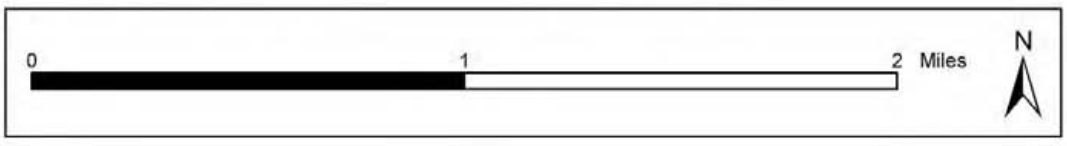
Exhibit 5

Sand Hill Lakes Mitigation Bank										
Projected Costs (in 2005 dollars)										
							Annual		Annual	
Item							Costs		Costs	
No.	Task	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-24	Year 25	Years 26-49	Year 50
	(Bridges)									
1	Dykes Mill Pond Bridge - Site #1	$50,000	$0	$0	$0	$0	$0	$0	$0	$50,000
2	Power Line Pond Bridge - Site #3	$50,000	$0	$0	$0	$0	$0	$0	$0	$50,000
3	Greenhead Branch Bridge - Site #7	$50,000	$0	$0	$0	$0	$0	$0	$0	$50,000
4	Joiner/Dry Bridge - Site #9	$50,000	$0	$0	$0	$0	$0	$0	$0	$50,000
5	Joiner/Green Bridge and Culvert - Site #10	$75,000	$0	$0	$0	$0	$0	$0	$0	$75,000
	(Road-fill Removal)									
6	Rd-removal - Pine Log Cr. - Site #4	$10,000	$0	$0	$0	$0	$0	$0	$0	$0
7	Rd-removal - Deep Edge / L. Deep Edge - Site #5	$15,000	$0	$0	$0	$0	$0	$0	$0	$0
8	Rd-removal - L. Deep / Dykes Mill Pond - Site #6	$15,000	$0	$0	$0	$0	$0	$0	$0	$0
	(Dams)									
9	Removal of Dykes Mill Pond dam	$5,000	$0	$0	$0	$0	$0	$0	$0	$0
10	Replacement of Black Pond dam	$25,000	$0	$0	$0	$0	$0	$0	$0	$25,000
11	Site Security / FWC Law Enforcement	$88,000	$88,000	$88,000	$88,000	$88,000	$88,000	$88,000	$88,000	$88,000
12	Fencing	$109,000	$0	$0	$0	$0	$0	$109,000	$0	$109,000
13	Boundary Fence Mowing / Maintenance	$0	$1,000	$1,000	$1,000	$1,000	$1,000	$0	$1,000	$0
	(Longleaf Pine / Wiregrass Restoration)									
	(From Existing Pine Plantation - 380 Acres)									
14	Removal of sand/slash pine	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Planting of longleaf pine (436 trees / acre)	$28,000	$0	$0	$0	$0	$0	$0	$0	$0
16	Planting of supplemental wiregrass where/if needed	$50,000	$0	$0	$0	$0	$0	$0	$0	$0
17	Additional sand pine eradication where/if needed	$0	$0	$0	$0	$15,000	$0	$0	$0	$0
	(Longleaf Pine / Wiregrass Restoration)									
	(From Existing Xeric Oak Community - 260 Acres)									
18	Removal of oak (≤ 12" dbh) / herbicide stumps	$13,000	$0	$0	$0	$0	$0	$0	$0	$0
19	Planting of longleaf pine (436 trees / acre)	$19,000	$0	$0	$0	$0	$0	$0	$0	$0
20	Planting of supplemental wiregrass where/if needed	$40,000	$0	$0	$0	$0	$0	$0	$0	$0
	(Restoration of Hydric Pine Flatwoods - 160 Acres)									
21	Roller Chop / Hydro-axe	$33,000	$0	$0	$0	$0	$0	$0	$0	$0
22	Supplemental herbaceous seeding where/if needed	$10,000	$0	$0	$0	$0	$0	$0	$0	$0
	(Prescribed Fire)									
23	Longleaf Pine areas - 640 acres	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000
24	Oak / Pine communities - 490 acres	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000
25	Hydric Pine Flatwoods - 150 acres	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
26	Hog / Beaver control	$5,000	$5,000	$5,000	$5,000	$5,000	$1,000	$1,000	$1,000	$1,000
27	General management	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
28	Internal gating / road maintenance	$50,000	$50,000	$25,000	$10,000	$5,000	$5,000	$5,000	$5,000	$5,000
29	Installation of 10 staff gages / 3 recorders	$16,725	$0	$0	$0	$0	$0	$0	$0	$0
30	Monthly monitoring of staff gages / recorders	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400	$5,400
31	Stabilization of 10 erosion sites	$25,000	$0	$0	$0	$0	$0	$0	$0	$0
32	Vegetation and other monitoring activities	$10,000	$10,000	$10,000	$10,000	$10,000	$2,000	$2,000	$2,000	$2,000
	Totals	$915,125	$227,400	$202,400	$187,400	$197,400	$170,400	$278,400	$170,400	$578,400

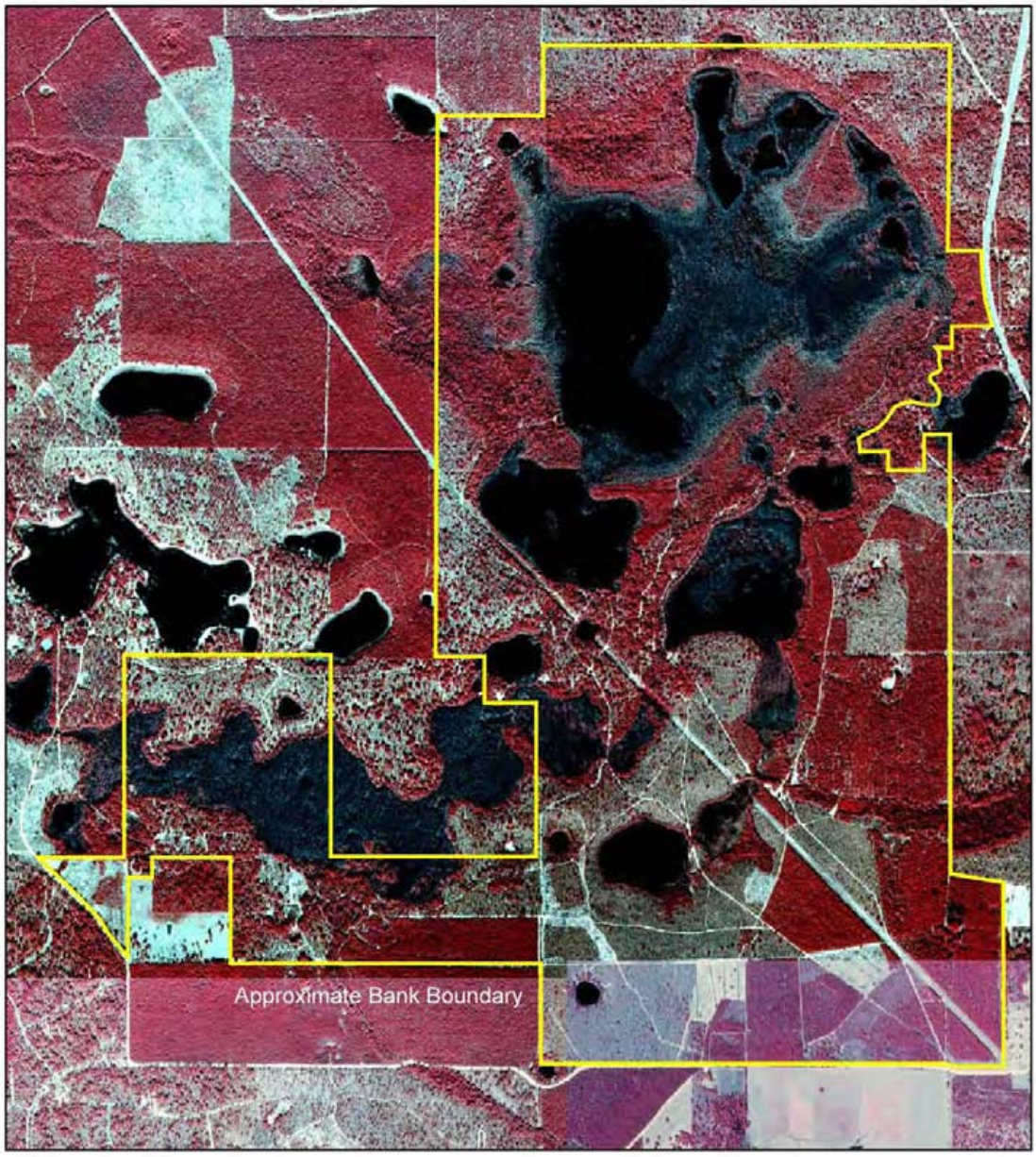
Exhibit 6

Sand Hill Lakes Mitigation Bank - USGS Topographic Quad Maps





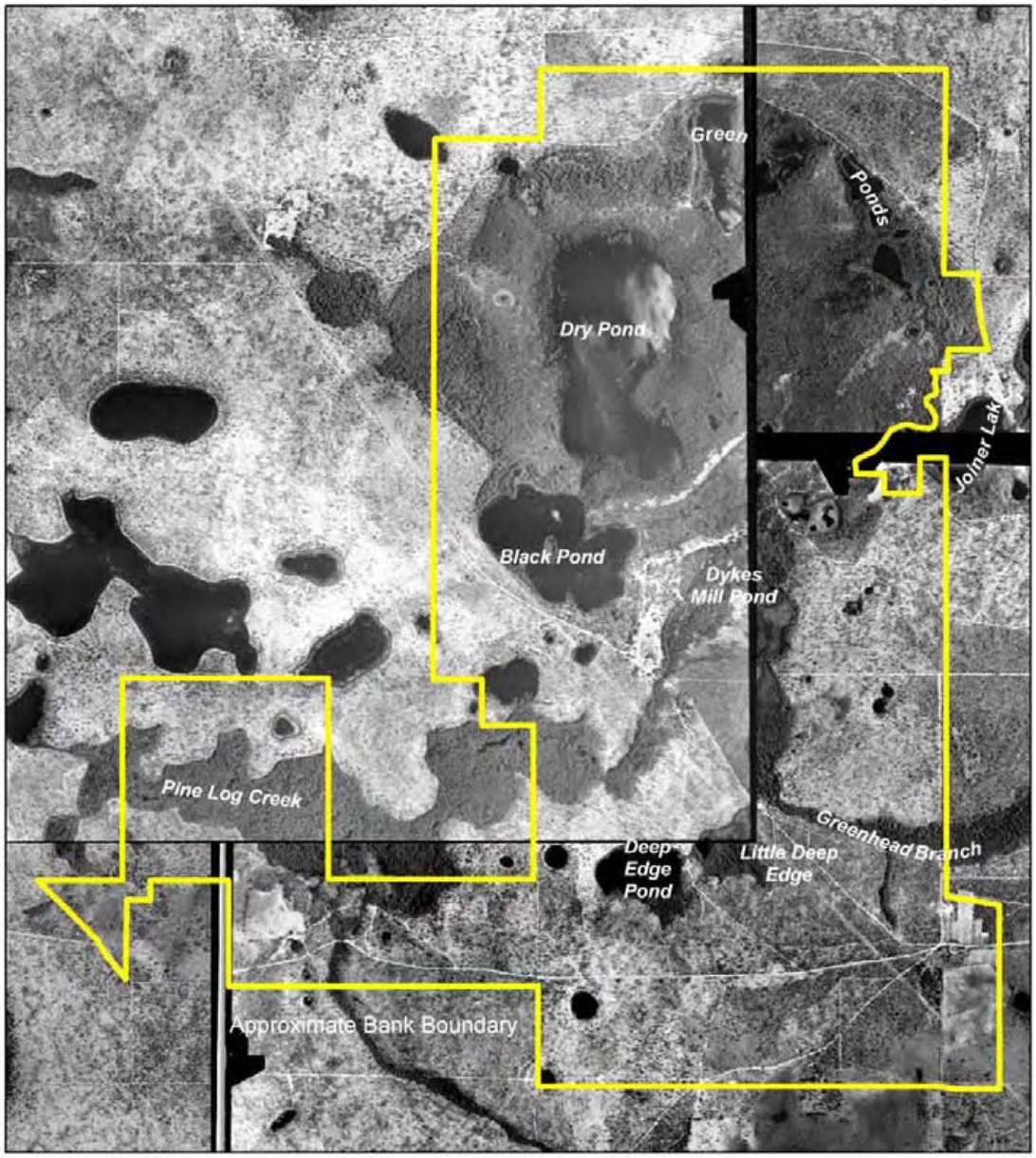
Sand Hill Lakes Mitigation Bank - 1999 DOQ



1 0 1 Miles

N

Sand Hill Lakes Mitigation Bank - 1949 B & W Aerial



0 1 2 Miles

N

FATIC 524

Policy No. **FA-35-** 543369

POLICY OF TITLE INSURANCE

ISSUED BY

First American Title Insurance Company

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, FIRST AMERICAN TITLE INSURANCE COMPANY, a California corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the Insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on the title;
3. Unmarketability of the title;
4. Lack of a right of access to and from the land.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title, as insured, but only to the extent provided in the Conditions and Stipulations.

First American Title Insurance Company

BY Gary L. Kerivatt PRESIDENT

ATTEST Mark R Arneson SECRETARY

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by this policy.

4. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on:
   (a) the transaction creating the estate or interest insured by this policy being deemed a fraudulent conveyance or fraudulent transfer; or
   (b) the transaction creating the estate or interest insured by this policy being deemed a preferential transfer except where the preferential transfer results from the failure:
      (i) to timely record the instrument of transfer; or
      (ii) of such recordation to impart notice to a purchaser for value or a judgment or lien creditor.

CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS.

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors.

(b) "insured claimant": an insured claiming loss or damage.

(c) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(d) "land": the land described or referred to in Schedule (A), and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule A, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(e) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(f) "public records": records established under state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge. With respect to Section 1(a)(iv) of the Exclusions From Coverage, "public records" shall also include environmental protection liens filed in the records of the clerk of the United States district court for the district in which the land is located.

(g) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A to be released from the obligation to purchase by virtue of a contractual condition requiring the delivery of marketable title.

2. CONTINUATION OF INSURANCE AFTER CONVEYANCE OF TITLE.

The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants of warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from the insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to the insured.

3. NOTICE OF CLAIM TO BE GIVEN BY INSURED CLAIMANT.

The insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in Section 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as insured, All information designated as confidential by the insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph shall terminate any liability of the Company under this policy as to that claim.

6. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS; TERMINATION OF LIABILITY.

In case of a claim under this policy, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Insurance.

(i) To pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees, and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay.

(ii) Upon the exercise by the Company of this option, all liability and obligations to the insured under this policy, other than to make the payment required, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant.

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees, and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees, and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs (b)(i) or (ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

7. DETERMINATION, EXTENT OF LIABILITY AND COINSURANCE.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

(a) The liability of the Company under this policy shall not exceed the least of:

(i) the Amount of Insurance stated in Schedule A; or,

If loss should result from any act of the insured claimant, as stated above, that act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(b) The Company's Rights Against Non-insured Obligors.

The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

14. ARBITRATION.

Unless prohibited by applicable law, arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association may be demanded if agreed to by both the Company and the Insured. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Insured arising out of or relating to this policy, and service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the Insured, the Rules in effect at Date of Policy shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

15. LIABILITY LIMITED TO THIS POLICY; POLICY ENTIRE CONTRACT.

(a) This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

and which might cause loss or damage for which tl Company may be liable by virtue of this policy, or (iii) if title to the estate or interest, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to the insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. DEFENSE AND PROSECUTION OF ACTIONS; DUTY OF INSURED CLAIMANT TO COOPERATE.

(a) Upon written request by the insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without unreasonable delay, shall provide for the defense of an insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of the insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The Company will not pay any fees, costs or expenses incurred by the insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest, as insured, or to prevent or reduce loss or damage to the insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgment or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, the insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of the insured for this purpose. Whenever requested by the Company, the insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as insured. If the Company is prejudiced by the failure of the insured to furnish the required cooperation, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

5. PROOF OF LOSS OR DAMAGE.

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the insured claimant to provide the required proof of loss or damage, the Company's obligations to the insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, the insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage.

(ii) the difference between the value of the insurec estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(b) (This paragraph dealing with Coinsurance was removed from Florida policies.)

(c) The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. APPORTIONMENT.

If the land described in Schedule A consists of two or more parcels which are not used as a single site, and a loss is established affecting one or more of the parcels but not all, the loss shall be computed and settled on a pro rata basis as if the amount of insurance under this policy was divided pro rata as to the value on Date of Policy of each separate parcel to the whole, exclusive of any improvements made subsequent to Date of Policy, unless a liability or value has otherwise been agreed upon as to each parcel by the Company and the insured at the time of the issuance of this policy and shown by an express statement or by an endorsement attached to this policy.

9. LIMITATION OF LIABILITY.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title as insured.

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

10. REDUCTION OF INSURANCE; REDUCTION OR TERMINATION OF LIABILITY.

All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of the insurance pro tanto.

11. LIABILITY NONCUMULATIVE.

It is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed, or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy to the insured owner.

12. PAYMENT OF LOSS.

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

13. SUBROGATION UPON PAYMENT OR SETTLEMENT.

(a) The Company's Right of Subrogation.

Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the insured claimant, the Company shall be subrogated to these rights and remedies in the proportion which the Company's payment bears to the whole amount of the loss.

16. SEVERABILITY.

In the event any provision of the policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

17. NOTICES, WHERE SENT.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to the Company, Attention: Claims Department, 1 First American Way, Santa Ana, California 92707.

First American Title Insurance Company

Agent's File No.: NWF61411 Policy No.: FA-35-543369
FATIC: 380-28097

SCHEDULE A

Date of Policy: November 20, 2002 @ 8:00 a.m.
Amount of Insurance: $4,335,525.00

1. Name of Insured: Northwest Florida Water Management District, a special taxing district of the State of Florida

2. The estate or interest in the land is:

   Fee Simple

3. Title to the estate or interest in the land is vested in Northwest Florida Water Management District, a special taxing district of the State of Florida in accordance with Warranty Deed recorded in Official Records Book 457, Page 518, Public Records of Washington County, Florida.

4. The land referred to in this Policy is in the State of Florida, County of Washington and described as follows:

   See Exhibit "A"

Stowell Law Firm

Douglas L. Stowell

By: Douglas L. Stowell

First American Title Insurance Company

Agent's File No.: NWF61411 Policy No.: FA-35-543369
FATIC: 380-28097

SCHEDULE B

This policy does not insurance against loss or damage (and the Company will not pay costs, attorney's fees or expenses) which arise by reason of:

1. Any rights, interests or claims of parties in possession of the land not shown by the public records.
2. Any rights, interests or claims affecting the land which a correct survey would disclose and which are not shown by the public records.
3. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
4. Any dispute as to boundaries caused by a change in the location of any water body within or adjacent to the land prior to the date of this policy and any adverse claim to all or part of the land that is, at the date of this policy, or was previously, under water.
5. Taxes or special assessments which are not shown as existing liens by the public records.
6. Any minerals or mineral rights leased, granted or retained by current or prior owners.
7. The lien of all taxes for the year 2002 and subsequent years.

NOTE: Exceptions Number 3 and 7 above are hereby deleted.

Special Exceptions:

8. Encroachments, overlaps, boundary line disputes and any other matters which would be disclosed by an accurate survey or inspection of the premises.

9. Any adverse claim to any portion of said land which has been created by artificial means or has accreted to any such portion so created and riparian rights, if any.

10. Title is not insured as to any personal property and/or mobile homes and/or manufactured housing on insured property.

11. All applicable zoning ordinances and regulations imposed by Governmental Authority.

12. Oil, gas, minerals and other subsurface interests are neither guaranteed nor insured.

13. Minerals not insured, Official Records Book 1, page 485 and O.R. Book 269, Page 568, Deed Book 93, Page 97, Deed Book 93, Page 246, Deed Book 93, Page 252, and Deed Book 93, Page 353, Deed Book 121, Page 34, Deed Book 121, Page 39, Deed Book 68, Page 445, Deed Book 93, Page 182, Deed Book 68, Page 100, Deed Book 71, Page 40, Deed Book 89, Page 85, Deed Book 96, Page 79, Deed Book 70, Page 565, Deed Book

81, Page 599, and O.R. Book 31, Page 474, Deed Book 73, Page 383, and Deed Book 73, Page 282, Public Records of Washington County, Florida.

14. Subject to any portion of caption lands which may lie within R/W of Highway 278 (Creek Road), Cook Road and/or any roads.

15. Any easements for the right of way or public utilities now in use and not shown by the public records.

16. Subject to power line running through caption lands.

17. Title Company does not guarantee the water level of lakes located on property at present level or any level.

18. Access is not insured to all parcels except as a contiguous parcel.

19. Easement from Fitzhugh Carter and wife, Essie Carter to Vashti Carter Peterson as recorded in O.R. Book 270, Page 986, Public Records of Washington County, Florida.

20. Easement to Gulf Power as recorded in O.R. Book 196, Page 97 and assigned to Gulf Coast Electric in O.R. Book 235, Page 496, Public Records of Washington County, Florida.

21. Easement from Fitzhugh Carter and wife, Essie Carter to Vashti Carter Peterson and Everett E. Gerths and Vashti Elizabeth Gerths as recorded in O.R. Book 270, Page 988, and assigned in O.R. Book 321, Page 307, Public Records of Washington County, Florida.

22. Easement to Gulf Power from Vernon Land as recorded in Deed Book 87, Page 375, Public Records of Washington County, Florida.

23. Easement from Fitzhugh Carter to County of Washington as recorded in O. R. Book 231, Page 1789, Public Records of Washington County, Florida.

24. Easement from Fitzhugh Carter and wife Essie Carter to Gulf Coast Electric as recorded in O.R. Book 322, Page 37 and O.R. Book 199, Page 48, Public Records of Washington County, Florida.

25. Reissue to State of Florida for Right of Way as shown in Deed Book 68, Page 445 and Deed Book 68, Page 100, Public Records of Washington County, Florida.

26. Easement from Fitzhugh Carter and wife, Essie Carter to Vashti Carter Peterson and Everett E. Gerths and Vashti Elizabeth Gerths as recorded in O.R. Book 321, Page 308, Public Records of Washington County, Florida.

27. Road Closings as shown in Deed Book 67, Page 499, and Deed Book 99, Page 597, Public Records of Washington County, Florida.

EXHIBIT "A"

Legal Description

The NE 1/4 of the SW 1/4 of Section 12, Township 1 North, Range 15 West, situate, lying and being in Washington County, Florida. (ID# 4145).

And

The NW 1/4 of Section 12, Township 1 North, Range 15, West, Washington County, Florida. (ID# 4145).

And

The S 1/2 of the N 1/2 of the SE 1/4, Section 12, Township 1 North, Range 15 West, Washington County, Florida. (ID# 4145).

Begin at the Northwest Corner of NW 1/4 of SW 1/4, run East 140 yards, South 70 yards, West 140 yards, North 70 yards to beginning, in Section 12, Township 1 North, Range 15 West, Washington County, Florida. (ID# 4143.001).

And

All of Section 7, Township 1 North, Range 14 West. (ID# 3037)

The following land in Section 6, Township 1 North, Range 14 West:

W 1/2
W 1/2 of the E 1/2
The NE 1/4 of the NE 1/4
The E 1/2 of the SE 1/4, less 2 acres described as: Bounded by commencing at a point 5 chains West of the Northeast Corner of the NE 1/4 of the SE 1/4, thence run South 3 chains and 17 links, thence West 6 chains 34 links, thence North 3 chains and 17 links, thence East to Point of Beginning. (ID# 3036).

2 acres in the form of a square situate in the extreme Southeast Corner of the SE 1/4 of the NE 1/4. (ID# 3036).

A certain parcel being in the SE 1/4 of the NE 1/4 and described as follows:

All land lying and being on the West side of Dykes Canal until it reaches a certain pond below the old water way starting on the Northwest Corner of said pond and running in a Northerly direction to the head of a certain ditch, thence down said ditch to line dividing the NE 1/4 from the SE 1/4, said parcel of land containing 14 acres, more or less, being the land conveyed by Deed from J. S. Dykes and his wife, Nina dykes to J. R. Moody, recorded in Deed Book 72, at Page 73, Public Records of Washington County, Florida. (ID# 3036).

[redacted]

The NE 1/4 of the NE 1/4 of the NE 1/4 of Section 12, Township 1 North, Range 15 West, and the N 1/2 of the N 1/2 of the SE 1/4 of Section 12, Township 1 North, Range 15 West. (ID# 4148)

The following land in Section 8, Township 1 North, Range 14 West:

Beginning 66 2/3 yards South of Southwest Corner of SW 1/4 of NW 1/4, run Easterly 238 yards, South 783 yards to South line of Section, thence West along said Section line to Southwest corner of Section 8, North 813 1/3 yards to beginning (ID#3041)

The S 1/2 of Section 31, Township 2 North, Range 14 West (ID#3380)

And

The following land in Section 1, Township 1 North, Range 15 West:

The E 1/2 of NE 1/4 and the E 1/2 of the SE 1/4 (ID#4123)

And

The following land in Section 36, Township 2 North, Range 15 West:

The SE 1/4 of the SE 1/4; the S 1/2 of the S 1/2 of the NE 1/4 of the SE 1/4 (ID# 4431)

And

All that part lying North and East of Chain Lake Road (county maintained) in the NE 1/4 of the SE 1/4 of Section 11, Township 1 North, Range 15 West (ID#4139)

NW 1/4 of NW 1/4 lying West of Highway 279, less the South 330 feet, Section 5, Township 1 North, Range 14 West. (ID# 3027)

And

Begin at the intersection of the West R/W line of SR#77 and the North Section Line of Section 17, Township 1 North, Range 14 West, thence run Westerly along said Section line to the N/W corner of Section 17, thence South 90 feet, thence East to a point 90 feet South of the N/W corner of the NE1/4 of said Section 17, thence North 45 feet, thence East to the West R/W line of SR#77, thence North along said R/W line to the POB. All lying and being in Washington County, Florida.

Exhibit 7

Sand Hill Lakes Mitigation Bank - Easements

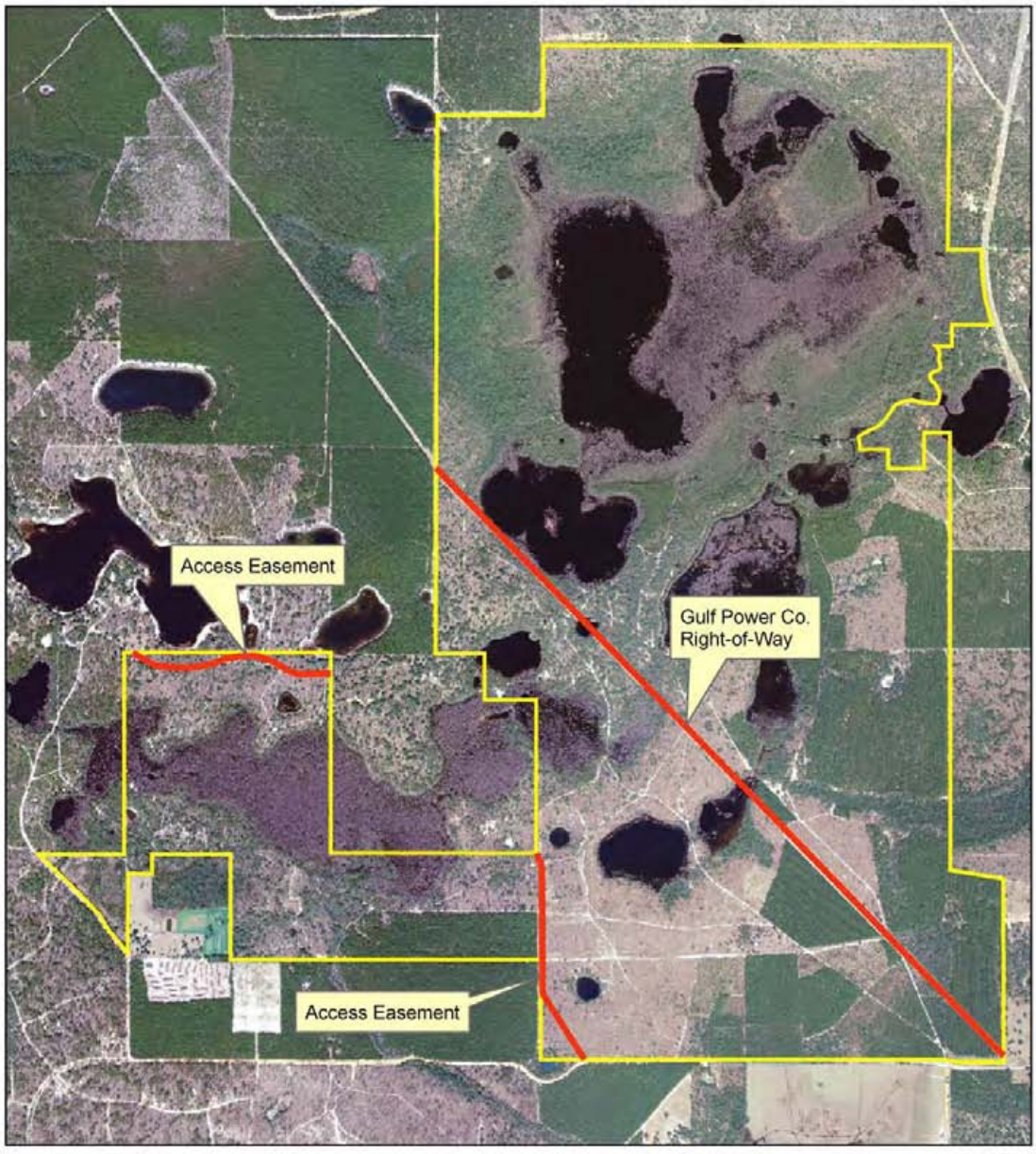


Exhibit 8

Sand Hill Lakes Mitigation Bank - Adjacent Development

Exhibit 9

Sand Hill Lakes Mitigation Bank and Vicinity

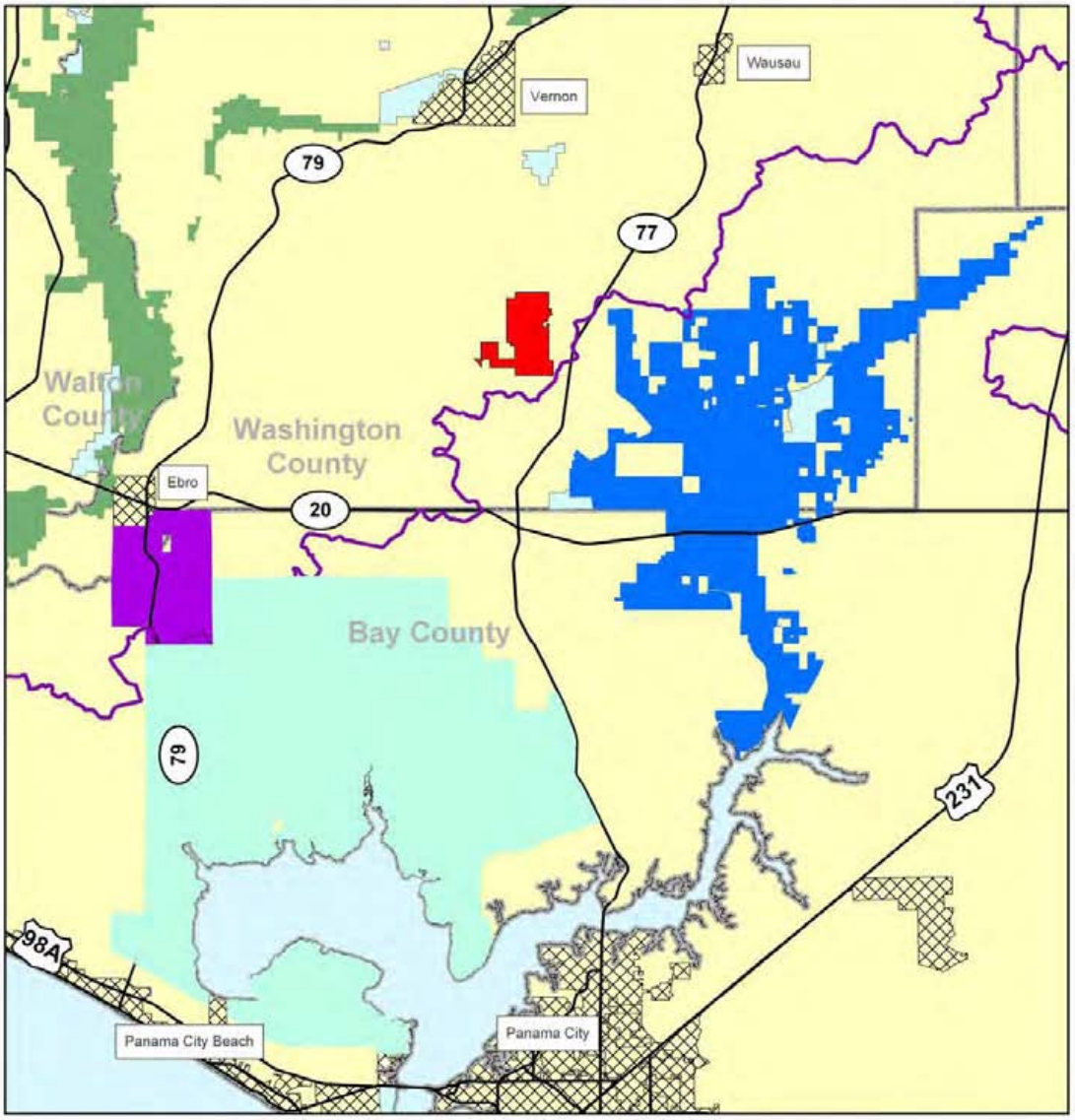
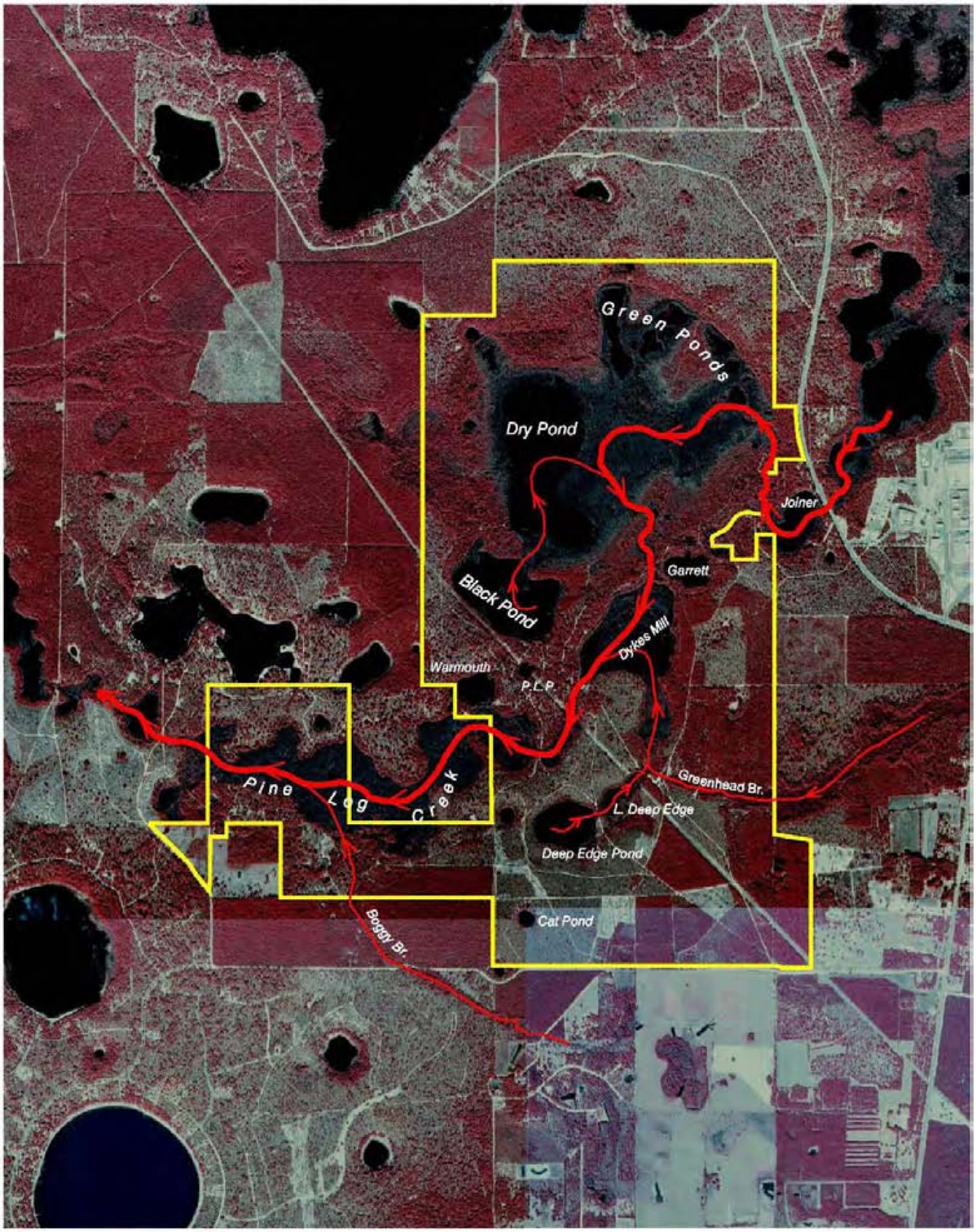


Exhibit 10


Sand Hill Lakes Mitigation Bank
Zone of Probable Groundwater Contribution to Econfina Creek
Vernon
Wausau
79
77
Walton County
Washington County
Ebro
20
8-Digit HUC Watershed Boundary
Bay County
Deer Point Lake
Lynn Haven
Panama City
Panama City
Panama City Beach
Hiland Park
Zone of Probable Contribution to Econfina Creek
Sand Hill Lakes Mitigation Bank
N
0
10
20 Miles

Exhibit 11

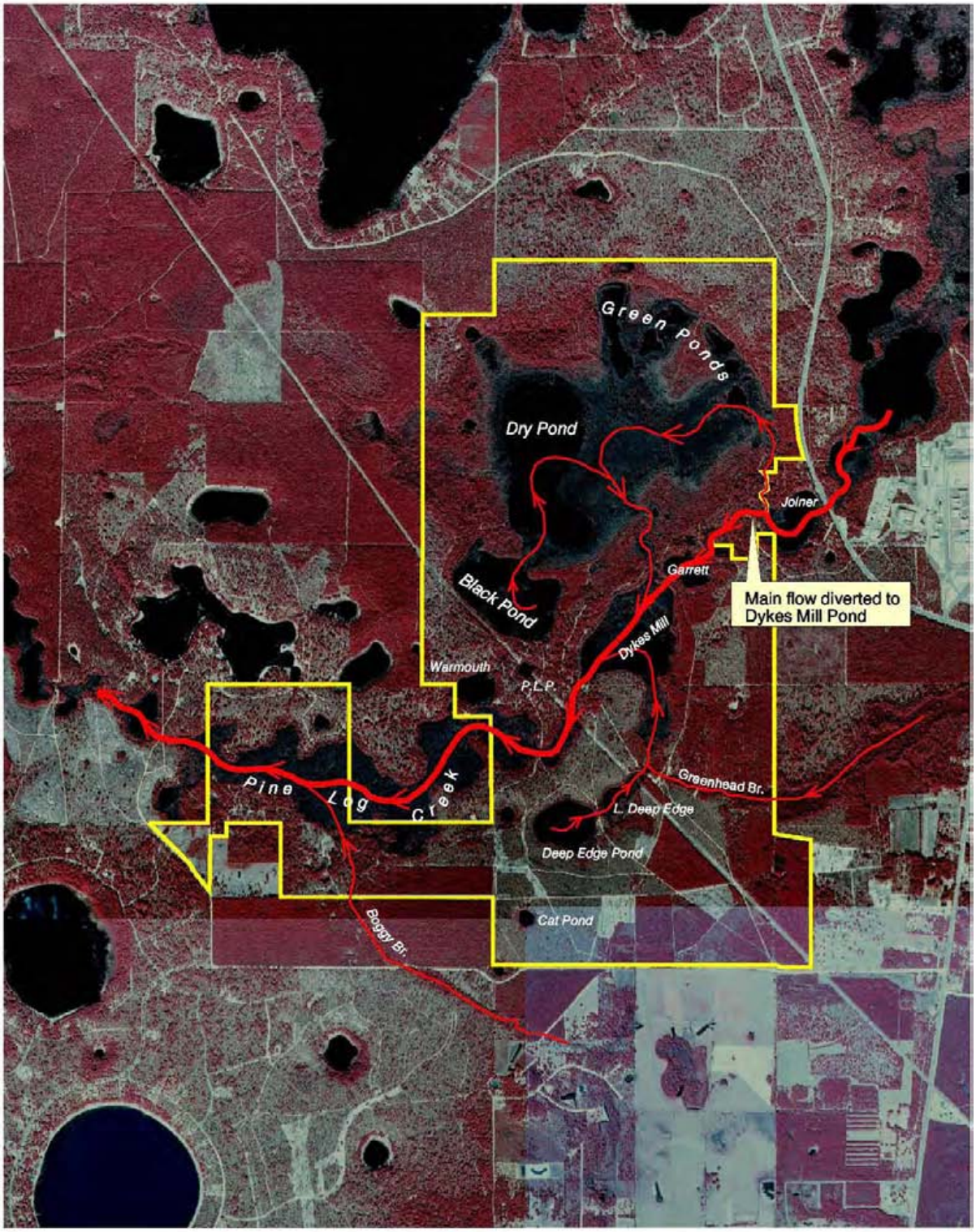
Unaltered Surface Flow Paths (Pre-1900)



Surface Water Flow Path

0 1 2 Miles

Altered Surface Flow Paths (Ca. 1900)



Surface Water Flow Path

0 1 2 Miles

Altered Surface Flow Paths (Post-1950s)

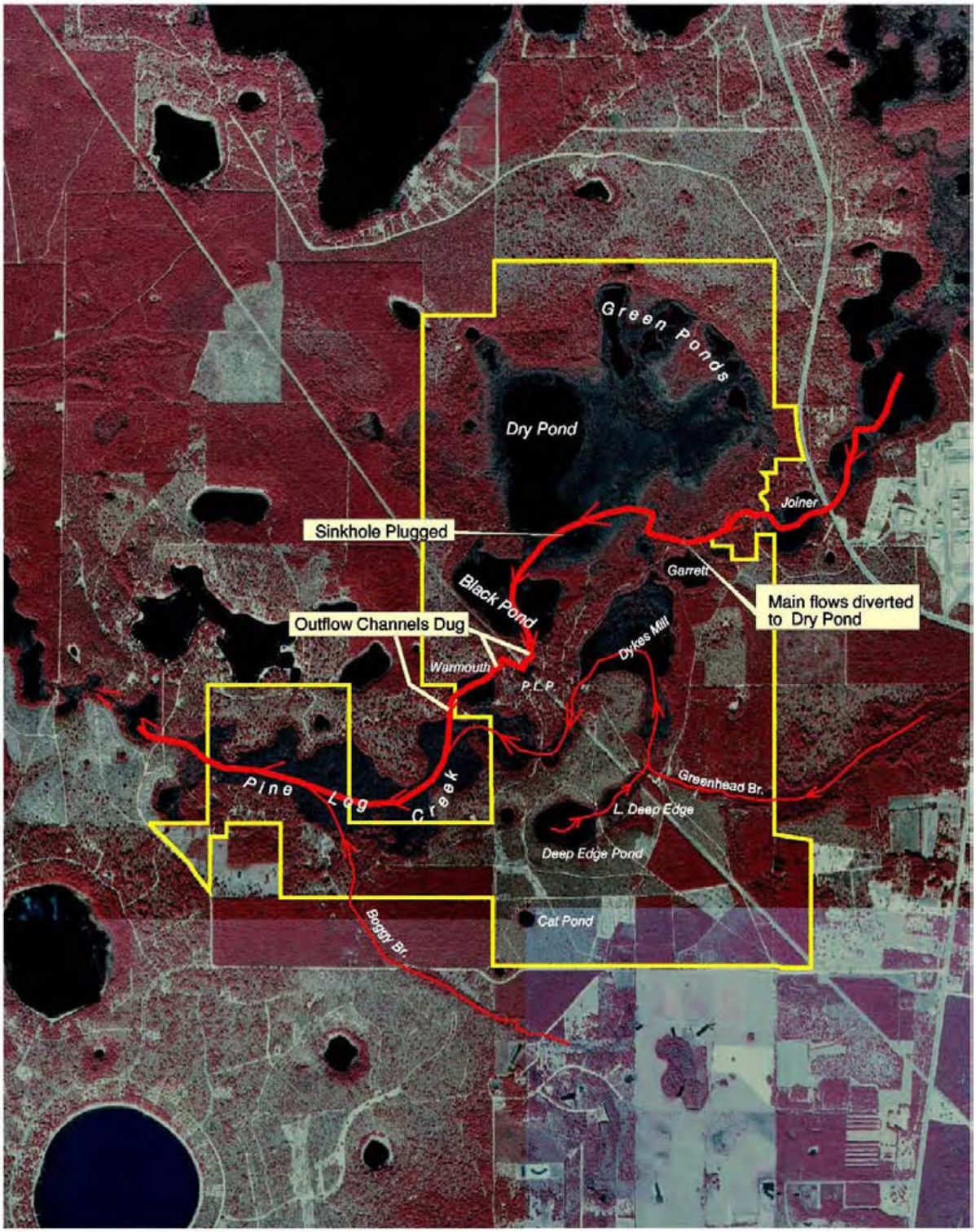
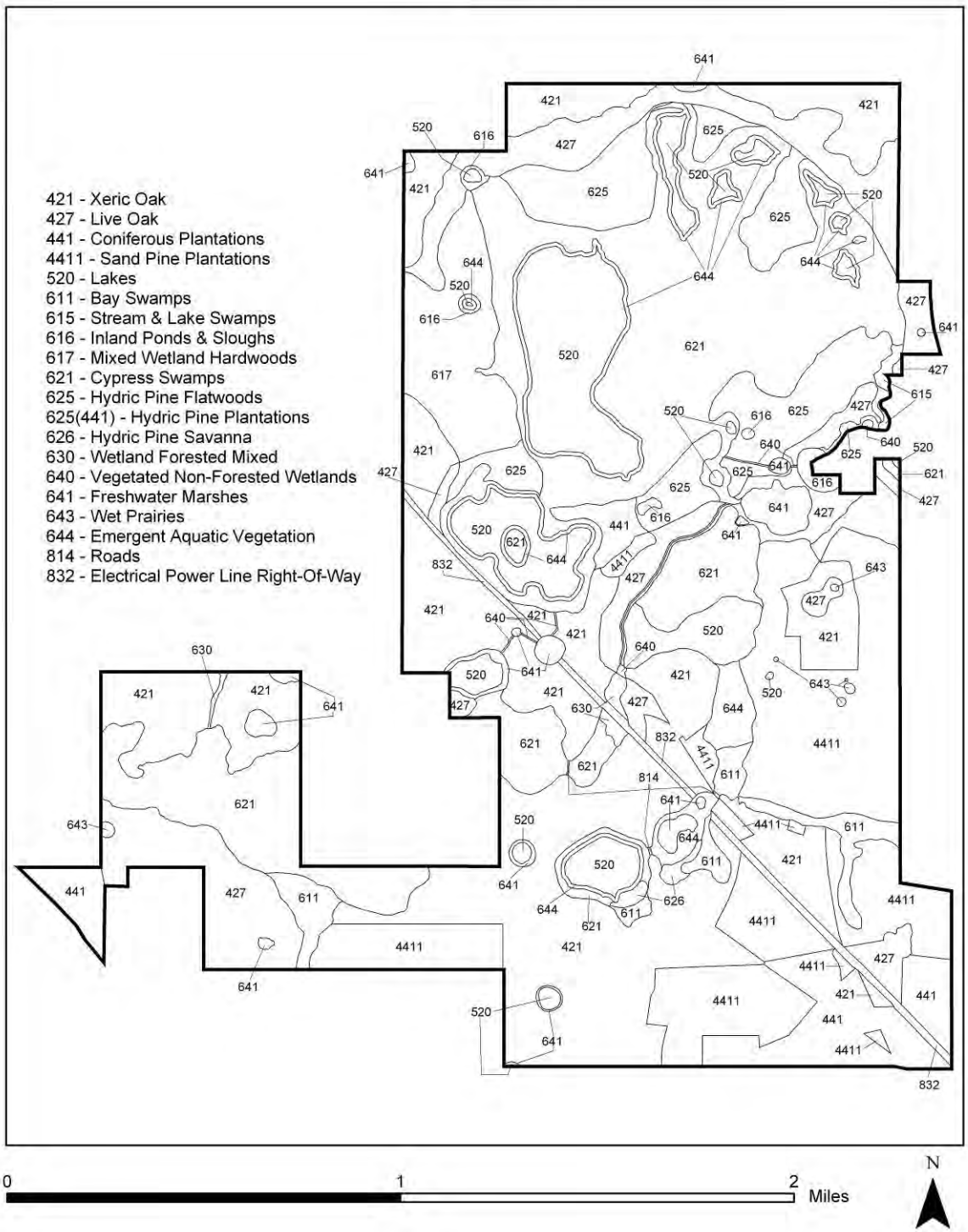
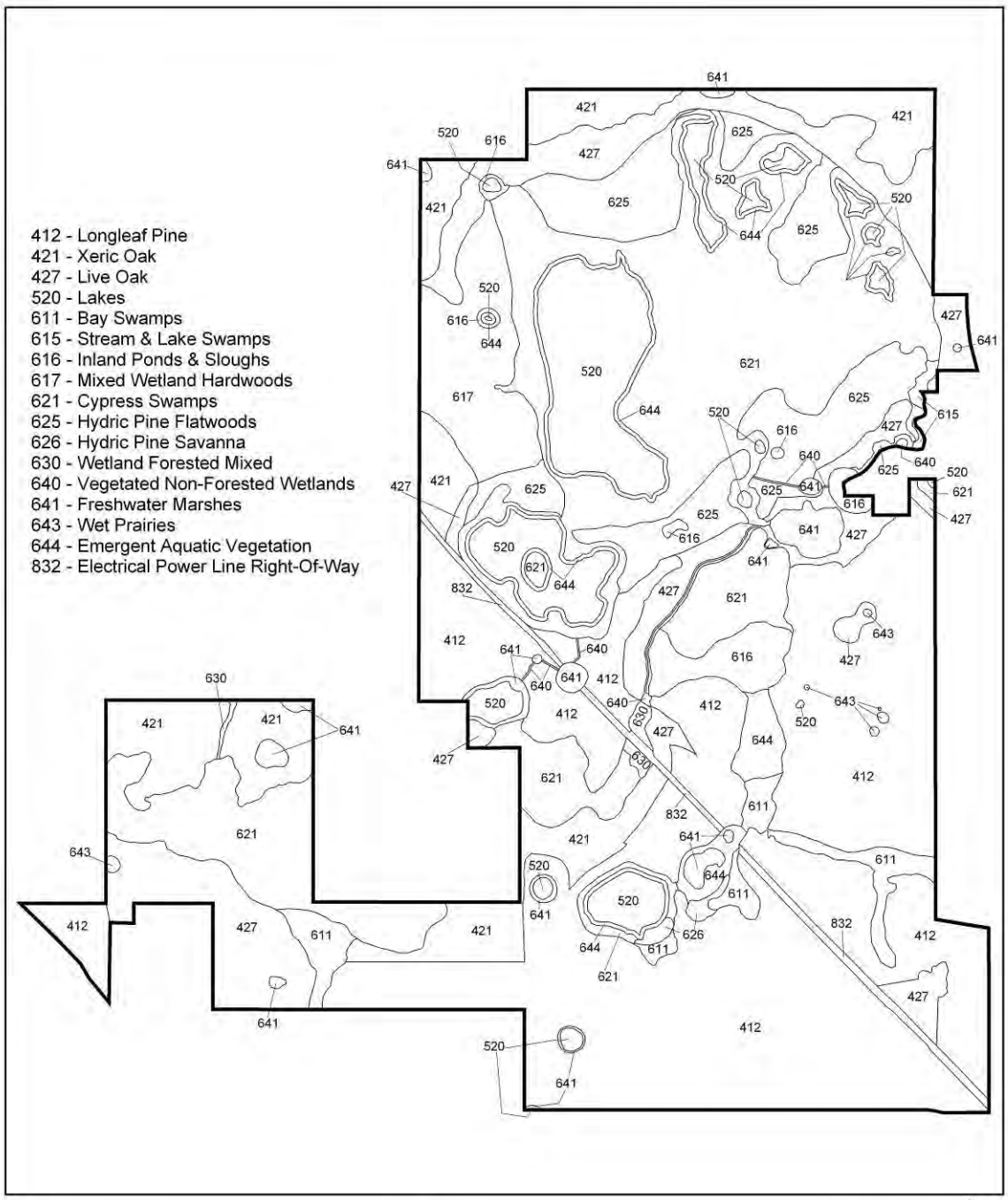


Exhibit 12

Existing FLUCCS



Post-restoration FLUCCS



COMMUNITY DESCRIPTIONS (FLUCCS[1])

FLUCCS 412 – Longleaf Pine / Xeric Oak (644 ac.). This category is roughly synonymous with the FNAI "Sandhill" classification. Canopy trees are about 66% dominated by longleaf pine, with an understory of turkey or other oaks, and a wiregrass-dominant groundcover.

