Southwest Florida
Water Management District

Conner Preserve
Land Use and Management Plan

May 13, 2008

Outstanding sandhill ridges at Conner Preserve

Project Vision Statement

In contrast to the surrounding highways, homes and businesses, the Conner Preserve offers Floridians a stunning landscape of steep sandhill ridges, expansive marshes, meandering cypress sloughs, and lush pine flatwoods. Deer, turkey and quail roam the flatlands, delighting visitors to the Preserve. On the sandy white ridges, gopher tortoises forage on the grasses and woodpeckers search for beetles in the pines. The Preserve's unique, irreplaceable wetlands contribute significant water recharge and storage benefits to the region. In the marshes and swamps, wading birds of all kinds, including American wood storks, Florida sandhill cranes and the occasional whooping crane, live and raise their young. Hikers, bicyclists, birdwatchers, photographers and nature enthusiasts will be delighted by the subtle charm this Preserve inspires. In this small but poignant landscape, visitors can escape the hectic urban life to find solitude, peace and quiet and take refuge in this natural and serene sanctuary.

Preface

This Land Use and Management Plan (LUMP) guides the use and management of the Conner Preserve through the ten-year period from 2008 through 2017. It may be reviewed and updated at any time during that period should circumstances warrant.

District Mission

The mission of the Southwest Florida Water Management District is to manage water and related natural resources to ensure their continued availability while maximizing environmental, economic and recreational benefits. Central to the mission is maintaining the balance between the water needs of current and future users while protecting and maintaining water and related natural resources that provide the District with its existing and future water supply. The mission emphasizes four Areas of Responsibility (AORs): water supply, flood protection, water quality and natural systems. Further, Governing Board Policy 610-3, Land Use and Management, expands the list of mission goals to be achieved on District conservation land to include public access, recreation and education, biodiversity, archaeological resources and forestland.

The Plan

This plan translates the Governing Board's broad mission into six site-specific management goals: water resource protection, flood control, natural systems protection/restoration, resource-dependant recreation, renewable resource utilization and special uses. Through review and verification of available resource data, the Conner Preserve's natural function and important attributes are described. Science-based preserve design and management principles are then applied to the Preserve to delineate management zones. The zone map groups management units sharing similar natural traits, protection requirements, use potential and management needs into the following zone categories which include: preservation, resource management, recreation, transportation, and special use. The zone map is used to organize management activities and to locate compatible land uses within appropriate areas of the Preserve.

Zoning designations on the zone map are incorporated into a land use matrix that contains a broad range of potentially compatible resource-dependant recreation activities and renewable resource land uses. Uses considered compatible with the management goals and natural character of the Preserve are selected and linked to the appropriate management zones. Together, the zone map and land use matrix form the blueprint by which future land use decisions will be based. Local land use data and regional public use needs and sources information are then evaluated to identify compatible resource-dependant recreation uses that may be accommodated on the Preserve.

Finally, strategic objectives are developed to guide the accomplishment of the six management goals for the Preserve. Strategic objectives are one to ten year initiatives that are obtainable and measurable, and are inked to the management goal(s) they are intended to achieve. Management partners and possible challenges to successfully implementing the strategic objectives are identified and strategies to overcome these challenges are collectively developed.

Executive Summary

Project name	Pasco One Project – Conner Preserve
Project size:	2,980 acres
Basin(s)/Watershed(s):	Coastal and Hillsborough River Basins and Hillsborough and Upper Coastal Watersheds
Acquisition date(s):	September 29, 2003
Acquisition purposes:	Preserve/restore natural ecosystems and their functions; Preserve/enhance water quality; Protect habitats and associated wildlife resources; Flood water attenuation; Groundwater recharge and reduction of water supply needs.
Former land uses:	Cattle grazing, planted pine, turpentining, logging, hunting, nature appreciation
Hydrologic features:	Located in the Hillsborough (875 acres) and Upper Coastal (2098 acres) Watersheds; headwaters of Five-mile Creek; 52 percent of property is wetlands
Landcover summary:	Dominant landcover is basin marsh and swamp and other wetland communities that total 1,655 acres; mesic flatwoods and other forested uplands that total 790 acres; and pasture and other lands that total 534 acres
Restoration/mitigation:	Wetland enhancement on 1,630 acres; upland enhancement on 1,056 acres; upland restoration on 194 acres
Compatible uses:	Bicycling, birding, backpacking, equestrian riding, hiking, geocaching, interpretive uses, nature study, nature photography and trail running
Strategic objectives summary:	Protection of water resources, hydrologic restoration, restoration of native communities, resource inventories, exotic plant and animal control, public access and public use monitoring
External coordination:	Pasco County Government, Pasco County Fire, Pasco County Sheriff's Office, United States Fish and Wildlife Service, Florida Natural Area Inventories, Florida Division of Forestry, Florida Fish and Wildlife Conservation Commission, Florida Department of Transportation, Terrabrook Development Corporation, Audubon Society, United States Geological Survey, various recreation user groups, adjoining landowners