FLUCCS 421 – Xeric Oak (266 ac.). This category is similar to FLUCCS 412 except that the canopy is more dominated by oaks instead of pine. Species common to this class include sand live oak, bluejack oak, turkey oak and sand post oak. In many cases longleaf pine may have been present in significant numbers prior to harvesting yet were never regenerated.

FLUCCS 427 – Live Oak (232 ac.). Often referred to as upland temperate hammock, this forest community is one in which live oak is either pure or predominant in the canopy. The principal associates of this cover type include sweetgum, magnolia, holly and laurel oak. This community is common along the upper banks of Florida's lakes and streams.

FLUCCS 520 – Lakes (146 ac.). At the Bank, this category consists of perennial open water associated with isolated sinkholes, formerly isolated sinkhole ponds that are now through-flow systems via extensive ditching, and large, gently-sloped solution ponds connected by ditching and natural flow paths.

FLUCCS 611 – Bay Swamp (42 ac.). Tree canopy is generally dominated by loblolly bay, sweetbay magnolia, and swamp bay. Slash pine and loblolly pine are often associated with these communities. The understory is generally dominated by titi, and often includes gallberry, fetterbush, and wax myrtle.

FLUCCS 615 – Stream and Lake Swamp (3 ac.). This community is essentially bottomland hardwood forest with common components that may include red maple, river birch, water oak, sweetgum, willow, tupelo, water hickory, bays, water ash and buttonbush. Associated species may include cypress, slash pine, loblolly pine and spruce pine.

FLUCCS 616 – Inland Ponds and Sloughs (33 ac.). At the Bank, cypress and gum are the dominant canopy species in these areas.

FLUCCS 617 – Mixed Wetland Hardwoods (75 ac.). These areas are composed of a large variety but ill defined mixture of hardwood species tolerant of hydric conditions.

FLUCCS 621 – Cypress Swamp (455 ac.). This community is composed of pond cypress or bald cypress which is either pure or predominant.

FLUCCS 625 – Hydric Pine Flatwoods (158 ac.). These areas are characterized by a moderate canopy of slash pine with some longleaf pine possibly occurring in higher spots. The groundcover contains wiregrass, forbs, and may contain sparse saw palmetto along drier edges.

---

[1] Descriptions of post-restoration vegetation communities have been modified from "Florida Land Use, Cover and Forms Classification System" Handbook, FDOT, January, 1999.

FLUCCS 626 – Hydric Pine Savanna (4 ac). These areas have a sparse canopy of slash pine and/or longleaf pine, with a groundcover of grasses, forbs, some pitcher plants and wetland shrubs.

Undifferentiated FLUCCS 630 – Wetland Forested Mixed (5 ac.). This category consists of mixed wetland forest communities in which neither hardwoods nor conifers achieve a >66% canopy dominance.

Undifferentiated FLUCCS 640 – Vegetated Non-Forested Wetland (3 ac.). This consists of seasonally flooded basins, meadows and ditches with a tree canopy closure of less than 10%.

FLUCCS 641 – Freshwater Marshes (31 ac.). Theses communities are dominated by species such as maidencane, needlerush, common reed and buttonbush.

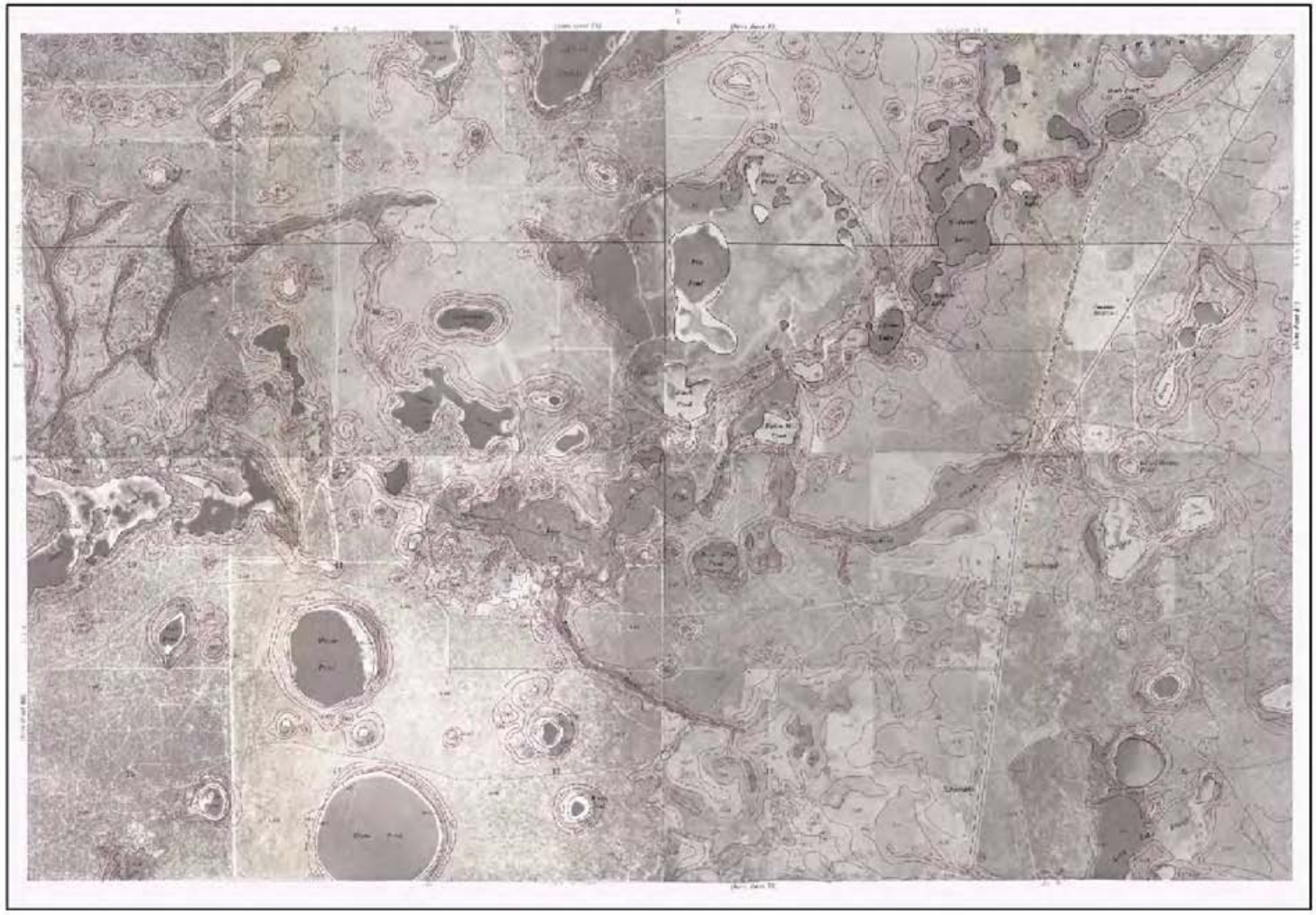
FLUCCS 643 – Wet Prairies (2 ac.). These communities are dominated by grassy vegetation on hydric soils, and are generally less wet than freshwater marshes.

FLUCCS 644 – Emergent Aquatic Vegetation (57 ac.). These areas are adjacent to ponds and include species such as duck weed, water lily and *Panicum* spp.

FLUCCS 810/830 – Transportation/Utilities (19 ac.). This area consists of the power line right-of-ways which will be maintained as native shrub and prairie vegetation and associated dirt roads, but was not included in the credit assessment.

Exhibit 13

Sand Hill Lakes Mitigation Bank Area - 1965 Soil Survey



Soils found on the Sand Hill Lakes Mitigation Bank*

Al**	Alluvial Land: Frequently flooded and varies greatly in drainage. The better-drained areas occur along the stream channels where the streams have enough velocity to form a deep channel. Water backs up in these areas and drainage is slow.
BfB	Blanton Fine Sand, 0 to 5 percent slopes: This soil is finer textured than Blanton sand and consequently has a slightly higher available moisture capacity. This soil series is well suited as woodland and makes good habitats for wildlife.
BnB***	Blanton sand, 0 to 5 percent slopes: 0 to 5 percent slopes: Moderately well drained soils of uplands consists of rapidly permeable, deep sand throughout the profile
BnC	Blanton sand, 5 to 8 percent slopes: This soil has stronger slopes and better surface drainage and lower water table than BnB.
EsB	Eustis coarse sand, 0 to 5 percent slopes: Well-drained to excessively well-drained soils of the uplands, deep and rapidly permeable.
EsC	Eustis coarse sand, 5 to 8 percent slopes: Well-drained soils to excessively well-drained soils of the uplands, deep and rapidly permeable.
KgB***	Klej sand, 0 to 5 percent slopes: Deep, moderately well-drained, strongly acidic soils that occur on uplands in nearly level to sloping areas.
LaB***	Lakeland coarse sand, 0 to 5 percent slopes: Deep, well-drained to excessively drained soils, strongly acidic sandy soils on nearly level to steep uplands.
LaC	Lakeland coarse sand, 5 to 8 percent slopes: Deep, well drained to excessively drained soils, strongly acidic sandy soils on nearly level to steep uplands.
LaD	Lakeland coarse sand 8-14 percent slopes: Deep, well-drained to excessively drained soils, strongly acidic sandy soils on nearly level to steep uplands.
LaF	Lakeland coarse sand, 12 to 45 percent slopes: Deep, well-drained to excessively drained soils, strongly acidic sandy soils on nearly level to steep uplands.
LdC	Lakeland sand, 5 to 8 percent slopes: This is a well-drained soils to excessively drained soil on a broad variety of ridges on the uplands
Lo	Leon coarse sand: This somewhat poorly drained, nearly level, sandy soil of the uplands has a strongly cemented organic pan at a depth of 14 to 30 inches.
Pm	Plummer soils: These deep, poorly drained soils of the uplands have a very shallow water table and consist of sand to fine sand throughout.
Ru	Rutlege loamy fine sand: This poorly drained to very poorly drained, acidic soils that developed from thick beds of sand and loamy sand.
Sw**	Swamp: Soils covered by water except during periods of extreme drought.

* United States Department of Agriculture. May 1965. Soil Survey of Washington County Florida. Soil Conservation Service in Cooperation with Florida Agricultural Experiment Stations. Series 1962, No. 2

**Wetland soils (~ 50% of the property)
*** Dominant upland soil types

Exhibit 14

Sand Hill Lakes Mitigation Bank

(Potential Erosion Stabilization Sites)

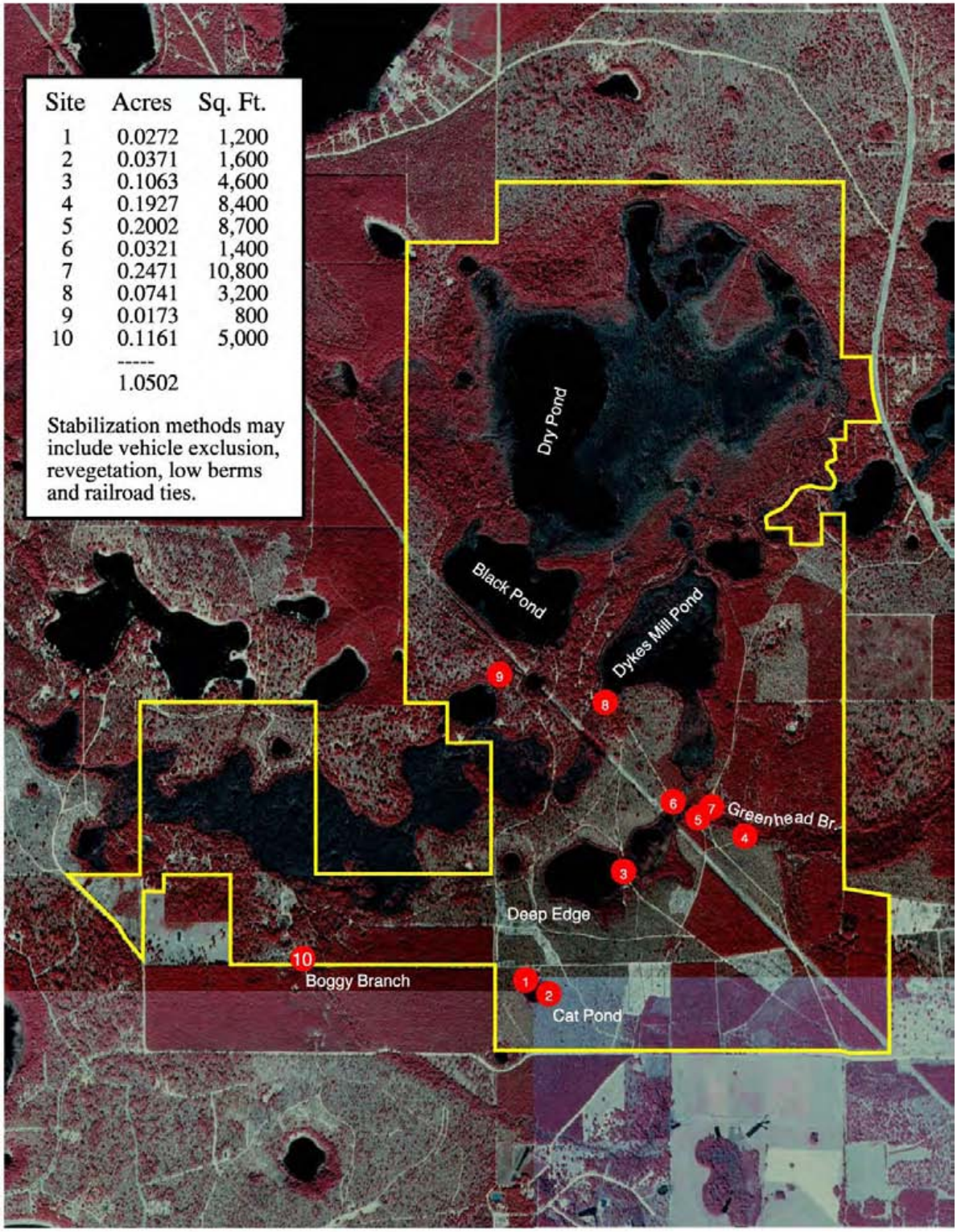


Exhibit 15

Roads / Gates / Access

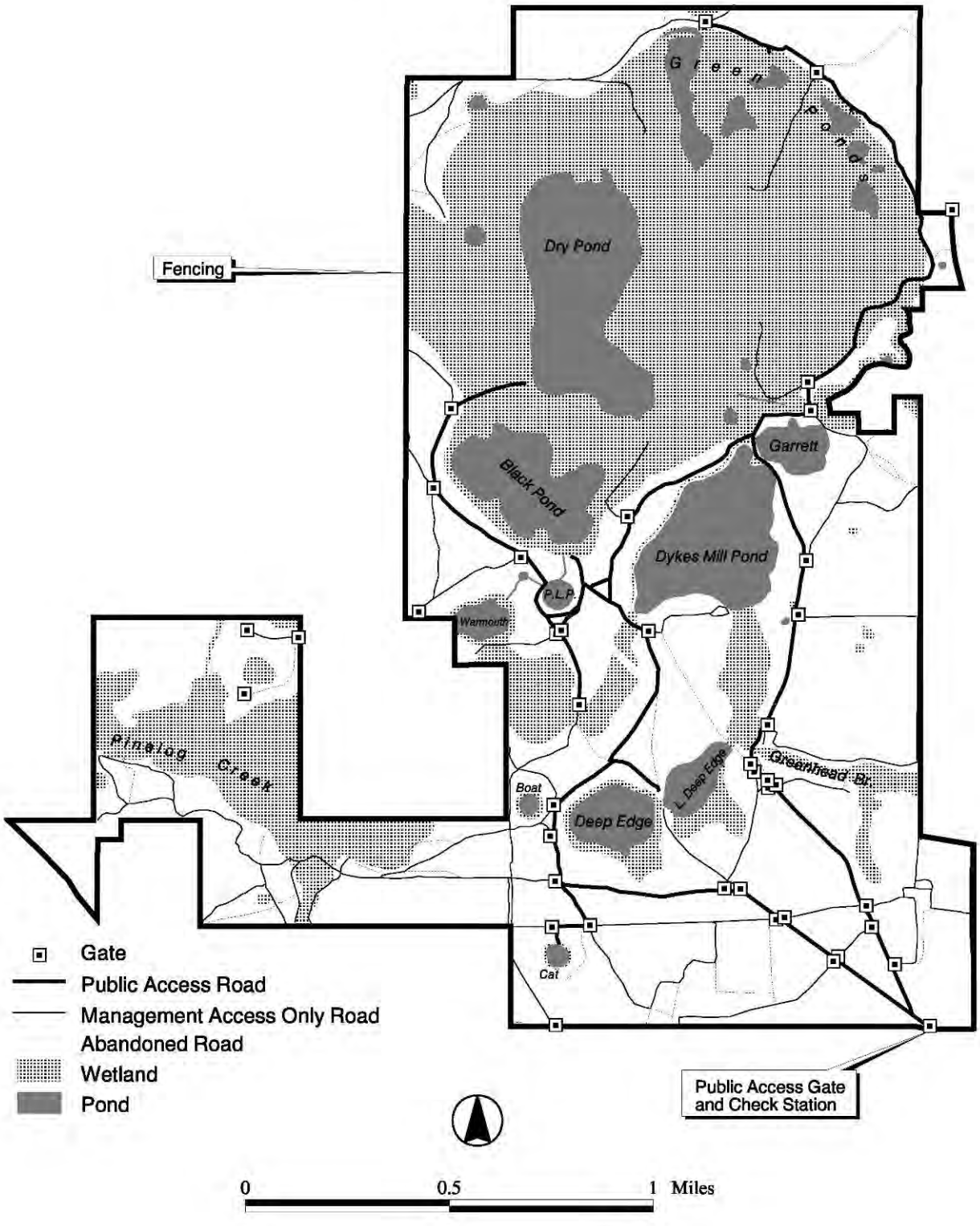


Exhibit 16

MANAGEMENT PLAN

(Fire Regime / Tasks / Timeframe / Success Criteria / Monitoring)

Management Unit 1

WRAP Polygon(s): A, G, I, K, M, P, T, U
UMAM Polygon(s): Portions of IV

FLUCCS: 621 – Cypress
617 – Mixed Wetland Hardwoods
644 – Emergent Aquatic Wetlands
611 – Bay Swamps
641 – Freshwater Marshes
616 – Inland Ponds and Sloughs
640 – Vegetated Non-Forested Wetlands
643 – Wet Prairies

Acreage: 574.839

Goal: Preservation of existing wetland communities.

Current Conditions: High quality wetland habitats.

Fire Regime:

- No prescribed fire is planned or generally warranted for these areas. However, fire from adjacent polygons may be allowed to burn into these areas as far as it is able to do so (i.e., these areas are not anticipated to be isolated by firebreaks) when conditions allow and when it would not result in a catastrophic fire or loss of canopy trees. It is generally anticipated that fire will not be able to carry in these wetlands, with the exception of the isolated Freshwater Marshes and Wet Prairies which may carry fire during dry periods.

Management Tasks:

- No active manipulation of existing vegetation or site conditions. Ecological value is garnered from preservation of habitat, buffer improvements and ensuring continuation of appropriate hydrology.
- Qualitative assessments of vegetation / habitat conditions.
- Replacement of dam at Black Pond.
- Replacement of authorized bridges / culvert.
- Monitoring for nuisance / exotic plant species.
- Install permanent staff gages and begin monthly monitoring of water levels at selected locations. The NWFWMD may opt to use continuous recorders and install additional staff gages at other sites. Initial staff gage sites are:
    - Deep Edge Pond (road-fill removal site)

    - Little Deep Edge Pond (road-fill removal site)
    - Dykes Mill Pond
    - Power Line Pond
    - Black Pond
    - Pine Log Creek (road-fill removal site)
    - Channel (Joiner Lake to Green Ponds)
    - Ditch (Joiner Lake to Dry Pond)
- Perpetual management for ecological integrity.
- Periodic inspections / maintenance of Black Pond dam.

Anticipated Timeframe:

2005

- Qualitative assessment of vegetation / habitat conditions.
- Installation of permanent staff gages.

2006

- Replacement of Black Pond Dam.
- Begin annual monitoring of vegetation / habitat conditions.
- Begin monthly monitoring of water levels.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Pedestrian survey meander paths (during wet periods, some meander paths in Management Unit 1 may require use of a kayak or canoe).
- Photo-documentation (permanent photo-points and along pedestrian survey meander paths).
- Water levels (monthly).

Management Unit 2

WRAP Polygon(s): D, E
UMAM Polygon(s): V

FLUCCS: 625 – Hydric Pine Flatwoods

Acreage: 146.678

Goal: Enhancement / restoration of degraded hydric pine flatwoods.

Current Conditions: Degraded by fire exclusion and dense titi / lyonia.

Fire Regime:

- Initial dormant-season burns to reduce fuel levels.
- Growing-season burns (anticipated 3 to 5-year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions.

Management Tasks:

- Qualitative assessments of existing vegetation structure.
- Reduction of shrub layer (primarily titi, gallberry and fetterbush) by roller chopping, gyrotrak, and/or hydro-axe if needed to reduce titi / lyonia. Selective thinning of pine may be required to enable roller chopping, gyrotrak, and/or hydro-axe.
- Initial fuel-reduction burns.
- Initiation of growing-season burns.
- Planting of a mixture of longleaf pine and slash pine at 436 trees per acre. Longleaf pine will be planted on dryer sites, whereas slash pine will be planted on wetter sites.
- Planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre.
- Direct seeding of wet flatwood and wet prairie species where desirable wet prairie and wet flatwood species cover is < 40% two years after initiation of mitigation activities. Direct seeding may occur over a 3 year period depending on the availability of appropriate seed source.
- Annual vegetation monitoring, including monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Anticipated Timeframe:

2005-2007

- Qualitative assessment of vegetation / habitat conditions.
- Initial fuel-reduction burns.
- Shrub layer reduction. Roller chopping, gyrotrak, and/or hydro-axe if needed. Selective thinning of pines as needed to enable roller chopping, gyrotrak, and/or hydro-axe.
- Planting of a mixture of longleaf pine and slash pine at 436 trees per acre.

- Begin annual vegetation monitoring.
- Begin growing-season burns as conditions allow.
- Begin planting of wiregrass and direct seeding of appropriate wet prairie / wet flatwoods species as needed. This may occur over a 3 year period depending on the availability of appropriate seed source

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Increasing herbaceous groundcover.
- Decreasing density of woody shrub layer.
- Planted pines are surviving and healthy.
- Prescribed burns have been conducted in accordance with fire management plan.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Gallberry, wax myrtle, titi and other woody shrubs are no taller than the coppice sprouts that could have arisen from root crowns following the most recent fire.
- Fire-adapted, native, wet flatwoods / wet prairie herbaceous species average at least 55% cover.
- The average cover of graminoids is 60% or greater of the herbaceous groundcover, and the collective cover of pioneer *Andropogon spp*. (except *A. liebmannii*) does not exceed 25% of the graminoids.
- Longleaf pine and/or slash pine averages 100-200 trees per acre. If pine densities are greater than 200 trees per acre, the pines shall be thinned to achieve the target stocking rater prior to a final determination of success.

Annual Monitoring:

- Photo-documentation (permanent photol-points and along pedestrian survey meander paths).
- Pedestrian survey meander paths.
- Vegetation transects.

Management Unit 3

WRAP Polygon(s): F
UMAM Polygon(s): VII

FLUCCS: 625 – Hydric Pine Flatwoods restored from 441 – Slash Pine Plantation

Acreage: 11.532

Goal: Restoration of hydric pine flatwoods from existing bedded slash pine plantation.

Current Conditions: Bedded slash pine plantation.

Fire Regime:

- Initial dormant-season burns, as necessary, to reduce fuel levels.
- Growing-season burns (anticipated 1 to 3-year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions.

Management Tasks:

- Qualitative assessments of existing vegetation structure.
- Reduction of shrub layer (primarily titi, gallberry and fetterbush) by roller chopping, gyrotrak, and/or hydro-axe if needed to reduce titi / lyonia.
- Initial fuel-reduction burns, as necessary.
- Initiation of growing-season burns.
- Thinning of planted slash pine to 200 or fewer trees per acre.
- Planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre.
- Direct seeding of wet flatwood and wet prairie species where desirable wet prairie and wet flatwood species cover is < 40% two years after initiation of mitigation activities. Direct seeding may occur over a 3 year period depending on the availability of appropriate seed source.
- Annual vegetation monitoring, including monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Anticipated Timeframe:

2005-2006

- Qualitative assessment of vegetation / habitat conditions.
- Shrub layer reduction. Roller chopping, gyrotrak and/or hydro-axe if needed.
- Planting longleaf pine and slash pine.
- Initial fuel-reduction burns, as necessary.
- Begin annual vegetation monitoring.
- Begin growing-season burns as conditions allow.

- Begin planting of wiregrass and direct seeding of appropriate wet prairie / wet flatwoods species as needed. This may occur over a 3 year period depending on the availability of appropriate seed source.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Increasing herbaceous groundcover.
- Decreasing density of woody shrub layer.
- Planted slash pine reduced to ≤ 200 trees per acre.
- Prescribed burns have been conducted in accordance with fire management plan.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Gallberry, wax myrtle, titi and other woody shrubs are no taller than the coppice sprouts that could have arisen from root crowns following the most recent fire.
- Fire-adapted, native, wet flatwoods / wet prairie herbaceous species shall average at least 55% cover.
- The average cover of graminoids is 60% or greater of the herbaceous groundcover, and the collective cover of pioneer *Andropogon spp*. (except *A. liebmannii*) does not exceed 25% of the graminoids.
- Longleaf pine and/or slash pine averages 100-200 trees per acre. If pine densities are greater than 200 trees per acre, the pines shall be thinned to achieve the target stocking rater prior to a final determination of success.

Annual Monitoring:

- Photo-documentation (permanent photo-points and along vegetation transect).
- Vegetation transect.

Management Unit 4

WRAP Polygon(s): B
UMAM Polygon(s): Portions of IV

FLUCCS: 621 - Cypress

Acreage: 40.319

Goal: Enhancement / restoration of cypress swamp.

Current Conditions: Cypress swamp degraded by altered hydrology.

Fire Regime: None

Management Tasks:

- Qualitative assessments of existing vegetation / habitat conditions.
- Removal of Dykes Mill Pond dam.
- Removal of road-fill between Deep Edge Pond / Little Deep Pond, and between Little Deep Edge Pond and Dykes Mill Pond.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Anticipated Timeframe:

2005

- Qualitative assessments of existing vegetation / habitat conditions.

2006

- Removal of Dykes Mill Pond dam.
- Removal of road-fill at Deep Edge / Little Deep Edge ponds and Little Deep Edge / Dykes Mill ponds.
- Begin annual monitoring for nuisance / exotic vegetation species.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Improving in ecological function.

Annual Monitoring:

- Photo-documentation (permanent photo-points and along pedestrian survey meander paths).
- Pedestrian survey meander paths.

Management Unit 5

WRAP Polygon(s): O
UMAM Polygon(s): Dykes Mill portion of VI

FLUCCS: 616 – Inland Ponds and Sloughs restored from 520 – Lakes

Acreage: 24.880

Goal: Restoration of slough / marsh from open water portion of Dykes Mill Pond.

Current Conditions: Open water pond subject to natural drawdown during drought.

Fire Regime: None

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Removal of Dykes Mill Pond dam.
- Planting of cypress and black gum saplings (not including areas where open water remains after removal of the Dykes Mill Pond dam) at a rate of 300 trees per acre. Up to 20% of Management Unit 5 may remain as open water. Herbaceous and shrub species are anticipated to naturally regenerate. However, if after 2 years, the native wetland understory is < 50%, native wetland species appropriate to the community will be planted on 6' centers.
- Annual vegetation monitoring, including monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Anticipated Timeframe:

2005

- Qualitative assessments of existing vegetation / habitat conditions.

2006-2007

- Removal of Dykes Mill Pond dam.
- Planting of cypress and black gum saplings.
- Begin annual monitoring of vegetation / habitat conditions

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Planted cypress and black gum trees are healthy and collectively demonstrate annual measurable growth beginning 2 years after planting.
- Herbaceous and shrub species are naturally regenerating and, after 2 years, have a coverage of ≥ 50% of the non-open water areas. If after 2 years, the native wetland understory is < 50%, native wetland species appropriate to the community will be planted on 6' centers.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Planted cypress and black gum trees are healthy and collectively demonstrate annual measurable growth.
- Appropriate herbaceous and shrub species are naturally regenerating and have a coverage of ≥ 50% of the non-open water areas.

Annual Monitoring:

- Photo-documentation (permanent photo-points and along vegetation transect).
- Vegetation transect.

Management Unit 6

WRAP Polygon(s): H
UMAM Polygon(s): Portions of IV

FLUCCS: 644 – Emergent Aquatic Vegetation

Acreage: 23.484

Goal: Enhancement of degraded emergent aquatic vegetation.

Current Conditions: Emergent aquatic vegetation degraded by altered hydrology.

Fire Regime: None

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Removal of Dykes Mill Pond dam.
- Removal of road-fill between Deep Edge Pond / Little Deep Pond, and between Little Deep Edge Pond and Dykes Mill Pond.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Timeframe:

2005

- Qualitative assessments of existing vegetation / habitat conditions.

2006

- Removal of Dykes Mill Pond dam.
- Removal of road-fill at Deep Edge / Little Deep Edge ponds and Little Deep Edge / Dykes Mill ponds.
- Begin annual monitoring of vegetation / habitat conditions.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Photo-documentation (permanent photo-points).

Management Unit 7

WRAP Polygon(s): J
UMAM Polygon(s): Portions of IV

FLUCCS: 611 – Bay Swamps

Acreage: 29.106

Goal: Preservation and enhancement of bay swamp habitat.

Current Conditions: Generally high-quality wetlands.

Fire Regime: None

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Stabilization of erosion areas on Greenhead Branch.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Timeframe:

2005

- Qualitative assessments of vegetation / habitat conditions.

2006

- Begin annual monitoring of vegetation / habitat conditions.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Photo-documentation (permanent photo-points).

Management Unit 8

WRAP Polygon(s): S
UMAM Polygon(s): Portions of IV

FLUCCS: 626 – Hydric Pine Savanna

Acreage: 4.490

Goal: Enhancement of hydric pine savanna.

Current Conditions: Degraded hydric pine savanna.

Fire Regime:

- Growing-season burns (anticipated 1-3 year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions.

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Implementation of appropriate fire regime.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Timeframe:

2005

- Qualitative assessments of vegetation / habitat conditions.

2006

- Begin annual monitoring of vegetation / habitat conditions.
- Implement prescribed fire as conditions allow.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Photo-documentation (permanent photo-points).

Management Unit 9

WRAP Polygon(s): C, L
UMAM Polygon(s): Portions of VI

FLUCCS: 621 – Cypress and 611 – Bay Swamps restored from 814 – Roads and Highways

Acreage: 0.249

Goal: Restoration of cypress and bay swamp from existing road-fill.

Current Conditions: Dirt road stream-crossing.

Fire Regime: None

Management Tasks:

- Removal of road-fill to natural grade.
  - Pine Log Creek crossing.
  - Deep Edge / Little Deep Edge crossing.
  - Little Deep Edge / Dykes Mill crossing.
- Planting of cypress and black gum on footprint of road-fill at 300 trees per acre. Herbaceous and shrub species are anticipated to naturally regenerate. However, if after 2 years, the native wetland understory is < 50%, native wetland species appropriate to the community will be planted on 6' centers.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Timeframe:

2006

- Removal of road-fill at 3 stream-crossings.
- Planting cypress and black gum on road-fill footprints.
- Begin annual monitoring of vegetation / habitat conditions.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Planted cypress and black gum trees are healthy and collectively demonstrate annual measurable growth beginning 2 years after planting.
- Herbaceous and shrub species are naturally regenerating and, after 2 years, have a coverage of ≥ 50%. If after 2 years, the native wetland understory is < 50%, native wetland species appropriate to the community will be planted on 6' centers.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.

- Planted cypress and black gum trees are healthy and collectively demonstrate annual measurable growth.
- Appropriate herbaceous and shrub species are naturally regenerating and have a coverage of ≥ 50%.

Annual Monitoring:

- Photo-documentation (permanent photo-points or general photographs of area).

Management Unit 10

WRAP Polygon(s): Not Applicable
UMAM Polygons: III

FLUCCS: 421 – Xeric Oak
427 – Live Oak

Acreage: 493.852

Goal: Preservation and management with fire of upland sandhill communities dominated by oaks.

Current Conditions: Sandhills community, historically dominated by longleaf pine / wiregrass

Fire Regime:

- Growing-season burns (anticipated 3 to 5-year and 5 to 7-year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions. More mesic sites are not expected to carry fire or to carry fire well.

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Initial fuel-reduction burns.
- Initiation of growing-season burns.
- Reduction of oak in portions of management unit as selected by QMS (Qualified Mitigation Supervisor).
- Supplemental planting of longleaf pine (436 trees per acre) and wiregrass (6' centers or direct seeding as 2-5 lbs. per acre) as decided by QMS (Qualified Mitigation Supervisor).
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Timeframe:

2004-2005

- Qualitative assessments of vegetation / habitat conditions.
- Initial prescribed burns.
- Oak reduction in portions of management unit as selected by QMS (Qualified Mitigation Supervisor).
- Supplemental planting of longleaf pine (436 trees per acre) as decided by QMS (Qualified Mitigation Supervisor).

2006-2007

- Continuation of growing-season burns.
- Begin annual vegetation monitoring.
- Supplemental planting of wiregrass (6' centers or direct seeding as 2-5 lbs. per acre) as decided by QMS (Qualified Mitigation Supervisor) and dependent upon availability.

- Additional supplemental planting of longleaf pine (436 trees per acre) as decided by QMS (Qualified Mitigation Supervisor) may occur.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Pedestrian survey meander paths.
- Photo-documentation (permanent photo-points and along pedestrian survey meander paths).

Management Unit 11

WRAP Polygon(s): Not Applicable
UMAM Polygon(s): II

FLUCCS: 411 – Longleaf Pine / Wiregrass (Mesic Pine Flatwoods) Restored from 4411 – Sand Pine Plantation
411 – Longleaf Pine / Wiregrass (Mesic Pine Flatwoods) Restored from 411 – Pine Plantation (Slash)

Acreage: 383.484

Goal: Restoration of sandhills community (longleaf pine / wiregrass) from pine plantation.

Current Conditions: Pine plantation.

Fire Regime:

- Growing-season burns (anticipated 3 to 5-year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions. Burns may also be postponed at the discretion of the QMS (Qualified Mitigation Supervisor) when planted longleaf pine are in growth stages vulnerable to fire.

Management Tasks:

- Removal (harvesting and/or eradication) of pine plantation. Volunteer sand pine may require additional eradication efforts several years after initial removal.
- Planting of longleaf pine (436 trees per acre).
- Planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre.
- Monitoring for nuisance / exotic plant species.
- Implementation of fire regime.
- Perpetual management for ecological integrity.

Timeframe:

2006-2007

- Removal of pine plantation.
- Planting of longleaf pine at 436 trees per acre.
- Planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre. Planting of wiregrass may occur over a 3 year period depending on the availability.
- Implementation of prescribed fire as conditions allow.
- Implementation of annual monitoring.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Increasing herbaceous groundcover.
- Planted pines are surviving and healthy.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Fire-adapted, native herbaceous species shall average at least 70% cover.
- Woody shrubs are limited to a maximum of 20% cover.
- Longleaf pine averages 100-200 trees per acre. If longleaf pine densities are greater than 200 trees per acre, the pines shall be thinned to achieve the target stocking rate prior to a final determination of success.

Annual Monitoring:

- Photo-documentation (permanent photo-points and general photography along pedestrian survey meander paths).
- Pedestrian survey meander paths.
- Vegetation transect.

Management Unit 12

WRAP Polygon(s): Not Applicable
UMAM Polygon(s): I

FLUCCS: 411 – Longleaf Pine / Wiregrass (Mesic Pine Flatwoods) restored from 421 – Xeric Oak

Acreage: 263.52

Goal: Restoration of sand hills community (longleaf pine /wiregrass).

Current Conditions: "Cutover" sandhills dominated by turkey oak.

Fire Regime:

- Growing-season burns (anticipated 1 to 3-year and 3 to 5-year burn cycles). Burn cycles may be modified based on fuel levels and vegetation conditions. Burns may also be postponed at the discretion of the QMS (Qualified Mitigation Supervisor) when planted longleaf pine are in growth stages vulnerable to fire.

Management Tasks:

- Removal of oak ≤ 12 inches DBH and herbicide treatment of stumps.
- Planting of longleaf pine (436 trees per acre).
- Planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre.
- Monitoring for nuisance / exotic plant species.
- Implementation of fire regime.
- Perpetual management for ecological integrity.

Timeframe:

2005

- Oak eradication.
- Planting of longleaf pine.
- Implementation of prescribed fire as conditions allow.

2006-2007

- Begin planting of wiregrass (either tubelings on 3' centers or seeding at 2-5 lbs. per acre) where existing wiregrass cover is < 25% per acre. Planting of wiregrass may occur over a 3 year period depending on the availability.
- Implementation of annual monitoring.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Increasing herbaceous groundcover.

- Planted pines are surviving and healthy.
- Oaks have been effectively reduced and are showing minimal re-growth.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Fire-adapted, native herbaceous species shall average at least 70% cover.
- Woody shrubs are limited to a maximum of 20% cover. Oaks are showing minimal re-growth.
- Longleaf pine averages 100-200 trees per acre. If longleaf pine densities are greater than 200 trees per acre, the pines shall be thinned to achieve the target stocking rate prior to a final determination of success.

Annual Monitoring:

- Photo-documentation (permanent photo-points and general photography along pedestrian survey meander paths).
- Pedestrian survey meander paths.

Management Unit 13

WRAP Polygon(s): N
UMAM Polygon(s): Portions of IV

FLUCCS: 641 – Freshwater Marshes

Acreage: 3.852

Goal: Enhancement / restoration of freshwater marsh.

Current Conditions: Degradation from improper hydrologic regime.

Fire Regime: None

Management Tasks:

- Qualitative assessments of vegetation / habitat conditions.
- Removal of Dykes Mill Pond dam.
- Removal of road-fill between Deep Edge Pond / Little Deep Pond, and between Little Deep Edge Pond and Dykes Mill Pond.
- Monitoring for nuisance / exotic plant species.
- Perpetual management for ecological integrity.

Anticipated Timeframe:

2005

- Qualitative assessments of existing vegetation / habitat conditions.

2006

- Removal of Dykes Mill Pond dam.
- Removal of road-fill at Deep Edge / Little Deep Edge ponds and Little Deep Edge / Dykes Mill ponds.
- Begin annual monitoring for nuisance / exotic vegetation species.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Photo-documentation (general photography).

Management Unit 14

WRAP Polygon(s): Not Applicable
UMAM Polygon(s): Portions of IV

FLUCCS: 520 – Lakes
832 – Electrical Power Transmission Lines

Acreage: 164.958

Goal: Preservation of lakes and maintenance of power line right-of-way.

Current Conditions: Open water lakes and power line right-of-way.

Fire Regime: None, except of portions of power line right-of-way

Management Tasks:

- Management of power line right-of-way in an ecologically appropriate manner.
- Monitoring for nuisance / exotic plant species.
- Enforcement of "Security and Public Use Plan" (see Exhibit 26) regarding prohibition of public use of motor boats, limits on number of fisher-persons / hunters, and kayak / canoe access.
- Perpetual management for ecological integrity.

Timeframe:

2005

- Baseline assessments of current conditions.

Post-2005

- Mowing / management of power line right-of-way.
- Monitoring of water levels in selected lakes.

Interim Success Criteria:

- Exotic vegetation cover < 2% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Final Success Criteria:

- Exotic vegetation cover < 1% per acre.
- Nuisance native vegetation cover < 5% per acre.
- Maintaining or improving in ecological function.

Annual Monitoring:

- Photo-documentation (general photography).

Stabilization of Eroding Sites Impacting Wetlands

EROSION STABILIZATION SITES			
Site	Location	Acres	Vegetation Planting Plan
1	Cat Pond – Northwest (Management Unit 12)	0.0272	Longleaf pine at 436 trees / acre Wiregrass (plugs or direct seeding)[a]
2	Cat Pond – East (Management Unit 12)	0.0371	-Same As Above-
3	Deep Edge / L. Deep Edge (Management Unit 12)	0.1063	-Same As Above-
4	Greenhead Branch (Management Unit 12)	0.1927	-Same As Above-
5	Greenhead Branch (Management Unit 12)	0.2002	-Same As Above-
6	L. Deep Edge / Dykes Mill (Management Unit 12)	0.0321	-Same As Above-
7	Greenhead Crossing – North (Management Unit 11)	0.2471	-Same As Above-
8	Dykes Mill Dam (Management Unit 12)	0.0741	-Same As Above-
9	Power Line / Warmouth Ditch (Management Unit 10)	0.0173	Appropriate slope stabilization vegetation as determined by QMS
10	Boggy Branch (Management Unit 10)	0.1161	Longleaf pine at 436 trees / acre Wiregrass (plugs or direct seeding)
		1.0502	

[a]Wiregrass plugs, if used, will be planted on 6' centers. Direct seeding of wiregrass, if employed, will be at a rate of 2-5 lbs. per acre. The Qualified Mitigation Supervisor (QMS) will decide which method to use.

Stabilization Techniques—the QMS will determine the appropriate slope stabilization methods to be used. In addition to revegetation, methods may include vehicle exclusion, railroad ties, and slope contouring as necessary.

Anticipated Timeframe—2006/2007. Wiregrass planting will be dependent upon seed/plug availability.

Interim Success Criteria:

- Erosion areas are stabilized.
- Vegetation cover is increasing.

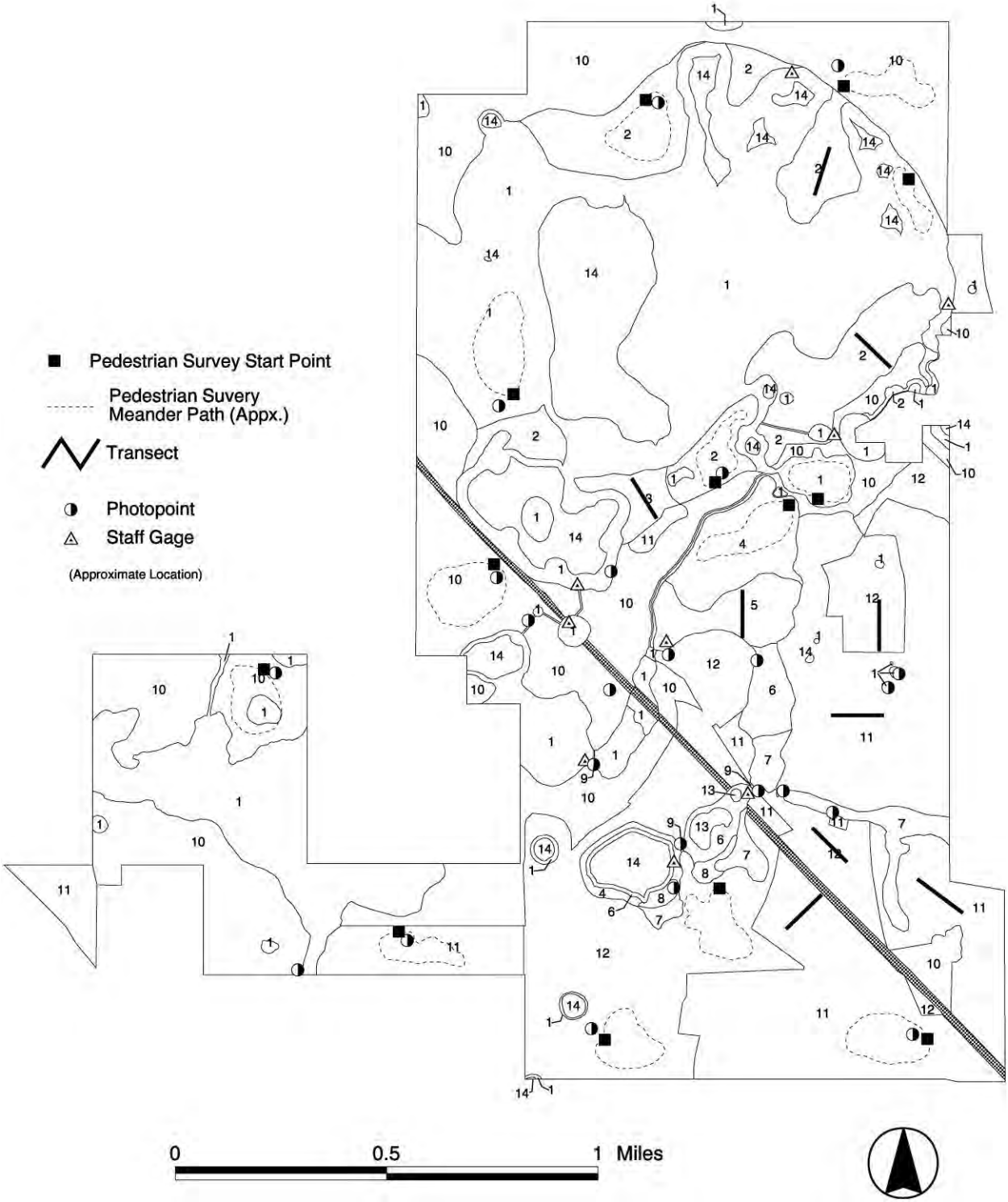
Final Success Criteria:

- Slopes stabilized with no evidence of erosion.
- Non-nuisance, native vegetation is healthy, reproducing naturally and exhibiting the cover and diversity typical of the surrounding landscape.

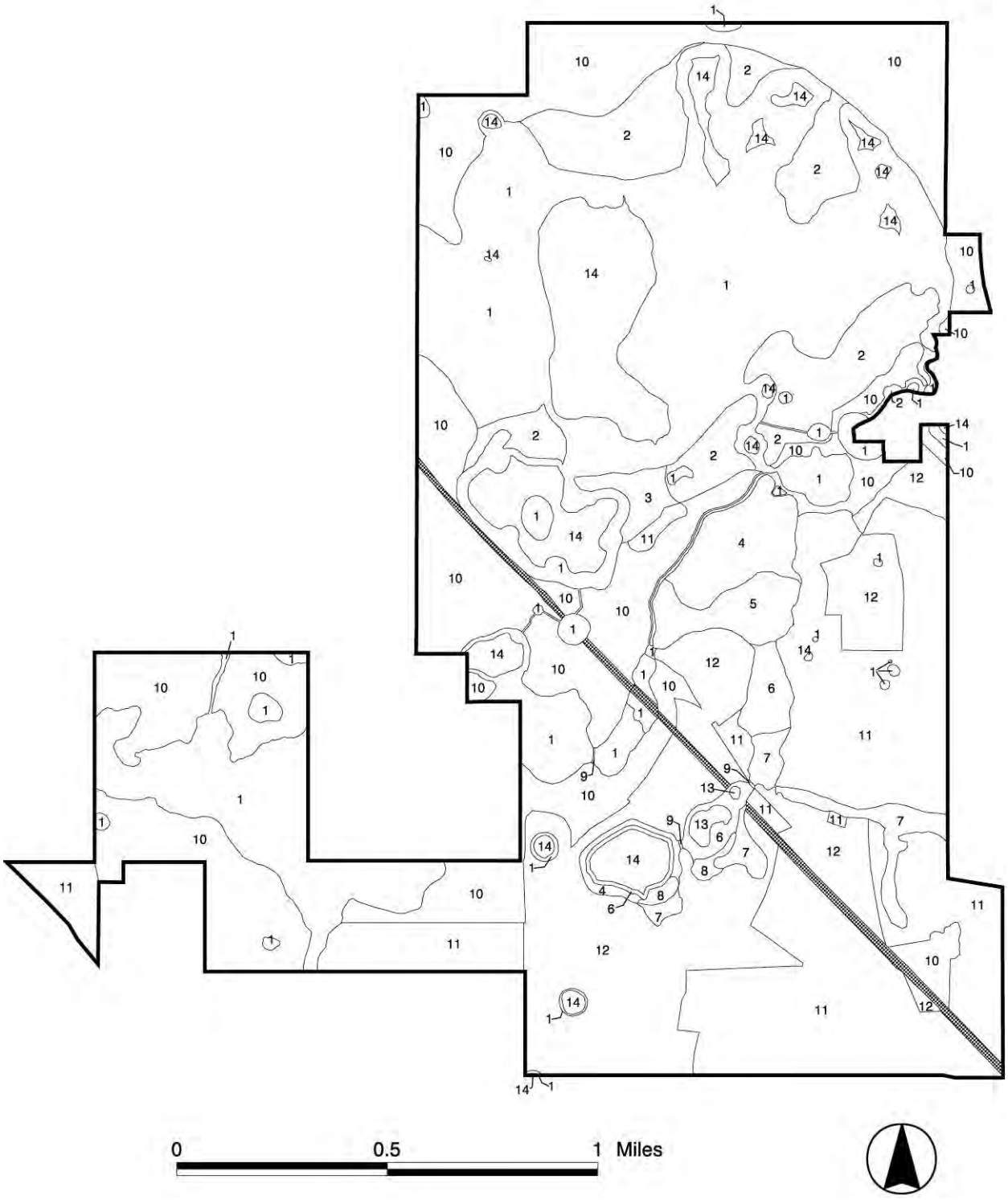
NOTES

1. Results of annual monitoring of Management Units will be used for adaptive management decisions (e.g., altered fire schedule, exotics removal, etc.). Annual monitoring described above shall continue through attainment of Final Success Criteria. After attainment of Final Success Criteria, monitoring will be continued at a reduced level of effort necessary to ensure perpetual management for ecological integrity.
2. Management tasks involving hydrologic improvements (e.g., Black Pond dam, Dykes Mill Pond dam, road-fill removal sites, etc.) are generally applicable to multiple Management Units.

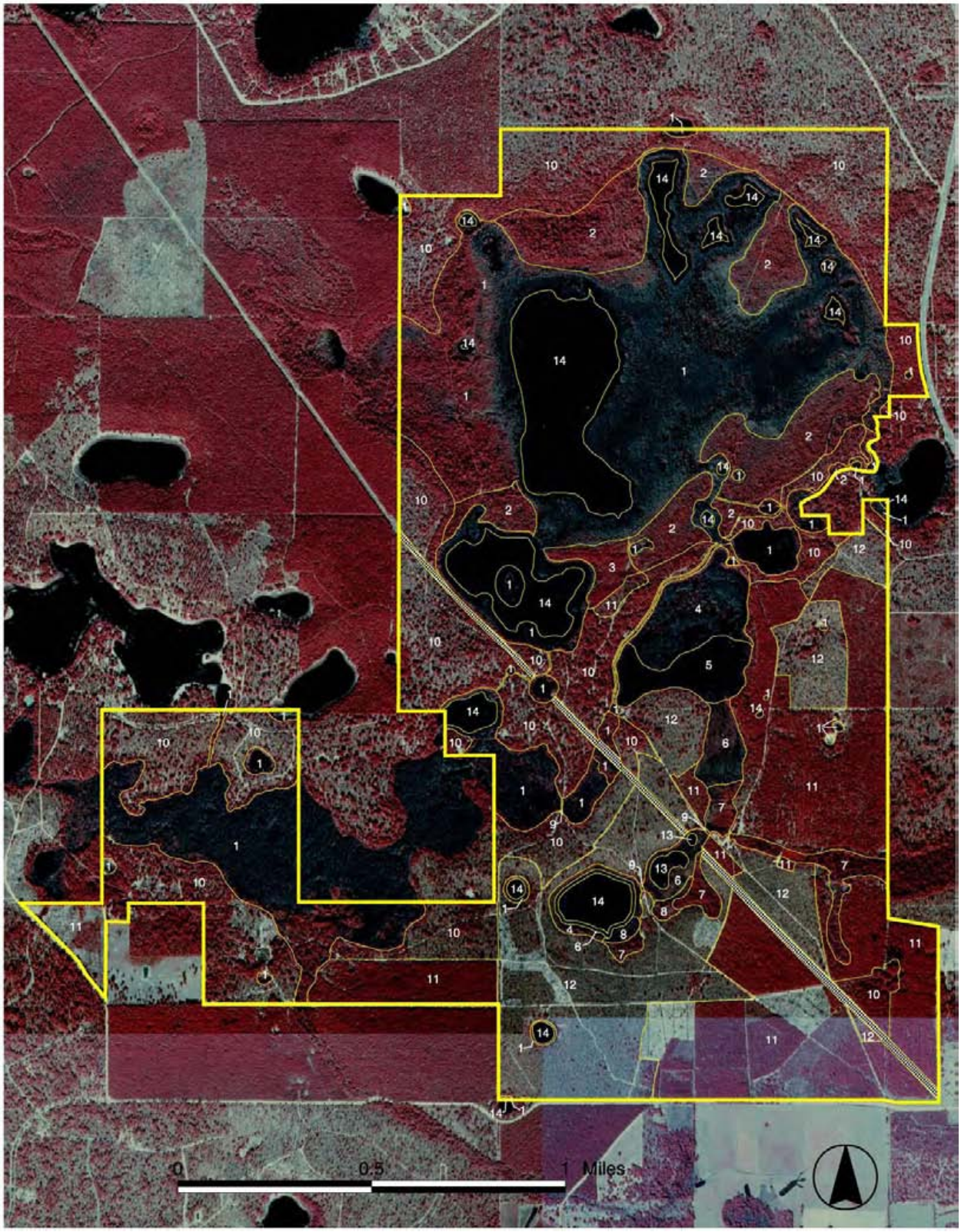
Monitoring


Pedestrian Survey Start Point
Pedestrian Suvery Meander Path (Appx.)
Transect
Photopoint
Staff Gage
(Approximate Location)
0
0.5
1 Miles