Introduction

The Conner Preserve (Preserve) encompasses 2,980 acres in the eastern central portion of Pasco County (Figure 1). It is contained within the Pasco 1 acquisition project listed in the District's annual Florida Forever Work Plan and was acquired in 2003 for preservation of natural systems, groundwater recharge, water quality and flood water attenuation. At a landscape level, the Preserve functions as a key link in a proposed wildlife habitat corridor connecting the 18,240-acre Starkey Wilderness Preserve to the west and the 7,460-acre Cypress Creek well field to the east (Figure 2).

Historically, the Preserve was used for agricultural purposes. These past uses resulted in about 43 percent of the natural uplands being converted to pasture and pine plantation. The majority of the remaining upland communities are intact. The District will manage the Preserve's resources for conservation to protect the function of natural communities and restore altered communities where feasible.

Projected demographic and growth patterns over the next 20 years in proximity to the Preserve may require the District to periodically re-evaluate this plan to address increasing pressures on the Preserve's natural resources. In the future, the Preserve will be adjacent to dense residential areas and it is anticipated that the demand for passive recreation opportunities will be fulfilled collectively by the County's park system, current and future regional trail system and opportunities offered on District lands.

Pine Lilly

Paw paw

Palafoxia

Figure 1. Location Map

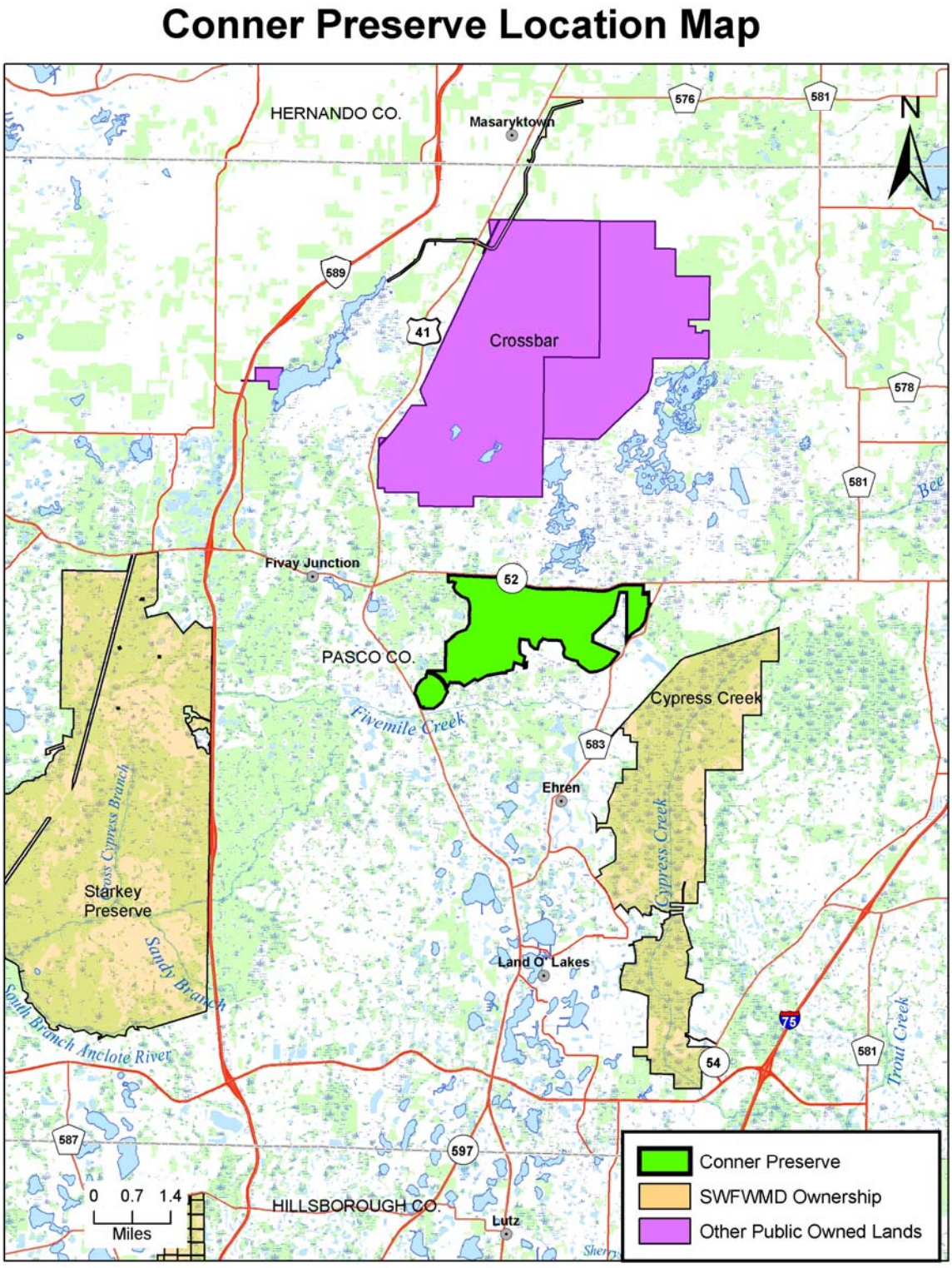
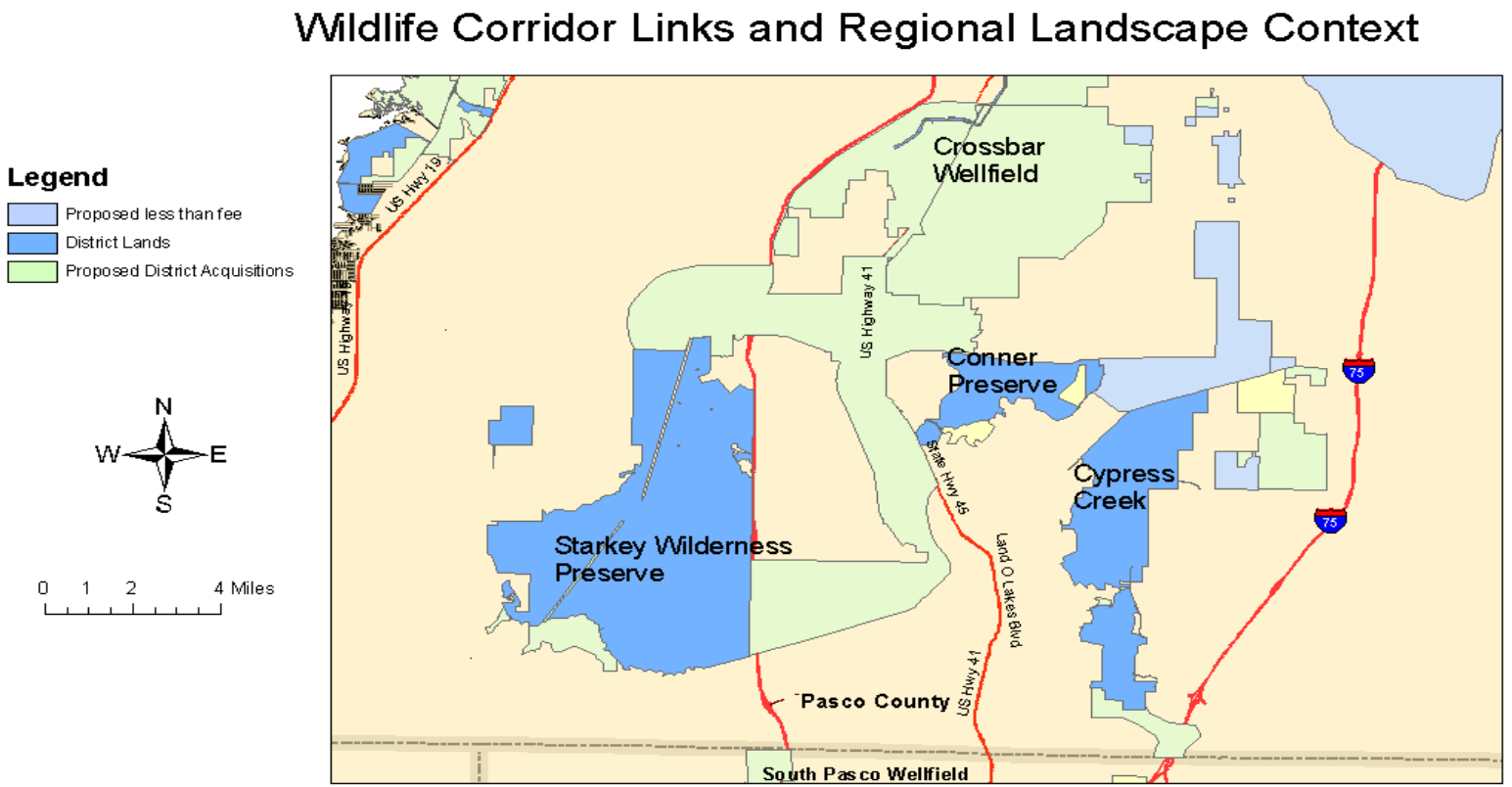