Management Units

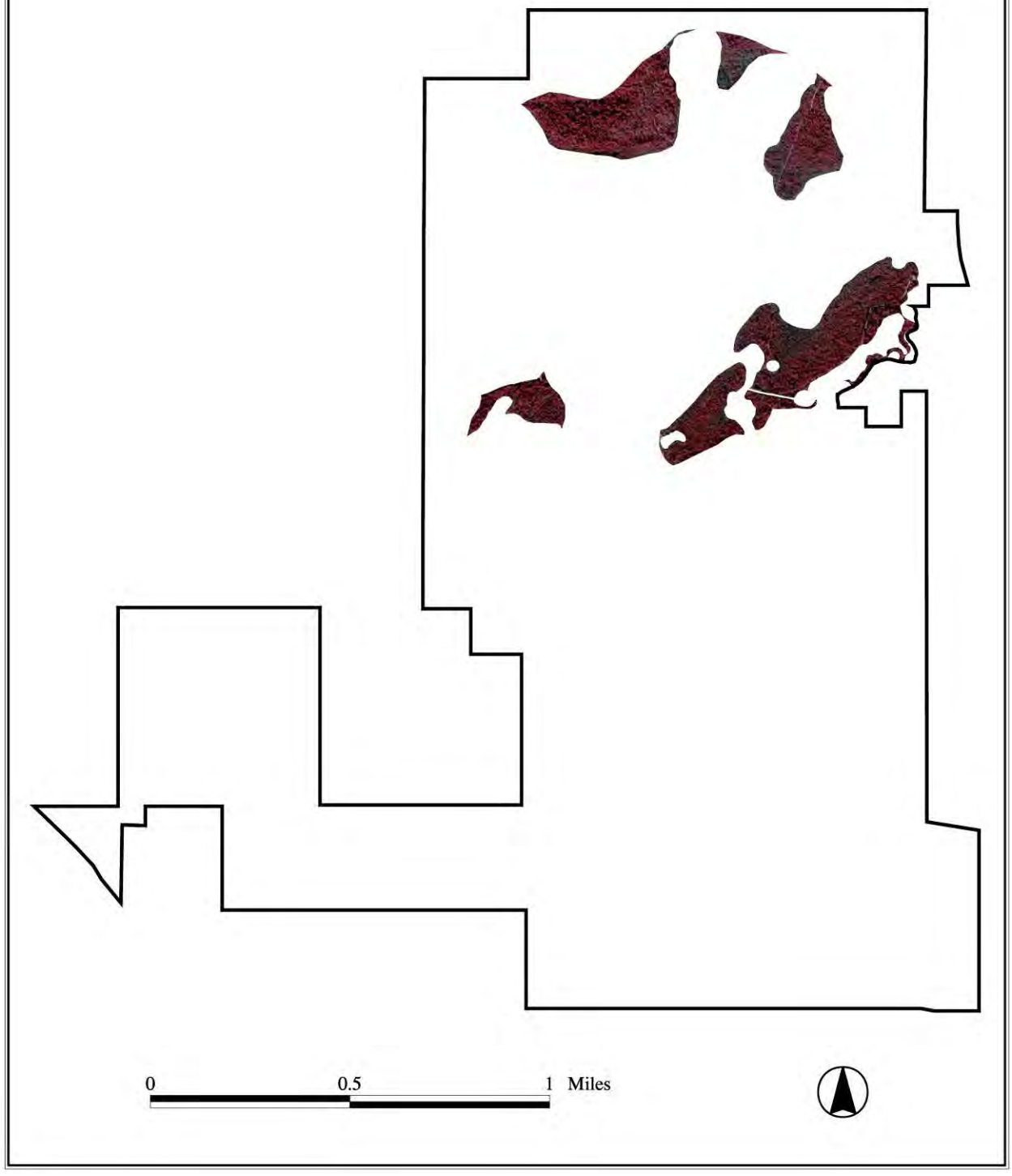


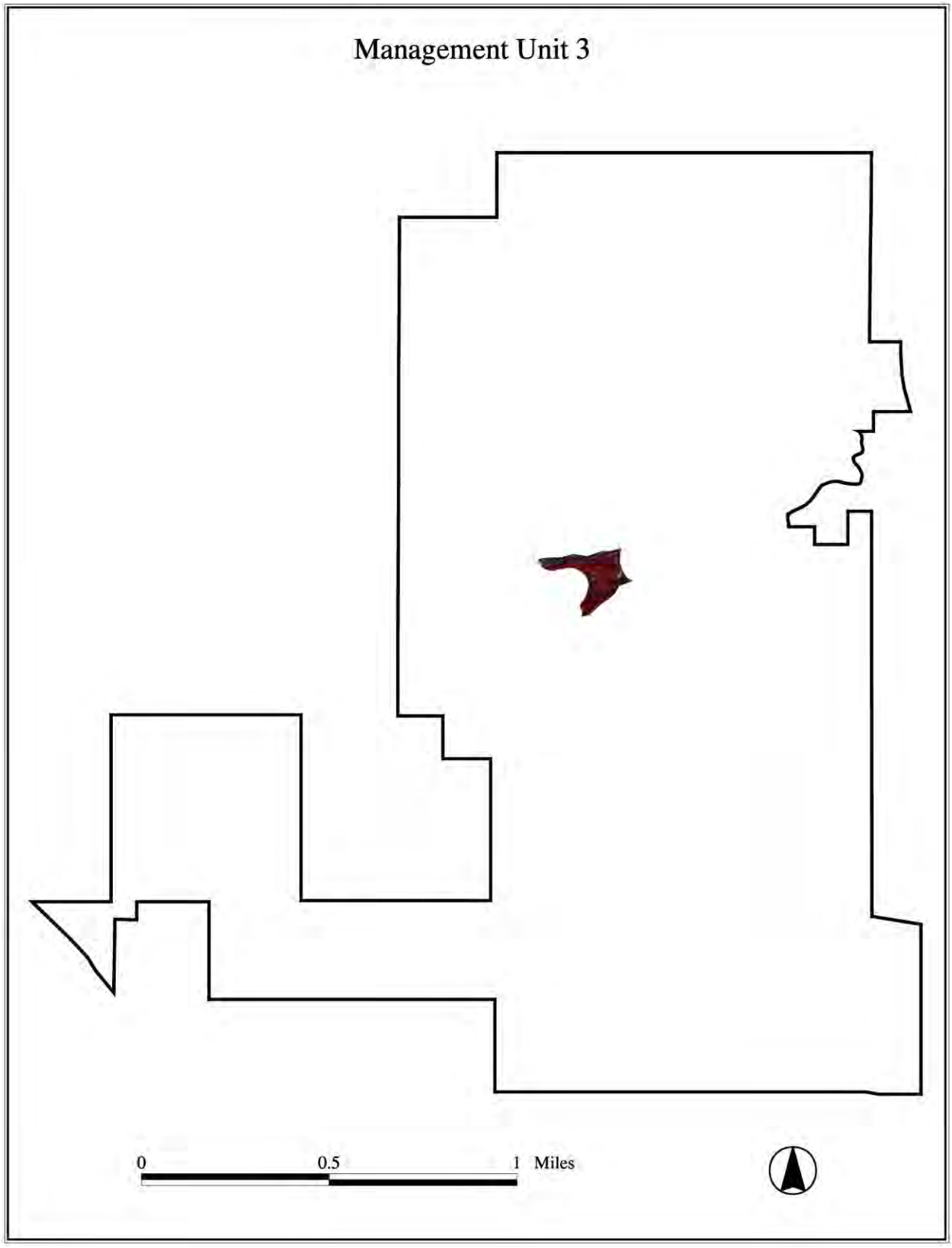
Management Units

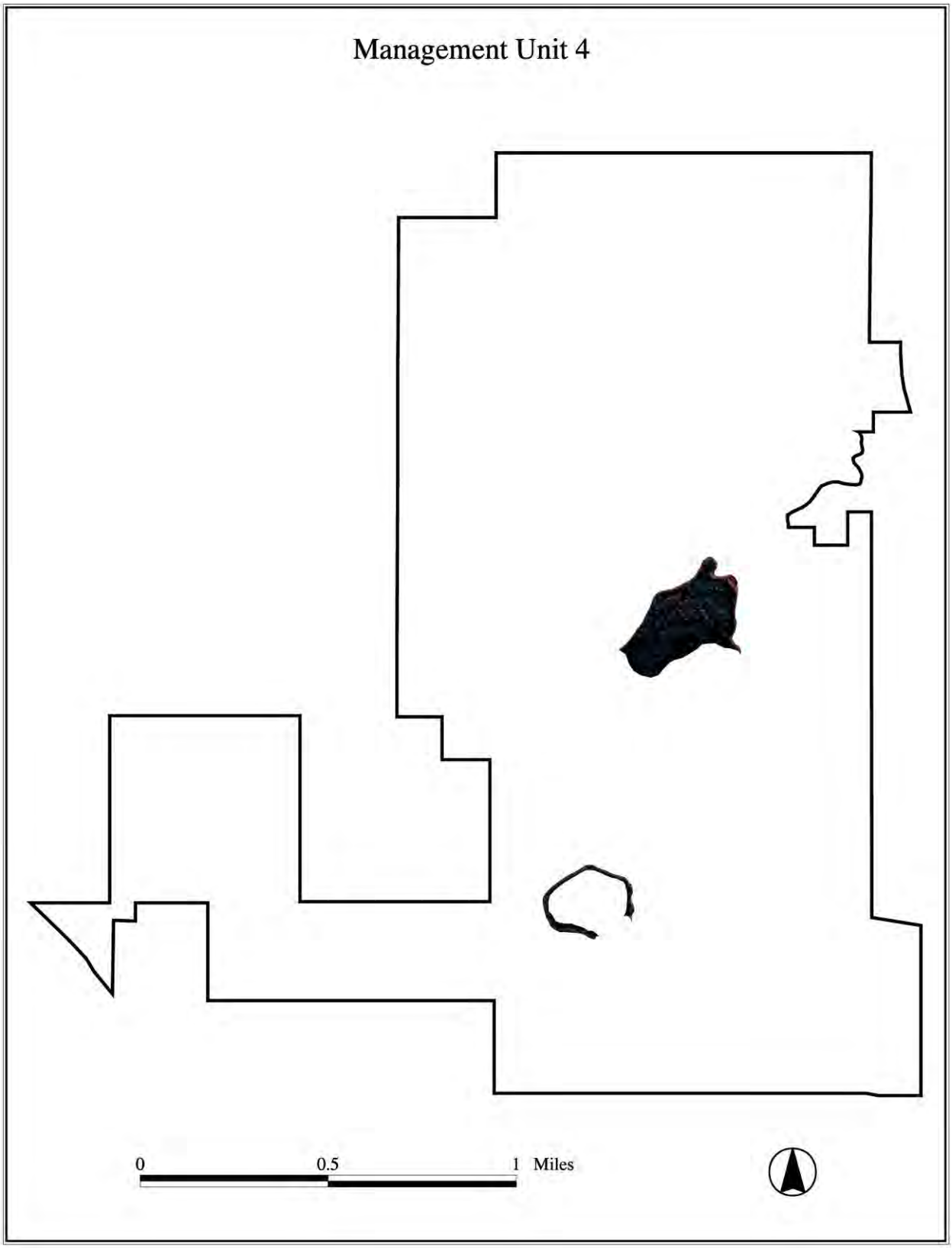


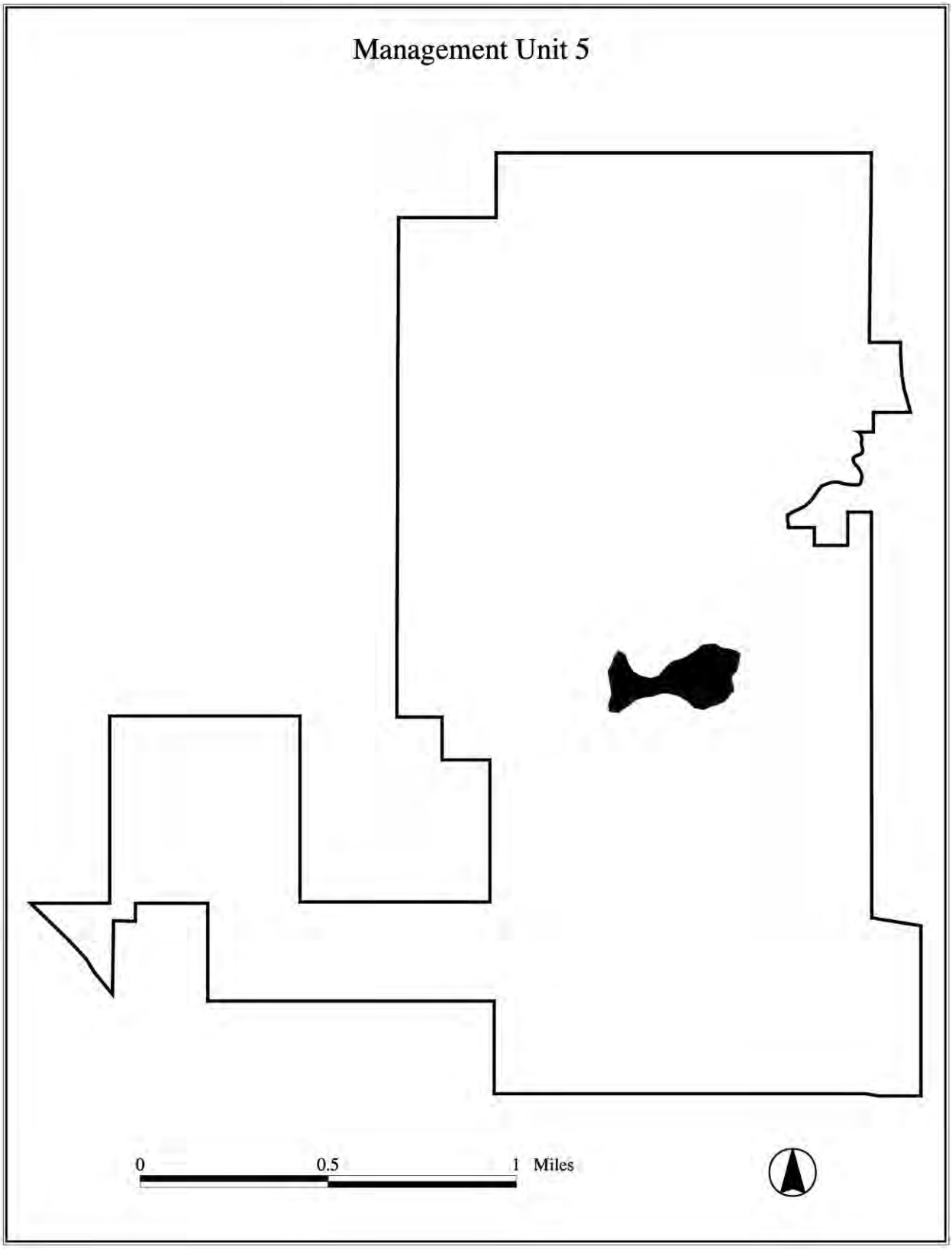
Management Unit 1

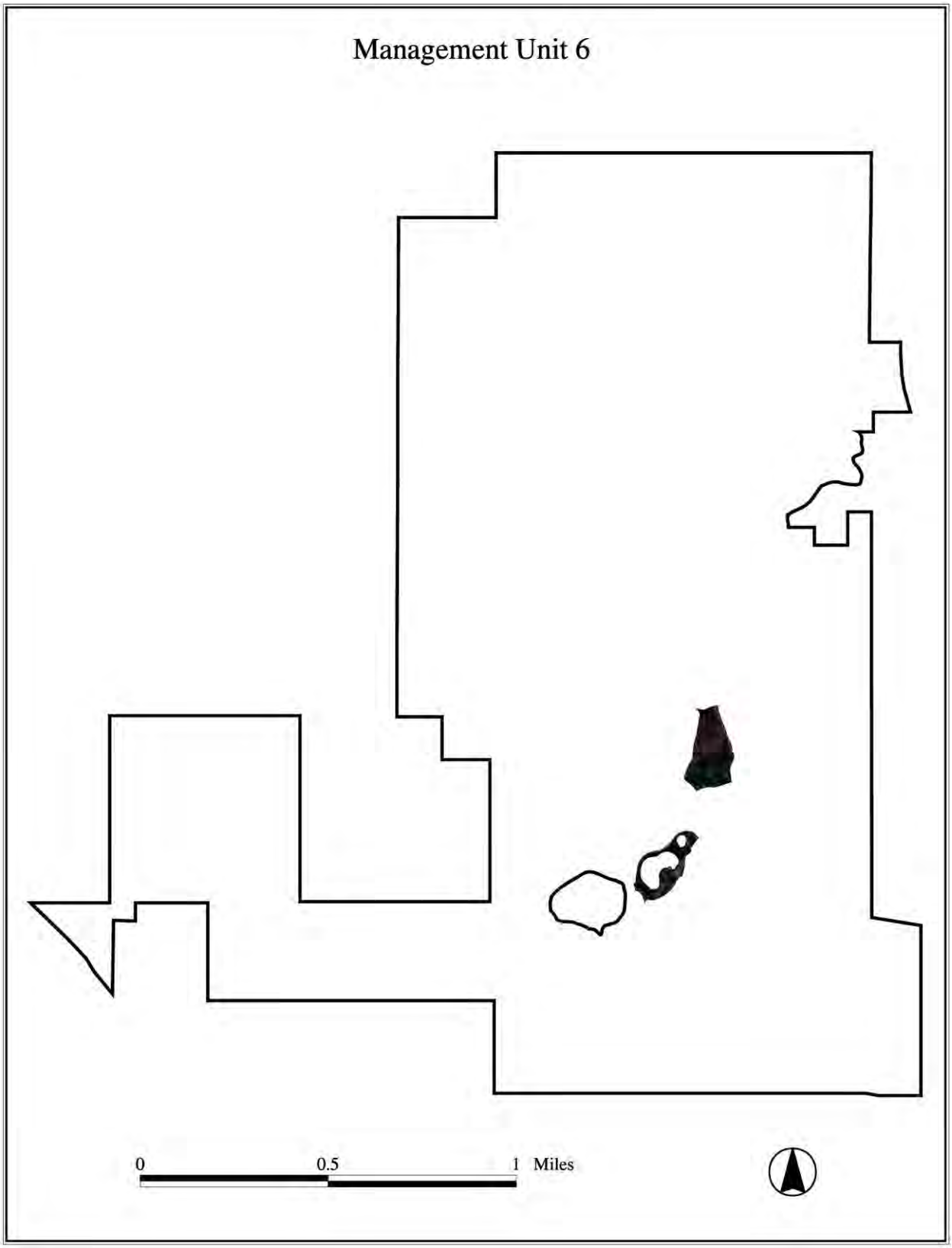
Management Unit 2

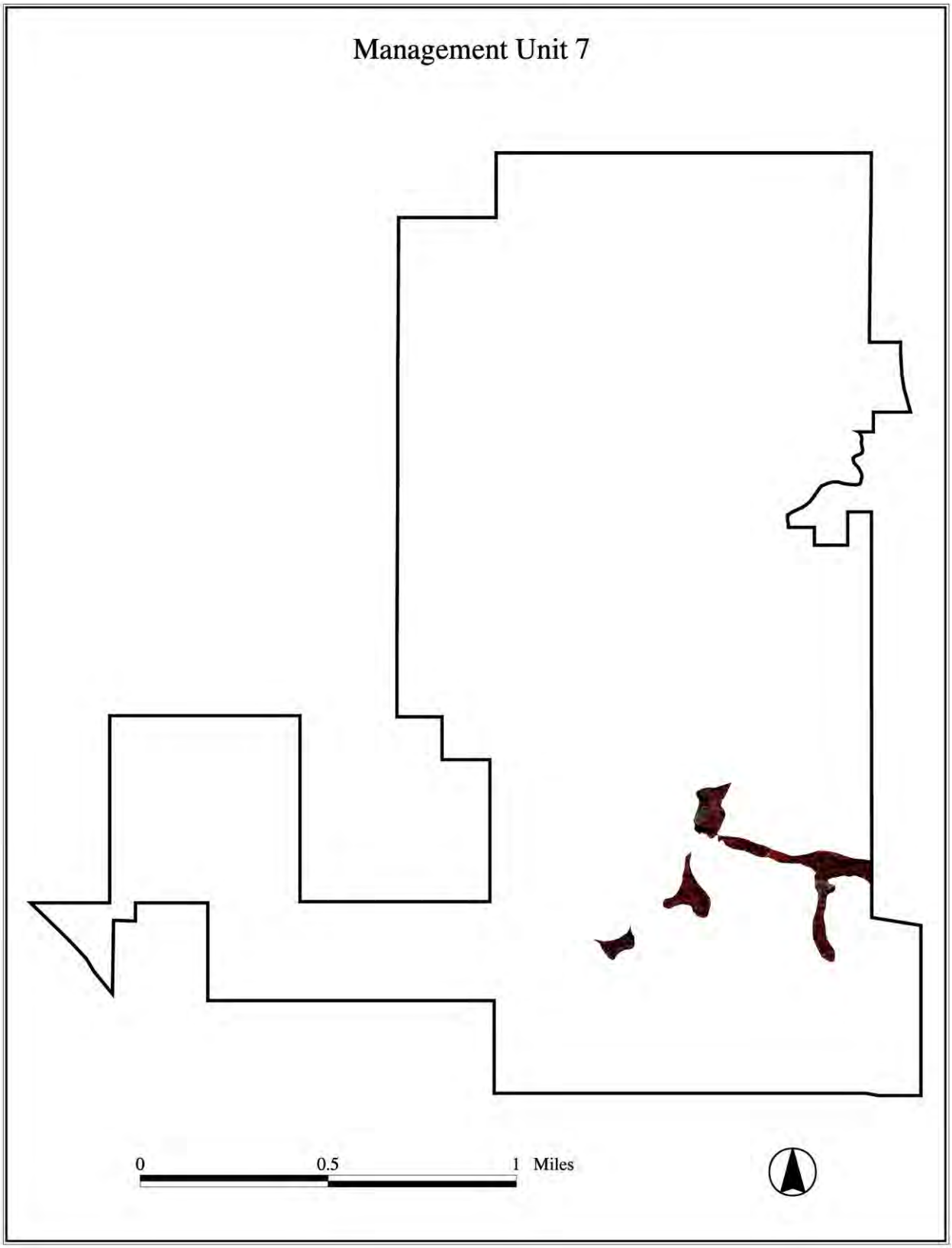



Management Unit 3
0
0.5
1 Miles

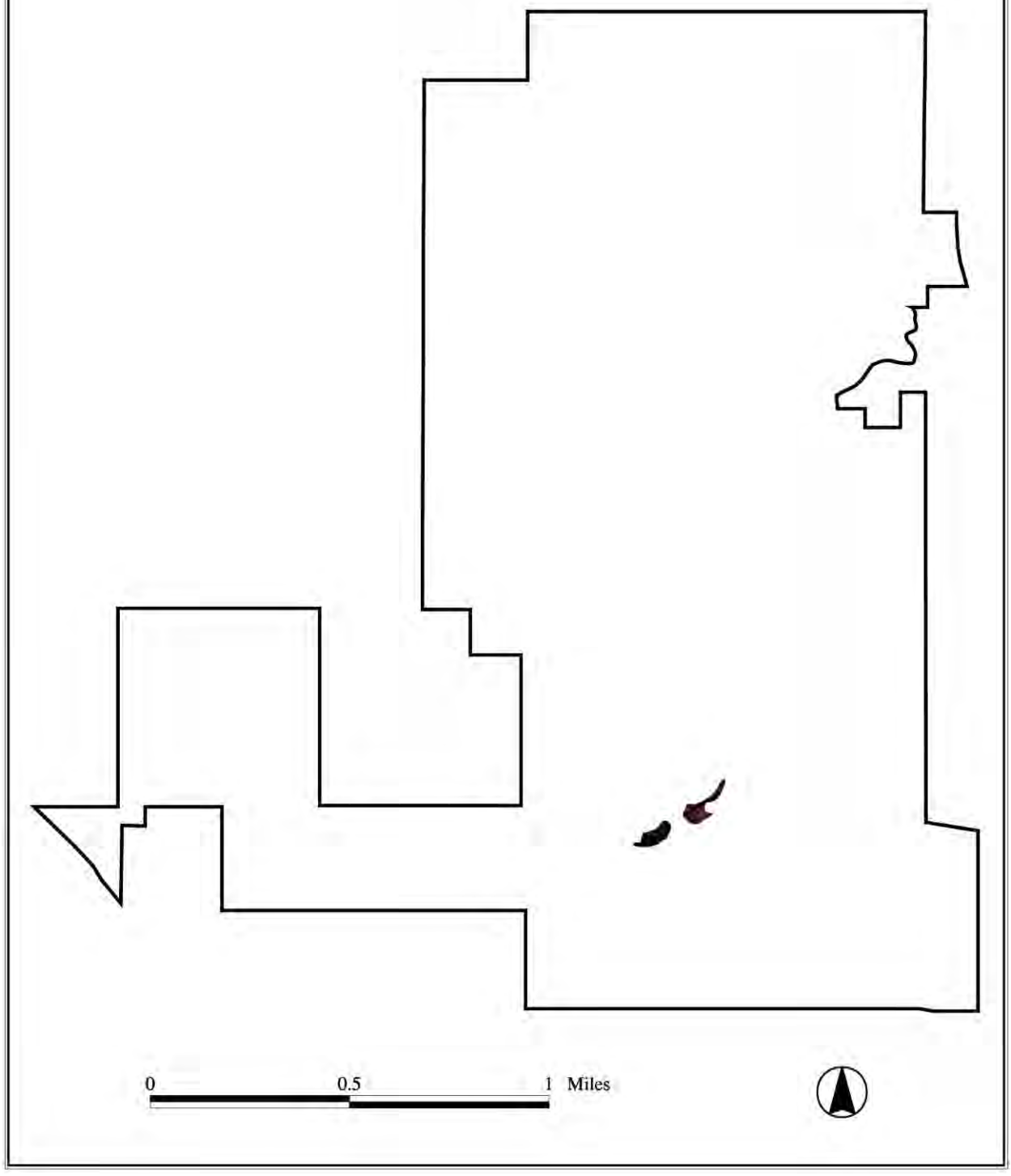

Management Unit 4
0
0.5
1 Miles


Management Unit 5
0
0.5
1 Miles

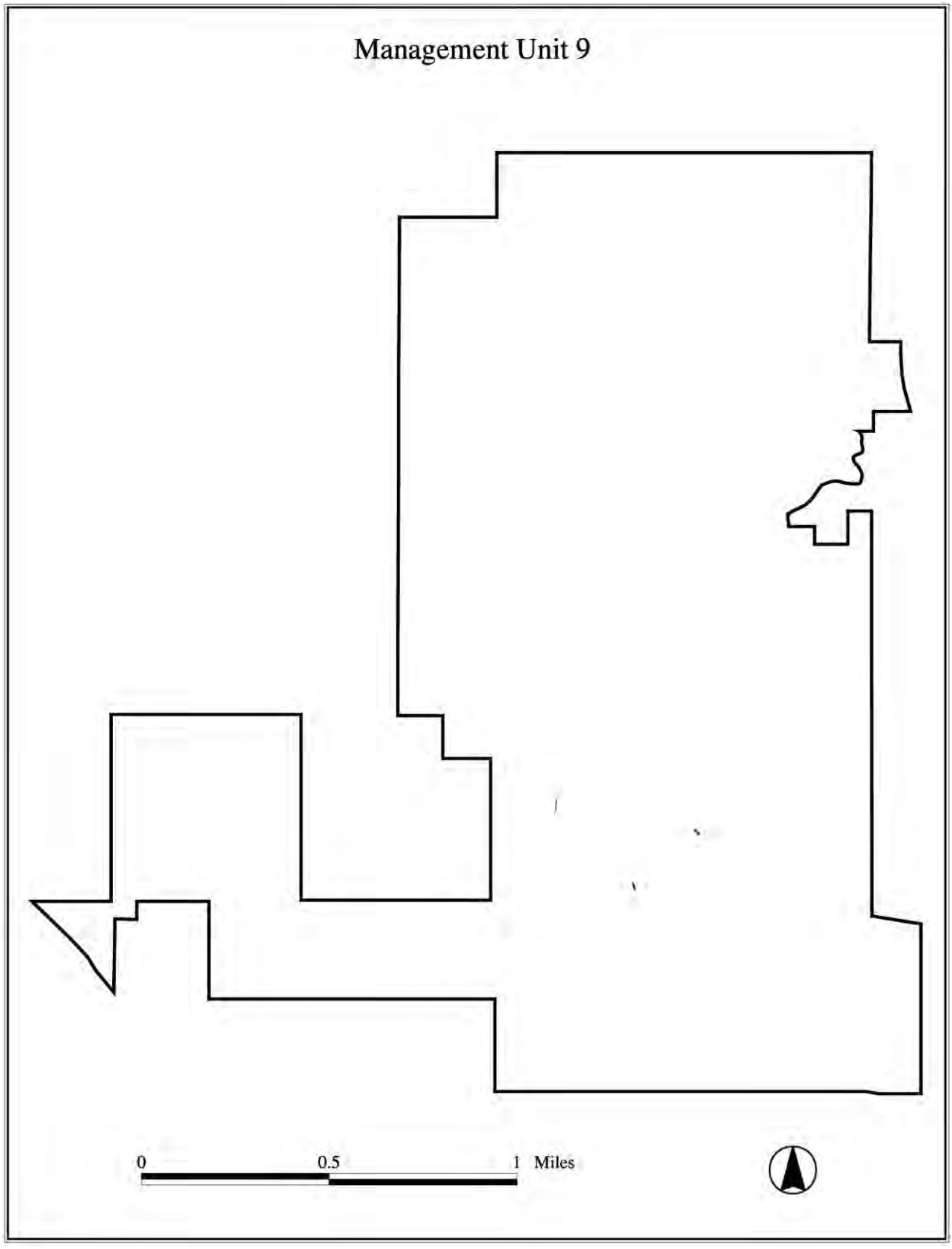

Management Unit 6
0
0.5
1 Miles


Management Unit 7
0
0.5
1 Miles

Management Unit 8

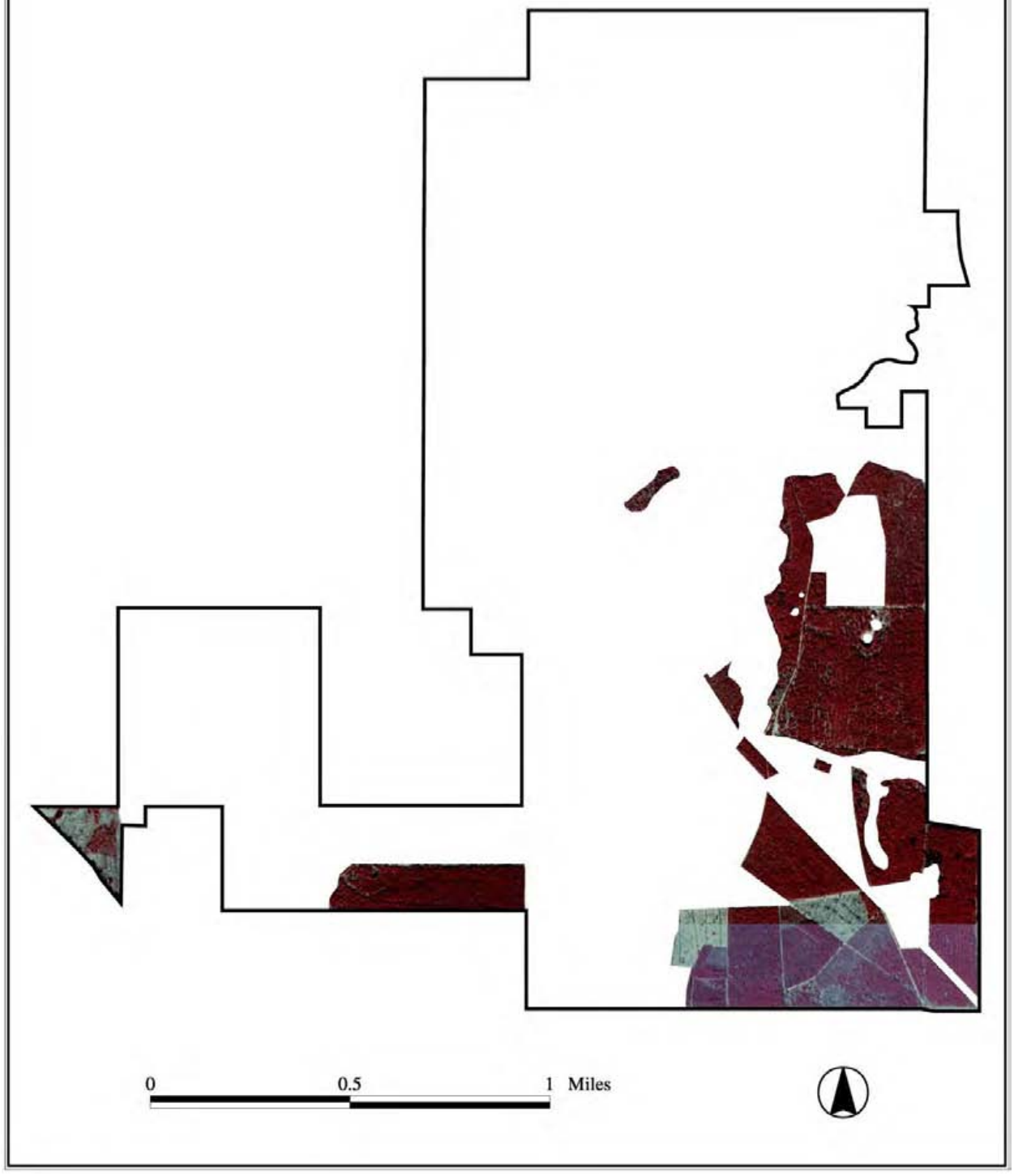


Management Unit 9



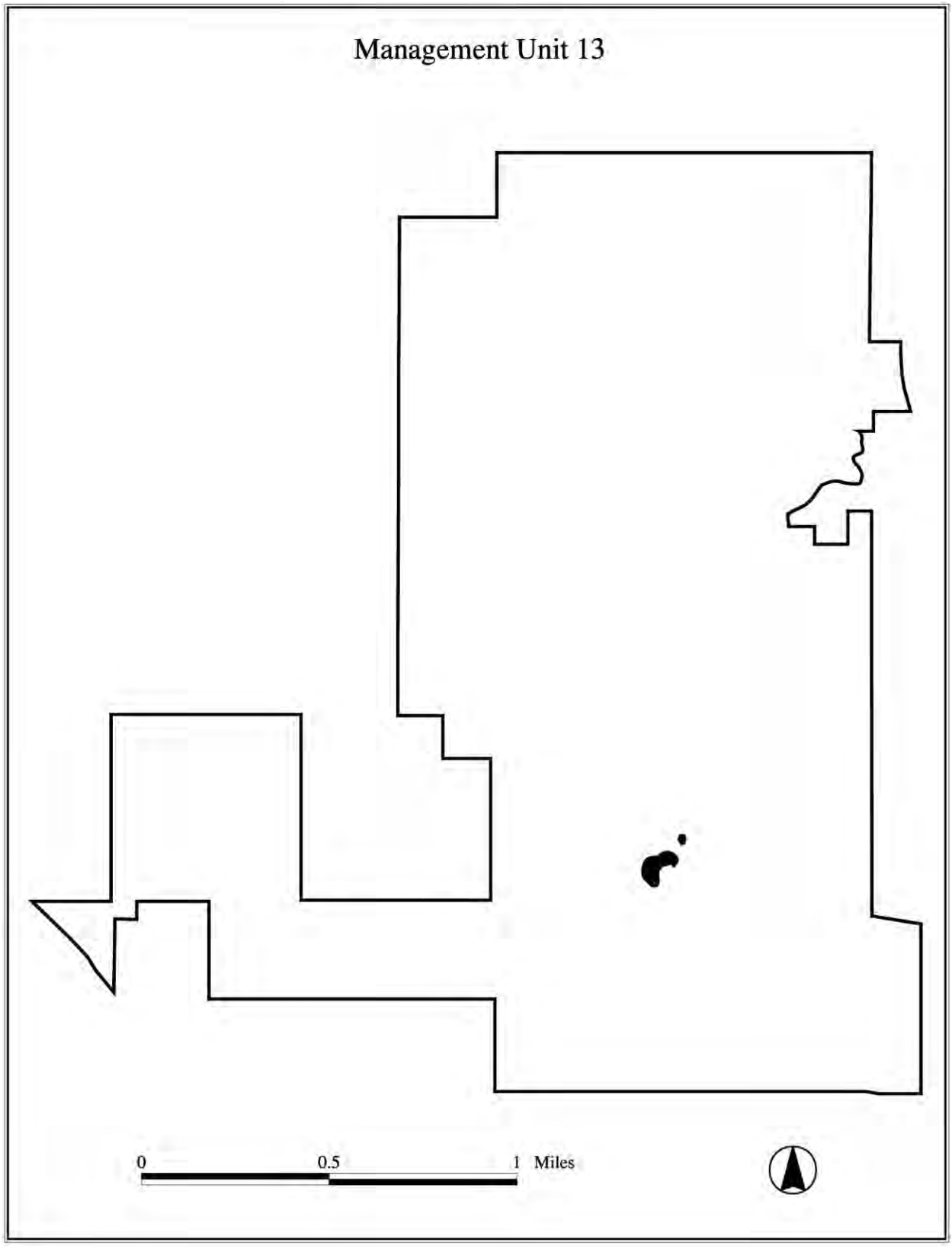
Management Unit 10

Management Unit 11

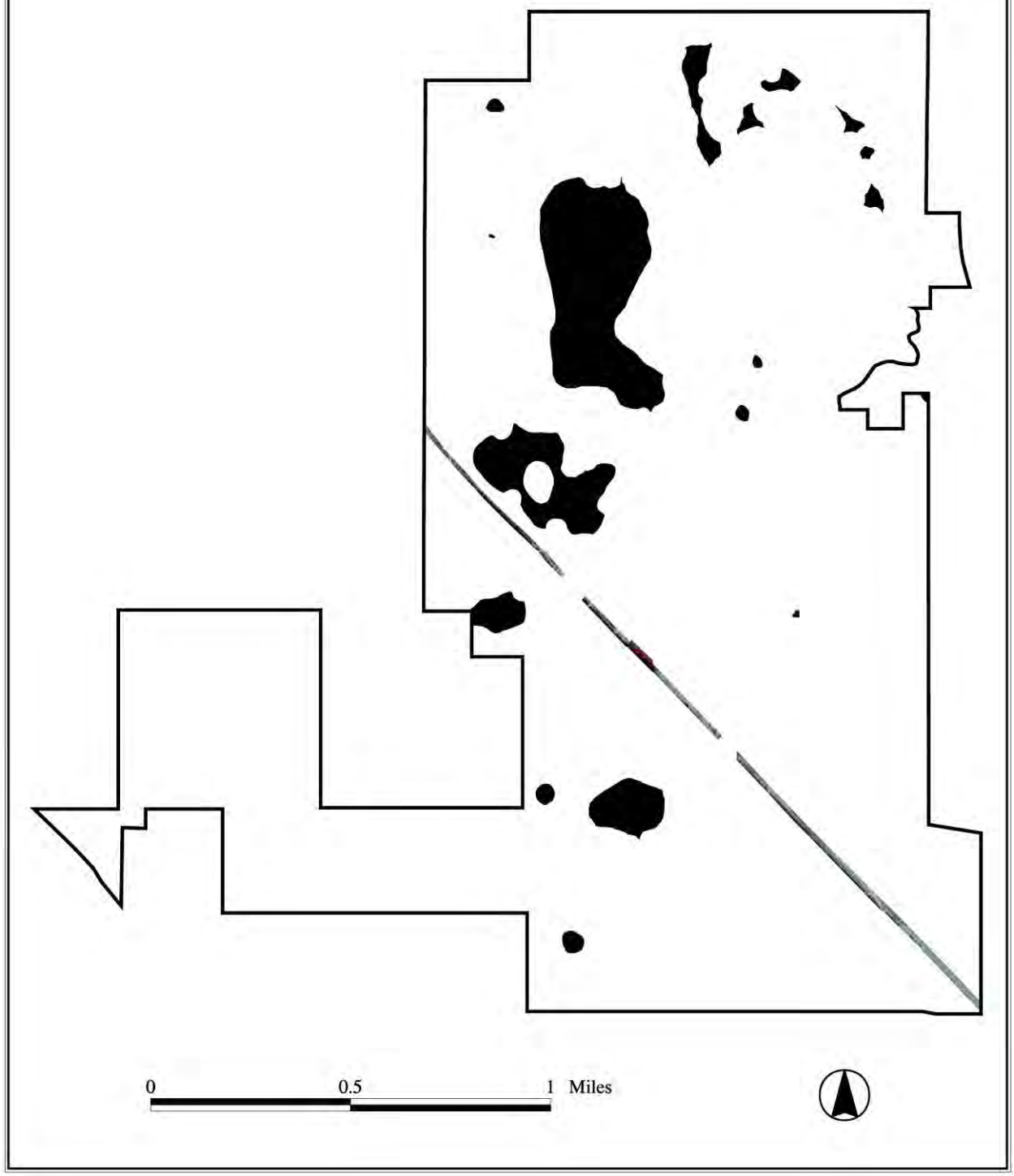


Management Unit 12

Management Unit 13



Management Unit 14



Monitoring Methodology

Monitoring methodologies have been selected to efficiently sample all management units and to effectively record aspects of site condition necessary for ongoing management needs and determination of interim and final success criteria. A minimum level of monitoring will occur in all 14 management units. Management units undergoing intensive restoration efforts will be monitored more rigorously than those that are largely preservation.

Permanent photo-points. Repeat photography is an effective means of documenting site conditions over time. Permanent photo-points will be established in selected management units with consideration of 1) visibility of habitat, 2) accessibility, and 3) size of management unit. Repeat photographs will be taken least annually until a determination of final success is made. For each photograph, date, direction of view, and a unique identifier assigned to each permanently established photo-point will be recorded. Permanent photo-points may be established at fixed objects (e.g., a staff gage, water control structure, or bridge), or with steel rebar or other comparably long-lasting, fire-resistant material.

Pedestrian surveys. Pedestrian surveys are an efficient means of inspecting a site and assessing overall condition. A qualified plant ecologist will wander through the selected management unit for a period of approximately 30 minutes. Notes on general health and reproductive status of vegetation, cover estimates, dominant species, recruitment of new species, the presence or spread of nuisance and/or exotic species, and the hydrologic condition of each community will be recorded on field data sheets. Sites will be evaluated as to how representative they are of the community being measured, and the degree to which the site is attaining community success. Wildlife observations such as direct sightings, scat, tracks, or vocalizations will also be recorded during pedestrian surveys. Potential problems and appropriate solutions will be identified.

Permanent vegetation transects. Permanent vegetation transects will be established in Management Units 2 & 3 (hydric pine flatwoods restoration), Management Unit 5 (slough restoration at Dykes Mill Pond), and Management Units 11 & 12 (longleaf pine / wiregrass restoration). The beginning and end points of each transect will be determined by GPS and marked with steel rebar covered by PVC pipe. Each transect will be 600± feet long, with a $1m^2$ quadrat established approximately every 20 feet to monitor the groundcover/shrub layer. Coverage statistics for groundcover/shrub species will be developed, using a modified Daubenmire cover scale, by observing and recording the approximate coverage of each species within a given quadrat, adding all quadrat observations together, and dividing the total coverage of all quadrats by the number of quadrats within each transect. Tree density, growth and viability of planted trees (longleaf pine, slash pine, cypress or black gum depending on management unit) will be monitored using belt transects (600± foot length; 30± foot width) that overlay the transects established for groundcover/shrub monitoring. 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.

Inspections. An integral part of monitoring and management is frequent surveillance of the site to ensure the early detection and remediation of potential problems. Site inspections also provide valuable information regarding the specific needs and timing for management activities such as prescribed burns, replanting and thinning. On a monthly basis for the first 3 years and quarterly thereafter, the site will be inspected as follows:

a. Perimeter for signs of trespassing, fencing and signage integrity and infestation by exotic or nuisance vegetation;
b. Internal roads (both public and maintenance) for signs of dumping or trespassing, erosion, bridge and road integrity, and exotic or nuisance vegetation infestation;
c. All construction areas for stabilization and re-vegetation, structure operation and integrity;
d. Powerline area for trespassing or disturbance that may affect the integrity of the bank;
e. A portion of each management unit for fuel load, exotic or nuisance vegetation infestation (including aquatic exotics, such as hydrilla), planted material survival, groundcover and shrub condition.

Exhibit 17

Sand Hill Lakes Mitigation Bank - Master Vegetation Species List (3/29/05)

Family	Genus & Species	Common Name	Habitat	Observed Location
Acanthaceae	*Ruellia caroliniensis*	Ciliate Wild Petunia	High Pine	Greenhead Branch, adj upland
Aceraceae	*Acer rubrum*	Red Maple	Hardwood swamp	Garret Pond, Pine Log Creek Swamp
Agavaceae	*Yucca flaccida**	Adam's Needle	Sandhill	Sandhill adj. black and powerline pond
Alismataceae	*Sagittaria isoetiformis*	Quillwort Arrowhead	Lake Edge	Garret Pond, Deep Edge Pond
Alismataceae	*Sagittaria lancifolia*	Arrowhead	Lake Edge	Dry Pond, Black Pond
Alismataceae	*Sagittaria latifolia*	Duck Potato	Stream Edge	Greenhead Branch
Amaranthaceae	*Froelichia floridana*	Cottonweed	Sandhill	Sandhill adj. Deep Edge, Powerline
Amaryllidaceae	*Nothoscordum bivalve*	False garlic	Ruderal	Roadway with paspalum near school.
Anacardiaceae	*Rhus copallina*	Winged Sumac	Mesic Upland (Dry)	Upland near Powerline pond
Anacardiaceae	*Toxicodendron racidcans*	Poison Ivy	Hardwood swamp	Pine Log Creek Swamp
Annonaceae	*Asimina angustifolia*	Narrow-leaf Pawpaw	Sandhill	Powerline, sandhill near Cat Pond
Annonaceae	*Asimina parviflora*	Pawpaw	Mesic Uplands (Dry)	East side uplands of Dry Pond
Apiaceae	*Centella erecta*	Coin wort	Wet Flatwoods	East side Dry Pond extender Road
Apiaceae	*Eryngium yuccifolium*	Rattlesnake Master	Wet Flatwoods	Little Deep Edge
Apiaceae	*Hydrocotyle umbellata*	Marsh Pennywort	Pond edge	Dry Pond, Black Pond
Aquifoliaceae	*Ilex cassine*	Dahoon Holly	Wet Flatwoods, cypress domes	East side of Black Pond
Aquifoliaceae	*Ilex coriaceqa*	Large-leaf Gallberry	Wet Flatwoods	East side of Black Pond
Aquifoliaceae	*Ilex decidua*	Possum-haw	Mesic uplands	East side of Dry Pond uplands
Aquifoliaceae	*Ilex glabra*	Gallberry	Wet Flatwoods	East side of Dry Pond
Aquifoliaceae	*Ilex opaca*	American Holly	Mesic Uplands (Dry)	East side of Dry Pond
Aquifoliaceae	*Ilex vomitoria*	Yaupon Holly	Wet Flatwoods, Dry Flatwoods	East side of Black Pond
Araceae	*Peltandra sagittifolia*	Spoon flower	Edge of Seepage Areas	Green head Branch
Araliaceae	*Aralia spinosa*	Devil's Walking Stick	Ruderal	Spoil pile near Powerline Pond
Arecaceae	*Serenoa repens*	Saw Palmetto	Sandhill, ringing wetland edge	Dykes Mill Pond, adj upland
Asclepiadaceae	*Asclepias amplexicaulis*	Clasping Milkweed	Edge of planted pine and roadside "Sandhill"	Near Main entrance and to the west
Asclepiadaceae	*Asclepias cinerea*	Carolina Milkweed	Sandhill	Cat Pond upland
Asclepiadaceae	*Asclepias humistrata*	Pinewoods Milkweed	Sandhill	Sandhill near Cat pond, powerline
Asclepiadaceae	*Asclepias tomentosa*	Velvet Leaf Milkweed	Sandhill	Edge of Planted Pine near entrance
Asclepiadaceae	*Asclepias tuberosa*	Butterfly weed	Sandhill	Sandhill near Cat pond, powerline
Asclepiadaceae	*Asclepias verticillata*	Whorled Milkweed	Sandhill	Entrance Gait
Asteraceae	*Aster chapmanii*	Savannah Aster	Wet Flatwoods	Pocket of flatwoods near Deep Edge
Asteraceae	*Aster dumosus*	Bushy Aster	Sandhills	Powerline and adj Cat and Deep Edge
Asteraceae	*Aster adnatus*	Aster	Sandhills	Near Deep Edge and Boat Pond

Family	Genus & Species	Common Name	Habitat	Observed Location
Asteraceae	*Balduina angustifolia*	Coastalplain Honeycombhead	Sandhills	Throughout sandhills, and powerline
Asteraceae	*Berlandiera pumila*	Soft Greeneyes	Sandhills	Throughout sandhills, and powerline
Asteraceae	*Carphephorus carnosus*	Chaffhead	Sandhills	Throughout sandhills
Asteraceae	*Carphephorus odoratissimus*	Chaffhead	Sandhills	Throughout sandhills
Asteraceae	*Carphephorus paniculatus*	Hairy Chaffhead	Sandhills	Throughout sandhills
Asteraceae	*Chrysoma pauciflosculosa*	Woody Goldenrod	Sandhills	Throughout sandhills
Asteraceae	*Chrysopsis mariana*	Goldenaster	Sandhills	Throughout sandhills
Asteraceae	*Chrysopsis scabrella*	Goldenaster	Sandhills	Throughout sandhills
Asteraceae	*Coreopsis lacneolata*	Lance-leaved Coreopsis	Wet Flatwoods, edge of wetlandsLittle Deep Edge	Flatwoods
Asteraceae	*Erigeron vernus*	Prairie Fleabane	Wet Flatwoods	Road on east side of Dry Lake
Asteraceae	*Elephantopus elatus*	Florida Elephants Foot	Sandhills	Throughout
Asteraceae	*Eupatorium capillifolium*	Dog fennel	Ruderal wet soils	Dry lakes and cypress domes
Asteraceae	*Eupatorium compositifolium*	Yankeeweed	Ruderal	Powerline
Asteraceae	*Euthamia minor**	Slender Goldenrod	Sandhill	Powerline, wet areas of sandhill
Asteraceae	*Gaillardia aestivalis*	Lanceleaf Blanketflower	Ruderal	Powerline
Asteraceae	*Gnaphalium obtusifolium*	Sweet Everlasting	Sandhill, Ruderal	Powerline, throughout sandhills
Asteraceae	*Haplopappus divaricatus**	Slender Scratch Daisy	Sandhill	Throughout sandhills
Asteraceae	*Helianthus radula*	Rayless Sunflower	Adjacent to wetlands	Little Deep Edge
Asteraceae	*Hieracium gronovii*	Queen-devil	Sandhills	Thoughout sandhills
Asteraceae	*Krigia virginica*	Dwarf Dandelion	Ruderal	Powerline
Asteraceae	*Liatris chapmanii*	Chapman's Gayfeather	Sandhills	Throughout sandhills
Asteraceae	*Liatris gracilis*	Slender Gayfeather	Sandhill	Throughout sandhills
Asteraceae	*Liatris tenuifolia*	Shortleaf Gayfeather	Sandhills	Throughout sandhills
Asteraceae	*Piyopsis graminifolia*	Narrowleaf Silkgrass	Sandhills	Throughout sandhills, powerline
Asteraceae	*Pluchea odorata*	Camphorweed	Wet Flatwoods	East side of dry pond
Asteraceae	*Pluchea rosea*	Rosy Camphorweed	Wet Flatwoods	East side of dry pond cypress area
Asteraceae	*Pterocaulon pyncnostachyum*	Blackroot	Sandhills, dry Pine Flatwoods	Adj Deep Edge Pond
Asteraceae	*Solidago fistulosa*	Marsh Goldenrod	Wet flatwoods	Dykes Mill Pond, adj upland
Asteraceae	*Solidago odora var. champmanii*	Golenrod	Sandhill	Throughout sandhills
Betulaceae	*Vernonia angustifolia*	Tall Ironweed	Sandhills	Thoughout sandhills
Boraginaceae	*Lithospermum caroliniense*	Puccoon	Sandhills	Green head Branch
Bromeliacea	*Alnus serrulata*	Hazel Alder	Hardwood swamp	Pine Log Creek Swamp
Cabombaceae	*Tillandsia usneoides*	Spanish Moss	Cypress dome, East side dry lake	
Cactaceae	*Brasenia schreberi*	Watershield	Lakes	Dry Lake, Deep Edge Pond, Garret pond
Caprifoliaceae	*Opuntia humifusa*	Prickly-pear Cactus	Sandhill, dry mesic oak forest	Throughout Sandhills
Caprifoliaceae	*Viburnum dentatum*	Arrow-wood	Seepage Stream	Dykes Mill Pond, Deep Edge Seepage

Family	Genus & Species	Common Name	Habitat	Observed Location
Caryophyllaceae	*Viburnum nudum*	Possumhaw	Hardwood swamp, seepage stream	Dykes Mill Pond, Deep Edge Seepage
Caryophyllaceae	*Minuartia caroliniana*	Pine Barrens Sandwort	Sandhill	Cat Pond upland
Chrysobalanaceae	*Paronychia baldwinii*	Baldwin's Nailwort	Sandhill, Ruderal	Powerline, Powerline Pond
Cistaceae	*Licania michauxii*	Gopher Apple	Sandhills	Throughout sandhills
Cistaceae	*Helianthemum corymbosum*	Rock Rose	Sandhill, powerline	Throughout sandhills, powerline
Clethraceae	*Lechea minor*	Thymeleaf Pinweed	Sandhills	Throughout sandhills, powerline
Clusiaceae	*Clethra alnifolia*	Sweet Pepperbush	Wet Flatwoods, stream banks	East side Dykes Mill Pond
Clusiaceae	*Hypericum cistifolium*	Roundpod St. John's-wort	Pond Edge	Dry Pond, Black Pond
Clusiaceae	*Hypericum crux-andreae*	St. Peter's wort	Pine Flatwoods	Uplands near Black Pond
Clusiaceae	*Hypericum fasciculatum*	Sandweed	Pond Edge	Adj most ponds
Clusiaceae	*Hypericum gentianoides*	Pineweed	Ruderal	Powerline
Clusiaceae	*Hypericum lissophloeus*	Smoothbark St. John's-wort	Lake Edge, Karst Pond Edge	Surrounding most water bodies
Clusiaceae	*Hypericum reductum*	Atlantic St. John's-wort	Karst Pond Edge (dry)	Adj to Cat, Deep Edge and Boat pond
Commelinaceae	*Tradescantia hirsutiflora*	Spiderwort	Sandhills, ruderal	Adj. to Little Deep Edge Pond
Convolvulaceae	*Cuscuta pentagona*	Dodder	Ruderal	Green head Branch
Convolvulaceae	*Stylisma villosa*	Stylisma	Sandhills	Throughout sandhills
Cornaceae	*Cornus florida*	Flowering Dogwood	Mesic Uplands	West side of Dry Pond
Cornaceae	*Cornus foemina*	Swamp Dogwood	Harwood swamp	Pine Log Creek Swamp, Streams
Cupressaceae	*Juniperus virginicus*	Red Cedar	Mesic Uplands	Scattered Black pond uplands
Cyperaceae	*Bulbostylis ciliatifolia*	Capillary Hairsedge	Sandhills	Scattered throughout sandhills
Cyperaceae	*Carex walteriana*	Walter's Sedge	Cypress Strand	Adj to Black Pond
Cyperaceae	*Dulichium arundinaceum*	Threeway Sedge	Cypress Strand	Adj to Black Pond
Cyperaceae	*Fuirena scirpoidea*	Southern Umbrellasedge	Lake Edge	Deep Edge Pond
Cyperaceae	*Rhynchospora inundata*	Narrowfruit Horned Beaksedge	Lake Edge	Garret Pond, Deep Edge Pond
Cyperaceae	*Rhynchospora miliacea*	Millet Beaksedge	Lake Edge	Garret Pond
Cyperaceae	*Scirpus cyperinus*	Woolgrass	Lake Edge	Garret Pond, Black Pond
Cyperaceae	*Scleria ciliata*	Fringed Nutrush	Sandhill	Throughout Sandhills
Cyperaceae	*Scleria reticularis*	Netted Nutrush	Lake Edge	Deep Edge Pond
Cyperaceae	*Websteria confervoides*	Websteria	Lake	Garret Pond
Cyrillaceae	*Cliftonia monophylla*	Black Titi	Wet flatwoods, edge of wetlands	Throughout wet areas
Cyrillaceae	*Cyrilla racemiflora*	Titi	Wet Flatwoods	East side Dry Pond
Droseraceae	*Drosera brevifolia*	Sundew	Wet flatwoods, seepage areas	East side Dry Pond
Droseraceae	*Drosera cappilaris*	Pink Sundew	Wet flatwoods, seepage areas	Green head Branch
Droseraceae	*Drosera intermedia*	Spoon-leaved Sundew	Seepage areas, adj lakes	Little Deep Edge, Green Head branch
Ebenaceae	*Diospyros virginiana*	Common Persimmon	Sandhills	Sandhill adj. to Green head branch
Empetraceae	*Ceratiola ericoides*	Rosemary	Sandhills	Adj to cat pond, roadway

Family	Genus & Species	Common Name	Habitat	Observed Location
Ericaceae	*Kalmia hirsuta*	Wicky	Wet Flatwoods	Adj to Garret Pond
Ericaceae	*Gaylussacia dumosa*	Dwarf Huckleberry	Sandhills	Adj. to Little Deep Edge Pond
Ericaceae	*Gaylussacia frondosa*	Dangleberry	Sandhills	Adj. to Little Deep Edge Pond
Ericaceae	*Leucothoe axillaris*	Dog-hobble	Hardwood forest, seepage areas	Pine Log Creek, seepage Deep Edge
Ericaceae	*Lyonia fruiticosa*	Staggerbush	Pine Flatwoods	Adjacent to East side of Dry Pond
Ericaceae	*Lyonia lucida*	Fetterbush	Seepage areas	Deep Edge Pond
Ericaceae	*Lyonia racemosa*	Dog Hobble	Seepage areas	Deep Edge Pond
Ericaceae	*Monotropa uniflora*	Indian pipe	Mesic Uplands	Uplands east side Dry Pond
Ericaceae	*Oxydendron arboreum*	Sourwood	Seepage areas	Deep Edge Pond, Greenhead Branch
Ericaceae	*Pieris phillyreifolius*	Vine wicky	Seepage areas, wet flatwoods	Deep Edge Pond
Ericaceae	*Rhododendron serrulatum*	Swamp Azalea	Seepage areas	Deep Edge Pond, Greenhead Branch
Ericaceae	*Vaccinium arbooreum*	Sparkleberry	Sandhills, mesic uplands	Throughout Sandhills and mesic uplands
Ericaceae	*Vaccinium corymbosum*	Highbush Blueberry	Mesic uplands and wet flatwoods	Throughout most uplands
Ericaceae	*Vaccinium darrowii*	Darrow's Blueberry	Sandhills	Throughout Sandhills
Ericaceae	*Vaccinium myrsinites*	Shiny Blueberry	Sandhills	Adj to cat pond, Deep edge Pond
Ericaceae	*Vaccinium stamineum*	Deerberry	Seepage, wet flatwoods, sandhill	Deep edge, Little Deep Edge
Eriocaulaceae	*Eriocaulon decangulare*	Pipewort	Lake Edge	Deep Edge
Eriocaulaceae	*Eriocaulon lineare*	Narrow Pipewort	Lake Edge	Deep Edge, Garret pond
Eriocaulaceae	*Lachnocaulon minus*	Small's Bogbutton	Lake Edge	Deep Edge, Garret pond
Eriocaulaceae	*Syngonanthus flavidulus*	Yellow Hatpins	Lake Edge	Deep Edge, Garret pond
Euphorbiaceae	*Cnidoscolus stimulosus*	Tread Softly	Sandhill	Scattered throughout sandhills
Euphorbiaceae	*Croton argyranthemus*	Silver Croton	Sandhill	Scattered throughout sandhills
Euphorbiaceae	*Croton capitatus*	Wooly Croton	Ruderal	Powerline
Euphorbiaceae	*Euphorbia commutata*	Wood Spurge	Sandhills	Throughout the Pine Lands
Euphorbiaceae	*Euphorbia exserta*	Coastal Sand Spurge	Sandhill	Throughout Pine Lands
Euphorbiaceae	*Euphorbia inundata*	Flordia Pineland Spurge	Sandhills	Throughout Pine Lands
Euphorbiaceae	*Euphorbia pubentissima*	Euphporbia	Sandhill	Throughout
Euphorbiaceae	*Stillingia sylvatica*	Queen's Delight	Sandhill	Cat Pond upland
Fabaceae	*Astragalus obcordatus*	Florida Milk Vetch	Sandhill	Powerline
Fabaceae	*Baptisia lanceolata*	False Indigo	Sandhill	Throughout sandhills
Fabaceae	*Chamaecrista fasciculata*	Partridge-pea	Sandhill	Near Cat Pond, Powerline
Fabaceae	*Chamaecrista rotundifolia*	Round Chamaecrista	Sandhill	Near Deep Edge
Fabaceae	*Crotalaria rotundifolium*	Rabbitbells	Sandhills	Throughout sandhills
Fabaceae	*Dalea pinnata*	Summer Farewell	Sandhills	Throughout sandhills
Fabaceae	*Lespedeza hirta*	Hairy Lespedeza	Sandhills	Throughout sandhills
Fabaceae	*Lupinus diffusus*	Sky-blue Lupine	Sandhills	Near Deep Edge

Family	Genus & Species	Common Name	Habitat	Observed Location
Fabaceae	*Lupinus perennis*	Sundial Lupine	Sandhills	Throughout sandhills, powerline
Fabaceae	*Lupinus westianus*	Gulf Coast Lupine	Sandhills	Adj to Powerline Pond, Powerline
Fabaceae	*Pediomelum canescens*	Buckroot	Sandhills	Little deep Edge
Fabaceae	*Rhynchosia reniformis*	Dollar-weed	Sandhills	Little deep Edge
Fabaceae	*Schrankia microphylla**	Florida Sensitive Brier	Sandhills	Throughout sandhills
Fabaceae	*Stylosanthes biflora*	Sidebeak Pencilflower	Sandhills	Adj to Deep Edge
Fagaceae	*Castanea pumila*	Chinquapin	Mesic forest	Northeast side of Dry Pond
Fagaceae	*Quercus falcata*	Southern Red Oak	Seepage area	Little Deep Edge
Fagaceae	Quercus geminata	Sand Live Oak	Sandhills	Throughout sandhills
Fagaceae	*Quercus hemispherica*	Laurel Oak	Mesic Forest	Throughout mesic uplands
Fagaceae	*Quercus incana*	Bluejack Oak	Sandhills	Throughout sandhills, Cat Pond
Fagaceae	*Quercus laevis*	Turkey oak	Sandhill	Throughout sandhills
Fagaceae	*Quercus laurifolia*	Swamp Laurel Oak	Hardwood Swamps	Pine Log Creek
Fagaceae	*Quercus margaretta*	Sand Post Oak	Sandhills	Throughout sandhills
Fagaceae	*Quercus stellata*	Post Oak	Sand Hill	Little Deep Edge
Fagaceae	*Quercus virginiana*	Live Oak	Mesic Forest	Throughout mesic uplands
Gentianaceae	*Sabatia bartramii*	Bartram's Rose-gentian	Lake Edge	Dry Pond
Gentianaceae	*Sabatia brevifolia*	Shortleaf Rose Gentian	Lake Edge	Dry Pond
Haemodoraceae	*Lachnanthes caroliniana*	Redroot	Lake Edge	East side of Dry Pond
Haloragaceae	*Myriophyllum laxum*	Loose Watermilfoil	Lake	Garret Pond, Deep Edge Pond
Hamamelidaceae	*Fothergilla gardeni*	Witch alder	Mesic Uplands, seepage areas	Deep Edge Pond, E. side of Dry Lake
Hamamelidaceae	*Liquidambar styraciflua*	Sweet gum	Mesic Uplands	Garret Pond
Hydrocharitaceae	*Limnobium spongia*	Frogs-bit	Lake	Dry Pond
Hypoxidaceae	*Hypoxis juncea*	Common Yellow Stargrass	Wet Pine Flatwoods	East side of Dry Pond
Illiciaceae	*Illicium floridanum*	Florida Anisetree	Seepage areas	Greenhead Branch, Deep edge
Iridaceae	*Sisyrinchium atlanticum*	Narrowleaf Blueeyed Grass	Lake Edge	Little Deep Edge
Juncaceae	*Juncus coriaceus*	Leathery Rush	Lake Edge	Garret Pond
Juncaceae	*Juncus effusus*	Soft Rush	Lake Edge	Dyke's Mill Pond
Juglandaceae	*Carya glabra*	Pignut Hickory	Mesic Uplands	East side of Dry Pond
Lamiaceae	*Conradina glabra*	Appalachicola Rosemary	Edge of degraded Sandhill	West side of Dry Pond
Lamiaceae	*Hyptis alata*	Clustered Bushmint	Wet Flatwoods, cypress domes	East side of Black Pond
Lamiaceae	*Lupinus diffusus*	Sky-blue Lupine	Sandhills	Throughout
Lamiaceae	*Lupinus westianus*	Gulf Coast Lupine	Sandhills	Primarily Western Part of Sandhills
Lamiaceae	*Lycopus rubellus*	Virginia Waterhoarhound	Cypress swamp	East side of Black Pond
Lamiaceae	*Salvia lyrata*	Lyre Leaved Sage	Mesic Uplands	East Side of Dry Pond
Lamiaceae	*Stachys floridana*	Hedge nettle	Ruderal	Near old school house

Family	Genus & Species	Common Name	Habitat	Observed Location
Lamiaceae	*Trichostema setaceum*	Narrowleaf Bluecurls	Sandhills	Scatthered throughout the sandhills
Lauraceae	*Persea borbonia*	Red Bay	Wet flatwoods	Pine Log Creek, Black Pond
Lauraceae	*Persea paulistris*	Swamp Bay	Cypress dome, wet flatwoods	Cypress adj to Black Pond
Lentibulariaceae	*Utricularia cornuta*	Horned Bladderwort	Lake Shore	Garret Pond, Deep Edge Pond
Lentibulariaceae	*Utricularia floridana*	Florida Bladderwort	Lake	Garret Pond
Liliaceae	*Aletris lutea*	Yellow Colicroot	Wet Flatwoods	East Side of Dry Pond
Loganiaceae	*Gelsemium sempervirens*	Yellow Jessamine	Mesic Uplands	East Side of Dry Pond
Loganiaceae	*Mitreola petiolaris*	Lax Hornpod	Wet Flatwoods	East Side of Dry Pond
Loganiaceae	*Polypremum procumbens*	Rustweed	Lake Edge	Powerline Pond
Magnoliaceae	*Liriodendron tulpifera*	Tulip poplar	Seepage areas	Deep Edge
Magnoliaceae	*Magnolia grandiflora*	Southern Magnolia	Mesic Uplands	East Side of Dry Pond, Greenhead Br.
Magnoliaceae	*Magnolia virginiana*	Silver Bay	Seepage areas, swamps	Green head Branch
Melastomataceae	*Rhexia alifanus*	Savannah Meadow beauty	Lake Edge	Dry Pond
Melastomataceae	*Rhexia mariana*	Pale Meadow beauty	Mesic uplands, Pine flatwoods	Green head Branch
Melastomataceae	*Rhexia nuttallii*	Nuttal's Meadow beauty	Lake Edge	Dry Pond
Melastomataceae	*Rhexia parviflora*	White Meadow beauty	Lake Edge	Dry Pond
Menyanthaceae	*Nymphoides aquatica*	Big Floatingheart	Lake	Throughout
Myricaceae	*Myrica cerifera*	Wax Myrtle	Wet Flatwoods	Garrret Pond
Myricaceae	*Myrica heterophylla*	Evergreen Bayberry	Seepage areas, streams	Deep Edge
Nymphaeaceae	*Brasenia schreberi*	Watershield	Lake	Dry Pond, Garret Pond
Nymphaeaceae	*Nuphar luteum*	Spatterdock	Lake	Garret Pond, Deep Edge Pond
Nymphaeaceae	*Nymphaea odorata*	Fragrant Water Lily	Lake	Dry Pond, Black Pond
Nyssaceae	*Nyssa sylvatica var. biflora*	Swamp tupelo	Hardwood swamps	Dry Pond
Oleaceae	*Osmanthus americanus*	Wild Olive	Seepage areas	Deep Edge Pond
Onagraceae	*Gaura angustifolia*	Southern Beebalm	Ruderal	Powerline
Onagraceae	*Ludwigia suffruticosa*	Shrubby Primrosewillow	Lake Edge	Dry Lake
Orchidaceae	*Platanthera ciliaris*	Orange frindged Orchis	Wet seepage slope	Little Deep Edge, Green Head branch
Orchidaceae	*Platanthera cristata*	Orange Crested Orchis	Wet seepage slope	Little Deep Edge, Green Head branch
Orobanchaceae	*Conopholis americana*	American Squawroot	Mesic Uplands	East side of Dry Pond
	Osmunda cinnamomea	Cinnamon Fern	Wet Flatwoods	East side of Dry Pond
Osmundaceae	*Osmunda regalis*	Royal Fern	Hardwood swamp	Pine Log Creek
Osmundaceae	*Passiflora incarnata*	Maypop	Ruderal	Powerline
Passifloraceaae	*Pinus clausa*	Sand Pine	Plantations, Sandhills	Scattered
Pinaceae	*Pinus elliottii*	Slash Pine	Wet Flatwoods, scattered	Scattered
Pinaceae	*Pinus paulistris*	Long Leaf Pine	Sandhills, Dry Pine Flatwoods	Scattered
Pinaceae	*Pinus teada*	Loblolly Pine	Mesic uplands, adj to cypress	East side of Dry Pond

Family	Genus & Species	Common Name	Habitat	Observed Location
Pinaceae	*Amphicarpum muhlenbergianum*	Blue Maidencane	Lake Edge	Cat Pond, Dry Lake
Poaceae	*Andropogon virginicus v. virginicus*	Broomsedge Bluestem	Sandhills	Scattered throughout sandhills
Poaceae	*Andropogon floridanus*	Florida Bluestem	Sandhills	Throughout
Poaceae	*Aristida stricta*	Wiregrass	Sandhill	Scatttered throughout sandhills
Poaceae	*Arundinaria gigantea*	Switchcane	Seepage areas	Deep Edge
Poaceae	*Dichanthelium aciculare*	Needleleaf Witchgrass	Karst Pond Edge (dry)	Cat Pond, Dry Lake
Poaceae	*Eremochloa ophiuroides*	Centipede Grass	Sandhills, thoughout	Deep Edge
Poaceae	*Erianthus giganteus*	Giant Plume Grass	Edge of Stream	Far Western side of property
Poaceae	*Leersia hexandra*	Southern Cutgrass	Lake edge	Dry Lake
Poaceae	*Panicum hemitomon*	Maidencane	Lake Edge	Throughout
Poaceae	*Paspalum notatum*	Bahiagrass	Ruderal	Powerline
Poaceae	*Sacciolepis striata*	American Cupscale	Lake Edge	Garret Pond
Poaceae	*Sorghastrum secundum*	Lopsided Indiangrass	Sandhill	Scattered throughout sandhills
Poaceae	*Sporobolus indicus*	Smutgrass	Ruderal	Powerline
Polemoniaceae	*Phlox floridana*	Florida Phlox	Sandhills	Western Most side of property
Polemoniaceae	*Phlox nivalis*	Trailing Phlox	Sandhill	Throughout
Polemoniaceae	*Phlox pilosa*	Downy Phlox	Sandhills	Throughout
Polygalaceae	*Polygala cruciata*	Drumheads	Seepage slopes/wet flatwoods	Throughout
Polygalaceae	*Polygala lutea*	Orange Milkwort	Wet Flatwoods	Throughout
Polygalaceae	*Polygala nana*	Wild Bachelor's Buttons	Wet flatwoods, sandhills	Little Deep Edge
Polygalaceae	*Polygala setacea*	Scaley Milkwort	Sandhills	Throughout
Polygalaceae	*Eriogonum tomentosum*	Dogtongue Wild Buckwheat	Sandhills	Throughout
Polygonaceae	*Polygonella fimbriata*	Sandhill Wireweed	Sandhills	Throughout
Polygonaceae	*Polygonella gracilis*	Tall Jointweed	Sand Hill	Throughout
Polygonaceae	*Polygonum hydropiperoides*	Mild Waterpepper	Lake edge	Garret Pond
Polygonaceae	*Rumex hastatulus*	Heartwing Dock	Ruderal	Powerline
Polygonaceae	*Polypodium polypodiodes*	Reserection Fern	Mesic Uplands	Boat Pond
Polypodiacea	*Pontderia cordata*	Pickerel Weed	Lake Edge	Throughout
Pontederiaceae	*Pteridium aquilinum*	Bracken Fern	Sandhills	Throughout
Pteridaceae	*Amelanchier arborea*	Serviceberry	Mesic uplands	East side of Dry Lake
Rosaceae	*Aronia arbutifolia*	Red Chokeberry	Wet Flatwoods, stream banks	Pine Log Creek, Garret Pond
Rosaceae	*Crataegus spathulata*	Red Haw	Mesic uplants	Little Deep Edge
Rosaceae	*Prunus serotina*	Black Cherry	Sandhills	Scattered throughout sandhills
Rosaceae	*Rubus cunefolius*	Sand Blackberry	Ruderal	Powerline, wetland edge
Rosaceae	*Rubus trivialis*	Southern Dewberry	Ruderal	Powerline, wetland edge
Rosaceae	*Cephalanthus occidentalis*	Common Buttonbush	Cypress dome	East side of Dry Lake

Family	Genus & Species	Common Name	Habitat	Observed Location
Rubiaceae	*Diodia teres*	Poor Joe	Ruderal	Powerline, sandhill
Rubiaceae	*Diodia viriginiana*	Buttonweed	Wet flatwoods	Throughout
Rubiaceae	*Hedyotis procumbens*	Innocence	Sandhill	Throughout
Rubiaceae	*Mitchella repens*	Partridgeberry	Mesic uplands	East side of Dry Lake
Rubiaceae	*Pinckneya bracteata*	Fever Tree	Seepage areas	Green head Branch
Rubiaceae	*Sarracenia leucophylla*	White Pitcherplant	Seepage areas	Deep Edge Pond
Sarraceniaceae	*Saururus cernuus*	Lizard's Tail	Hardwood swamps	Pine Log Creek
Saururaceae	*Itea virginica*	Virginia Willow	Cypress domes, strands, lakes	Black Pond
Saxifragaceae	*Agalinis fasciculata*	False Foxglove	Sandhills	Throughout
Scrophulariaceae	*Agalinis divericata*	False Foxglove	Sandhills, powerline	Throughout
Scrophulariaceae	*Aureolaria flava*	Yellow False Foxglove	Mesic Uplands	East Side of Dry Lake
Scrophulariaceae	*Bacopa caroliniana*	Lemon Bacopa	Lake edge	Dry Lake
Scrophulariaceae	*Buchneria americana*	Blueheart	Ruderal	Powerline
Scrophulariaceae	*Linaria canadensis*	Canada Toadflax	Ruderal	Powerline
Scrophulariaceae	*Linaria texana*	Texas Toadflax	Ruderal	Powerline
Scrophulariaceae	*Penstemon multiflorus*	Manyflower Beardtongue	Sandhill	Throughout
Scrophulariaceae	*Seymeria cassiodes*	Black senna	Sandhills	Throughout
Scrophulariaceae	*Seymeria pectinata*	Black senna	Sandhills	Adjacent to Little Deep Edge
Smilacaceae	*Smilax auriculata*	Earleaf Greenbrier	Sandhill	Throughout
Smilacaceae	*Smilax bonna-nox*	Catbrier	Ruderal, Sandhill	Powerline
Smilacaceae	*Smilax glauca*	Cat Greenbrier	Hardwood swamp	Pine log creek
Smilacaceae	*Smilax laurifolia*	Greenbriar	Hardwood swamp	Throughout
Smilacaceae	*Smilax pumila*	Sarsaparilla-vine	Sandhill	Little Deep Edge
Smilacaceae	*Simplocos tinctoria*	Horse Sugar	Mesic uplands	East side of Dry Lake
Symplocaceae	*Taxodium ascendens*	Pond Cypress	Cypress domes, strands, lakes	Throughout
Turneraceae	*Pirqueta caroliniana*	Pirqueta	Sandhills	Far Western side of property
Taxodiaceae	*Ulmus americana*	American Elm	Hardwood swamp	Pine Log Creek
Ulmaceae	*Boehmeria cylindrica*	False nettle	Hardwood swamp	Pine Log Creek
Urticaceae	*Callicarpa americana*	Beauty Bust	Pine flatwoods, dist. mesic	Edge of Dry Pond
Verbenaceae	*Verbena braziliensis*	Brazilian Vervain	Ruderal	Powerline
Verbenaceae	*Stylodon carneus*	Stylodon	Sandhills	Little Deep Edge
Violaceae	*Viola lanceolata*	Bog White Violet	Lake Edge	Deep Edge Pond
Violaceae	*Viola primulifolia*	Primrose-leaved Violet	SeepagWet Flatwoods	East side Dry Pond
Violaceae	*Viola palmata*	Violet	Sandhills	Little Deep Edge
Violaceae	*Viola sororia*	Violet	Sandhills	Little Deep Edge
Violaceae	*Viola walteri*	Violet	Mixed forrests	East side Dry Pond

Family	Genus & Species	Common Name	Habitat	Observed Location
Vitaceae	*Ampelopsis arborea*	Pepper Vine	Ruderal	Powerline
Vitaceae	*Vitus munsoniana*	Southern Fox Grape	Pine Flatwoods,dist. mesic	East side of Dry Lake
Xyridaceae	*Xyris ambigua*	Yelloweyed Grass	Lake Edge, Cypress Dome	Dykes Mill Pond, Dry lake
Xyridaceae	*Xyris baldwiniana*	Baldwin's Yelloweyed Grass	Wet Flatwoods	East side of Dry Lake
Xyridaceae	*Xyris brevifolia*	Yelloweyed Grass	Lake Edge	Garret Pond
Xyridaceae	*Xyris elliottii*	Yelloweyed Grass	Lake Edge	Dry lake
Xyridaceae	*Xyris fimbriata*	Fringed Yelloweyed Grass	Lake Edge	Dykes Mill Pond
Xyridaceae	*Xyris flabelliformis*	Yelloweyed Grass	Lake Edge	Deep Edge
Xyridaceae	*Xyris jupicai*	Richard's Yelloweyed Grass	Lake Edge	Dykes Mill Pond, Deep Edge
Xyridaceae	*Xyris longisepala*	Kral's Yelloweyed Grass	Lake Edge, Cypress Dome	Dykes Mill Pond, Dry lake, Garret Pond
Xyridaceae	*Xyris platylepsis*	Yelloweyed Grass	Cypress Dome	Dykes Mill Pond