Figure 2. Wildlife Corridor Links



Resource Description/Condition

Water Resources

Natural resource conservation and preservation was the primary purpose for acquisition of the Conner Preserve and the water resource benefits derived from the Preserve were achieved at acquisition. Land Stewardship practices will seek to maintain, enhance and protect these functions. Water resource functions important on the Preserve are as follows:

Water Quality

The Preserve lies within the Hillsborough River basin and Upper Coastal basin. Seventy percent of the property is primarily in the Upper Coastal. It receives drainage from the Hillsborough River basin, Jumping Creek Gully, Gower's Corner Slough, and Five-Mile Creek. By maintaining the natural characteristics of these water bodies and their associated floodplains, the surface water quality attributes will be maintained. The Preserve's numerous freshwater marshes filter surface water sediments and nutrients. Land use and management strategies will be aimed at restoring and protecting these systems and their water quality functions.

Water Supply

Although there are numerous wetlands and shallow lakes on the Preserve, there are minimal permanent open water features that provide water supply potential. The neighboring groundwater well fields influence groundwater levels and wetland conditions (BRA 2003) which make the Preserve an unlikely candidate for groundwater production (SWFWMD 1998). In response to wellfield drawdown impacts Tampa Bay Water has developed a recovery plan to reduce groundwater pumping in well fields and reduce impacts to surrounding areas such as the Preserve.

Recharge

The wetlands and ponds on the Preserve provide natural water retention. These wetlands preserve the existing on-site storage of storm water and assist to recharge the surficial aquifer. Following seasonal rainfall events the natural recharge rate is high and helps to replenish the groundwater aquifer. The average annual rainfall at the Preserve for the period from 1996 to 2006 was 45 inches (NOAA 2007).

Flood Attenuation

Approximately 52% of the Preserve is wetlands (National Wetlands Inventory, 2000). The wetlands and ponds on the Preserve provide natural flood control, storm water attenuation, aquifer recharge, water quality improvement, nutrient recycling and wildlife habitat. Additionally, 1,650 acres are within the 100-year floodplain (FEMA Flood Zone Map, SWFWMD GIS) providing significant natural flood attenuation. Isolated wetland areas and floodplains have a natural ability to store, detain, and absorb water generated by normal rains and most storm events. Only a few intermittent streams with associated floodplains are present on the Preserve.

Natural Systems Protection/Restoration

Of the 81 natural communities defined by the Florida Natural Areas Inventory, 12 occur on the Preserve. Two communities, sandhill and wet prairie, are designated as imperiled at the State Level. Additionally, there are four communities related to anthropogenic disturbance. Approximately 588 acres of natural community types have been lost due to conversion to pasture or pine plantation. Complete descriptions of the communities can be found in the Land Resources FNAI Natural Communities coverage for the Preserve. The current natural communities and the total acreage for each are shown in Figure 3.

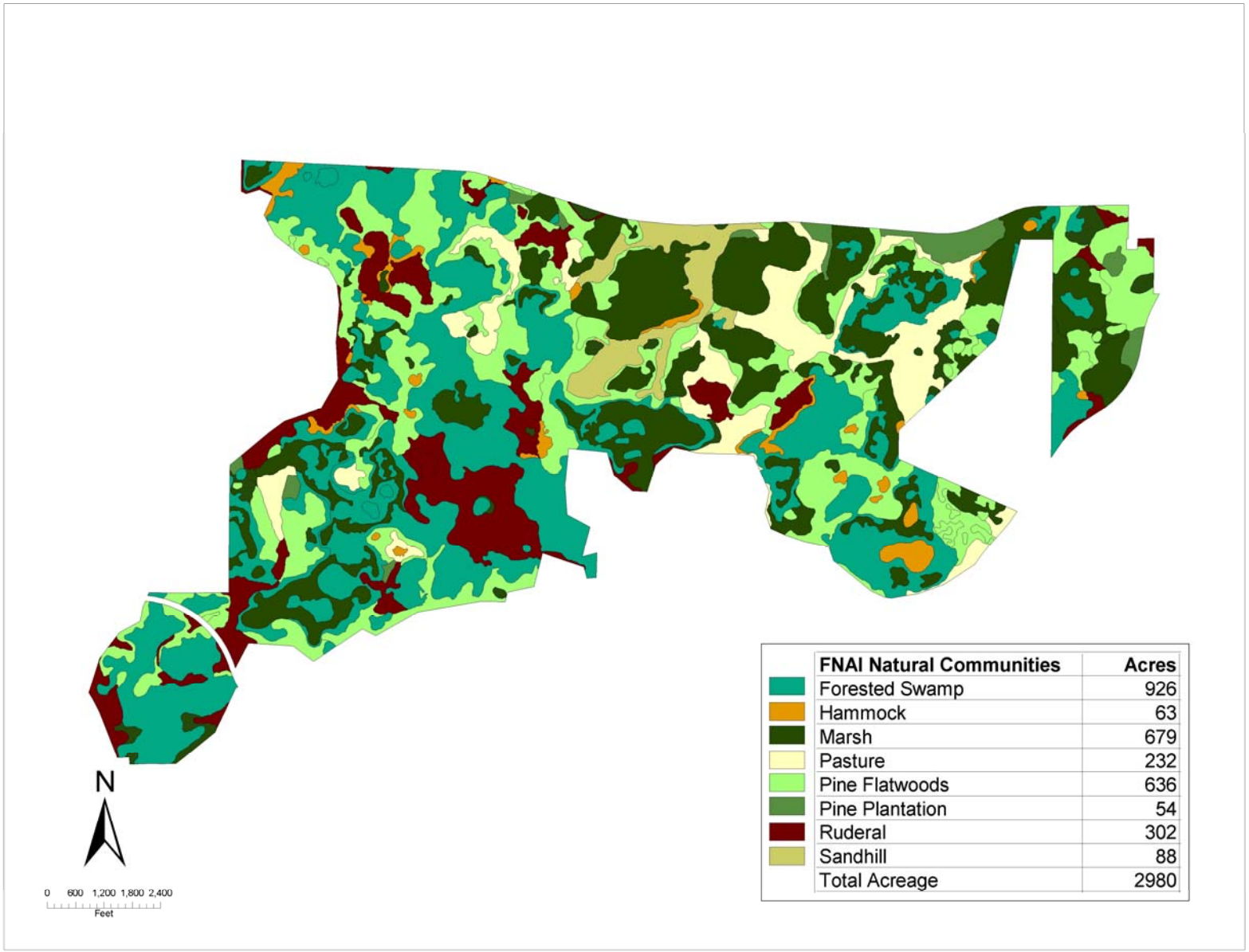
Habitats

The dominant natural communities on the Preserve, in order of decreasing acreage, are described as follows:

Basin swamps, forested wetlands that occur in large, often irregularly shaped depressions characterized by mucky loams, occur commonly at Preserve, particularly within the Coastal Basin. Several areas classified as basin swamp are the result of tree encroachment into historical basin marshes, probably the result of fire exclusion. Pond cypress is the dominant canopy species, accompanied by a variety of deciduous and evergreen trees. All these wetlands (854 acres) are in relatively good condition, although the old-growth cypress was harvested and there are some indications of reduced hydro periods and minor dredging and backfilling in a few systems.

Large basin marshes, characterized by shallow, irregularly shaped depressions, and smaller, shallower depression marshes (totaling 663 acres) are interspersed within the Preserve's uplands. Portions of these marshes go dry during drought conditions, but water may persist year round at the lowest elevations.

Figure 3. Conner Preserve FNAI Natural Communities



FNAI Natural Communities	Acres
Forested Swamp	926
Hammock	63
Marsh	679
Pasture	232
Pine Flatwoods	636
Pine Plantation	54
Ruderal	302
Sandhill	88
Total Acreage	2980

Basin marsh at the Preserve

These marshes are in good to excellent condition, with distinct assemblages of blue maidencane, maidencane, arrowheads, and pickerelweed occurring in concentric bands along a hydroperiod gradient. A few of the basin marshes have experienced recent wildfire (2001, 2007), resulting in fireplow scars, dead and falling cypress trees, and open water emergents. Fire exclusion has facilitated the encroachment of hardwood shrubs and trees into some of the basin marshes, but recent prescribed fires have induced mortality of these species. Other wetlands present on the Preserve include wet prairies, baygalls, and dome swamps.

Wet prairie at the Preserve

Mesic flatwoods (550 acres) at the Preserve occur primarily on low, flat terrain supporting Syrmna and Adamsville fine sands. These forests are characterized by an open canopy and subcanopy of pines, little or no midstory vegetation and a groundcover composed of low shrubs and grasses. The historic mesic flatwoods in Preserve have primarily been converted to pasture, but several good to marginal quality mesic flatwoods are present. The canopy is primarily slash pine, although there are areas with some longleaf pine and South Florida slash pine. Characteristic shrubs and grasses are present.