Animals Observed on the Sand Hill Lakes Mitigation Bank

(Scientific Name)	(Common Name)	(Federal Status)	(State Status)
Amphibians			
Acrus gryllus gryllus	Southern Cricket Frog	N	N
Hyla cinerea	Green Tree Frog	N	N
Rana catesbeiana	Bullfrog	N	N
Rana grylio	Pig Frog	N	N
Rana utricularia	Southern Leopard Frog	N	N
Reptiles			
Agkistrodon piscivorus	Cottonmouth	N	N
Alligator mississippiensis	American Alligator	T(S/A)	LS
Anolis carolinensis	Green Anole	N	N
Bufo quercicus	Oak Toad	N	N
Bufo terrestris	Southern Toad	N	N
Chrysemys floridana	Cooter	N	N
Coluber constrictor	Black Racer	N	N
Cnemidophorus sexlineatus	Racerunner	N	N
Crotalus adamanteus	Eastern Diamond Back Rattlesnake	N	N
Deirochelys reticularia	Chicken Turtle	N	N
Eumeces inexpectatus	Southeastern Five-lined Skink	N	N
Gopherus polyphemus	Gopher Tortoise	N	LS
Kinosternon subrubrum	Mud Turtle	N	N
Macroclemys temmincki	Alligator Snapping Turtle	N	LS
Pituophis melanoleucus mugiltus	Florida Pine Snake	N	LS
Sistrurus miliarius	Pigmy Rattlesnake	N	N
Terrapene carolina ssp. Major	Gulf Coast Box Turtle	N	N
Thamnophis sauuritus	Eastern Ribbon Snake	N	N
Trionyx spiniferus	Spiny Softshshell Turtle	N	N
Birds			
Anas rubripes	American Black Duck	N	N
Fulica americana	American Coot	N	N
Turdus migratorius	American Robin	N	N
Anhinga anhinga	Anhinga	N	N
Coccyzus erythropthalmus	Back-Billed Cuckoo	N	N
Strix varia	Barred Owl	N	N
Ceryle alcyon	Belted Kingfisher	N	N
Coragyps atratus	Black Vulture	N	N
Cyanocitta cristata	Blue Jay	N	N
Polioptila nigraceps	Blue-gray Gnatcatcher	N	N
Anas discors	Blue-winged Teal	N	N
Quiscalus major	Boat-tailed Grackle	N	N
Toxostoma rufum	Brown Thrasher	N	N
Poecile carolinensis	Carolina Chickadee	N	N
Bubulcus ibis	Cattle Egret	N	N
Caprimulgus carolinensis	Chuck -Will's-Widow	N	N
Columbina passerina	Common Ground Dove	N	N
Chordeiles minor	Common Night Hawk	N	N
Gallinago gallinago	Common Snipe	N	N
Geothlypis trichas	Common Yellowthroat	N	N
Phalacrocorax auritus	Double Crested Cormorant	N	N
Sialia sialis	Eastern Bluebird	N	N
Sayornis phoebe	Eastern Phoebe	N	N

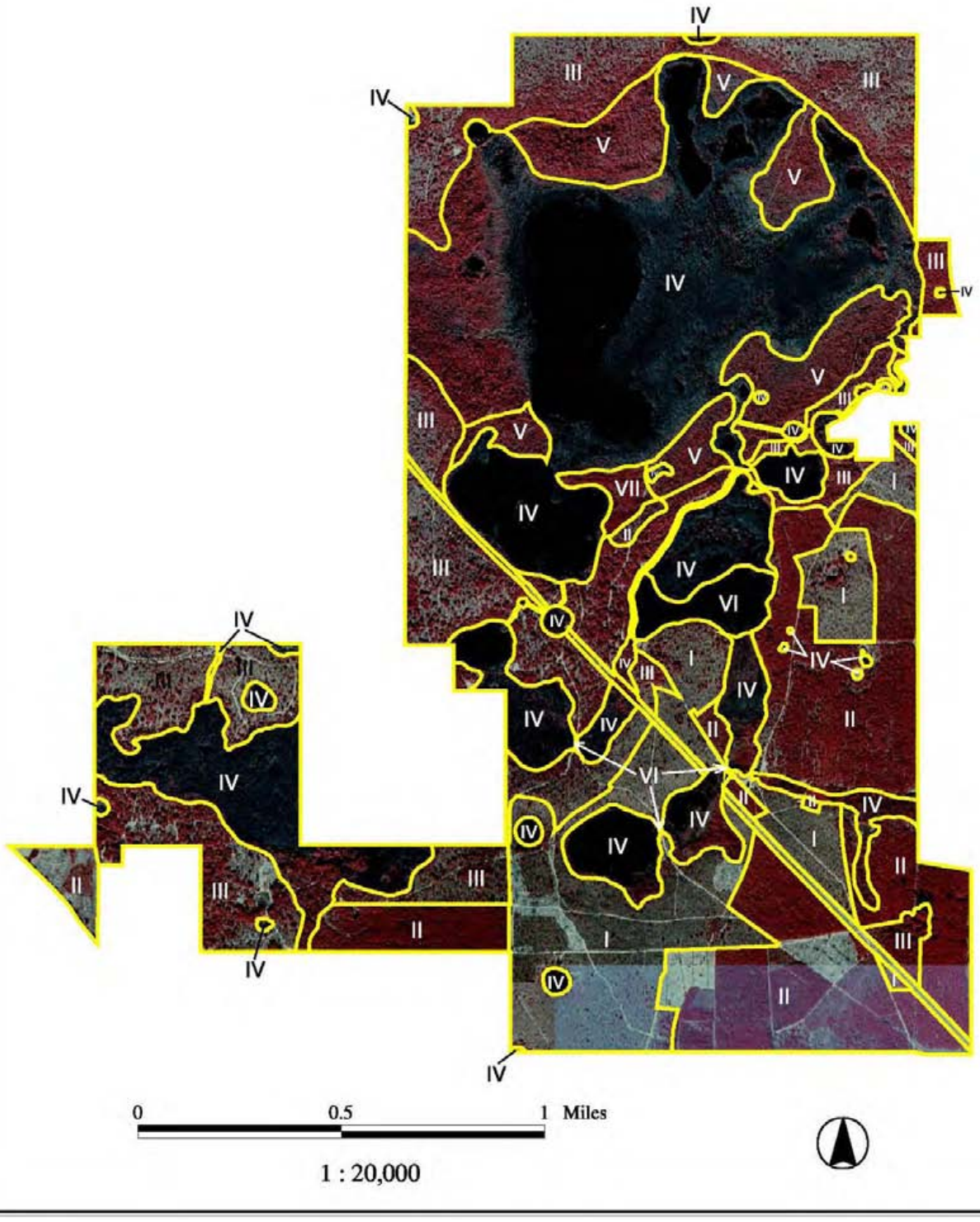
Sturnus vulgaris	European Starling	N	N
Corvus ossifragus	Fish Crow	N	N
Dumetella carolinensis	Gray Catbird	N	N
Ardea herodias	Great Blue Heron	N	N
Ardea alba	Great Egret	N	N
Myiarchus crinitus	Greater Crested Fly Catcher	N	N
Butorides striatus	Green Heron	N	N
Anas crecca	Green-winged Teal	N	N
Lophodytes cucullatus	Hooded Merganser	N	N
Charadrius vociferus	Killdeer	N	N
Egretta carerulea	Little Blue Heron	N	LS
Lanius ludovicianus	Loggerhead Shrike	N	N
Mimus polyglottos	Mockingbird	N	N
Zenaida macroura	Mourning Dove	N	N
Colinus virginianus	Northern Bobwhite Quail	N	N
Cardinalis cardinalis	Nothern Cardinal	N	N
Pandion haliaetus	Osprey	N	N
Podilynbus podiceps	Pied-billed Grebe	N	N
Dryocopus pileatus	Pileated Wood Pecker	N	N
Melanerpes carolinus	Red-bellied Woodpecker	N	N
Bueto jamaicensis	Red-tailed Hawk	N	N
Buteo lineatus	Red-shouldered Hawk	N	N
Agelaius phoeniceus	Red-winged Blackbird	N	N
Pipilo erythrophthalmus	Rufous-sided Towhee	N	N
Otus asio	Screech Owl	N	N
Egretta thula	Snowy Egret	N	LS
Falco sparverius paulus	Southeastern American Kestrel	N	T
Piranga rubra	Summer Tananger	N	N
Elanoides forficatus	Swallow-tailed Kite	N	N
Egretta tricolor	Tricolor Heron	N	LS
Baelophus bicolor	Tufted Titmouse	N	N
Cathartes aura	Turkey Vulture	N	N
Eudocimus albus	White Ibis	N	LS
Meleagris gallopavo	Wild Turkey	N	N
Aix soinsa	Wood Duck	N	N
Mycteria americana	Wood Stork	E	E
Nycticoraz violaceus	Yellow-Crowned Night-Heron	N	N
Dendroica dominica	Yellow-throated Warbler	N	N

Mammals

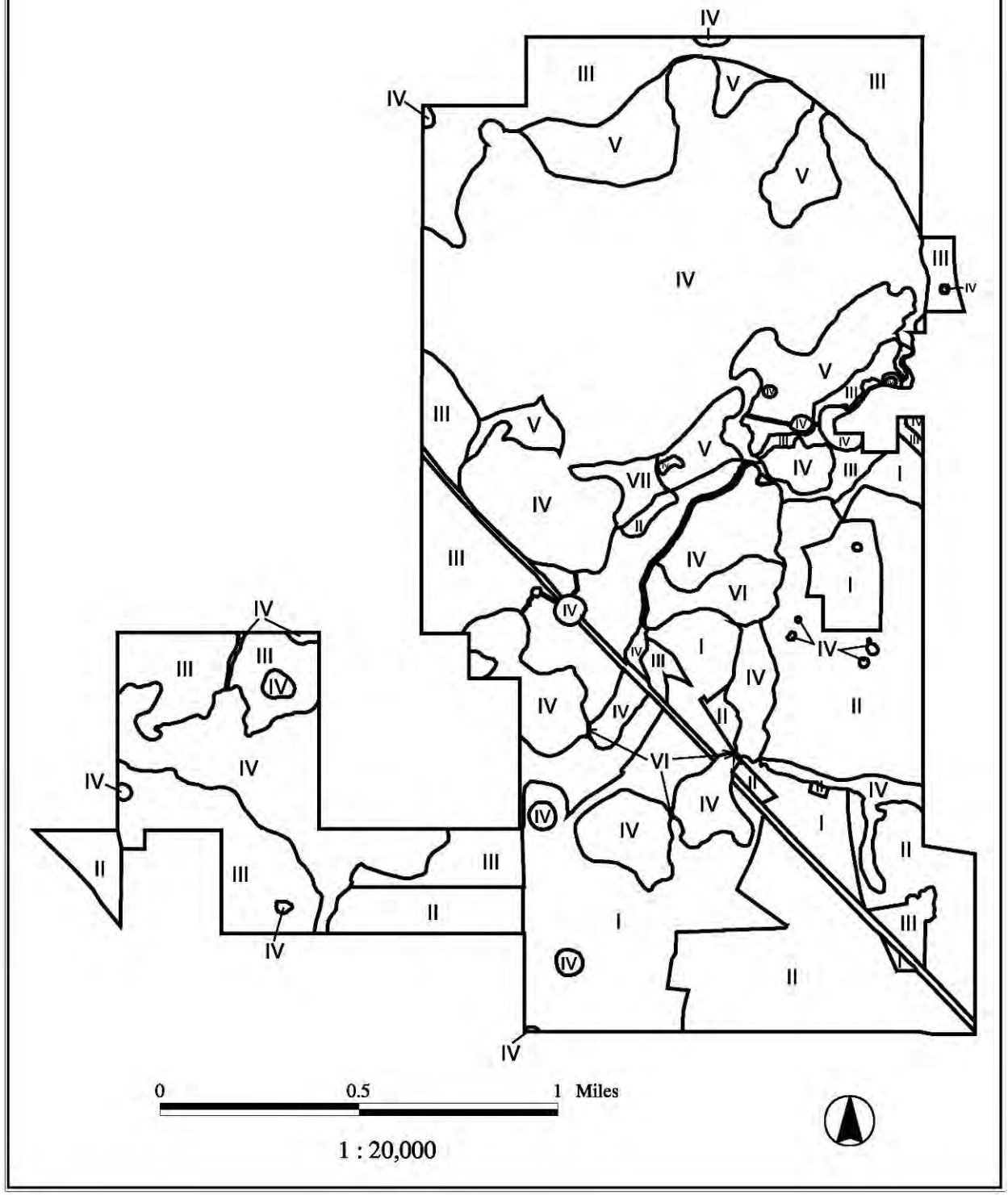
Canis latrans	Coyote	N	N
Dasypus novemcinctus	Armadillo	N	N
Didelphis virginiana	Opossum	N	N
Eptesicus fuscus	Big brown bats	N	N
Lynz fufus	Bobcat	N	N
Myotis austroriparius	Southeastern Bat	N	N
Odocoileus virginainus	White-tailed Deer	N	
Procyon lotor	Raccoon	N	N
Sciurus carolinensis	Gray Squirrel	N	N
Sus scrofa	Wild Hog	N	N
Sylvilagus floridanus	Cotton-tailed Rabbit	N	N
Sylvilagus palustris	Marsh Rabbit	N	N

Exhibit 18

Florida UMAM Analysis - Polygons



Florida UMAM Analysis - Polygons



Credit Assessment - DEP UMAM 8/04-revised 10/04

Sand Hill Lakes Mitigation Bank - UMAM Assessment																
ASSESSM'T AREA	MITIGATION CATEGORY	AREA (acres)	SCORE						UMAM W/OUT MIT.	UMAM WITH MIT.	DELTA	TIME LAG	P FACTOR	RISK	RFG	CREDIT
			AND LANDSCAPE		WATER ENVIRONMENT		COMMUNITY STRUCTURE									
			W/OUT or CUR.*	WITH MIT.	W/OUT or CUR.*	WITH MIT.	W/OUT or CUR.*	WITH MIT.								
I	Cutover sandhills to Longleaf/Wiregrass	263.52	8	10			7	9	0.75	0.95	0.20	1.14		1.00	0.18	**46.2**
II	Pine plantation to Longleaf/Wiregrass	383.48	7	9			7	9	0.70	0.90	0.20	1.25		1.25	0.13	**49.1**
III	Oak Sandhill Preservation	493.85	6	8			6	8	0.60	0.80	0.20	1.00	0.70	1.00	0.14	**69.1**
IV	High Quality Wetland Preservation	830.27	8	10	9	10	7	10	0.80	1.00	0.20	1.00	0.60	1.00	0.12	**99.6**
V	Hydric Pine Flatwood Enhancement	147.09	8	10	9	10	6	9	0.77	0.97	0.20	1.14		1.00	0.18	**25.8**
VI	Cypress-Gum Restoration	25.13	6	10	6	9	5	9	0.57	0.93	0.37	1.46		1.00	0.25	**6.3**
VII	Pine plantation to Hydric flatwoods	11.53	6	9	7	9	5	9	0.60	0.90	0.30	1.25		1.25	0.19	**2.2**
TOTALS		**2154.88**														**298.4**

*** For preservation assessment areas, use 'without' preservation, otherwise use 'current' condition/ Preservation areas shaded**

NOTE: For the purpose of the ledger, credits derived from Assessment Areas I, II, V, and VII were defined as "flatwoods" credits. Credits derived from Assessment Areas III amd VI were defined as "mixed hardwood" credits. Credits derived from Assessment Area IV were defined as "mixed hardwood" credits or "herbaceous" credits in proportion to the acreage of forested (cypress, gum) (587.2 ac./70.4 credits) or non-forested (herbaceous, emergent or pond) areas (243.1 ac./29.2 credits)

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygon "I" - Sandhill-Xeric Oak

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
412 (Current), 411 (Target)	"Cutover" Sandhills Community	Mitigation (upland enhancement)	263.520

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Chocatwhatchee and St. Andrew Bay Watersheds	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of karst ponds, lakes, hardwood swamps, hydric pine flatwoods, seepage slopes, wet prairies, bayheads, and streams surrounded by uplands with deep sandy soils supporting upland sandhills vegetation.

Assessment area description

The vegetation in this polygon is dominated by turkey oak, and sand live oak with some post oak, and blue jack oak. Most of the long leaf pine that historically had dominated the site has been harvested. Remnant long leaf pines populations occur adjacent to lakes and streams or in areas difficult to harvest. Understory has become overgrown due to absence of fire yet the wiregrass understory across much of the landscape is still in tact and dense. Despite the absence of fire, a diverse assemblage of understory sandhill species remain.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	Karst solution lakes adjacent to sandhill communities are unique to several counties in the Panhandle, yet fairly common within the region. Development pressure within these areas is high and increasing with significant natural habitat lost to housing projects.

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for species noted below; nutrient input	Natural fire cycle suppressed; most of longleaf pine harvested off the property.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Oak toad, cricket frog, chorus frog, black racer, oak snakes, pygmy and diamondback rattlesnakes, hawks, cotton mouse, rabbit, raccoon, opossum, skunk, bobcat, deer.	Southeastern American Kestrel (T), Gopher Tortoise (SSC), Florida Pine Snake (SSC), Eastern Indigo Snake (T), Gulf Coast Lupine (T), Flowering Crab Apple (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Southeastern kestrel, gopher tortoise, Florida pine snake, anole, oak toad, black racer, race runner, southeastern five lined skink, deer, rabbit, squirrel, field mouse, armadillo, raccoon (tracks), coyote, morning dove, black vulture, fish crow, mockingbird, blue jay, titmouse, red shouldered hawk, turkey, wild hog (tracks). opossum (tracks), pygmy rattlesnake.

Additional relevant factors:

Housing developments are encroaching within the region. Significantly more development pressure associated with lands adjacent to the karst ponds and lakes. Powerline traverses property. Mitigation is to restore/enhance the community toward a true longleaf/wirgrass community by: thinning oak, frequent fire, seeding/planting groundcover, as necessary and planting longleaf. Long-term management is prinipally frequent fire.

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank - "II" Polygons		Polygons "II" - Sand and Slash Pine Plantation

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
441 & 441 (current), 411 (target)	Sand and Slash Pine Plantation	Mitigation-upland enhancement/restoration	383.484

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Chocatwhatchee and St. Andrew Bay Watersheds	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of karst ponds, lakes, hardwood swamps, hydric pine flatwoods, seepage slopes, wet prairies, bayheads, and streams surrounded by uplands with deep sandy soils supporting upland sandhills vegetation.

Assessment area description

Sand Pine Plantation: Dominant species is planted sand pine. Majority of understory absent, though some wire grass persists in the more open areas. Slash Pine Plantations: Overstory of slash pine, some minor disturbance due to bedding, with low to moderate diversity observed in the understory.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	Karst solution lakes adjacent to sandhill communities are unique to several counties in the Panhandle yet fairly common within the region. Development pressure within these areas is rapidly increasing with significant natural habitat lost to housing projects.

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for species noted below; nutrient imput	These areas were primarily long leaf pine dominated sandhills. Natural fire regime suppressed. Tree densities greatly increased; naturally occurring longleaf pine replace with offsite sand pine.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area).
Oak toad, black racer, rabbit, raccoon, opossum, deer.	None

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Green anole, black racer, race runner, deer (tracks), rabbit (droppings), and blue jay.

Additional relevant factors:

Housing developments are encroaching within the region. Likelihood of continued silviculture. Significantly more development pressure associated with lands adjacent to the karst ponds and lakes. Power line traverses property. Mitigation involves the removal of all sand pine and most slash pine, frequent prescribed fires, seeding/planting groundcover as necessary, planting longleaf, and managing for exotic infestations.

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "III" - Xeric Oak

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
421	Sandhills vegetation degraded by long-term fire suppression.	Mitigation-upland preservation	493.852 Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Pine Log Creek/Chocatwhatchee (Ecofina Groundwater)	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of karst ponds, headwater lakes, hardwood swamps, hydric pine flatwoods, seepage slopes, wet prairies, bayheads, and streams surrounded by uplands with deep sandy soils supporting upland sandhills vegetation.

Assessment area description

The vegetation in this polygon is dominated by sand live oak with some live oak. Understory is often bare with patches of remnant sandhill species and some wire grass. The area appears to be transitioning from an historic pine, oak and wiregrass-type community to an established and functional xeric hammock-type community.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (the water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	Karst solution lakes adjacent to sandhill communities are unique to several counties in the Panhandle yet fairly common within the region. Development pressure within these areas is high and increasing with significant natural habitat lost to housing projects.

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for species noted below.	Natural fire cycle suppressed; conversion of sandhill community to xeric oak.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found).	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Black racer, oak snakes, rabbit, raccoon, armadillo, opossum, skunk, bobcat, deer.	Southeastern American Kestrel (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Anole, black racer, race runner, southeastern five lined skink, squirrel, armadillo, raccoon (tracks), blue jay, and titmouse.

Additional relevant factors:

In the near future, continues fire suppression would degrade groundcover and develop potential for catistrophic fire. Additionally, housing developments are encroaching within the region. Significantly more development pressure associated with these uplands adjacent to the karst ponds and lakes, and with homes and access, increased amount of ATV use and more roads. Powerline traverses property. Minor threat of exotic vegetation. Mitigation will preserve current functional condition and be managed with fire to retain or enhance a more open understory.

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "IV" - High Quality Wetlands Preservation

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
520, 611, 615, 616, 617, 621, 626, 630, 640, 641, 643, 644	basin, depression	Mitigation-wetland preservation	830.629 Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Pine Log/Choctaw R (Ecofina Groundwater)	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of openwater solution ponds w/ sandy overburden that supports upland vegetation, high water table flats-pine and wet prairie that has wet/seepage slopes, mostly wooded down to cypress dominated bottomlands, forested wetlands, marshes, mixed hardwood swamps, seepage slopes, bayheads, and ponds.

Assessment area description

The assessment area consists of the high quality wetlands and open waters contained on the property. The area includes all forested and herbaceous wetlands, and other waterbodies on the property. The wetlands onsite are very diverse representing both isolated and connected wetland systems. Additionally, there are 3 very small areas where roads that traverse the wetlands will be removed and replanted in native wetland species.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	Fairly common throughout the region, though nearly pristine cypress systems rare. The wetlands are mostly in excellent shape and reflect a diverse assembledge of wetland systems, several of these such as seepage slopes and seepage streams in their natural

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for species noted below	Past altered hydrology.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found).	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Racoon, Ibis, piliated woodpecker, warblers, wood duck, belted kingfisher, sliders, little blue heron, anhinga, great white egret, great blue heron, alligator, osprey, deer.	Cinnamon Fern (CE), Smooth Barked St. John's Wort (State E, Federal SSC), Alligator (SSC), Alligator Snapping Turtle (SSC), Bogbuttons (T). Water sundew (T), White topped pitcher plant (E), Kraal's yellow-eyed grass (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Raccoon, Ibis, piliated woodpecker, warblers, wood duck, belted kingfisher, sliders, soft shelled turtle, little blue heron, anhinga, great white egret, great blue heron, osprey, deer, alligator, ribbon snake, leopard frog, bull frog.

Additional relevant factors:

Housing developments are beginning to be constructed within the region associated with the larger lakes. Powerline traverses property. Mitigation is to preserve the current condition of these wetlands, restore natural connections at the road crossings and manage to maintain free of exotic vegetation.

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "V" - Hydric Pine Flatwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
625	Enhancement of Hydric Pine Flatwoods	Mitigation-wetland enhancement	147.091 Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Choctawhatchee and St. Andrew Bay Watersheds	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of karst ponds, lakes, hardwood swamps, hydric pine flatwoods, seepage slopes, wet prairies, bayheads, and streams surrounded by uplands with deep sandy soils supporting upland sandhills vegetation.

Assessment area description

Thick titi/lyonia/myrtle-leaved holly with remnant slash pine; lack of fire regime. Hydrology basically intact.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	This mosaic of wetlands and uplands is unique to several counties in the Florida Panhandle. Hydric pine flatwoods are common within the region and are rapidly being developed.

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for both forested wetland and upland communities. Habitat and ecotone for species noted below	Nature fire regime has been suppressed for the last 50+ years. Past harvesting of pine, with natural re-generation. Very few slash pine currently occur within the area.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found).	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Oak toad, cricket frog, chorus frog, black racer, oak snakes, pygmy and diamondback rattlesnakes, hawks, cotton mouse, rabbit, raccoon, opossum, skunk, bobcat, deer	Spoon-leaved Sundew (T), Cinnamon Fern (CE), (Kraal's Yellow-eyed Grass (E), White-topped Pitcher Plant (E), Water Sundew (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Oak toad, southern cricket frog, chorus frog, southern leopard frog, rabbit (droppings), deer (tracks), hog (tracks), black vulture, raccoon (tracks)

Additional relevant factors:

Housing developments are beginning to be constructed within the region associated with the larger lakes. Powerline traverses property. Enhancement will include shrub reduction and fire (initially dormant-season burns, then frequent growing-season burns), potential re-seeding with grass and hydric pine species. Herbacide use only in consultation with MBRT

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "VI" - Dykes Mill Pond / Road-fill Sites

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
611, 616, 621	basin, depression	Mitigation-wetland enhancement/restoration	25.130 Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Choctawhatchee River and St. Andrew Bay Watersheds	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of openwater solution ponds w/ sandy overburden that supports upland vegetation, high water table flats-pine and wet prairie that has wet/seepage slopes, mostly wooded down to cypress dominated bottomlands, forested wetlands, marshes, mixed hardwood swamps, seepage slopes, bayheads, and ponds.

Assessment area description

The assessment area consists of an open water pond that had been converted from a deep swamp to a pond by a dam. Remnant dead and stressed cypress are apparent.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Just North of Deer Point Lake, the water supply for Panama City.	Fairly common throughout the region, though nearly pristine cypress systems rare. The wetlands are mostly in excellent shape and reflect a diverse assembledge of wetland systems, several of these such as seepage slopes and seepage streams in their natural

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for species noted below	Past altered hydrology.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found).	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Racoon, Ibis, piliated woodpecker, warblers, wood duck, belted kingfisher, sliders, little blue heron, anhinga, great white egret, great blue heron, alligator, osprey, deer.	Cinnamon Fern (CE), Smooth Barked St. John's Wort (State E, Federal SSC), Alligator (SSC), Alligator Snapping Turtle (SSC), Bogbuttons (T). Water sundew (T), White topped pitcher plant (E), Kraal's yellow-eyed grass (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

raccoon, Ibis, piliated woodpecker, warblers, wood duck, belted kingfisher, sliders, soft shelled turtle, little blue heron, anhinga, great white egret, great blue heron, osprey, deer, raccoon, alligator, ribbon snake, leopard frog, bull frog.

Additional relevant factors:

Housing developments are beginning to be constructed within the region associated with the larger lakes. Powerline traverses property. Mitigation consists of removing the dam and restoring the natural connection. Cypress and gum will be planted.

Assessment conducted by:	Assessment date(s):

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "VII" - Hydric Pine Restoration from Bedded Slash Pine Plantation

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
625 (restored from 441)	Bedded slash pine plantation on hydric site.	Mitigation-wetland enhancement/restoration	11.532 Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Choctawhatchee River and St. Andrew Bay Watersheds	III	None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a mosaic of karst ponds, lakes, hardwood swamps, hydric pine flatwoods, seepage slopes, wet prairies, bayheads, and streams surrounded by uplands with deep sandy soils supporting upland sandhills vegetation.

Assessment area description

Uneven stands of slash pine with thick titi/lyonia/myrtle-leaved holly understory, fire suppression. Bedding affects sheet-flow and probably cases some de-watering

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
North of Deer Point Lake (water supply for Panama City); Pine Log Creek, an important tributary to the Choctawhatchee River.	This landscape is unique to several counties in the panhandle. Wet flatwoods are common within the region and are rapidly being developed.

Functions	Mitigation for previous permit/other historic use
Water storage and recharge; ecotonal habitat for both forested wetland and upland communities. Habitat and ecotone for species noted below.	Nature fire regime has been suppressed for the last 50+ years; currently in bedded slash pine.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found).	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Oak toad, cricket frog, chorus frog, black racer, oak snakes, pygmy and diamondback rattlesnakes, hawks, cotton mouse, rabbit, raccoon, opossum, skunk, bobcat, deer	Spoon-leaved Sundew (T), Cinnamon Fern (CE), (Kraal's Yellow-eyed Grass (E), White-topped Pitcher Plant (E), Water Sundew (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Oak toad, southern cricket frog, chorus frog, southern leopard frog, rabbit (droppings), deer (tracks), hog (tracks), black vulture, raccoon (tracks)

Additional relevant factors:

Housing developments are beginning to be constructed within the region associated with the larger lakes. Powerline traverses property. Mitigation is to thin slash pine to <200 trees per acre for hydric pine flatwoods. Brush reduction and prescribed fire (initial dormant-season burns); re-seeding with grass species if desirable grass species do not develop from understory.

Assessment conducted by:	Assessment date(s):

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hills Mit. Bank - "I" Polygons		Sandhill-Xeric Oak
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation-upland enhancement		263.520 Acres

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or	with	Current - Surrounding landuse is about 1/2 silviculture (mostly on upland side), and 1/2 natural lands (mostly high quality wetlands). Sufficient buffer and diversity of surrounding habitat and larger landscape to support most functions, but is compromised in optimal support by an altered vegetation community. Does not provide optimal landscape support for the adjacent wetlands because of its lack of tall pines and somewhat overgrown groundcover. "With" - ensure protection from exotics; improves the capacity of the area to support adjacent wetlands by providing more natural habitat for ecotonal species. Fire will release additional nutrients to and from surrounding lands. No expectation of significant obstacles to prevent area from achieving optimal landscape support.
	8	10	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or	with	N/A
	0	0	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or	with	Current - The sandhill community is overgrown from 50 years of fire supression. History of longleaf pine timber removal (although not as plantation) without replanting. Woody species have invaded and shrubby understory species have become dominant in the landscape. Oak species, primarily Turkey Oak (*Quercus laevis*) and Sand Live Oak (*Quecus geminata*) have become the dominant overstory species. Groundcover is somewhat matted, and the wiregrass has become sparse in some areas and has no signs of recent blooming. Regardless, most wetland functions dependant on this upland vegetation are supported. "With" - Many of the oaks will be cut and burned. The re-introduction of fire will significantly aid in habitat restoration. Most wetland functions provided by this upland will realized following a series of burns designed to restore the wire grass community. Some long leaf pines are in place and others will be planted at a rate of 436 trees per acre, but will take time to replace some functions. Expectations are for excellent recovery, but perhaps slightly less than optimal in vegetation structure.
	7	9	

Score = sum of above scores/30 (if uplands, divide by 20)		
or w/o pres	with	
0.75	0.95	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

Delta = [with-current]
0.2

If mitigation
Time lag (t-factor) = 1.14
Risk factor = 1

For mitigation assessment areas
Potential Credits = delta/(t-factor x risk) x acres = 46.2

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hills Mit. Bank - "II" Polygons		Pine Plantation (Sand and Slash Pine)
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation		383.484 Acres

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or	with
.500(6)(a) Location and Landscape Support	Current - Surrounding landuse are predominately high quality wetlands or fire-suppressed natural sandhills. Sufficient buffer and diversity of surrounding habitat to support most functions, but is compromised in optimal support by an altered vegetation community. Provides support to most functions, but does not provide optimal landscape support for the adjacent wetlands because of its altered community. "With" - ensure protection from exotics; improves the capacity of the area to support adjacent wetlands by providing more natural habitat for ecotonal species. Fire will release additional nutrients to and from surrounding lands. Optimal support limited due to proximity to off-site ag and silviculture operations.	7	9
.500(6)(b)Water Environment (n/a for uplands)	N/A	0	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Current- The natural sandhills community has been replaced with planted sand pine and slash pine. The majority of the understory vegetation has been shaded out by the dense pine. Some remnant understory sand hill species and wire grass remain but in greatly reduced numbers. However, adequate vegetation structure remains to support some, if not most, associated wetland functions. "With" - The sand pine and slash pine will be harvested and the site burned. The site will be seeded with wire grass and sand hill species from seed collected on the property. Following seeding the site will be planted with 436 trees per acre of long leaf pine. Growing-season fire will be restored to the system at 1-4 year intervals after the long leaf pine has become well established. Full recovery of groundcover and optimal overstory structure not anticipated within reasonable timeframe, however very good restoration expected within 10 years after success criteria are met.	7	9

Score = sum of above scores/30 (if uplands, divide by 20)	
or w/o pres	with
0.7	0.9

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

Delta = [with-current]
0.2

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

For mitigation assessment areas
Potential Credits = delta/(t-factor x risk)*acres =61.4

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hills Mit. Bank - "III" Polygons		Sandhill-Xeric Oak
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation		493.852 Acres

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or	with
.500(6)(a) Location and Landscape Support	"Without" - Without preservation the area is likely be impaired by declining groundcover and increased susceptibility to catastrophic fires. Additionally, in private ownership is might be expected to be developed for low-moderate density housing with associated roads and access and increased anthropomorphic alterations of the natural communities. This would further fragment the natural communities within the region. "With" - should ensure continued protection from exotics; will improve the capacity of the area to support adjacent wetlands by providing more natural habitat for ecotonal species. Fire will release additional nutrients to and from surrounding lands. Optimal support threatened by potentially developed offsite landuses.	6	8
.500(6)(b)Water Environment (n/a for uplands)	N/A	0	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	"Without" - The sandhill is likely to be impaired by declining groundcover and increased susceptibility to catastrophic fires. Additionally, it is increasingly susceptible to development into low-moderate density housing. The sandhill vegetation could be cleared to some extent and replaced with lawns and landscaping, and with additional disturbance, more likelihood of exotic infestations and other anthropomorphic disturbances. "With" - Site managed to maintain current condition with prescribed fires on an average of 5 year cycle to keep groundcover somewhat open and protect area from intense fire. Optimal long-term support threatened by offsite development.	6	8

Score = sum of above scores/30 (if uplands, divide by 20)		
	or w/o pres	with
	0.6	0.8

If preservation as mitigation,
Preservation adjustment factor = 0.7
Adjusted mitigation delta = 0.14

For impact assessment areas

Delta = [with-current]
0.2

If mitigation
Time lag (t-factor) = 1
Risk factor = 1

For mitigation assessment areas
Potential Credits = delta/(t-factor x risk) x acres = 69.1

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "IV"
Impact or Mitigation	Assessment conducted by:	Assessment date:
		830.269 acres

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or	with	W/O Preservation- Without preservation portions of the site could be logged, decreasing its support for a variety of wildlife functions. Fragmentation could occur with multiple landowners attaining access and managing for different purposes. Existing dam on Black Pond could become further degraded, leading to increased erosion problems and unstable water levels. Exotic vegetation infestation could occur. With- should ensure continued protection from exotics and be managed to maintain a single connected natural system. Dam and erosion stabilized.
	8	10	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or	with	W/O- preservation- the property will likely be developed as moderate to upper end housing development. Minor increase to turbidity from property clearing, impacts to ponds from the run off of lawn fertilization and nutrient additional impact to ponds from septic tanks. In addition the vegetation in the littoral fringe will likely be removed by landowners, impacting the wetland vegetation. The use of motor boats will increase the possibility of oil and gas release into the aquatic environment. With - hydrology will continue to support natural systems. Surrounding habitat will be returned to a natural condition which will improve nutrient release with fire and more natural ET from a restored upland habitat; some minor alterations of natural hydrology to remain.
	9	10	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or	with	W/O Preservation: The wetland vegetation is likely to be impacted by adjacent land owners who clear areas for swimming and to allow a clear view of lake. Exempt docks will impact both the vegetation and lake bottom by shading out vegetation. Increased nutrients to the ponds will likely change species dominance and increase exotic plant growth. Some of the cypress will likely be harvested for timber prior to development. The use of motor boats will increase the change of exotic species introduction into the lakes. With- Wetland vegetation would be preserved. Low nutrient system will likely continue. Exotic species invasion would be limited by lack of motor boat use on site.
	7	10	

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.8	1

If preservation as mitigation,
Preservation adjustment factor = .60
Adjusted mitigation delta = 0.12

For impact assessment areas

Delta = [with-current]
0.2

If mitigation
Time lag (t-factor) = 1
Risk factor = 1

For mitigation assessment areas
Potential Credits = delta x acres = 99.6

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hill Lakes Mitigation Bank		Polygons "V"
Impact or Mitigation	Assessment conducted by:	Assessment date:
		147.091 Acres

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		current	with
.500(6)(a) Location and Landscape Support	Current- Has sufficient buffer and diversity of surrounding habitat to support most functions, but is compromised in optimal support by an altered vegetation community; does not provide optimal buffer for the adjacent wetlands because of altered community. With- should ensure continued protection from exotics; will improve the capacity of the area to support adjacent wetlands by providing more natural habitat. Fire will release additional nutrients to and from surrounding lands. No expectation of significant obstacles to prevent area from achieving optimal landscape support.	8	10
.500(6)(b)Water Environment (n/a for uplands)	Current-Hydrology and water quality are mostly natural and support functions, but are slightly impaired by altered community and fire regime (increased evapo-transpiration (ET) and decreased nutrient release) - With - nutrient release with fire and more natural ET. No expectation of significant obstacles to prevent area from achieving optimal water environment.	9	10
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Current- Much more titi, lyonia and vines than natural condition and creates a denser understory and restricts many species adapted to grassy, open habitats. With- The hydric pine flatwoods will have shrub reduction and be burned on a short cycle to restore a wet flatwoods habitat. Once the shrub layer has been greatly dimished, wire grass and long leaf pine will be re-introduced. The hydric pine flatwoods will be restored by using seed sources from adjacent hydric pine comunities, though woody species are still likely to be more abundant and herbaceous species less diverse than a natural system. The re-introduction of fire will significantly aid in habitat restoration. Most wetland functions provided by this area will realized following a series of burns designed to restore the groundcover. Some pines are in place and others will be planted, but will take time to replace some functions. Expectations are for excellent recovery, but perhaps slightly less than optimal in vegetation structure	6	9

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.77	0.97

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

Delta = [with-current]
0.2

If mitigation
Time lag (t-factor) = 1.14
Risk factor = 1.0

For mitigation assessment areas
Potential Credits = delta/(t-factor x risk) x acres = 25.8

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hills Mit. Bank - "VI" Polygons		Polygons "VI" - Dykes Mill / Road-fill
Impact or Mitigation	Assessment conducted by:	Assessment date:
Mitigation		25.130 Acres

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or	with	
.500(6)(a) Location and Landscape Support	6	10	Current- Has sufficient buffer and diversity of surrounding habitat to support the functions. Does not provide optimal support for the adjacent wetlands because it is open water rather than the swamp and deep marsh that would be the natural condition. With- should ensure continued protection from exotics; will improve the capacity of the area to support adjacent wetlands by providing more natural habitat. No expectation of significant obstacles to prevent area from achieving optimal landscape support.
.500(6)(b)Water Environment (n/a for uplands)	6	9	Current-Areas is impounded and has flooded the natural wetland systems, but water levels are more similar to historic because of the failing dam. "With" - Enhancement will restore system to a natural state, will remove impoundment of water, but may be slightly less than optimal because of the historic alterations
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	5	9	Current- Degraded cypress canopy, prolonged flooding at greater depths has led to the decline of the cypress trees. Many of the trees are dying, very limited regeneration. Understory shifted from grasses and shallow water emergents to floating and aquatic species With- Removal of dam and lowering of water levels to reflect historic system. Cypress forest restored through reduced water depths and replanting of the cypress trees. Herbaceous community will shift from a water lily dominated community to an emergent dominated system.

Score = sum of above scores/30 (if uplands, divide by 20)	or w/o pres	with
	0.57	0.93

Delta = [with-current]
0.37

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) = 1.46
Risk factor = 1.0

For impact assessment areas

For mitigation assessment areas
Potential Credits = delta/(t-factor x risk) * acres = 6.3

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Sand Hills Mit. Bank - "VII" Polygons		Polygons "VII"
Impact or Mitigation	Assessment conducted by:	Assessment date:
Mitigation		11.532 Acres

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or	with	Current-Has sufficient buffer and diversity of surrounding habitat to support the functions. Does not provide full support for the adjacent wetlands because of plantation community and altered hydrologic pattern. With- will ensure continued protection from exotics; will improve the capacity of the area to support adjacent wetlands by providing more natural habitat. Fire will release additional nutrients to and from surrounding lands. optimal support limited by remaining, but diminished bedding and slightly limited potential to recover the full complement of wet flatwoods function
	6	9	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or	with	Current-Hydrology and water quality are mostly natural and support functions, but are slightly impaired by silviculture practices and light bedding, increased evapo-transpiration (ET) and fire suppression . With - nutrient release with the introduction of fire and more natural ET; some alterations of natural hydrology to remain.
	7	9	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or	with	Current- Very few shrubby species and though present, the understory has been greatly reduced in both number and diversity. Overstory dominated by dense planting of slash pine. A few maples and other hardwoods have invaded the historic wet flatwoods. With- The slash pine plantation will be harvest and burned on a short cycle to restore a wet flatwoods habitat. Wire grass and other forbs will supplemented through the use of collected seed planted in the site. Following the establishment of the understory, a regular fire regime will encourage the wire grass spread. After the understory has become sufficiently stable, pines trees will be planted. Full recovery of groundcover and optimal overstory structure not anticipated within reasonable timeframe, however very good restoration expected within 10 years after success criteria are met.
	5	9	

Score = sum of above scores/30 (if uplands, divide by 20)	
or w/o pres	with
0.6	0.9

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas

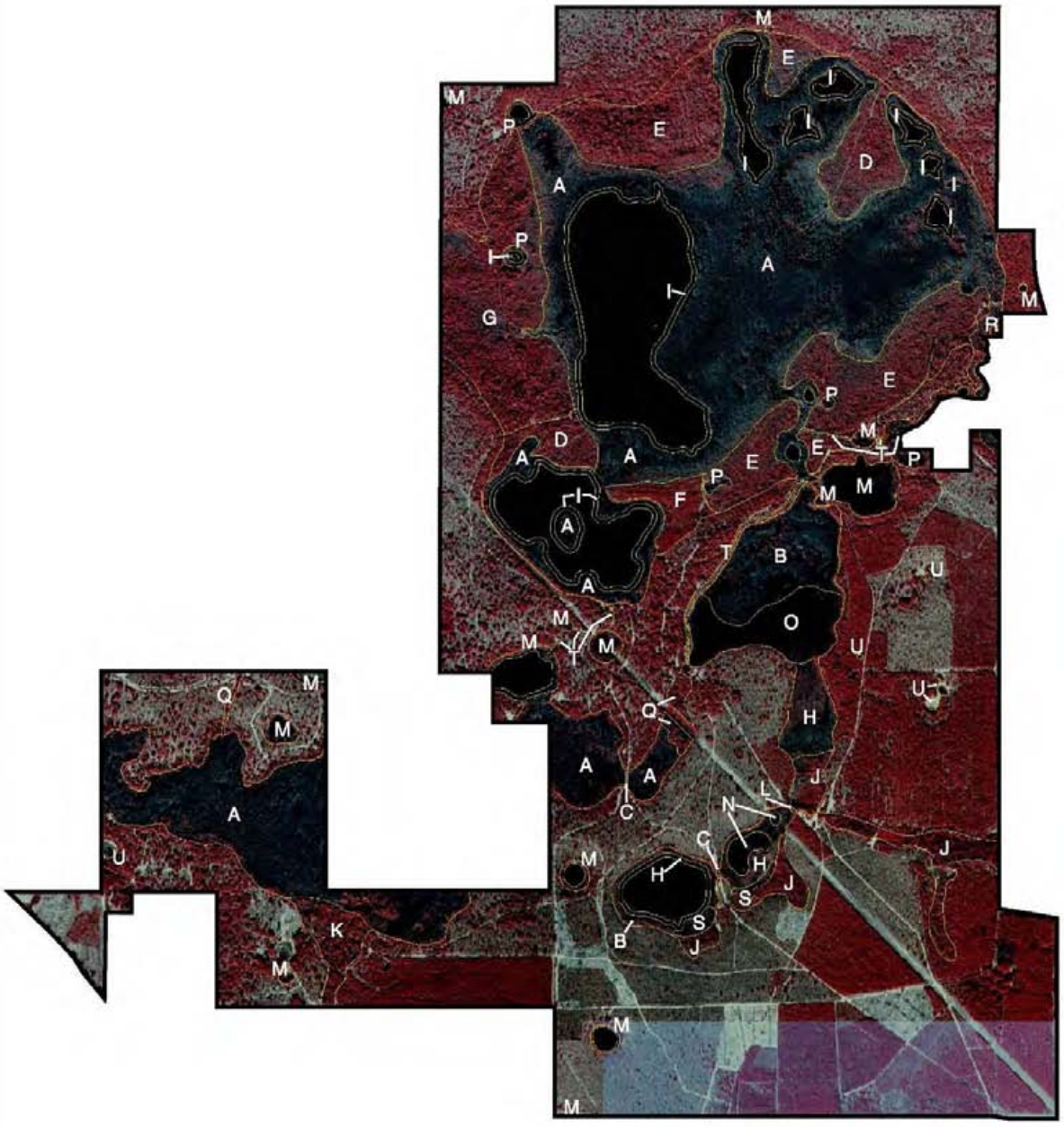
Delta = [with-current]
0.3

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.25

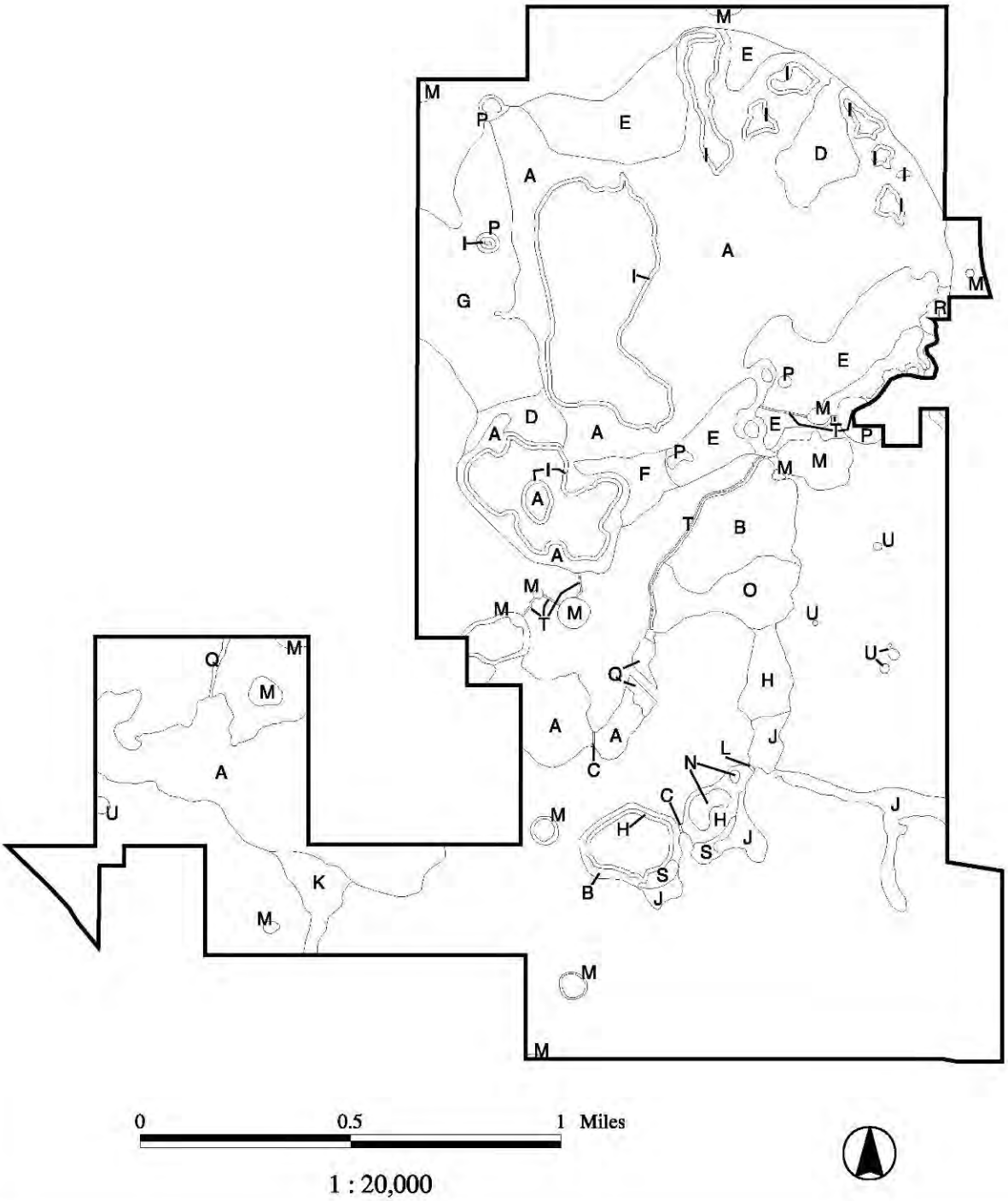
For mitigation assessment areas
Potential Credits = delta/(t-factor x risk)*acres = 2.2

Exhibit 19

WRAP Polygons



WRAP Polygons



WRAP CREDITS

WRAP Polygon	Existing FLUCCS[1]	Target FLUCCS	Acres[2]	"Existing" WRAP Score	"With" Mitigation WRAP Score	"Without" Mitigation WRAP Score	Raw WRAP Credits	WRAP Credits W/Lags	Risk Factor[3]	WRAP Credits W/Lags &Risk
A	621	621	414.179	0.972	1.000	0.694	126.32	124.25	0.99	123.01
B	621	621	40.319	0.667	1.000	0.500	20.16	17.42	0.94	16.37
C	814	621	0.158	0.000	1.000	0.000	0.16	0.14	0.92	0.13
D	625	625	32.323	0.792	1.000	0.681	10.34	8.73	0.94	8.21
E	625	625	114.355	0.778	1.000	0.597	46.09	42.20	0.94	39.67
F	441	625	11.532	0.722	1.000	0.722	3.21	2.56	0.94	2.41
G	617	617	75.311	0.944	1.000	0.875	9.41	8.66	0.99	8.57
H	644	644	23.484	0.767	1.000	0.700	7.05	6.72	0.99	6.65
I	644	644	33.360	1.000	1.000	0.867	4.47	4.47	1.00	4.47
J	611	611	29.106	0.833	1.000	0.583	12.14	10.62	0.94	9.98
K	611	611	12.600	0.833	1.000	0.597	5.00	4.36	0.99	4.32
L	814	611	0.091	0.000	1.000	0.000	0.09	0.08	0.92	0.07
M	641	641	27.154	0.900	1.000	0.700	8.15	7.22	0.99	7.15
N	520	641	3.855	0.867	1.000	0.783	0.80	0.80	1.00	0.80
O	520	616	24.880	0.000	1.000	0.000	24.88	23.91	0.94	22.48
P	616	616	7.700	0.861	1.000	0.792	1.60	1.46	1.00	1.46
Q	630	630	5.214	0.861	1.000	0.583	2.17	2.03	0.99	2.01
R	615	615	3.153	0.889	1.000	0.583	1.31	1.23	0.99	1.22
S	626	626	4.490	0.833	1.000	0.667	1.50	1.31	0.99	1.30
T	640	640	2.847	0.800	0.800	0.567	0.66	0.66	0.99	0.65
U	643	643	1.688	0.900	1.000	0.600	0.68	0.62	0.99	0.61
		Total Acreage:	867.799			Totals:	286.19	269.45		261.54
						Total WRAP Credit Scenarios:	286.19	269.45		261.54
						Mitigation Bank Suitability Index (MBSI)[4]:				1.086
						Total Mitigation Credit Scenarios (WRAP Credit Scenario x MBSI):	310.80	292.62		284.03

[1]FLUCCS = Florida Land Use, Cover and Forms Classification System

[2]Upland and aquatic areas of the Bank are excluded from WRAP polygons.

[3]Risk factors calculated on an attached page.

[4]MBSI factor calculated on an attached page.

Risk Factor Calculations							
Polygon: A							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: B							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: C							
	WU	OS	GC	BF	HY	WQ	
Factor 1	1	1	1	3	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	10	10	10	12	12	12	(total)
Sum/12	0.83	0.83	0.83	1.00	1.00	1.00	5.49
Risk Factor	0.92						

Risk Factor Calculations							
Polygon: D							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: E							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: F							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: G							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: H							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	3	2	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	12	11	12	(total)
Sum/12	1.00	1.00	1.00	1.00	0.92	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: I							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	3	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	12	12	12	(total)
Sum/12	1.00	1.00	1.00	1.00	1.00	1.00	6.00
Risk Factor	1.00						

Risk Factor Calculations							
Polygon: J							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: K							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: L							
	WU	OS	GC	BF	HY	WQ	
Factor 1	1	1	1	3	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	10	10	10	12	12	12	(total)
Sum/12	0.83	0.83	0.83	1.00	1.00	1.00	5.49
Risk Factor	0.92						

Risk Factor Calculations							
Polygon: M							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: N							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	3	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	12	12	12	(total)
Sum/12	1.00	1.00	1.00	1.00	1.00	1.00	6.00
Risk Factor	1.00						

Risk Factor Calculations							
Polygon: O							
	WU	OS	GC	BF	HY	WQ	
Factor 1	2	2	2	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	11	11	11	11	12	12	(total)
Sum/12	0.92	0.92	0.92	0.92	1.00	1.00	5.68
Risk Factor	0.94						

Risk Factor Calculations							
Polygon: P							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	3	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	12	12	12	(total)
Sum/12	1.00	1.00	1.00	1.00	1.00	1.00	6.00
Risk Factor	1.00						

Risk Factor Calculations							
Polygon: Q							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: R							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: S							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: T							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Risk Factor Calculations							
Polygon: U							
	WU	OS	GC	BF	HY	WQ	
Factor 1	3	3	3	2	3	3	
Factor 2	3	3	3	3	3	3	
Factor 3	3	3	3	3	3	3	
Factor 4	3	3	3	3	3	3	
Sum	12	12	12	11	12	12	(total)
Sum/12	1.00	1.00	1.00	0.92	1.00	1.00	5.92
Risk Factor	0.99						

Notes:

High = 1
Medium = 2
Low = 3

WU = Wildlife Utilization
OS = Overstory/Shrub Canopy
GC = Vegetative Ground Cover
BF = Adjacent Buffer
HY = Hydrology
WQ = Water Quality Input and Treatment

Factor 1 = Mitigation Type
Factor 2 = Size and/or Landscape Context
Factor 3 = Maintenance Requirements
Factor 4 = Maintenance Plan

Risk Factor calculations adopted from “Draft Risk Worksheet”, US Army Corps, Ver. 4.1

MITIGATION BANK SITE SUITABILITY INDEX (MBSI)

PARAMETERS	SCORE
ESTABLISHED WATERSHED ISSUES: The mitigation bank will result in identifiable ecological benefits to established watershed issues recognized to be critical to the watershed of the Bank. Yes……..3 No……0	3
LANDSCAPE MOSAIC COMPATIBILITY: The ecological communities present at the mitigation bank site blend seamlessly with the adjacent native communities and that relationship is expected to remain in perpetuity. Site will blend seamlessly on 95-100% of its perimeter……3 Site will blend seamlessly on 67-95% of its perimeter……2 Site will blend seamlessly on 25-66% of its perimeter……1 Site will blend seamlessly on <25% of its perimeter……0	0
THREATENED AND ENDANGERED SPECIES: Establishment of the mitigation bank improves the status of federal and/or state listed threatened or endangered species. Increases population of one or more listed species……...3 Meets identified task in a recovery plan or provides protection to candidate species..2 Attracts species to the site……..1 Maintains the status-quo……0	3
EXPANSION OF SCARCE HABITATS: The landscape contains ecological features considered to be unusual, unique or rare in the region and is of sufficient size. Yes……..3 No……0	3
ADJACENT LAND USES: The Bank will result in identifiable ecological benefits to adjacent lands or waters of regional importance such as State/National Park, State/National Forest, SWIM, OFW, AP, refuges and lands managed for conservation. Yes……..3 No……0	3
STRATEGIC HABITAT CONSERVATION AREA (SHCA): The Bank site is within or will result in identifiable benefits to the GAP analysis designating lands essential to providing the land base necessary to sustain populations in the future. Yes……..3 No……0	3
AQUIFER RECHARGE AREA: The site includes lands that have been identified as having significant aquifer recharge potential. Yes……..3 No……0	3
Total	18
MBSI (Total/21 * (0.1) + 1.0	1.086

	Sand Hill Lakes Mitigation Bank – WRAP Scenario With Lags and No Risks		
Polygon	A	Existing FLUCCS	621 – Cypress
Acreage	414.179	Target FLUCCS	621 – Cypress

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	3	3	2	0.333	1	0.333
Overstory/Shrub Canopy	3	3	2	0.333	1	0.333
Vegetative Ground Cover	3	3	2	0.333	1	0.333
Adjacent Buffer	2.5	3	2.25	0.250	0.8611	0.215
Hydrology	3	3	2.25	0.250	1	0.250
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2	0.333	1	0.333
Sum	17.5	18	12.5			
WRAP Scores / Deltas	0.972	1.000	0.694	0.306	**Adj. Mit. Delta**	**0.300**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**124.25**

Notes on Variable Scores

Wildlife	"Existing" 3	Excellent wildlife habitat is slightly degraded from tree stress associated with past hydrologic alterations.
	"With" 3	No Change.
	"Without" 2	Degradation from buffer development (residential and/or silviculture), probable alteration of hydrologic regime, and possible harvest of some cypress.
Overstory	"Existing" 3	Cypress exhibits stress (e.g., extensive adventious rooting) from past hydrologic alterations.
	"With" 3	No change.
	"Without" 2	Probable alteration of hydrologic regime and harvest of some cypress.
Ground Cover	"Existing" 3	Appropriate groundcover vegetation is somewhat affected by past alterations of hydrologic regime.
	"With" 3	No change.
	"Without" 2	Probable alteration of hydrologic regime coupled with removal of some cypress.
Buffer	"Existing" 2.5	Natural buffer is degraded somewhat by poor management practices and silviculture.
	"With" 3	Restoration of hydric pine flatwoods buffer and restoration/management of uplands longleaf/wiregrass buffer. 10-year Lag.
	"Without" 2.25	Degraded by residential development and silviculture.
Hydrology	"Existing" 3	Current hydrology fully supports ecosystem.
	"With" 3	No change.
	"Without" 2.25	Probable blowout of remains of dam at Black Pond would substantially alter existing hydrology.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffer.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 2	LU = 2 , PT = 2. Degradation from residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	B	Existing FLUCCS	621 – Cypress
Acreage	40.319	Target FLUCCS	621 – Cypress

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	3	1.75	0.417	0.7324	0.305
Overstory/Shrub Canopy	2	3	1.5	0.500	0.5367	0.268
Vegetative Ground Cover	1.5	3	1.5	0.500	0.9350	0.468
Adjacent Buffer	2.5	3	1.5	0.500	0.9350	0.468
Hydrology	1	3	1	0.667	1	0.667
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	1.75	0.417	1	0.417
Sum	12	18	9			
WRAP Scores / Deltas	0.667	1.000	0.500	0.500	**Adj. Mit. Delta**	**0.432**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**17.42**

Notes on Variable Scores

Wildlife	"Existing" 2	Habitat, largely cypress, is severely stressed by altered hydrology (i.e., raised water levels and continuous flooding); buffer includes silviculture (i.e., sand pine plantation).
	"With" 3	Removal of Dykes Mill Pond dam will restore natural hydrology and enable recovery of natural habitat. Buffers will be restored. 20-year Lag.
	"Without" 1.75	Continued degradation from altered hydrology, plus residential development on upland buffers.
Overstory	"Existing" 2	Cypress is severely stressed by altered hydrology (i.e., raised water levels and continuous flooding). Snags common.
	"With" 3	Restoration of natural hydrology will enable recovery of cypress. 40-year Lag.
	"Without" 1.5	Continued flooding will lead to extirpation of cypress.
Ground Cover	"Existing" 1.5	Flooded conditions allow only for emergents such as water lily.
	"With" 3	Restoration of natural hydrology will allow groundcover recovery. 5-year Lag.
	"Without" 1.5	No change.
Buffer	"Existing" 2.5	Degraded by pine plantation and adjacent flooded wetland.
	"With" 3	Restored longleaf pine / wiregrass uplands and restored adjacent wetlands. 5-year Lag.
	"Without" 1.5	Degradation from residential development.
Hydrology	"Existing" 1	Severely altered by dam.
	"With" 3	Restored by removal of dam.
	"Without" 1	No change.
WQ	"Existing" 3	LU =3 , PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 1.5	LU = 1.5, PT = 1.5. Degraded by residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	C	Existing FLUCCS	814 – Roads and Highways
Acreage	0.158	Target FLUCCS	621 – Cypress

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	0	3	0	1.000	0.8611	0.861
Overstory/Shrub Canopy	0	3	0	1.000	0.5367	0.537
Vegetative Ground Cover	0	3	0	1.000	0.9350	0.935
Adjacent Buffer	0	3	0	1.000	1	1.000
Hydrology	0	3	0	1.000	1	1.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	0	3	0	1.000	1	1.000
Sum	0	18	0			
WRAP Scores / Deltas	0.000	1.000	0.000	1.000	**Adj. Mit. Delta**	**0.889**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**0.14**

Notes on Variable Scores

Wildlife	"Existing" 0	None.
	"With" 3	Appropriate wildlife returns as wetland is restored. 10-year Lag.
	"Without" 0	None.
Overstory	"Existing" 0	None.
	"With" 3	Cypress overstory restored. 40-year Lag.
	"Without" 0	None.
Ground Cover	"Existing" 0	None.
	"With" 3	Appropriate groundcover returns with restoration of wetland. 5-year Lag.
	"Without" 0	None.
Buffer	"Existing" 0	None.
	"With" 3	Primarily wetland buffer.
	"Without" 0	None.
Hydrology	"Existing" 0	None.
	"With" 3	Restored with removal of road-fill.
	"Without" 0	None.
WQ	"Existing" 0	LU = 0, PT = 0
	"With" 3	LU = 3, PT = 3
	"Without" 0	LU = 0, PT = 0

	Sand Hill Lakes Mitigation Bank		
Polygon	D	Existing FLUCCS	625 – Hydric Pine Flatwoods
Acreage	32.323	Target FLUCCS	625 – Hydric Pine Flatwoods

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	3	2	0.333	0.8611	0.287
Overstory/Shrub Canopy	2	3	1.5	0.500	0.7324	0.366
Vegetative Ground Cover	1.5	3	1	0.667	0.8611	0.574
Adjacent Buffer	2.75	3	2.75	0.083	0.7324	0.061
Hydrology	3	3	2.5	0.167	1	0.167
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2.5	0.167	1	0.167
Sum	14.25	18	12.25			
WRAP Scores / Deltas	0.792	1.000	0.681	0.319	**Adj. Mit. Delta**	**0.270**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**8.73**

Notes on Variable Scores

Wildlife	"Existing" 2	Wildlife habitat is substantially degraded by extremely dense tit/lyonia shrub layer and fire exclusion.
	"With" 3	Improved by enhancement of hydric pine flatwoods including fire and, as appropriate, possible roller chopping. 10-year Lag.
	"Without" 2	No change.
Overstory	"Existing" 2	Overstory/shrub layer degraded by dense titi/lyonia.
	"With" 3	Improved forest overstory/shrub structure by implementation of fire regime and other habitat enhancements including possible roller chopping. 20-year Lag.
	"Without" 1.5	No change.
Ground Cover	"Existing" 1.5	Groundcover is substantially degraded by shading and competition of dense tit/lyonia.
	"With" 3	Improved structure by implementation of fire and other enhancements. 10-year Lag.
	"Without" 1	Further degradation from titi/lyonia competition.
Buffer	"Existing" 2.75	Existing buffers degraded by lack of ecological management.
	"With" 3	Improves with long-term ecological management. 20-year Lag.
	"Without" 2.75	No change.
Hydrology	"Existing" 3	Hydrology appropriate for system.
	"With" 3	No change.
	"Without" 2.5	No change.
WQ	"Existing" 3	LU = 3, PT = 3
	"With" 3	LU = 3, PT = 3
	"Without" 2.5	LU = 1.5, PT = 1.5

	Sand Hill Lakes Mitigation Bank		
Polygon	E	Existing FLUCCS	625 – Hydric Pine Flatwoods
Acreage	114.355	Target FLUCCS	625 – Hydric Pine Flatwoods

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	3	1.5	0.500	1	0.500
Overstory/Shrub Canopy	2	3	1.5	0.500	0.7324	0.366
Vegetative Ground Cover	1.5	3	1	0.667	1	0.667
Adjacent Buffer	2.5	3	2.25	0.250	0.7324	0.183
Hydrology	3	3	2.5	0.167	1	0.167
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2	0.333	1	0.333
Sum	14	18	10.75			
WRAP Scores / Deltas	0.778	1.000	0.597	0.403	**Adj. Mit. Delta**	**0.369**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**42.20**

Notes on Variable Scores

Wildlife	"Existing" 2	Wildlife habitat is substantially degraded by extremely dense tit/lyonia shrub layer and fire exclusion.
	"With" 3	Improved by enhancement of hydric pine flatwoods including fire and, as appropriate, possible roller chopping. 10-year Lag.
	"Without" 1.5	Continued degradation of habitat associated with residential development.
Overstory	"Existing" 2	Overstory/shrub layer degraded by dense titi/lyonia.
	"With" 3	Improved forest overstory/shrub structure by implementation of fire regime and other habitat enhancements including possible roller chopping. 20-year Lag.
	"Without" 1.5	No change.
Ground Cover	"Existing" 1.5	Groundcover is substantially degraded by shading and competition of dense tit/lyonia.
	"With" 3	Improved structure by implementation of fire and other enhancements. 10-year Lag.
	"Without" 1	No change.
Buffer	"Existing" 2.5	Existing buffers degraded by lack of ecological management.
	"With" 3	Improves with long-term ecological management. 20-year Lag.
	"Without" 2.5	Degrades with residential development in adjacent uplands and possible degradation of adjacent cypress swamp.
Hydrology	"Existing" 3	Hydrology appropriate for system.
	"With" 3	No change.
	"Without" 2.5	No change.
WQ	"Existing" 3	LU = 3, PT = 3
	"With" 3	LU = 3, PT = 3
	"Without" 1.5	LU = 1.5, PT = 1.5

	Sand Hill Lakes Mitigation Bank		
Polygon	F	Existing FLUCCS	441 – Slash Pine Plantation
Acreage	11.532	Target FLUCCS	625 – Hydric Pine Flatwoods

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	1.5	3	1.5	0.500	0.7324	0.366
Overstory/Shrub Canopy	1.5	3	1.5	0.500	0.7324	0.366
Vegetative Ground Cover	1.5	3	1.5	0.500	0.8611	0.431
Adjacent Buffer	2.5	3	2.5	0.167	1	0.167
Hydrology	3	3	3	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	3	0.000	1	0.000
Sum	13	18	13			
WRAP Scores / Deltas	0.722	1.000	0.722	0.278	**Adj. Mit. Delta**	**0.222**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**2.56**

Notes on Variable Scores

Wildlife	"Existing" 1.5	Bedded pine plantation provides inappropriate wildlife habitat.
	"With" 3	Restored hydric pine flatwoods provides appropriate wildlife habitat. 20-year Lag.
	"Without" 1.5	No change (continued silviculture).
Overstory	"Existing" 1.5	Bedded pine plantation provides inappropriate overstory (i.e., even-aged stand, high density, monoculture).
	"With" 3	Restored hydric pine flatwoods provides appropriate overstory. 20-year Lag.
	"Without" 1.5	No change (continued silviculture).
Ground Cover	"Existing" 1.5	Bedded pine plantation provides inappropriate groundcover.
	"With" 3	Restored hydric pine flatwoods provides appropriate groundcover. 10-year Lag.
	"Without" 1.5	No change (continued silviculture).
Buffer	"Existing" 2.5	Unmanaged natural buffers.
	"With" 3	Natural buffers managed for ecological integrity.
	"Without" 2.5	Degrades with residential development.
Hydrology	"Existing" 3	Slight degradation from bedding.
	"With" 3	No change.
	"Without" 3	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. Natural buffers.
	"Without" 3	LU = 3, PT = 3. Natural buffers.

	Sand Hill Lakes Mitigation Bank		
Polygon	G	Existing FLUCCS	617 – Mixed Wetland Hardwoods
Acreage	75.311	Target FLUCCS	617 – Mixed Wetland Hardwoods

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	2.25	0.250	0.8611	0.215
Overstory/Shrub Canopy	3	3	2.75	0.083	1	0.083
Vegetative Ground Cover	3	3	2.75	0.083	1	0.083
Adjacent Buffer	2.5	3	2.5	0.167	0.8611	0.144
Hydrology	3	3	3	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2.5	0.167	1	0.167
Sum	17	18	15.75			
WRAP Scores / Deltas	0.944	1.000	0.875	0.125	**Adj. Mit. Delta**	**0.115**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**8.66**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Wildlife habitat degraded by lack of ecological management of buffers and dense titi in certain areas.
	"With" 3	Improves with ecological management of buffers. 10-year Lag.
	"Without" 2.25	Further degradation from residential development on perimeter and degradation of adjacent cypress swamp.
Overstory	"Existing" 3	Appropriate overstory.
	"With" 3	No change.
	"Without" 2.75	No change.
Ground Cover	"Existing" 3	Appropriate groundcover.
	"With" 3	No change.
	"Without" 2.75	No change.
Buffer	"Existing" 2.5	Some degradation of natural buffers from lack of ecological management.
	"With" 3	Improvement via implementation of ecological management including fire. 10-year Lag.
	"Without" 2.5	Continued degradation from residential development and alteration of cypress swamp hydrology.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 3	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers provide for excellent water quality.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 2.5	LU = 2, PT = 2. Degradation from residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	H	Existing FLUCCS	644 – Emergent Aquatic Vegetation
Acreage	23.484	Target FLUCCS	644 – Emergent Aquatic Vegetation

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	3	2	0.333	0.9350	0.311
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	2	3	2	0.333	0.9350	0.311
Adjacent Buffer	2.5	3	2.5	0.167	0.8611	0.144
Hydrology	2	3	2	0.333	1	0.333
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2	0.333	1	0.333
Sum	11.5	15	10.5			
WRAP Scores / Deltas	0.767	1.000	0.700	0.300	**Adj. Mit. Delta**	**0.286**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**6.72**

Notes on Variable Scores

Wildlife	"Existing" 2	Habitat degraded by flooding.
	"With" 3	Habitat improved with hydrologic restoration via road and dam removals. 5-year Lag.
	"Without" 2	No change.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 2	Degraded by flooding.
	"With" 3	Improved with restoration of natural hydrology. 5-year Lag.
	"Without" 2	No change.
Buffer	"Existing" 2.5	Degraded by silviculture and lack of ecological management.
	"With" 3	Improved with buffer enhancement and restoration. 10-year Lag.
	"Without" 2.5	Degrades with residential development.
Hydrology	"Existing" 2	Improper flooding of wetland.
	"With" 3	Restored natural hydrologic regime.
	"Without" 2	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 2	LU = 2, PT = 2. Degraded by residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	I	Existing FLUCCS	644 – Emergent Aquatic Vegetation
Acreage	33.630	Target FLUCCS	644 – Emergent Aquatic Vegetation

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	3	3	2.5	0.167	1	0.167
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	3	3	2.5	0.167	1	0.167
Adjacent Buffer	3	3	2.75	0.083	1	0.083
Hydrology	3	3	2.25	0.250	1	0.250
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	3	0.000	1	0.000
Sum	15	15	13			
WRAP Scores / Deltas	1.000	1.000	0.867	0.133	**Adj. Mit. Delta**	**0.133**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**4.47**

Notes on Variable Scores

Wildlife	"Existing" 3	Appropriate habitat.
	"With" 3	No change.
	"Without" 2.5	Degradation from altered hydrology.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 3	Appropriate groundcover.
	"With" 3	No change.
	"Without" 2.5	Degradation from altered hydrology.
Buffer	"Existing" 3	Excellent wetland buffer.
	"With" 3	No change.
	"Without" 2.75	Degradation of buffer.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2.25	Degradation of hydrology from eventual blowout of dam at Black Pond.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 3	LU = 3, PT = 3. No change.

	Sand Hill Lakes Mitigation Bank		
Polygon	J	Existing FLUCCS	611 – Bay Swamps
Acreage	29.106	Target FLUCCS	611 – Bay Swamps

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	1.5	0.500	0.8611	0.431
Overstory/Shrub Canopy	2.5	3	2	0.333	0.7324	0.244
Vegetative Ground Cover	2.5	3	2	0.333	0.9350	0.311
Adjacent Buffer	2.5	3	1	0.667	0.8611	0.574
Hydrology	3	3	2.75	0.083	1	0.083
Water Quality Input and Treatment WQ = (LU + PT) / 2	2	3	1.25	0.583	0.9350	0.545
Sum	15	18	10.5			
WRAP Scores / Deltas	0.833	1.000	0.583	0.417	**Adj. Mit. Delta**	**0.365**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**10.62**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Degraded by sediment inputs and lack of ecological buffer management.
	"With" 3	Improves with cessation of sediment inputs and implementation of buffer management for ecological integrity. 10-year Lag.
	"Without" 1.5	Degradation from residential development.
Overstory	"Existing" 2.5	Degraded from encroachment of silviculture.
	"With" 3	Improves with cessation of adjacent silvicultural activities. 20-year Lag.
	"Without" 2	Degrades with residential development.
Ground Cover	"Existing" 2.5	Degraded from sedimentation and encroachment of silviculture.
	"With" 3	Improves with cessation of adjacent silvicultural activities and sediment inputs. 5-year Lag.
	"Without" 2	Degrades with residential development and continued erosion.
Buffer	"Existing" 2.5	Buffer somewhat degraded by silviculture and erosion.
	"With" 3	Improves with ecological management of buffers. 10-year Lag.
	"Without" 1	Continued degradation by residential development.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2.75	No change.
WQ	"Existing" 2	LU = 2, PT = 2. Degraded from lack of management of buffers and eroding sites
	"With" 3	LU = 3, PT = 3. Improves from stabilization of eroding sites and ecological management of buffers. 5-year Lag.
	"Without" 1.25	LU = 1.5, PT = 1.5. Degrades from residential development and continued erosion.

	Sand Hill Lakes Mitigation Bank		
Polygon	K	Existing FLUCCS	611 – Bay Swamps
Acreage	12.600	Target FLUCCS	611 – Bay Swamps

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	1.5	0.467	0.8611	0.402
Overstory/Shrub Canopy	2.5	3	2	0.333	0.7324	0.244
Vegetative Ground Cover	2.5	3	2	0.333	0.9350	0.311
Adjacent Buffer	2.5	3	1	0.667	0.8611	0.574
Hydrology	3	3	3	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	2	3	1.25	0.583	0.9350	0.545
Sum	15	18	10.75			
WRAP Scores / Deltas	0.833	1.000	0.597	0.403	**Adj. Mit. Delta**	**0.346**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**4.36**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Degraded by sediment inputs and lack of ecological buffer management.
	"With" 3	Improves with cessation of sediment inputs and implementation of buffer management for ecological integrity. 10-year Lag.
	"Without" 1.5	Degradation from residential development.
Overstory	"Existing" 2.5	Degraded from encroachment of silviculture.
	"With" 3	Improves with cessation of adjacent silvicultural activities. 20-year Lag.
	"Without" 2	Degrades with residential development.
Ground Cover	"Existing" 2.5	Degraded from sedimentation and encroachment of silviculture.
	"With" 3	Improves with cessation of adjacent silvicultural activities and sediment inputs. 5-year Lag.
	"Without" 2	Degrades with residential development and continued erosion.
Buffer	"Existing" 2.5	Buffer somewhat degraded by silviculture and erosion.
	"With" 3	Improves with ecological management of buffers. 10-year Lag.
	"Without" 1	Continued degradation by residential development.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 3	No change.
WQ	"Existing" 2	LU = 2, PT = 2. Degraded from lack of management of buffers and eroding sites
	"With" 3	LU = 3, PT = 3. Improves from stabilization of eroding sites and ecological management of buffers. 5-year Lag.
	"Without" 1.25	LU = 1.5, PT = 1.5. Continued degradation from residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	L	Existing FLUCCS	814 – Roads and Highways
Acreage	0.091	Target FLUCCS	611 – Bay Swamps

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	0	3	0	1.000	0.8611	0.861
Overstory/Shrub Canopy	0	3	0	1.000	0.5367	0.537
Vegetative Ground Cover	0	3	0	1.000	0.9350	0.935
Adjacent Buffer	0	3	0	1.000	1	1.000
Hydrology	0	3	0	1.000	1	1.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	0	3	0	1.000	1	1.000
Sum	0	18	0			
WRAP Scores / Deltas	0.000	1.000	0.000	1.000	**Adj. Mit. Delta**	**0.889**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**0.08**

Notes on Variable Scores

Wildlife	"Existing" 0	None.
	"With" 3	Appropriate wildlife returns as wetland is restored. 10-year Lag.
	"Without" 0	None.
Overstory	"Existing" 0	None.
	"With" 3	Cypress overstory restored. 40-year Lag.
	"Without" 0	None.
Ground Cover	"Existing" 0	None.
	"With" 3	Appropriate groundcover returns with restoration of wetland. 5-year Lag.
	"Without" 0	None.
Buffer	"Existing" 0	None.
	"With" 3	Primarily wetland buffer.
	"Without" 0	None.
Hydrology	"Existing" 0	None.
	"With" 3	Restored with removal of road-fill.
	"Without" 0	None.
WQ	"Existing" 0	LU = 0, PT = 0
	"With" 3	LU = 3, PT = 3
	"Without" 0	LU = 0, PT = 0

	Sand Hill Lakes Mitigation Bank		
Polygon	M	Existing FLUCCS	641 – Freshwater Marshes
Acreage	27.154	Target FLUCCS	641 – Freshwater Marshes

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	1.5	0.500	0.8333	0.417
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	2.5	3	1.5	0.500	0.9350	0.468
Adjacent Buffer	2.5	3	2	0.333	0.8333	0.277
Hydrology	3	3	2.5	0.167	1	0.167
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	3	0.000	1	0.000
Sum	13.5	15	10.5			
WRAP Scores / Deltas	0.900	1.000	0.700	0.300	**Adj. Mit. Delta**	**0.266**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**7.22**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Degrades by lack of buffer management for ecological integrity.
	"With" 3	Improves with ecological management of buffers. 12-year Lag.
	"Without" 1.5	Continued degradation with residential development.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 2.5	Some degradation from improper management.
	"With" 3	Improves with proper management such as fire. 5-year Lag.
	"Without" 1.5	Further degradation from residential development.
Buffer	"Existing" 2.5	Degradation from lack of ecological management.
	"With" 3	Improves with fire and other ecological management. 12-year Lag.
	"Without" 2	Degrades from residential development.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2.5	Degrades from residential development.
WQ	"Existing" 3	LU = 3 PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. Natural buffers.
	"Without" 3	LU = 1.5, PT = 1.5. Degrades from residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	N	Existing FLUCCS	520 – Lakes
Acreage	3.855	Target FLUCCS	641 – Freshwater Marshes

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	2	0.333	1	0.333
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	2.5	3	2	0.333	1	0.333
Adjacent Buffer	2.5	3	2.5	0.167	1	0.167
Hydrology	2.5	3	2.5	0.167	1	0.167
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2.75	0.083	1	0.083
Sum	13	15	11.75			
WRAP Scores / Deltas	0.867	1.00	0.783	0.217	**Adj. Mit. Delta**	**0.207**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**0.80**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Degraded by flooding.
	"With" 3	Enhanced by restoration.
	"Without" 2	No change.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 2.5	Degraded by flooding.
	"With" 3	Enhanced by restoration of natural hydrology.
	"Without" 2	Continued degradation by flooding.
Buffer	"Existing" 2.5	Natural buffer.
	"With" 3	No change.
	"Without" 2.5	No change.
Hydrology	"Existing" 2.5	Permanently flooded.
	"With" 3	Naturally varying wetland hydrology.
	"Without" 2.5	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Non-wetland.
	"With" 3	LU = 3, PT = 3. Wetland with natural buffers.
	"Without" 3	LU = 3, PT = 3. Non-wetland.

	Sand Hill Lakes Mitigation Bank		
Polygon	O	Existing FLUCCS	520 – Lakes
Acreage	24.880	Target FLUCCS	616 – Inland Ponds and Sloughs

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	0	3	0	1.000	0.9350	0.935
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	0	3	0	1.000	0.9350	0.935
Adjacent Buffer	0	3	0	1.000	0.9350	0.935
Hydrology	0	3	0	1.000	1	1.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	0	3	0	1.000	1	1.000
Sum	0	15	0			
WRAP Scores / Deltas	0.000	1.000	0.000	1.000	**Adj. Mit. Delta**	**0.961**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**23.910**

Notes on Variable Scores

Wildlife	"Existing" 0	Habitat is aquatic, not wetland.
	"With" 3	Restored wetland habitat. 5-year Lag.
	"Without" 0	No change.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 0	Aquatic habitat.
	"With" 3	Wetland habitat. 5-year Lag.
	"Without" 0	No change.
Buffer	"Existing" 0	Natural buffer.
	"With" 3	No change. 5-year Lag.
	"Without" 0	No change.
Hydrology	"Existing" 0	Permanently flooded.
	"With" 3	Naturally varying wetland hydrology.
	"Without" 0	No change.
WQ	"Existing" 0	LU = 0, PT = 0. Non-wetland.
	"With" 3	LU = 3, PT = 3. Wetland with natural buffers.
	"Without" 0	LU = 0, PT = 0. Non-wetland.

	Sand Hill Lakes Mitigation Bank		
Polygon	P	Existing FLUCCS	616 – Inland Ponds and Sloughs
Acreage	7.700	Target FLUCCS	616 – Inland Ponds and Sloughs

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	1.5	3	1.5	0.500	0.8611	0.431
Overstory/Shrub Canopy	3	3	2.5	0.167	1	0.167
Vegetative Ground Cover	3	3	2.5	0.167	1	0.167
Adjacent Buffer	2	3	2	0.333	0.8611	0.287
Hydrology	3	3	3	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2.75	0.083	1	0.083
Sum	15.5	18	14.25			
WRAP Scores / Deltas	0.861	1.000	0.792	0.208	**Adj. Mit. Delta**	**0.189**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**1.46**

Notes on Variable Scores

Wildlife	"Existing" 1.5	Viable wildlife habitat degraded by lack of ecological management of buffers.
	"With" 3	Improvement from implementation of ecological management of buffers. 10-year Lag.
	"Without" 1.5	No change.
Overstory	"Existing" 3	Excellent condition.
	"With" 3	No change.
	"Without" 2.5	No change.
Ground Cover	"Existing" 3	Excellent groundcover.
	"With" 3	No change.
	"Without" 2.5	No change.
Buffer	"Existing" 2	Degraded somewhat by lack of ecological management.
	"With" 3	Improves with management for ecological integrity. 10-year Lag.
	"Without" 2	No change.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 3	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 2.75	LU = 2.75, PT = 2.75. No change.

	Sand Hill Lakes Mitigation Bank		
Polygon	Q	Existing FLUCCS	630 – Wetland Forested Mixed
Acreage	5.214	Target FLUCCS	630 – Wetland Forested Mixed

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	1.5	3	1.5	0.500	0.8611	0.431
Overstory/Shrub Canopy	3	3	2	0.333	1	0.333
Vegetative Ground Cover	3	3	2	0.333	1	0.333
Adjacent Buffer	2	3	1	0.667	0.8611	0.574
Hydrology	3	3	2.75	0.083	1	0.083
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	1.25	0.583	1	0.583
Sum	15.5	18	10.5			
WRAP Scores / Deltas	0.861	1.000	0.583	0.417	**Adj. Mit. Delta**	**0.390**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**2.03**

Notes on Variable Scores

Wildlife	"Existing" 1.5	Viable wildlife habitat degraded by lack of ecological management of buffers.
	"With" 3	Improvement from implementation of ecological management of buffers. 10-year Lag.
	"Without" 1.5	No change.
Overstory	"Existing" 3	Excellent condition.
	"With" 3	No change.
	"Without" 2	No change.
Ground Cover	"Existing" 3	Excellent groundcover.
	"With" 3	No change.
	"Without" 2	No change.
Buffer	"Existing" 2	Degraded somewhat by lack of ecological management.
	"With" 3	Improves with management for ecological integrity. 10-year Lag.
	"Without" 1	No change.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2.75	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 1.25	LU = 1.25, PT = 1.25. No change.

	Sand Hill Lakes Mitigation Bank		
Polygon	R	Existing FLUCCS	615 – Stream and Lake Swamps
Acreage	3.153	Target FLUCCS	615 – Stream and Lake Swamps

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	3	1.5	0.500	0.8611	0.431
Overstory/Shrub Canopy	3	3	2	0.333	1	0.333
Vegetative Ground Cover	3	3	2	0.333	1	0.333
Adjacent Buffer	2	3	1	0.667	0.8611	0.574
Hydrology	3	3	2.75	0.083	1	0.083
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	1.25	0.583	1	0.583
Sum	16	18	10.5			
WRAP Scores / Deltas	0.889	1.000	0.583	0.417	**Adj. Mit. Delta**	**0.390**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**1.23**

Notes on Variable Scores

Wildlife	"Existing" 2	Viable wildlife habitat degraded by lack of ecological management of buffers.
	"With" 3	Improvement from implementation of ecological management of buffers. 10-year Lag.
	"Without" 1.5	No change.
Overstory	"Existing" 3	Excellent condition.
	"With" 3	No change.
	"Without" 2	No change.
Ground Cover	"Existing" 3	Excellent groundcover.
	"With" 3	No change.
	"Without" 2	No change.
Buffer	"Existing" 2	Degraded somewhat by lack of ecological management.
	"With" 3	Improves with management for ecological integrity. 10-year Lag.
	"Without" 1	No change.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2.75	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 1.25	LU = 1.25, PT = 1.25. No change.

	Sand Hill Lakes Mitigation Bank		
Polygon	S	Existing FLUCCS	626 – Hydric Pine Savanna
Acreage	4.490	Target FLUCCS	626 – Hydric Pine Savanna

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	2	0.333	0.8611	0.287
Overstory/Shrub Canopy	2	3	1.5	0.500	0.8611	0.431
Vegetative Ground Cover	2	3	1.5	0.500	0.8611	0.431
Adjacent Buffer	2.5	3	1.5	0.500	0.8611	0.431
Hydrology	3	3	3	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	2.5	0.167	1	0.167
Sum	15	18	12			
WRAP Scores / Deltas	0.833	1.000	0.667	0.333	**Adj. Mit. Delta**	**0.291**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**1.31**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Habitat degraded by lack of fire regime and management of buffers for ecological integrity.
	"With" 3	Improves with appropriate fire regime and ecological management of buffers. 10-year Lag.
	"Without" 2	Further degradation with residential development.
Overstory	"Existing" 2	Habitat degraded by lack of fire regime and management of buffers for ecological integrity.
	"With" 3	Improves with appropriate fire regime and ecological management of buffers. 10-year Lag.
	"Without" 1.5	No change.
Ground Cover	"Existing" 2	Degraded by lack of fire regime.
	"With" 3	Improves with appropriate fire regime and ecological management. 10-year Lag.
	"Without" 1.5	No change.
Buffer	"Existing" 2.5	Natural buffer is degraded by lack of management for ecological integrity.
	"With" 3	Improves with management for ecological integrity including proper fire regime and restoration of longleaf pine / wiregrass community. 10-year Lag.
	"Without" 1.5	Further degradation with residential development.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 3	No change.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 2.5	LU = 2.5, PT = 2.5. Degrades with residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	T	Existing FLUCCS	640 – Vegetated Non-Forested Wetlands
Acreage	2.847	Target FLUCCS	640 – Vegetated Non-Forested Wetlands

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2	2	2	0.000	1	0.000
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	2	2	2	0.000	1	0.000
Adjacent Buffer	3	3	1	0.667	1	0.667
Hydrology	2.5	2.5	2.5	0.000	1	0.000
Water Quality Input and Treatment WQ = (LU + PT) / 2	2.5	2.5	1	0.500	1	0.500
Sum	12	12	8.5			
WRAP Scores / Deltas	0.800	0.800	0.567	0.233	**Adj. Mit. Delta**	**0.233**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**0.66**

Notes on Variable Scores

Wildlife	"Existing" 2	Ditch.
	"With" 2	No change.
	"Without" 2	No change.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 2	Ditch.
	"With" 2	No change.
	"Without" 2	No change.
Buffer	"Existing" 3	Natural buffers slightly degraded from lack of ecological management.
	"With" 3	No change.
	"Without" 1	Further degradation from residential development.
Hydrology	"Existing" 2.5	Appropriate hydrology.
	"With" 2.5	No change.
	"Without" 2.5	No change.
WQ	"Existing" 2.5	LU = 2.5, PT = 2.5. Natural buffers.
	"With" 2.5	LU = 2.5, PT = 2.5. Natural buffers.
	"Without" 1	LU = 1.5, PT = 1. Degrades from residential development.

	Sand Hill Lakes Mitigation Bank		
Polygon	U	Existing FLUCCS	643 – Wet Prairies
Acreage	1.688	Target FLUCCS	643 – Wet Prairies

	Raw WRAP Variable Scores					
Variable	**"Existing" (A)**	**"With" Mitigation (B)**	**"Without" Mitigation (C)**	**Raw Mitigation Delta (B/3 – C/3)**	**Temporal Lag (T)**	**Adjusted Mitigation Delta (B/3 – C/3) * (T)**
Wildlife Utilization	2.5	3	2	0.333	0.8611	0.287
Overstory/Shrub Canopy	n/a	n/a	n/a	n/a	n/a	n/a
Vegetative Ground Cover	2.5	3	2	0.333	0.8611	0.287
Adjacent Buffer	2.5	3	1.5	0.500	0.8611	0.431
Hydrology	3	3	2	0.333	1	0.333
Water Quality Input and Treatment WQ = (LU + PT) / 2	3	3	1.5	0.500	1	0.500
Sum	13.5	15	9			
WRAP Scores / Deltas	0.900	1.00	0.600	0.400	**Adj. Mit. Delta**	**0.368**
					Risk Factor	**1**
					Total Mitigation Credit (Polygon Acreage * Adjusted Mitigation Delta * Risk Factor)	**0.62**

Notes on Variable Scores

Wildlife	"Existing" 2.5	Quality habitat is somewhat degraded by lack of fire and other ecological management activities in buffers and from exclusion of fire from wetland.
	"With" 3	Improved with fire in and adjacent to wetland and other ecological management activities. 10-year Lag.
	"Without" 2	No change.
Overstory	"Existing"	n/a
	"With"	n/a
	"Without"	n/a
Ground Cover	"Existing" 2.5	Slightly degraded by lack of fire.
	"With" 3	Improves with proper fire regime. 10-year Lag.
	"Without" 2	No change.
Buffer	"Existing" 2.5	Slightly degraded by lack of ecological management activities.
	"With" 3	Improved with ecological management activities including fire. 10-year Lag.
	"Without" 1.5	Degraded with residential development.
Hydrology	"Existing" 3	Appropriate hydrology.
	"With" 3	No change.
	"Without" 2	Degrades with impervious surfaces associated with residential development.
WQ	"Existing" 3	LU = 3, PT = 3. Natural buffers.
	"With" 3	LU = 3, PT = 3. No change.
	"Without" 1.5	LU = 1.5, PT = 1.5. Degrades with residential development.

Exhibit 20

CREDIT RELEASE SCHEDULE

			FEDERAL				STATE			
Task	FDEP Specific Permit Conditions	% Credit Release	Hydric Flatwoods Wetland WRAP Credits	Mixed Hardwoods Wetland WRAP Credits	Herb. Wetland WRAP Credits	Total WRAP Credits	Hydric Flatwoods Wetland UMAM Credits	Mixed Hardwoods Wetland UMAM Credits	Herb. Wetland UMAM Credits	Total UMAM Credits
*Establishment of Bank -Conservation Easement -Qualified Mitigation Supervisor approved -Financial guarantees / fencing	7, 8, 9	25	29.29	34.77	6.95	71.01	30.78	36.52	7.30	74.60
*Hydrologic enhancements -Black Pond dam replacement -Dykes Mill Pond dam removal -Bridges / culvert / road-fill removal *Erosion stabilization	12	10	11.72	13.90	2.78	28.40	12.31	14.61	2.92	29.84
*Removal of upland pine plantation and re-vegetation with longleaf pine / supplemental wiregrass (~385 ac.—Unit 11). *Thinning of slash pine (~11.5 ac.—Unit 3). *Oak reduction and re-vegetation with longleaf pine / supplemental wiregrass (~265 ac.—Unit 12). *Shrub/brush reduction in hydric pine flatwoods followed by planting of longleaf pine, slash pine, and wiregrass tubelings (~160 ac.—Units 2 & 3). *Planting cypress and black gum (~5 ac.—Units 5 & 9).	10	10	11.72	13.90	2.78	28.40	12.31	14.61	2.92	29.84
*80% completion of initial growing-season burns (~1,000 ac.—Units 2, 3, 8, 10, 11, 12).	11	10	11.72	13.90	2.78	28.40	12.31	14.61	2.92	29.84
*1st Year attainment of interim success criteria.	23	5	5.86	6.96	1.39	14.21	6.16	7.30	1.46	14.92
*2nd Year attainment of interim success criteria.	23	5	5.86	6.96	1.39	14.21	6.16	7.30	1.46	14.92
*3rd Year attainment of interim success criteria.	23	10	11.72	13.90	2.78	28.40	12.31	14.61	2.92	29.84
*4th Year attainment of interim success criteria.	23	10	11.72	13.90	2.78	28.40	12.31	14.61	2.92	29.84
Attainment of final success criteria.	22	15	17.57	20.86	4.17	42.60	18.46	21.92	4.38	44.76
		100	117.18	139.05	27.80	284.03	123.11	146.09	29.20	298.40

Exhibit 21

FIRE MANAGEMENT PLAN

The Bank is divided into 14 Management Units that range from 0.25 to ~580 acres (Figure 1). Prescribed fire will be an integral component of the management, enhancement and restoration for six of these units (Management Units 2, 3, 8, 10, 11, 12), and will also be used for management of portions of the power line ROW. The remaining Management Units are aquatic systems and wetlands not typically managed with fire, although fire from adjacent Units may be allowed to burn into them when conditions allow and when doing so would not result in a catastrophic burn. Prescribed burns will generally be conducted during the growing season (March through August), although initial dormant-season fuel-reduction fires may be required in some areas. Burns are planned for 1-3, 3-5 and 5-7 year cycles (Figure 2), although fuel levels, prevailing weather patterns and other on-site conditions may necessitate modification of burn cycles. Burn coverage of 80% or more within a polygon will be considered a successful burn.