Additionally, the flatwoods continuum includes both hydric (51 acres) and xeric (35 acres) types. Scrubby flatwoods occur on slightly elevated Narcoosee soils in the Preserve. These systems are in fair condition, with uneven aged slash pine stands and a midstory typical of this community. The re-introduction of regular growing season burns has reduced the woody shrubs and increased coverage by herbaceous groundcover. Wet flatwoods in the Preserve occur on Smyrna and Adamsville soils, and are characterized by a slash pine canopy and an understory of dense wetland shrubs and grasses and sedges. Wet flatwoods depend on frequent fires and undisturbed hydrology to prevent hardwood encroachment and to encourage herbaceous species survival and diversity.

Mesic pine flatwoods at the Preserve

Longleaf pine/turkey-oak sandhills (88 acres) occur along high ridges characterized by Astatula and Tavares soils, primarily on the northern portion of the Preserve. The sandhill canopy at the Preserve consists of longleaf pine as well as xeric oak species in locations that have experienced long-term fire exclusion. The oaks obtained heights of 30-60 feet, and the characteristic groundcover has declined due to fire exclusion and shading from the hardwood understory. Although bahia grass was inter-seeded within the sandhill vegetation, a diversity of sandhill species are still present. Recent prescribed fires, mechanical treatments, and chemical applications have resulted in a significant decline in hardwoods and tame grasses, and a subsequent increase in groundcover vegetation.

Pasture, semi-improved pasture and ruderal land cover classifications are applied primarily to sites in various stages of restoration. Improved pasture sites are dominated by Bermuda and bahia grasses, and represent narrow, untreated strips and patches adjacent to ongoing restoration sites and natural communities. The semi-improved pasture classification is applied to areas with patchy bahia grass intermixed with patches of native vegetation that is characteristic of the original natural community. In most cases, these areas are undergoing site-preparation for eventual restoration, specifically herbicide and mechanical treatments. Ruderal areas include most of the former bahia grass pastures that were recently seeded with native vegetation. In the early stages of groundcover restoration, early pioneer species prevail, and more conservative species are less conspicuous. Maintenance activities or supplemental seeding will result in the transition of these three disturbance classes to native community classifications. A few plantations of slash pine and longleaf pine occur in the Preserve. Most retain remnant ground cover characteristic of the original wet and mesic flatwoods upon which they were planted.

Invasive exotic plant species observed on the Preserve include skunk vine, cogon grass, Chinese tallow, camphor tree and tropical soda apple. The most problematic plant at this time is Chinese tallow, which is present in some of the marshes and basin swamps, and occurs as landscape specimens at private residences adjoining the Preserve. Bermuda grass is impeding restoration efforts, and the District has mounted an aggressive campaign to eradicate it from the Preserve. As a component of the upland restoration activities, bahia grass will be eradicated and replaced with native groundcover species. Several other exotic plants are found on the Preserve, including smut grass, torpedo grass, and natal grass, and management prescriptions will vary depending on their impact to natural systems and restoration efforts.

Species

The Florida Fish and Wildlife Conservation Commission designated undeveloped northwest Pasco County as potentially important habitat for wildlife associated with pineland, dry prairie, wetlands, and rangeland (Cox et al. 1994). This region is designated as a Strategic Habitat Conservation Area for rare wading birds, short-tailed hawk, and Florida sandhill crane (Cox et al. 1994). Many of the herbaceous wetlands provide both suitable nesting and foraging habitat for Florida sandhill cranes; several nests have been identified on the Preserve by BRA (2004) and District staff. Wood storks, a federally endangered species, have been observed frequently on the Preserve in fall 2006-winter 2007. Additionally, it is in immediate proximity to wintering grounds utilized by the experimental migratory whooping crane flock. The *Florida Atlas of Breeding Sites for Herons and their Allies: 1986-1989 Update* (FGFWFC 1991) documents 9 rookeries located within 10 miles of the Preserve.

In 1999, Audubon of Florida nominated the SWFWMD's Pasco 1 priority acquisition project as well as the Pinellas County Al-Bar Ranch/Cross Bar Ranch Wellfield land holdings to its Important Bird Areas (IBA) program as the "Central Pasco IBA". In October 2000, the Florida IBA Executive Committee accepted the nomination, thereby designating the Preserve as an IBA (Pranty 2003).

Three Florida scrub-jay groups were documented on the Preserve by Biological Research Associates (BRA) in 2001. Audubon of Florida (Pranty 2001) issued a report documenting a total of 63 jays in 22 groups on five properties north of S.R. 52 which were Al Bar Ranch, Cross Bar Ranch, Fort King Ranch, 4G Ranch, and Barthle Ranch. Conner Preserve is within this species dispersal distance from these properties.