Prescribed fire is intended to inhibit succession of woody species, promote fire-adapted species, and stimulate seed production of desirable herbs. Fire prescriptions will be written to comply with open burning laws (Florida Statutes 590) and liability considerations. Safety and protection of property will be the priority concern of the Florida Certified Prescribed Burn Manager (FCMB).

MANAGEMENT UNITS				
Unit	Approx. Acres	Fire?	Approx. Burn Acres	Target Community and/or Notes
1	579	no	0	Forested and non-forested wetlands. Fire may be allowed to burn into some of these areas as conditions allow. These systems are not expected to carry fire except for wet prairies during drought.
2	147	YES	150	Hydric pine flatwoods. One-time dormant-season burn after vegetation reduction by roller chopping, gyro-trak, hydro-axe, or similar method, followed by successive growing-season burns. Anticipated 3-5 year burn cycles.
3	11.5	YES	11.5	Hydric pine flatwoods. One-time dormant-season burn following thinning and vegetation reduction by roller chopping, gyro-trak, hydro-axe, or similar method as needed, followed by growing-season burns. Anticipated 1-3 year burn cycles.
4	40	no	0	Restored cypress swamp.
5	25	no	0	Inland ponds and sloughs.
6	23	no	0	Emergent aquatic vegetation.
7	29	no	0	Bay swamp.
8	4.5	YES	4.5	Hydric pine savanna. Anticipated 1-3 year burn cycles.
9	0.25	no	0	Cypress and bay swamp.
10	494	YES	473	Oak / pine sandhills. Anticipated 3-5 and 5-7 year burn cycles.
11	383	YES	383	Longleaf pine / wiregrass community restored from pine plantation. Anticipated 1-3 year burn cycles (may be modified when planted longleaf pine are in vulnerable stages of growth).
12	264	YES	264	Longleaf pine / wiregrass community restored from turkey oak “regrowth” community. Anticipated 1-3 and 3-5 year burn cycles (may be modified when planted longleaf pine are in vulnerable stages of growth).
13	4	no	0	Freshwater marsh.
14	165	no	0	Lakes
Total Burn Acres			1286	

General Burn Protocol

- Implemented fire regime shall, as far as practical, mimic natural burn cycles. Burn cycles within a Management Unit will promote diversity of site.
- Burns will generally be growing-season burns on 1-3, 3-5, and 5-7 year cycles. Burn cycles may be altered, as necessary, to protect planted longleaf pine during vulnerable stages. Initial dormant-season fuel-reduction burns may be necessary. Fuel levels may force changes in anticipated burn cycles.
- Appropriate smoke management plans shall be implemented for all prescribed fires.
- Firebreaks (natural and anthropogenic) shall be inspected prior to each prescribed fire, with reinforcement measures (e.g., disking) implemented as necessary.
- Public safety and protection of property will have the highest priority.
- Any known archaeological and historical sites will be protected from damaging fires.
- If a prescribed fire escapes and requires suppression methods that cause ecological damage (e.g., emergency, bulldozer-plowed firebreaks), good faith efforts shall be made to rehabilitate the impacted area within two weeks of the incident.
- All burns shall comply with Florida Statutes 590 relating to prescribed fire.

Firebreaks
Management Units at the Bank are generally bordered by dirt roads, wetlands and fence lines that will serve as preexisting firebreaks. Some sections will require reinforcement via disking. Disking causes minimal soil disturbance and generally creates a sufficient firebreak. Plowing, which leaves a much more extensive scar on the landscape, will be implemented only when other means of firebreak reinforcement have been exhausted.

Safety
All burns will be supervised by a FCMB. All personnel participating on a prescribed burn will follow LCES standards (Look-outs, Communications, Escape Routes, Safety Zones). Lookouts will be posted at strategic locations to monitor smoke and any fire brand that might cause a spot over, or any other problem that could arise during a prescribed burn. Communications among personnel shall be maintained at all times during a prescribed fire. Escape routes, generally the system of dirt roads at the Bank, shall be identified prior to initiation of a burn. Safety zones, which may include dirt roads, burned-out sections, upwind and wetland areas will be identified prior to prescribed fires.

Personal protective equipment (PPE) shall be worn by all burn personnel. Smoke warning signs will be kept at the ready in case smoke becomes a problem on nearby county and state roads. Adjacent landowners who may be affected by smoke will be contacted prior to burning.

Smoke Management
Leisure Lake Rd., SR 279, SR 77 and homes adjacent to the Bank are considered smoke-sensitive areas. The location of a prescribed fire within the Bank, wind speed and direction, and other ambient conditions will determine if a smoke-sensitive area may be impacted by a burn. If the FCBM determines that a smoke-sensitive area is likely to be affected by a burn, the following measures must be implemented and conditions met:

- Smoke hazard signs will be placed on roads that may be impacted by smoke produced by the prescribed burn and will face both traffic directions.
- Mixing height on the day of the prescribed burn must be greater than 1,700 feet.
- Transport windspeed on the day of the prescribed burn must be 9 mph or greater.
- Background visibility must be at least 5 miles inside the potted area.
- If rough is older than 2 years, use a backing fire. If burn can be completed 3 hours before sunset other firing techniques may be used.
- Prompt mop-up operations will be conducted to reduce residual smoke.
- If a smoke-sensitive area is in the overlapping trajectory of two smoke plumes, it should be one mile or more from both sources.
- All stumps, snags and logs will be extinguished to prevent a residual smoke problem.
- Daytime Dispersion Index values between 41 and 60 are adequate for small low burning activity prescribed fires. This value should be higher as the number of acres and the burning activity increases.

Tracking of Acreage Burned
After each prescribed burn, GIS coverages and Excel spreadsheets shall be updated. Data recorded shall included number of acres burned, estimates of success (e.g., did fire cover $\geq$ 80% of intended burn area), date of burn and any additional notes (e.g., problems encountered, etc.).

Prescribed Burning Method
Base lines will be established with a backing fire on the down-wind side of the burn unit, then a progression of either strip-heading fires, flanking fires or point source ignition will be delivered working up wind, depending on the required fire intensity described in the prescribed burn plan. The FCBM will be responsible for determining the burning method according to site conditions and desired fire intensity. Site specific conditions may require alternate techniques during a prescribed burn.

Prescription Parameters
The Keetch-Byram Drought Index evaluates the effects of long-term drying of litter and duff on fire behavior. FCBM must consider this index before proceeding with a prescribed burn. A low drought index value is necessary when burning polygons that contain a high abundance of litter and duff. Higher drought index values can be used in polygons that contain wiregrass and other herbaceous materials as the primary fire carrier. With drought index values of 400-600, the FCBM may conduct a burn with caution because fire intensity increases as the drought index value. The FCBM will not conduct prescribed burning when the Keetch-Byram Drought Index is above 600, except with approval of the NWFWMD Lands Management Division Director.

The following prescribed burning parameters are a guideline for the FCBM. These parameters could change depending on the unit conditions and results from previous burns. Specific parameters have been developed for units burned during the growing season at 1-3-year, 3-5-year and 5-7-year intervals and also for dormant season burns.

Growing Season Burns at 1-3-year Intervals

Parameter	Low	High
Temperature	70°	95°
Relative Humidity	35%	70%
Wind Direction	Any – discretion of the FCBM	N/A
Wind Speed (20 ft. forecast)	3 mph	20 mph
Transport Wind	9 mph	20 mph
Transport Wind Direction	Any – discretion of the FCBM.	N/A
Mixing Height	1,700	6,500
Day Time Dispersion Index	30	70

Growing Season Burns at 3-5-year Intervals

Parameter	Low	High
Temperature	70°	92°
Relative Humidity	40%	70%
Wind Direction	Any – discretion of the FCBM.	N/A
Wind Speed (20 ft. forecast)	3 mph	15 mph
Transport Wind	9 mph	17 mph
Transport Wind Direction	Any – discretion of the FCBM.	N/A
Mixing Height	1,700	6,500
Day Time Dispersion Index	30	70

Growing Season Burns at 5-7-year Intervals

Parameter	Low	High
Temperature	70°	90°
Relative Humidity	45%	70%
Wind Direction	Any – discretion of the FCBM.	N/A
Wind Speed (20 ft. forecast)	3 mph	10 mph
Transport Wind	9 mph	15 mph
Transport Wind Direction	Any – discretion of the FCBM.	N/A
Mixing Height	1,700	6,500
Day Time Dispersion Index	30	70

Dormant Season Burns

Parameter	Low	High
Temperature	40°	80°
Relative Humidity	30%	50%
Wind Direction	Any – discretion of the FCBM.	N/A
Wind Speed (20 ft. forecast)	3 mph	15 mph
Transport Wind	9 mph	20 mph
Transport Wind Direction	Any – discretion of the FCBM.	N/A
Mixing Height	1,700	6,500
Day Time Dispersion Index	30	70

Figure 1 - Management Units

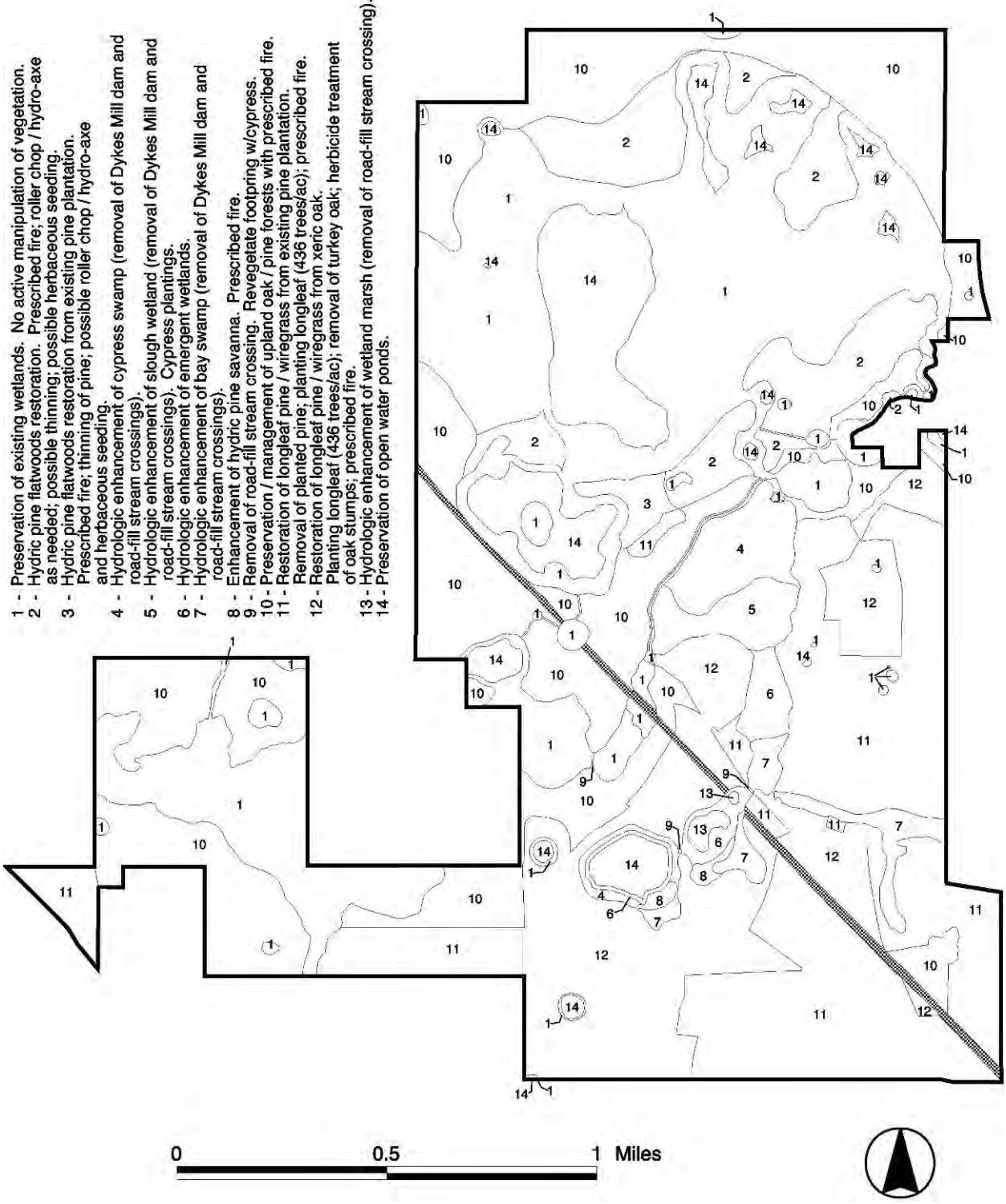
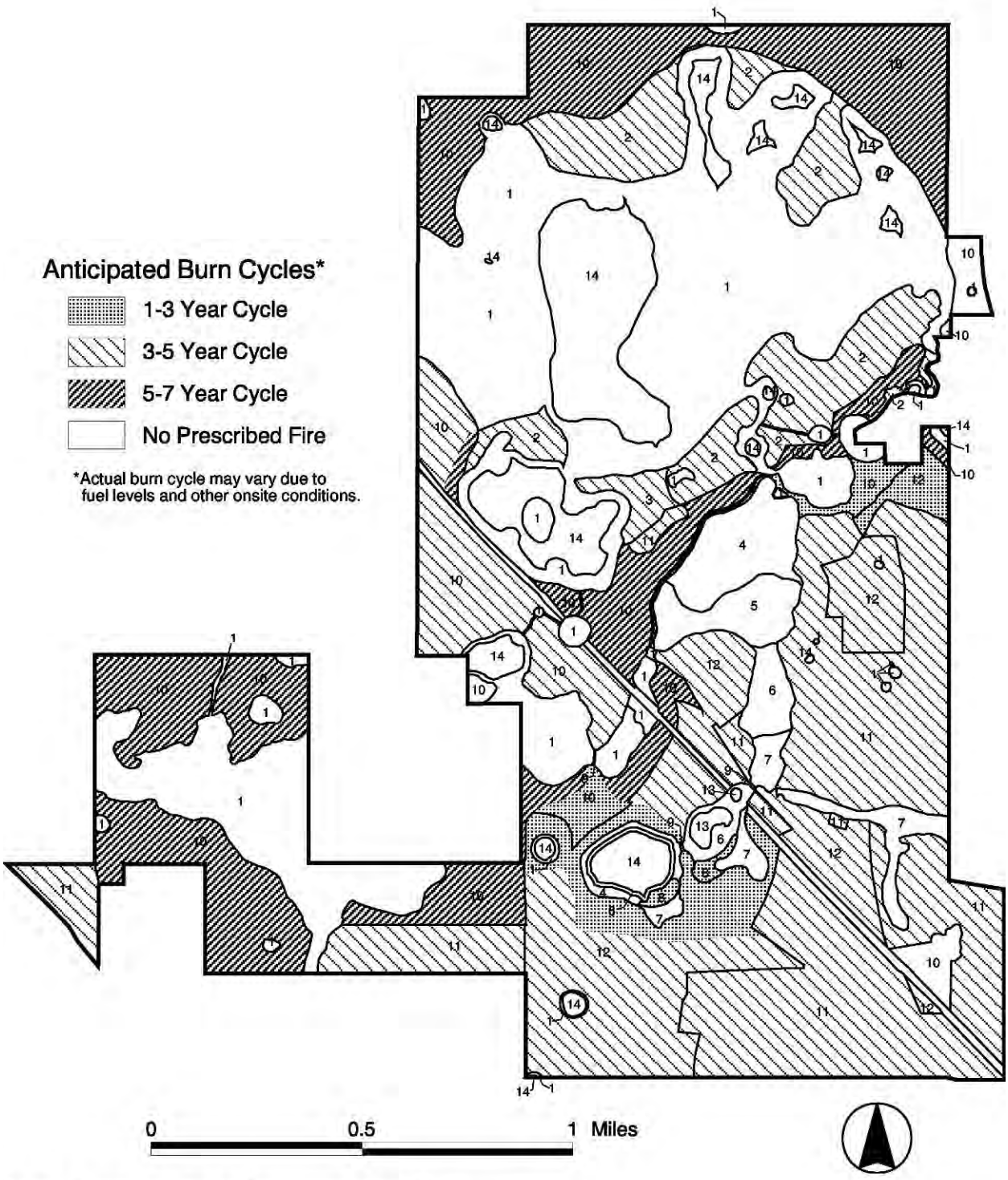


Figure 2 - Anticipated Burn Cycles



Note: Numbers refer to Management Unit No.

Exhibit 22

Sand Hill Lakes Mitigation Bank Beaver and Feral Hog Damage Management

The NWFWMD has an ongoing Cooperative Service Agreement with the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) that directs the WS to conduct beaver and feral hog damage management activities on wetland mitigation properties controlled by the NWFWMD. This agreement includes the property acquired for the SHLMB and any indication or reports from NWFWMD or WS staff of beaver or feral hog damage is promptly addressed. Feral hog damage management activities have been undertaken with success on this property and no beaver management activities have been necessary. All polygons within the SHLMB are covered by this agreement and any required damage management activities will be immediately applied as necessary. The Work Plan associated with the Cooperative Services Agreement is summarized below.

WS Work Plan for Management Activities on Wetland Mitigation Properties

Introduction

The U.S. Department of Agriculture (USDA) is authorized to protect American agriculture and other resources from damage associated with wildlife. The primary authority for Wildlife Services (WS) is the Animal Damage Control Act of March 2, 1931, as amended (46 Stat. 1468; 7 U.S.C. 426-426b and 426c as amended). Wildlife Services activities are conducted in cooperation with other Federal, State and local agencies; private organizations and individuals.

The WS program uses an Integrated Wildlife Damage Management (IWDM) approach (sometimes referred to as IPM or "Integrated Pest Management") in which a series of methods may be used or recommended to reduce wildlife damage. IWDM is described in Chapter 1, 1-7 of the WS Program Final Environmental Impact Statement. These methods include the alteration of cultural practices as well as habitat and behavioral modification to prevent damage. However, controlling wildlife damage may require that the offending animal(s) are killed or that the populations of the offending species be reduced.

Purpose

To control beaver and feral hog damage on NWFWMD **mitigation** property. To assist NWFWMD in its statutory obligations of protecting and preserving water quality and maintaining habitats in their natural state and condition on NWFWMD **mitigation sites**.

Planned USDA, APHIS, Wildlife Services Activities

To remove beaver from designated problem areas on NWFWMD mitigation sites as they are identified by WS and/or NWFWMD personnel.

Also, to remove feral hog from specifically identified problem areas on NWFWMD property, subject to notification by the District of the exact location, nature and extent of feral hog damage. The following is a partial list of properties where hog damage management activities may be required:

1. Choctawhatchee River WMA-Devils Swamp DOT Mitigation Area/Bunker Tract
2. Sand Hill Lakes Mitigation Bank (Fitzhugh Carter Tract)
3. Other WMA's may be added to the list, subject to notification by the District.

WS will attempt to restore the natural hydrologic function to problem locations on these WMA's that have been adversely impacted by beaver and will attempt to maintain habitats in their natural state and condition on WMA's that have been adversely impacted by feral hogs. The goal of restoring the problem locations within each WMA back to their natural state and condition will be accomplished by the removal of beaver dams that are obstructing water flow on natural waterways and/or the removal of feral hogs that are destroying or adversely impacting natural habitats, especially areas undergoing habitat restoration and enhancement activities per mitigation requirements. Beaver will also be removed to prevent the reconstruction to the beaver dams and feral hogs will be trapped and removed from the area.

WS will attempt to obtain the desired results in the maximum number of locations. Smaller problem locations where results can be achieved relatively quickly will be focused on first. Work will gradually shift into larger areas where the desired results of unobstructed water flow and natural habitat protection may take much longer to achieve.

Exhibit 23

Tracking – Prescribed Fire

Management Unit 1 – Prescribed Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track “Spot Over” Burns Within This Management Unit If Any Occur

Base Polygon	Acreage	Date(s) of “Spot Over” Fire / Notes
99046 G	23.173	
99046 K	6.575	
99049 I	2.330	
99049 K	292.920	
99054 A	88.331	
99057 C	0.850	
99059 D	75.311	
99049 A	1.549	
99049 B	7.349	
99049 C	10.610	
99049 D	5.300	
99049 E	1.483	
99049 F	0.309	
99049 G	0.949	
99049 H	1.707	
99049 L	1.707	
99049 O	2.219	
99059 A	0.447	
99058 A	12.600	
99014 E	0.588	
99015 C	0.166	
99016 D	0.966	
99017 A	0.793	
99022 A	0.311	
99046 Y	3.121	
99047 A	1.105	
99048 A	2.817	
99050 A	0.267	
99051 A	0.613	
99052 A	1.080	
99055 A	2.718	
99056 A	11.191	
99067 B	0.200	
99068 D	1.218	
99041 B	0.959	
99045 C	0.452	
99049 J	1.221	
99053 A	4.211	
99059 C	0.857	
99018 A	0.158	

Management Unit 1 – Prescribed Fire Tracking		
99019 B	0.114	
99019 E	0.133	
99020 B	0.042	
99037 A	0.282	
99044 A	0.141	
99044 C	0.324	
99046 W	1.653	
99003 C	0.077	
99014 D	0.749	
99035 B	0.198	
99036 A	0.262	
99036 B	0.030	
99036 D	0.376	
Total	575.112	

Management Unit 2 – Prescribe Fire Tracking		
Base Polygons	Acreage	Date(s) of Burn
99039 A	11.132	
99042 A	21.191	
99037 B	3.936	
99038 A	40.146	
99041 A	16.165	
99043 A	7.181	
99044 D	5.399	
99045 A	0.981	
99045 B	40.549	
Total	146.680	

Management Unit 3 – Prescribe Fire Tracking		
Base Polygons	Acreage	Date(s) of Burn
99040 A	11.532	
Total	11.532	

Management Unit 4 – Prescribe Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track "Spot Over" Burns Within This Management Unit If Any Occur

Base Polygons	Acreage	Date(s) of "Spot Over" Fire / Notes
99046 AA	35.007	
99046 I	5.313	
Total	40.320	

Management Unit 5 – Prescribe Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track "Spot Over" Burns Within This Management Unit If Any Occur

Base Polygons	Acreage	Date(s) of "Spot Over" Fire / Notes
99046 B	24.880	
Total	24.880	

Management Unit 6 – Prescribe Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track "Spot Over" Burns Within This Management Unit If Any Occur

Base Polygons	Acreage	Date(s) of "Spot Over" Fire / Notes
99046 E	7.178	
99046 M	12.790	
99046 U	3.510	
Total	23.478	

Management Unit 7 – Prescribe Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track "Spot Over" Burns Within This Management Unit If Any Occur

Base Polygon	Acreage	Date(s) of "Spot Over" Fire / Notes
99046 A	2.664	
99046 O	5.918	
99046 Q	5.335	
99046 V	2.464	
99046 Z	12.723	
Total	29.104	

Management Unit 8 – Prescribe Fire Tracking

Base Polygons	Acreage	Date(s) of Burn
99046 P	2.456	
99046 T	2.031	
Total	4.487	

Management Unit 9 – Prescribe Fire Tracking

No Prescribed Fire Planned For This Management Unit

This Table Will Track "Spot Over" Burns Within This Management Unit If Any Occur

Base Polygons	Acreage	Date(s) of "Spot Over" Fire / Notes
99046 H	0.082	
99046 J	0.079	
99046 D	0.091	
Total	0.252	

Management Unit 10 – Prescribe Fire Tracking		
Base Polygon	Acreage	Date(s) of Burn
99001 A	30.334	
99001 C	20.848	
99002 A	1.408	
99005 B	7.843	
99014 A	15.412	
99014 B	35.182	
99014 C	13.099	
99016 A	20.522	
99016 B	31.256	
99016 C	45.281	
99017 B	17.235	
99017 C	13.39	
99018 B	2.372	
99018 C	5.239	
99019 A	12.422	
99019 C	9.83	
99019 D	1.186	
99020 A	0.301	
99020 C	3.007	
99022 C	7.811	
99023 A	1.796	
99023 C	0.828	
99023 D	2.992	
99025 A	13.687	
99025 B	8.74	
99025 C	4.023	
99029 A	16.914	
99031 A	5.888	
99031 B	4.154	
99031 C	38.219	
99032 A	2.385	
99032 B	0.825	
99033 A	11.932	
99033 B	13.254	
99034 B	6.743	
99034 C	10.01	
99039 B	2.94	
99044 B	7.794	
99046 C	1.962	
99049 M	0.504	
99057 B	1.799	
99060 A	13.015	
99064 A	9.825	
99066 A	2.278	
99067 A	9.274	
99068 A	4.547	

Management Unit 10 – Prescribe Fire Tracking		
99068 C	3.543	
Total	493.849	

Management Unit 11 – Prescribe Fire Tracking		
Base Polygons	Acreage	Date(s) of Burn
99003 A	21.058	
99006 A	15.09	
99007 A	25.259	
99008 A	37.438	
99009 A	2.76	
99010 A	35.152	
99011 A	15.842	
99012 A	4.547	
99013 A	3.613	
99021 A	9.961	
99021 B	8.471	
99021 C	0.892	
99021 D	20.712	
99021 E	9.301	
99021 F	1.114	
99021 H	7.28	
99022 B	7.727	
99024 A	3.291	
99024 B	1.72	
99024 C	2.978	
99024 D	1.065	
99024 E	3.141	
99024 F	9.615	
99024 G	9.637	
99024 H	15.33	
99027 B	0.704	
99030 A	7.621	
99030 C	19.343	
99035 C	2.562	
99036 C	80.263	
Total	383.487	

Management Unit 12 – Prescribe Fire Tracking		
Base Polygons	Acreage	
99002 B	8.777	
99004 A	24.112	
99004 B	6.150	
99004 C	9.476	
99004 D	23.225	
99004 E	11.379	
99005 A	6.939	
99005 C	9.234	
99015 A	5.594	
99015 B	53.129	
99021 G	1.581	
99022 D	2.066	
99022 E	1.159	
99023 B	8.614	
99026 A	12.142	
99027 A	3.667	
99027 C	0.870	
99027 D	0.922	
99027 E	9.101	
99027 F	11.075	
99028 A	21.130	
99030 B	1.174	
99034 A	6.143	
99035 A	3.445	
99035 D	22.422	
Total	263.526	

Management Unit 13 – Prescribe Fire Tracking		
No Prescribed Fire Planned For This Management Unit This Table Will Track “Spot Over” Burns Within This Management Unit If Any Occur		
Base Polygons	Acreage	Date(s) of “Spot Over” Fire / Notes
99046 R	0.378	
99046 S	3.474	
Total	3.852	

Management Unit 14 – Prescribe Fire Tracking

Prescribed fire planned only for the power line right-of-way within this Management Unit. No mitigation credits are associated with this Management Unit. This table will track planned burns of the power line right-of-way, and will also track any "spot over" burns within this Management Unit if any occur.

Base Polygons	Acreage	Date(s) of ROW Burns / "Spot Over" Fire / Notes
99003 B	0.183	
99015 D	0.044	
99045 B	0.415	
99046 AB	1.151	(ROW)
99046 L	12.852	
99046 N	6.439	
99049 P	77.117	
99049 Q	0.704	
99049 R	30.386	
99049 S	0.400	
99049 T	1.315	
99049 U	1.517	
99049 V	0.764	
99049 W	0.556	
99049 X	1.154	
99049 Y	1.972	
99049 Z	7.322	
99051 B	1.606	
99052 B	1.268	
99057 A	0.227	
99059 B	0.079	
99061 A	2.073	(ROW)
99062 A	9.877	(ROW)
99063 A	1.569	(ROW)
99065 A	3.968	(ROW)
Total	164.958	

Tracking – Oak Thinning (Management Unit 12)

Management Unit 12 – Oak Thinning Tracking		
Removal of oaks ≤ 12” DBH		
Base Polygons	Acreage	Notes
99002 B	8.777	
99004 A	24.112	
99004 B	6.150	
99004 C	9.476	
99004 D	23.225	
99004 E	11.379	
99005 A	6.939	
99005 C	9.234	
99015 A	5.594	
99015 B	53.129	
99021 G	1.581	
99022 D	2.066	
99022 E	1.159	
99023 B	8.614	
99026 A	12.142	
99027 A	3.667	
99027 C	0.870	
99027 D	0.922	
99027 E	9.101	
99027 F	11.075	
99028 A	21.130	
99030 B	1.174	
99034 A	6.143	
99035 A	3.445	
99035 D	22.422	
Total	263.526	

Tracking – Pine Plantation Removal

Management Unit 11 – Pine Plantation Removal Tracking

Base Polygons	Acreage	Notes
99003 A	21.058	
99006 A	15.09	
99007 A	25.259	
99008 A	37.438	
99009 A	2.76	
99010 A	35.152	
99011 A	15.842	
99012 A	4.547	
99013 A	3.613	
99021 A	9.961	
99021 B	8.471	
99021 C	0.892	
99021 D	20.712	
99021 E	9.301	
99021 F	1.114	
99021 H	7.28	
99022 B	7.727	
99024 A	3.291	
99024 B	1.72	
99024 C	2.978	
99024 D	1.065	
99024 E	3.141	
99024 F	9.615	
99024 G	9.637	
99024 H	15.33	
99027 B	0.704	
99030 A	7.621	
99030 C	19.343	
99035 C	2.562	
99036 C	80.263	
Total	383.487	

Tracking – Vegetation Plantings

Management Unit 1 – Plantings Tracking

No Vegetation Plantings Planned For This Management Unit

Base Polygon	Acreage	Notes
99046 G	23.173	
99046 K	6.575	
99049 I	2.330	
99049 K	292.920	
99054 A	88.331	
99057 C	0.850	
99059 D	75.311	
99049 A	1.549	
99049 B	7.349	
99049 C	10.610	
99049 D	5.300	
99049 E	1.483	
99049 F	0.309	
99049 G	0.949	
99049 H	1.707	
99049 L	1.707	
99049 O	2.219	
99059 A	0.447	
99058 A	12.600	
99014 E	0.588	
99015 C	0.166	
99016 D	0.966	
99017 A	0.793	
99022 A	0.311	
99046 Y	3.121	
99047 A	1.105	
99048 A	2.817	
99050 A	0.267	
99051 A	0.613	
99052 A	1.080	
99055 A	2.718	
99056 A	11.191	
99067 B	0.200	
99068 D	1.218	
99041 B	0.959	
99045 C	0.452	
99049 J	1.221	
99053 A	4.211	
99059 C	0.857	
99018 A	0.158	
99019 B	0.114	
99019 E	0.133	

Management Unit 1 – Plantings Tracking		
99020 B	0.042	
99037 A	0.282	
99044 A	0.141	
99044 C	0.324	
99046 W	1.653	
99003 C	0.077	
99014 D	0.749	
99035 B	0.198	
99036 A	0.262	
99036 B	0.030	
99036 D	0.376	
Total	575.112	

Management Unit 2 – Plantings Tracking		
Restoration of Hydric Pine Flatwoods May Include Wiregrass Seeding or Other Plantings.		
Base Polygons	Acreage	Notes
99039 A	11.132	
99042 A	21.191	
99037 B	3.936	
99038 A	40.146	
99041 A	16.165	
99043 A	7.181	
99044 D	5.399	
99045 A	0.981	
99045 B	40.549	
Total	146.680	

Management Unit 3 – Plantings Tracking		
Restoration of Hydric Pine Flatwoods May Include Wiregrass Seeding or Other Plantings.		
Base Polygons	Acreage	Notes
99040 A	11.532	
Total	11.532	

Management Unit 4 – Plantings Tracking		
Enhancement / Restoration of Cypress Swamp May Entail Reinforcement Plantings of Cypress		
Base Polygons	Acreage	Notes
99046 AA	35.007	
99046 I	5.313	
Total	40.320	

Management Unit 5 – Plantings Tracking		
Enhancement / Restoration of Slough / Marsh May Entail Reinforcement Plantings of Cypress, Tupelo or Other Species in Portions of this Management Unit		
Base Polygons	Acreage	Notes
99046 B	24.880	
Total	24.880	

Management Unit 6 – Plantings Tracking		
No Vegetation Plantings Planned For This Management Unit		
Base Polygons	Acreage	Notes
99046 E	7.178	
99046 M	12.790	
99046 U	3.510	
Total	23.478	

Management Unit 7 – Plantings Tracking		
No Vegetation Plantings Planned For This Management Unit		
Base Polygon	Acreage	Notes
99046 A	2.664	
99046 O	5.918	
99046 Q	5.335	
99046 V	2.464	
99046 Z	12.723	
Total	29.104	

Management Unit 8 – Plantings Tracking		
No Vegetation Plantings Planned For This Management Unit Wiregrass Seeding May Be Considered		
Base Polygons	Acreage	Notes
99046 P	2.456	
99046 T	2.031	
Total	4.487	

Management Unit 9 – Plantings Tracking		
Restoration of these road stream-crossings will entail removal of road-fill and planting of the road footprint with cypress.		
Base Polygons	Acreage	Notes
99046 H	0.082	
99046 J	0.079	
99046 D	0.091	
Total	0.252	

Management Unit 10 – Plantings Tracking

No vegetation plantings are anticipated for this Management Unit. If reinforcement stocking of longleaf pine is conducted, it will be tracked below.

Base Polygon	Acreage	Notes
99001 A	30.334	
99001 C	20.848	
99002 A	1.408	
99005 B	7.843	
99014 A	15.412	
99014 B	35.182	
99014 C	13.099	
99016 A	20.522	
99016 B	31.256	
99016 C	45.281	
99017 B	17.235	
99017 C	13.39	
99018 B	2.372	
99018 C	5.239	
99019 A	12.422	
99019 C	9.83	
99019 D	1.186	
99020 A	0.301	
99020 C	3.007	
99022 C	7.811	
99023 A	1.796	
99023 C	0.828	
99023 D	2.992	
99025 A	13.687	
99025 B	8.74	
99025 C	4.023	
99029 A	16.914	
99031 A	5.888	
99031 B	4.154	
99031 C	38.219	
99032 A	2.385	
99032 B	0.825	
99033 A	11.932	
99033 B	13.254	
99034 B	6.743	
99034 C	10.01	
99039 B	2.94	
99044 B	7.794	
99046 C	1.962	
99049 M	0.504	
99057 B	1.799	
99060 A	13.015	

Management Unit 10 – Plantings Tracking		
No vegetation plantings are anticipated for this Management Unit. If reinforcement stocking of longleaf pine is conducted, it will be tracked below.		
99064 A	9.825	
99066 A	2.278	
99067 A	9.274	
99068 A	4.547	
99068 C	3.543	
Total	493.849	

Management Unit 11 – Plantings Tracking		
Longleaf Pine Planting Anticipated for this Management Unit		
Base Polygons	Acreage	Notes
99003 A	21.058	
99006 A	15.09	
99007 A	25.259	
99008 A	37.438	
99009 A	2.76	
99010 A	35.152	
99011 A	15.842	
99012 A	4.547	
99013 A	3.613	
99021 A	9.961	
99021 B	8.471	
99021 C	0.892	
99021 D	20.712	
99021 E	9.301	
99021 F	1.114	
99021 H	7.28	
99022 B	7.727	
99024 A	3.291	
99024 B	1.72	
99024 C	2.978	
99024 D	1.065	
99024 E	3.141	
99024 F	9.615	
99024 G	9.637	
99024 H	15.33	
99027 B	0.704	
99030 A	7.621	

99030 C	19.343	
99035 C	2.562	
99036 C	80.263	
Total	383.487	

Management Unit 12 – Plantings Tracking

Longleaf Pine Plantings Anticipated

Base Polygons	Acreage	Notes
99002 B	8.777	
99004 A	24.112	
99004 B	6.150	
99004 C	9.476	
99004 D	23.225	
99004 E	11.379	
99005 A	6.939	
99005 C	9.234	
99015 A	5.594	
99015 B	53.129	
99021 G	1.581	
99022 D	2.066	
99022 E	1.159	
99023 B	8.614	
99026 A	12.142	
99027 A	3.667	
99027 C	0.870	
99027 D	0.922	
99027 E	9.101	
99027 F	11.075	
99028 A	21.130	
99030 B	1.174	
99034 A	6.143	
99035 A	3.445	
99035 D	22.422	
Total	263.526	

Management Unit 13 – Plantings Tracking

No Vegetation Plantings Planned For This Management Unit

Base Polygons	Acreage	Notes
99046 R	0.378	
99046 S	3.474	
Total	3.852	

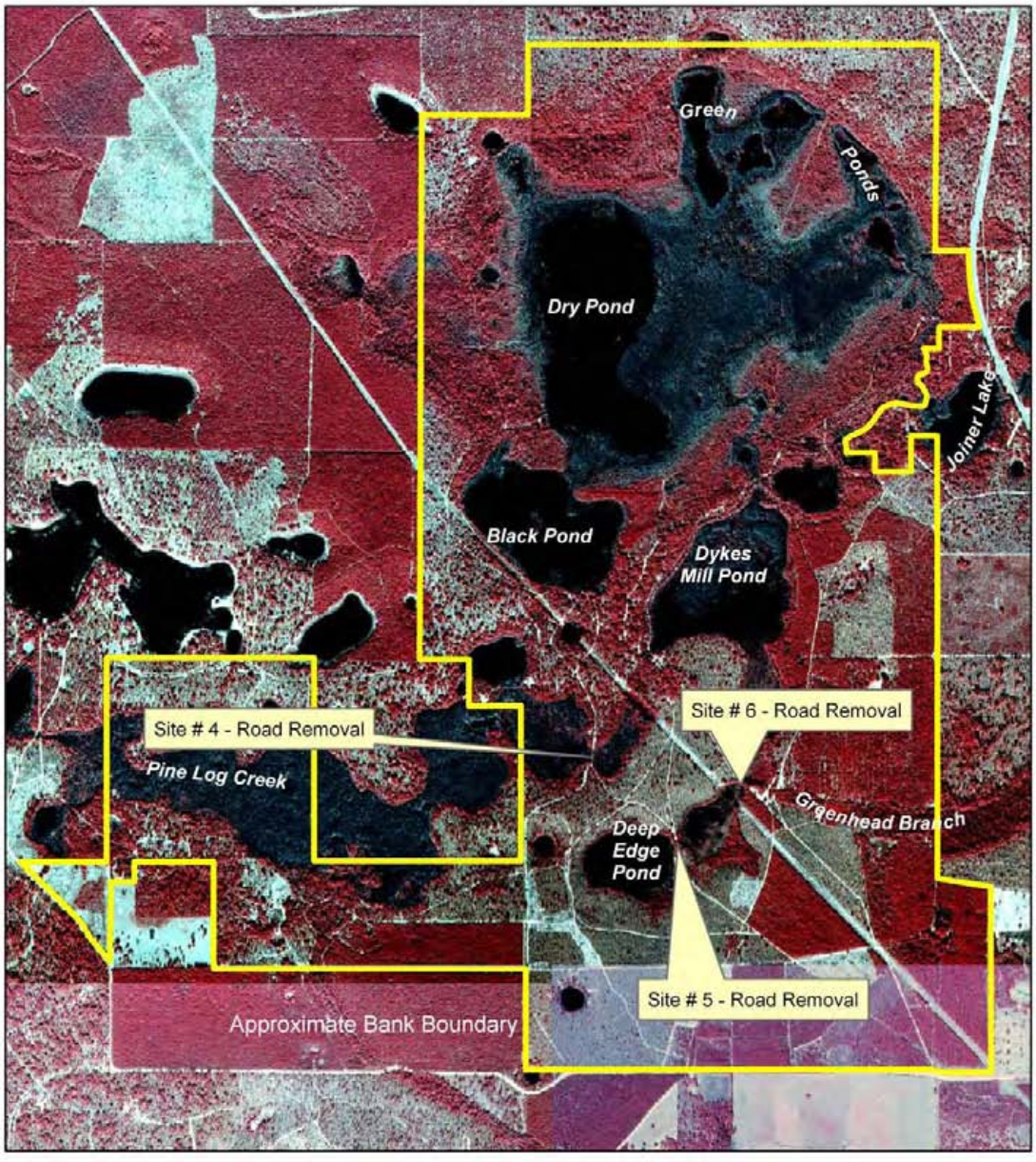
Management Unit 14 – Plantings Tracking

No mitigation credits are associated with this Management Unit. Power line right-of-way may be maintained as a wiregrass seed donor site.