Gopher tortoise, a state-threatened species, also occur in high abundances on the Preserve, and their burrows continue to provide habitat for several commensal species of conservation interest, including gopher frog, Eastern coachwhip, Eastern diamondback rattlesnake, and Eastern indigo snake.

Gopher frog (tortoise burrow commensal)

Florida sandhill cranes

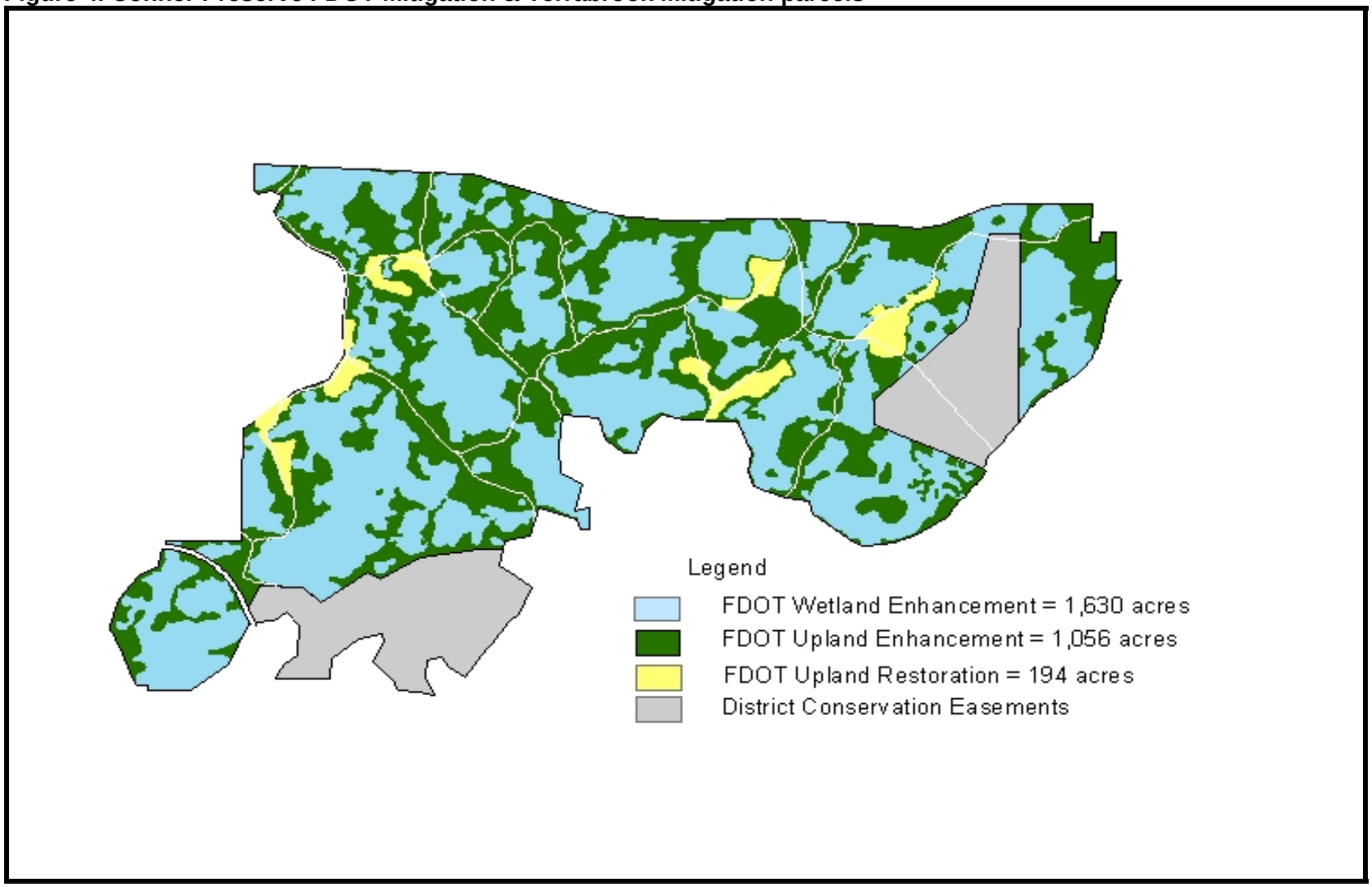
Hooded pitcher plants have been documented in close proximity to the Preserve and although not yet detected, this species may be present on the Preserve. Due to their sensitivity to ground disturbance and hydrologic alterations, this species may require special protection. Several rare epiphytes are also known to be on the Preserve per field surveys by John Kunzar, USF graduate student.