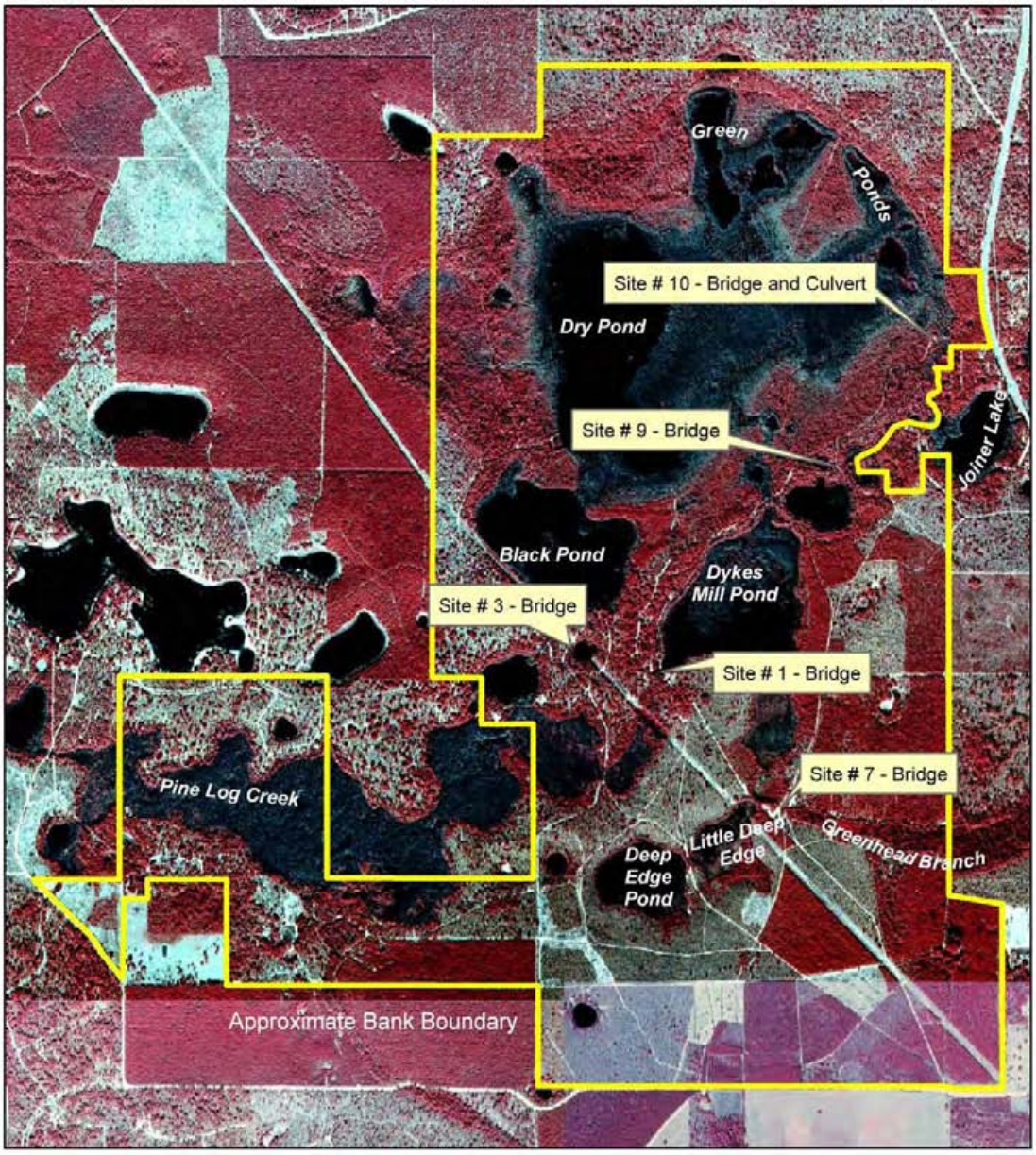
Base Polygons	Acreage	Notes
99003 B	0.183	
99015 D	0.044	
99045 B	0.415	
99046 AB	1.151	(ROW)
99046 L	12.852	
99046 N	6.439	
99049 P	77.117	
99049 Q	0.704	
99049 R	30.386	
99049 S	0.400	
99049 T	1.315	
99049 U	1.517	
99049 V	0.764	
99049 W	0.556	
99049 X	1.154	
99049 Y	1.972	
99049 Z	7.322	
99051 B	1.606	
99052 B	1.268	
99057 A	0.227	
99059 B	0.079	
99061 A	2.073	(ROW)
99062 A	9.877	(ROW)
99063 A	1.569	(ROW)
99065 A	3.968	(ROW)
Total	164.958	

Exhibit 24

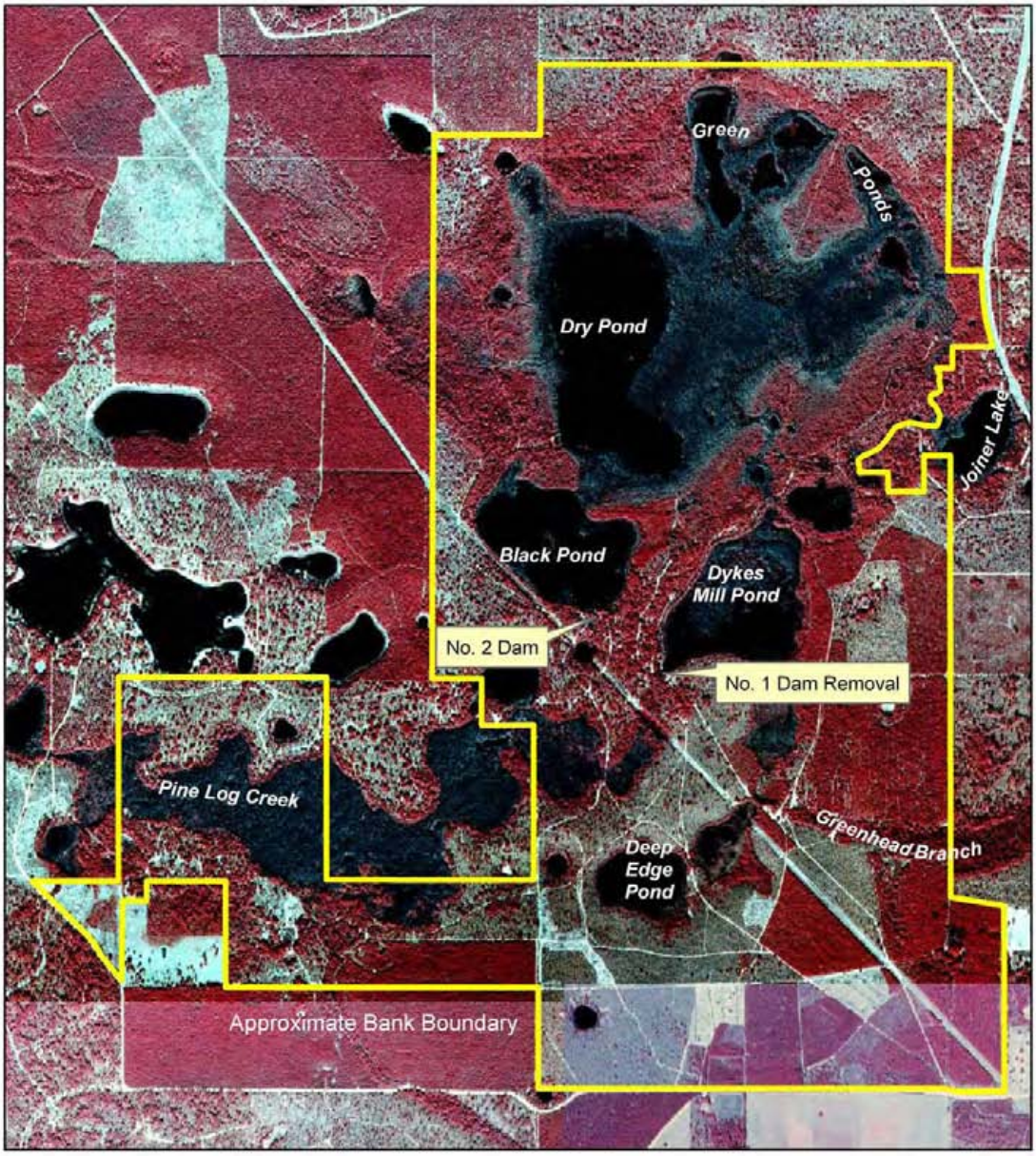
Sand Hill Lakes Mitigation Bank - Road-fill Removal Locations



Sand Hill Lakes Mitigation Bank - Bridge Locations



Sand Hill Lakes Mitigation Bank - Dam and Dam Removal Locations

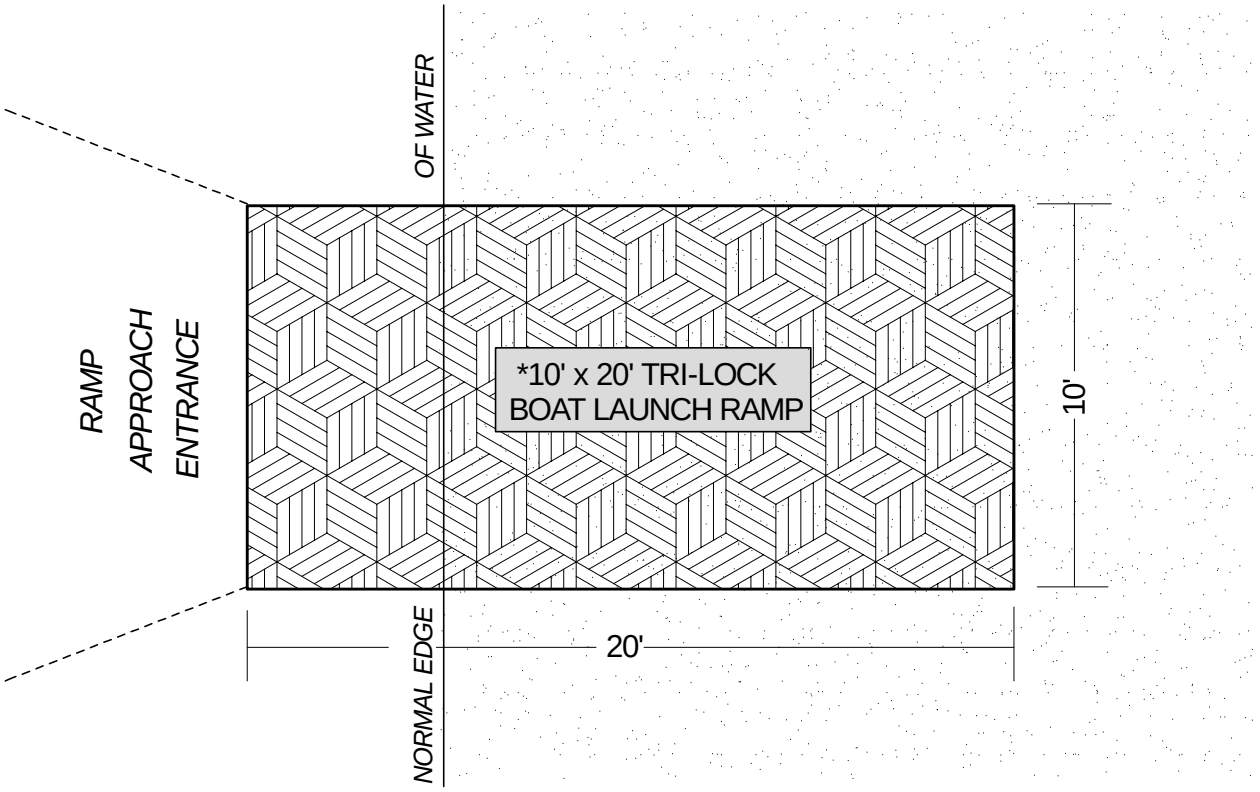


1 0.5 0 1 Miles

N

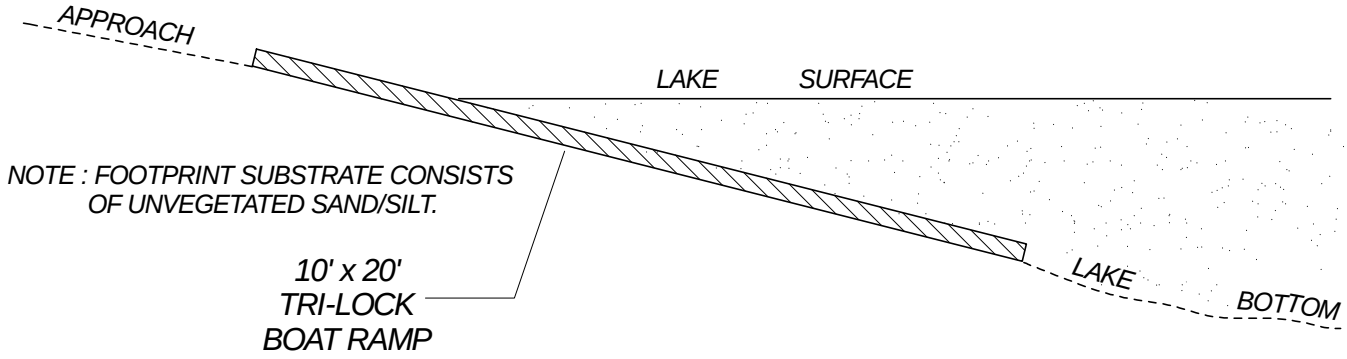
Exhibit 25

BOAT RAMP



PLAN VIEW

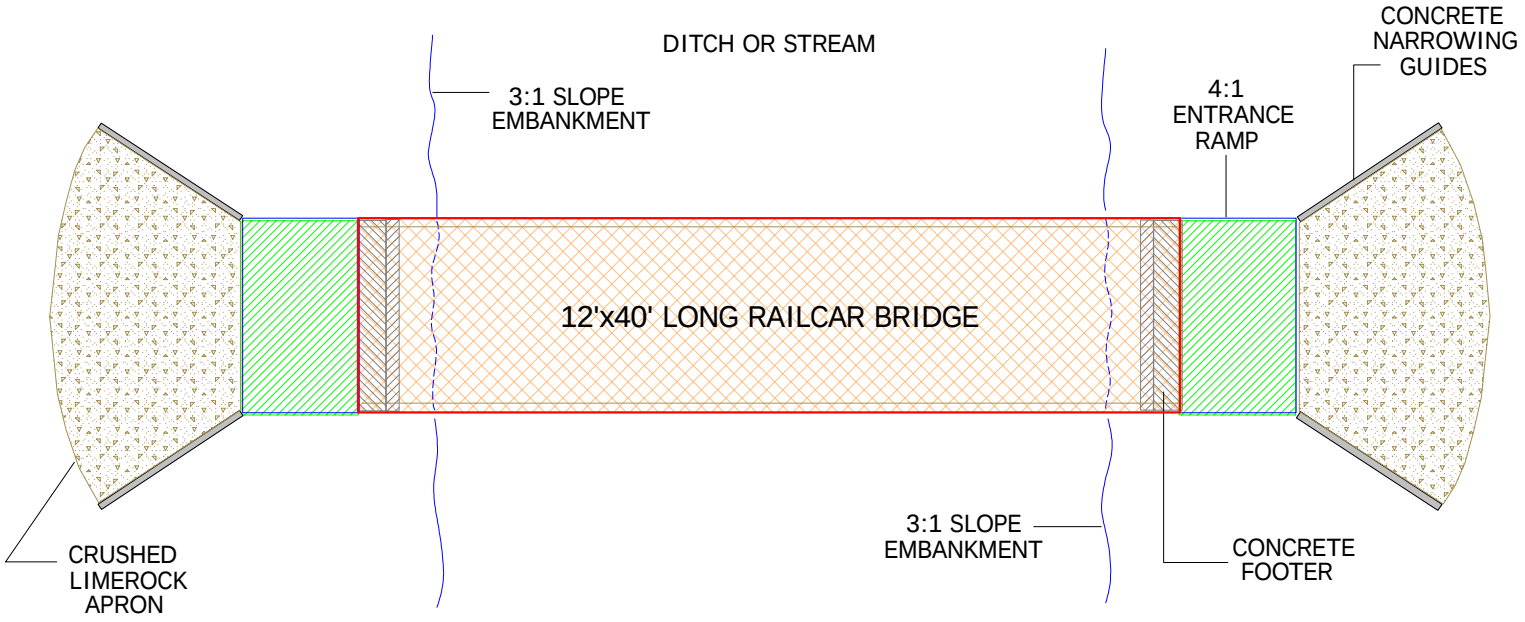
**TRI-LOCK (ARTICULATED CONCRETE REVETMENT) OR SIMILAR MATERIAL.*
USE CRUSHED ROCK TO BACKFILL VOIDS IN CONCRETE BLOCKS.



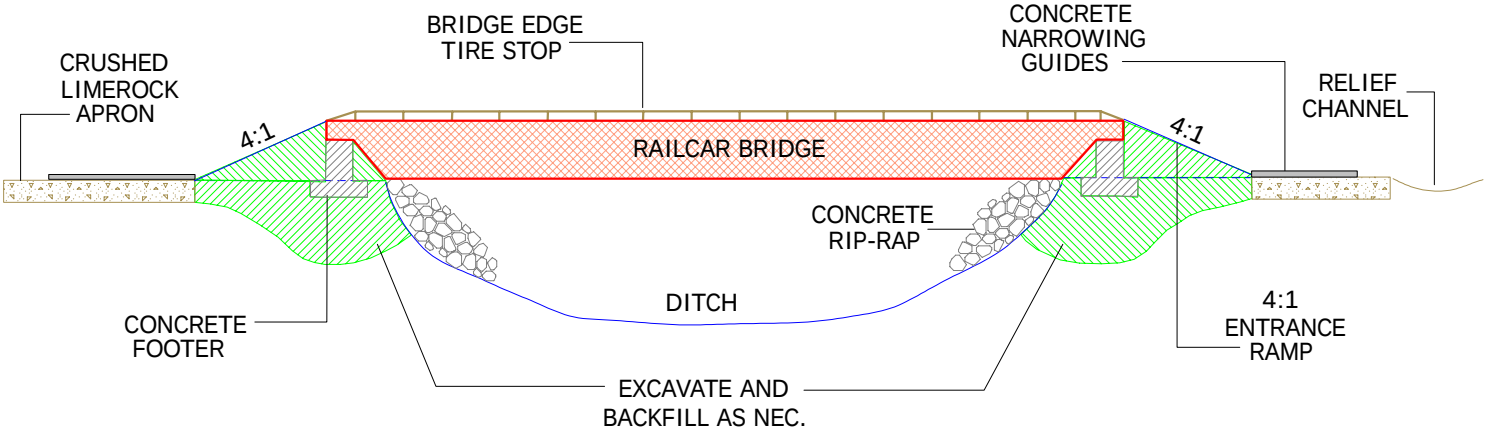
PROFILE

TYPICAL BRIDGE DESIGN

NOT TO SCALE



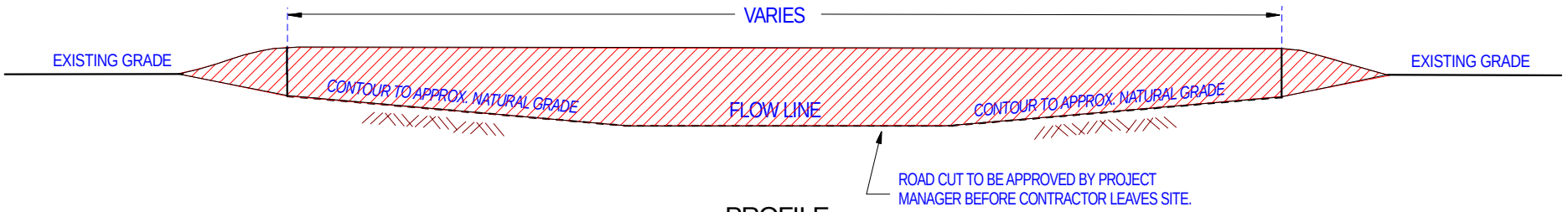
PLAN VIEW



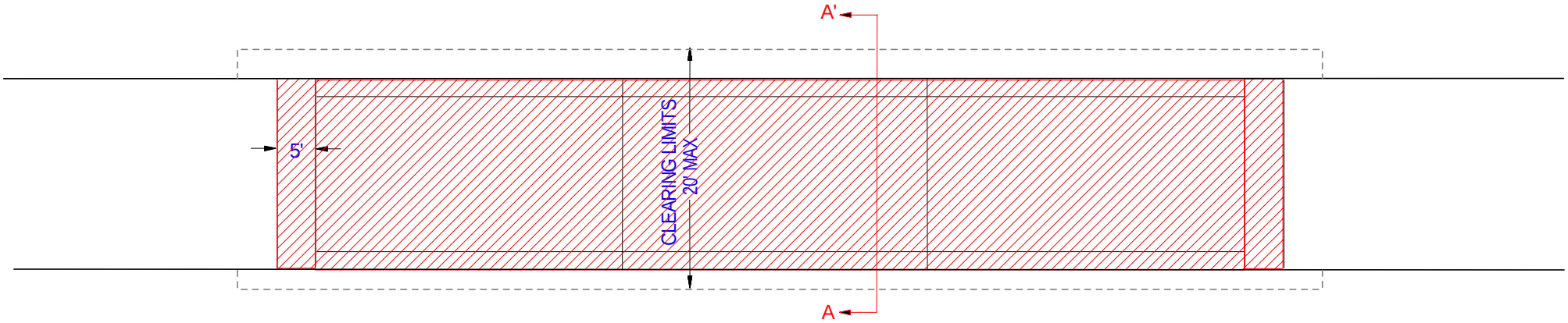
PROFILE VIEW

TYPICAL ROAD CUT

(NOT TO SCALE)



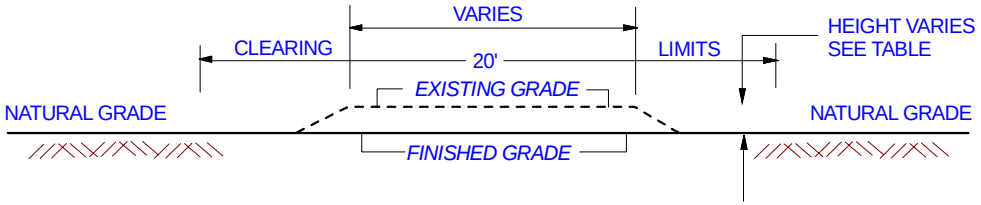
PROFILE



PLAN VIEW

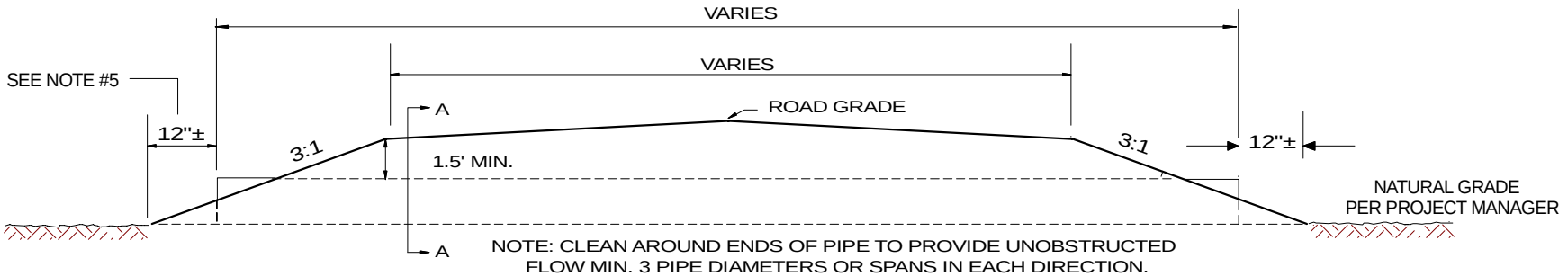
NOTES:

1. REMOVED MATERIAL TO BE PLACED IN ERODING UPLANDS OR OTHER APPROPRIATE UPLAND DISPOSAL SITE.
2. ALL MATERIALS TO BE PROVIDED FROM SITE.
3. VEGETATION ALONG SIDES OF ROAD TO BE REMOVED BY CONTRACTOR WHERE NECESSARY.
4. REPLANT FORMER ROAD FOOT PRINT TO MATCH SURROUNDING COMMUNITY.

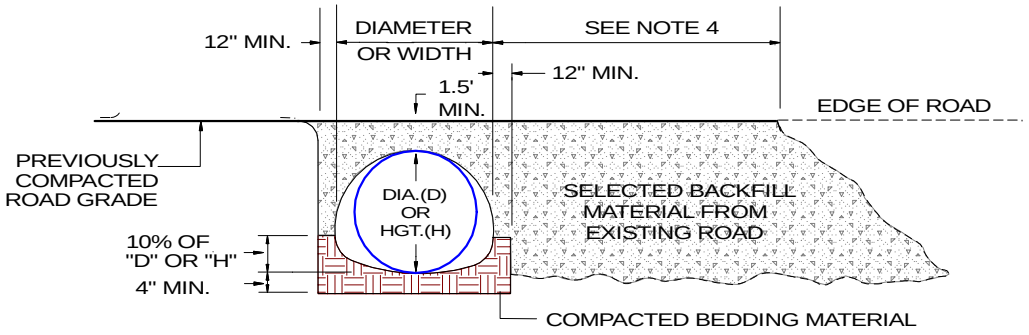


SECTION A-A'

CULVERT INSTALLATION

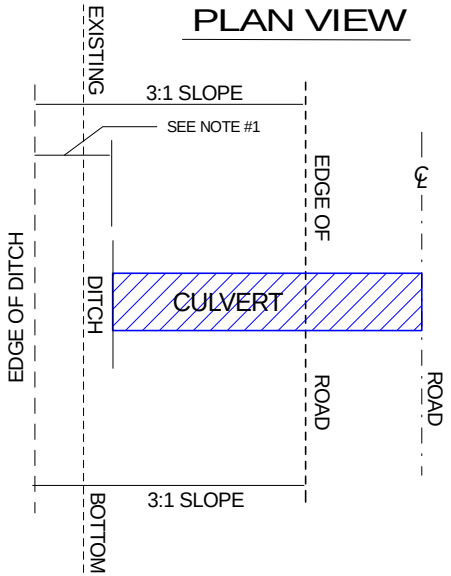


PROFILE



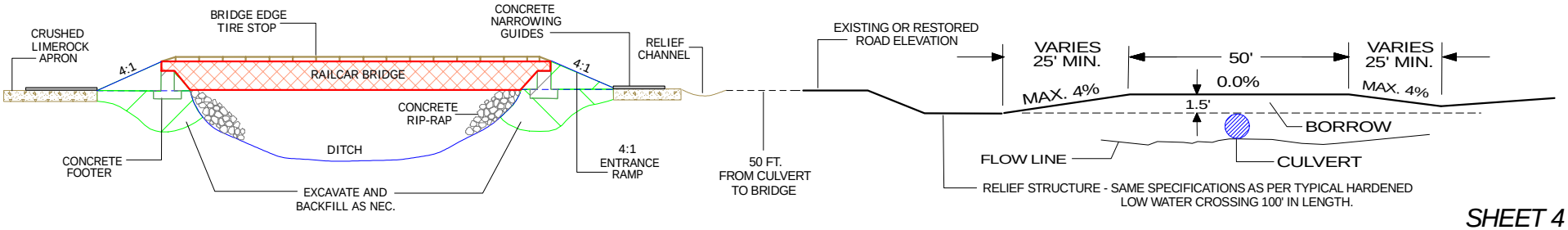
SECTION A-A

PLAN VIEW



RAILCAR BRIDGE (10A) AND CULVERT (10B) INSTALLATION

ROAD PROFILE
AT BRIDGE & CULVERT LOCATION

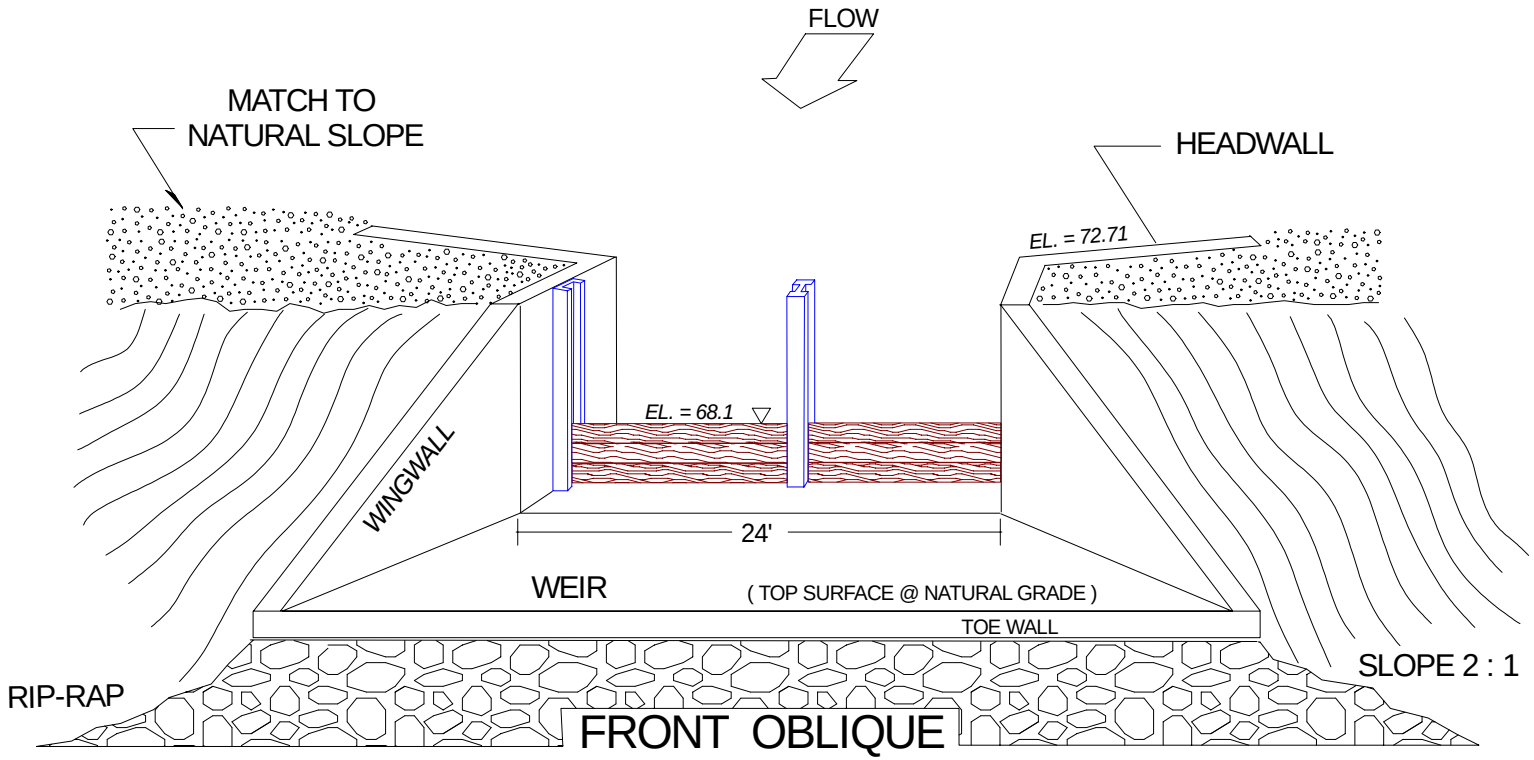


BLACK POND

WEIR DETAIL

N. T. S.

ALL MEASUREMENTS ARE APPROXIMATE



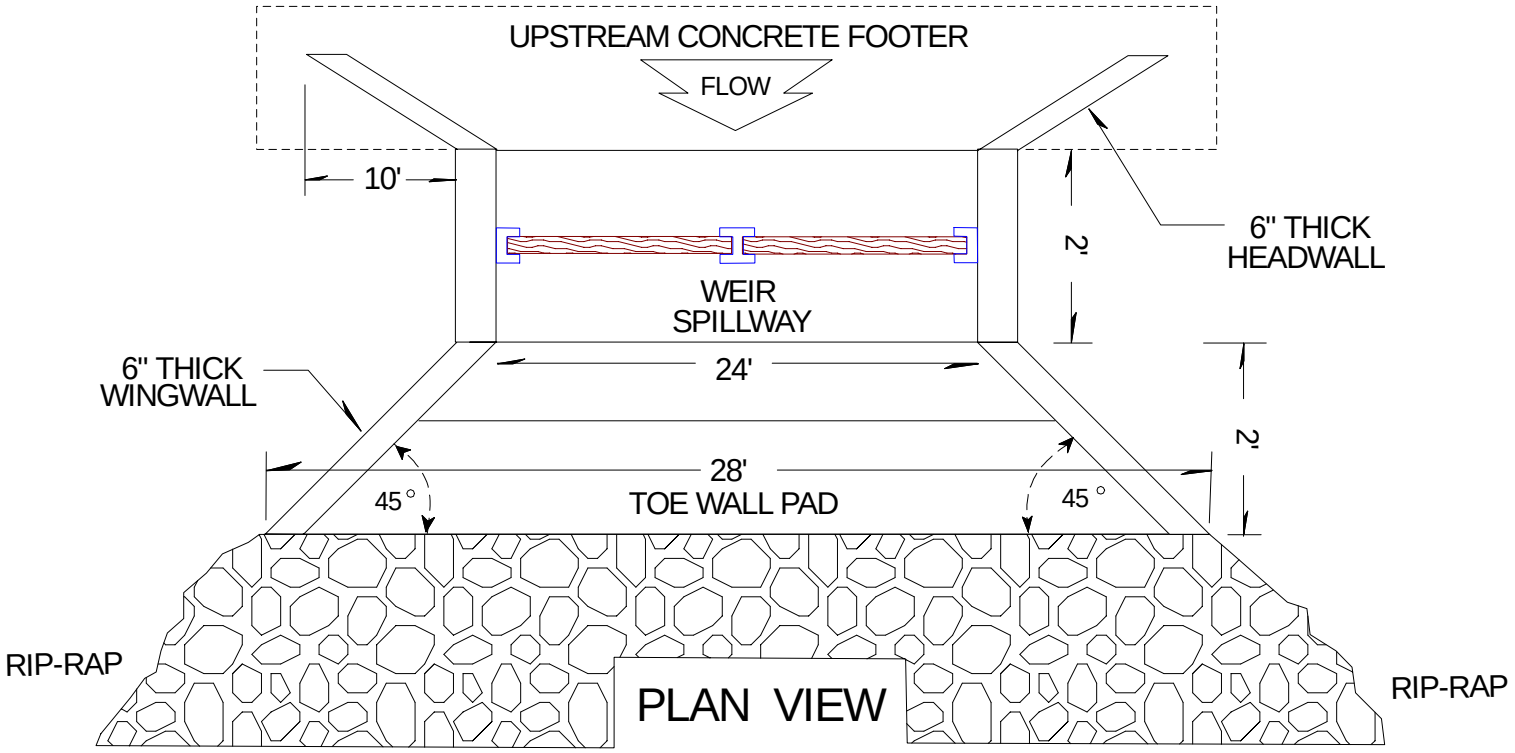
ALL ELEVATIONS IN NGVD 1929

BLACK POND

WEIR DETAIL

N. T. S.

ALL MEASUREMENTS ARE APPROXIMATE

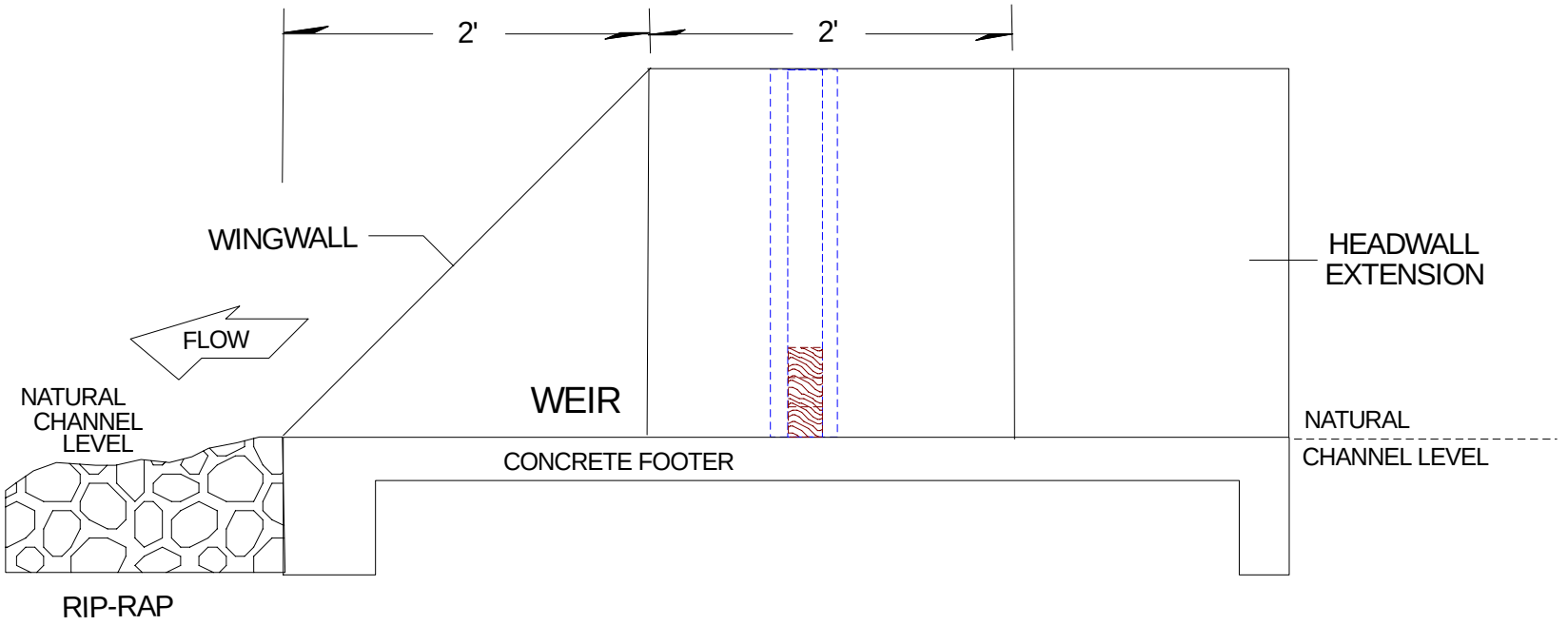


BLACK POND

WEIR DETAIL

N. T. S.

ALL MEASUREMENTS ARE APPROXIMATE



CROSS - SECTION

Exhibit 26

SECURITY AND PUBLIC USE PLAN

The Sand Hill Lakes Mitigation Bank (Bank) consists of 2,155 acres in southern Washington County in the Sand Hill Lakes region of the Florida Panhandle. Contained within the Bank are over 1,000 acres of wetlands and aquatic habitat including high quality cypress swamp, karst ponds, lakes, streams, hydric pine flatwoods, seepage slopes and bayhead communities. Upland habitats are presently composed of sand and slash pine plantation, xeric and live oak hammock, mixed upland hardwood and other degraded sand hill communities. The Bank exists for the express purpose of restoration and protection of natural habitats, both wetlands and uplands. Public access for hunting, fishing and passive recreation will be allowed only to the extent that it does not interfere with the goals and ecological protection of the Bank.

Security: The Bank property will be fenced and posted with signs indicating NWFWMD ownership. All perimeter gates will be locked at all times, except for the main entrance during operating hours. The attached map shows the location of the fence, the main entrance, and all internal roads and gates. The main entrance will allow controlled public access to selected dirt roads. The public will be barred from using bicycles, all-terrain vehicles (ATV), off-highway vehicles (OHV), dirt bikes or other vehicles that could easily leave the public roads. The road will be maintained by the NWFWMD in a passable condition so that no new trails are forged around obstacles. Management roads, secured with locked gates, are for use by authorized personnel for monitoring and management. Parking is allowed outside the gate for walk-in users.

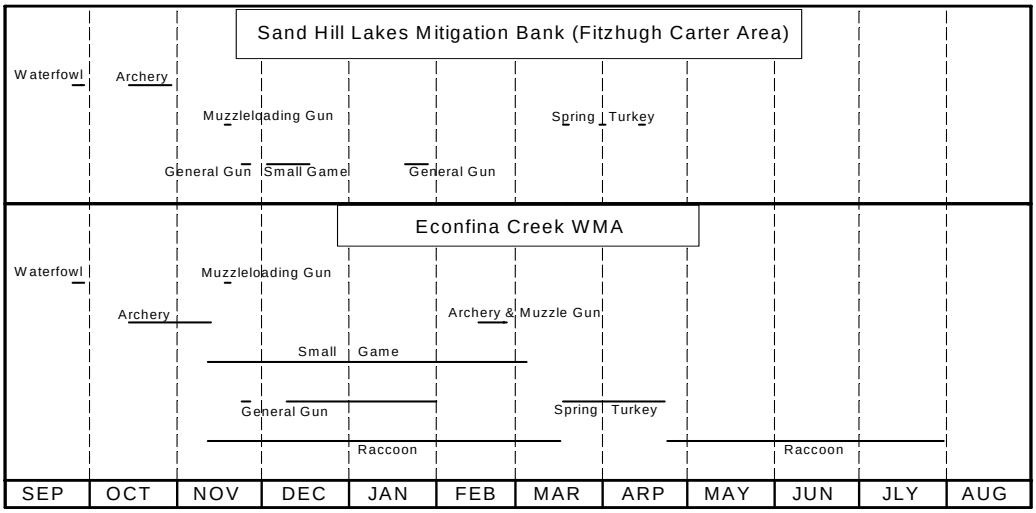
The Bank is part of the Florida Fish and Wildlife Conservation Commission (FWC) Econfina Creek Wildlife Management Area. The FWC will manage site security and the limited hunting and fishing program described below. A FWC-manned check station, located at the public access gate off of Chain Lake Road, will regulate access during hunting and/or fishing days, currently anticipated to be daylight hours, up to 5 days a week. Passive pedestrian use is allowed during daylight hours 7 days a week. All public access for any purpose, vehicular and pedestrian, shall be via the FWC check station on Chain Lake Road. Persons accessing the property at any other point shall be subject to prosecution for trespass. Additionally FWC will conduct random daily patrols throughout the year and enforcement of adopted hunting, fishing, passive use and trespassing rules.

If adverse impacts or conflicts associated with public access are identified, the MBRT will be consulted and the public access plans revised accordingly. Public access is limited to daylight hours. Activities forbidden under all circumstances include swimming, horseback riding, use of bicycles, use of ATVs, off-road use of vehicles, use of private electric or motor boats, use of jet skis, game or fish feeding stations, target practice or random shooting of weapons, and hunting with dogs (other than bird dogs or retrievers). Other activities may also be barred or limited if they are found to conflict with the goals of the mitigation bank, or safety considerations of the NWFWMD. Passive usage allowed at the Bank will include hiking, bird watching, nature study, canoeing and kayaking (canoes/kayaks must be clean of all vegetation, and trailers are not allowed). Persons walking dogs on the property must have control over their animals at all times.

Hunting will be limited to approximately 60 days per year, with fishing to be allowed up to five days per week throughout the year. Initially, no more than 15 hunters and 20 fishermen at a time will be allowed onsite per day, as regulated by the FWC at the entry gate. If no adverse ecological impacts are observed, then the number of hunters and fishermen allowed onsite may be increased upon approval from the Mitigation Bank Review Team (MBRT). The number of persons allowed for passive recreation (e.g., hiking, nature study, etc.) shall not be limited, except that no more than 50 people total (hunters, fishers and others) will be allowed access on any one day. However, if conflicts between the goals of the Bank and the number of persons accessing the site are identified, the NWFWMD, in consultation with the MBRT, may also limit the number of persons accessing the site for passive recreation.

Hunting: In contrast to ten or eleven months of nearly continuous and overlapping hunting seasons on other sections of the Econfina Creek Wildlife Management Area, hunting at the Bank will be limited to approximately 60 days scattered from October to April plus a special 6 day September duck season (see the following Figure 1). Details and restrictions for all hunting on the property are outlined in the Regulations Summary and Area Map brochure for the Econfina Creek Wildlife Management Area that is released annually by the FWC. The Bank property is referred to in the pamphlet as the Fitzhugh Carter area. There will be no hunting of otter or bob cat within the Fitzhugh Carter area. Archery hunting will be limited to ~16 days in October, early muzzleloading gun to ~3 days in November, small game to ~16 days in December, general gun to ~4 days in November and ~9 days in January, and spring turkey to ~3 days in March and ~6 days in April. Migratory birds may only be taken during open seasons that coincide with archery, muzzleloading gun and general gun hunts. Each hunter must have a quota permit obtained through the FWC for archery, muzzleloading gun, general gun and spring turkey hunts. No hunting for otter or bobcat will be allowed following the 2005-06 season. In contrast to other hunting on the SHLMB, no quota permit is required during small game season and the special September waterfowl duck season although the number of hunters during those periods will still be limited to fifteen. If numbers of feral hogs and beavers dictate active management, the NWFWMD has an ongoing contract for feral hog and beaver damage management activities on mitigation lands with the US Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services.

Figure 1: Example hunt calendar for the Econfina Creek Water Management Area. Schedule for the Bank (also known as Fitzhugh Carter Area) is shown at top of table.



Fishing: Over a dozen ponds, with open-water ranging from 1- 80+ acres, occur at the Bank. The larger ponds open to limited fishing include Dry Pond, Black Pond, Green Pond, Deep Edge Pond, Garret Pond, Power Line Pond and Boat Pond. The FWC will conduct an assessment of fish populations by gathering and analyzing data related to size, structure, relative abundance, length, age, annual mortality and condition factor. This information will be used to establish appropriate species, size and number limits in order to maintain high quality, sustainable fish populations.

The FWC proposes to open the Bank to fishing for a maximum of five days per week. The public will be barred from bringing boats or motors onsite, although a total of 12 aluminum jonboats will be placed on several lakes for pubic use on a first-come-first-serve basis. The jonboats will be equipped with paddles only. The small, onsite boats will not require the development of launching and parking infrastructure usually associated with boat launch facilities, although low-impact, pervious, geotechnical material or other soil stabilization techniques may be required, as a modification to this permit, to prevent small-scale erosion on footpaths at points where jonboats are accessed. If no deleterious impacts are observed, the number of jonboats may, with MBRT approval, be increased. Motorized boats may be used, as necessary, by FWC, NWFWMD or authorized contractors for approved management purposes. The dirt boat ramp at Dry Pond will be upgraded with Tri-Lock ® or equivalent pervious stabilization (approximately 10’ x 20’ footprint) to accommodate authorized motor boats required by management activities, as shown in the Construction Drawings. Measures, such as cleaning of engine props prior to launch, will be enforced to ensure no introduction of hydrilla to the system.

Hiking, Birding, Canoes and Kayaks: A dedicated hiking loop trail following existing or abandoned roads may be established. With abundant and diverse birdlife on the property, a future partnership may be sought with local organizations to develop birding trails and a species list. Although the use of canoes and kayaks may be allowed at the Bank, hardened launching or parking areas will not be needed. Two rain shelters (approximately 12' x 24' footprints) may be constructed in upland areas near the Green Ponds and Black Pond.

Conservation Easement Allowances: Notwithstanding that the conservation easement is designed to preserve the site in its enhanced condition, the above limited public access shall be provided there is no ecological degradation from current condition. The dirt roads, gates, Check Station with electricity, water and septic tank facilities (in uplands) and rain shelters, as noted in the attached map are also allowed in support of these activities and site management. Fish management may require the use of a motorboat and boat launch as specified above. Fire management may also require certain equipment, such as tractors, dozers, ATVs and water trucks for safe implementation. Any deviation of management activities as described herein that are not directly supporting the achievement or maintenance of the ecological goals set forth in the MBI / FDEP Permit Specific Condition 22, shall require a permit modification.

Any of the public uses of the Bank site may be limited if it is determined that there is an unacceptable safety risk or if it has a deleterious affect on the goals of the mitigation.

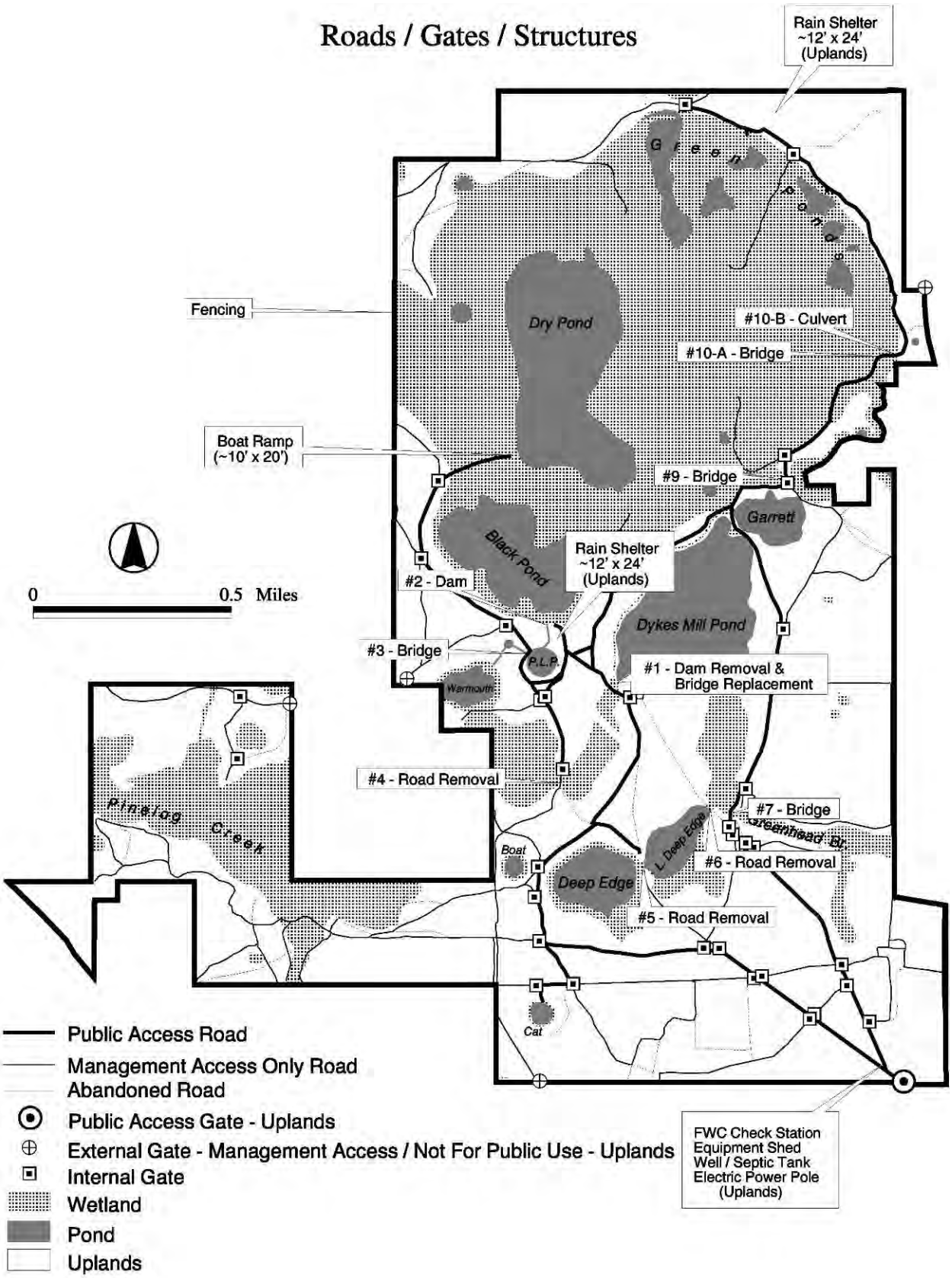

Roads / Gates / Structures
Rain Shelter ~12' x 24' (Uplands)
Fencing
Dry Pond
#10-B - Culvert
#10-A - Bridge
Boat Ramp (~10' x 20')
#9 - Bridge
Garrett
Black Pond
Rain Shelter ~12' x 24' (Uplands)
#2 - Dam
0
0.5 Miles
Dykes Mill Pond
#3 - Bridge
P.L.P.
#1 - Dam Removal & Bridge Replacement
Warmouth
#4 - Road Removal
#7 - Bridge
Deep Edge
#6 - Road Removal
Boat
Deep Edge
#5 - Road Removal
Cat
Public Access Road
Management Access Only Road
Abandoned Road
Public Access Gate - Uplands
External Gate - Management Access / Not For Public Use - Uplands
Internal Gate
Wetland
Pond
Uplands
FWC Check Station
Equipment Shed
Well / Septic Tank
Electric Power Pole
(Uplands)

Exhibit 27

MITIGATION CREDIT LEDGER

FEDERAL (WRAP)

Freshwater Forested Hydric Flatwoods Wetlands: Total Potential WRAP Credits = 117.18

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

Freshwater Mixed Hardwoods Wetlands: Total Potential WRAP Credits = 139.05

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

Freshwater Herbaceous Hardwoods Wetlands: Total Potential WRAP Credits = 27.80

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

STATE (UMAM)

Freshwater Forested Hydric Flatwoods Wetlands: Total Potential UMAM Credits = 123.11

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

Freshwater Mixed Hardwoods Wetlands: Total Potential UMAM Credits = 146.09

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

Freshwater Herbaceous Hardwoods Wetlands: Total Potential UMAM Credits = 29.20

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