Restoration/Mitigation

In accordance with Section 373.4137, Florida Statutes, the District is conducting Florida Department of Transportation (FDOT) mitigation throughout the entire Conner Preserve. Approximately 303 acres of altered uplands are currently undergoing restoration, and enhancement activities are being conducted on 1,087 acres of uplands and 1,590 acres of forested and herbaceous wetlands, per the Conner Preserve FDOT Mitigation Plan (2003, revised 2006) (Figure 4).

Additionally, there are two mitigation parcels associated with the Connerton Development that are currently owned by Terrabrook, but encumbered by a conservation easement held by the District. These two parcels, contiguous to the Preserve, are scheduled to be donated to the District in 2008 and will then be appended to the Preserve. Habitat Mitigation Area I (HMA I), totaling 224 acres, provided upland mitigation for scrub-jays and gopher tortoises impacted by the Connerton development; Habitat Mitigation Area II (HMA II), totaling 139 acres, provided wetland mitigation and floodplain compensation for wetland impacts associated with the development (Figure 4).

Figure 4. Conner Preserve FDOT Mitigation & Terrabrook Mitigation parcels



Archaeological Resources

The Division of Historical Resources (DHR) staff was provided a legal description of the Conner Preserve to research recorded archaeological sites documented in the Florida Master Site File. DHR advised the District staff that there are no known or recorded archaeological sites on the Preserve that warrant special protection.

Land Use Plan

Consistent with District Policy 610-3, conceptual land use planning was composed of three fundamental components: Land Use Zoning, Land Use Matrix and Review of Regional Recreational Supply and Demand. Together with the facts gathered in previous sections, these were used to determine the activities that are compatible on the Preserve and where they will fit within the natural system management to be achieved. Additionally, public input and comment were solicited at a noticed public meeting during the drafting of this plan.

Land Use Zone Map

The Preserve was zoned to indicate the appropriate level of protection required to safeguard the resources. The six land use zones considered for the Preserve are defined below. The final zones assigned to the Preserve are based on assessments of the landscape's resource values and sensitivity and the different levels and types of management and use planned for the Preserve. Habitat quality, hydrological functions, ecological indicators, sensitivity of natural communities and their inhabitants to disturbance, and user experience values are just some of the attributes that were considered during the zoning process for the Preserve. Zoning was accomplished by starting with a base layer (Preservation) and overlaying specific zones which were defined for a variety of resource conditions and user experiences based on the intrinsic qualities of the property. Special Protection Areas were zoned first to provide adequate protection to specific features of high importance or sensitivity.

1. **Special Protection Areas (SP)** – The function of special protection areas is to provide an additional level of protection to features of high importance or sensitivity. This designation offers the most protection and is used only when it is judged that standard protection measures afforded under normal management practices are insufficient to protect the feature from potential risks.

2. **Preservation Zones (P)** – The function of preservation zones is the protection and restoration of water resources and natural systems. This includes portions of the project area where natural attributes exist in an essentially unaltered condition and water resource and natural systems function are normal and natural. These zones represent the areas most ecologically sensitive and which provide core functions to the overall ecological health of the Preserve and surrounding areas. Support of primary water resource and natural systems protection goals is the dominant management strategy. Low-impact uses or those that result in no loss of natural function may be considered.

3. **Resource Management Zones (RM**) – The function of resource management zones is to locate sustainable resource utilization so as to minimize the impacts of these uses on the water resource and natural systems function of the project. Areas that have been physically altered to a minimal or moderate degree by human actions fall into this category. Restoration of primary water resource and natural systems function and/or sustainable

revenue-generating resource utilization through the establishment of timber management areas, leasing of pasture areas for cattle grazing, and/or compatible multiple uses may share strategic importance.

4. **Recreation Zones (R)** – The function of recreation zones is to cluster moderate to high impact resource-dependent recreation uses, or high concentrations of users, in order to minimize the impact on the water resource and natural systems function of the project. Peripheral areas that have been modified substantially by human activities or that are highly influenced by surrounding high intensity uses, and/or located in close proximity to development centers, public utilities, and transportation corridors. The natural attributes may exist in a moderately to highly altered condition and water resource and natural systems function is moderately to highly altered. Accommodation of resource-dependent recreation and education facilities is the dominant management strategy.

5. **Special Use Zones (SU)** – The function of special use zones is to cluster compatible user-based and developed uses so as to minimize impacts to all other uses on the project. These include altered areas that are functionally and/or geographically segregated from the other zones. They may be highly influenced by surrounding high intensity uses and/or located within close proximity to development centers, public utilities, and/or transportation corridors.

6. **Public Transportation Zones (T)** – The function of transportation zones is to provide adequate public vehicle access to the project. These are linear zones on the periphery of a project or along improved roads that link off-site public transportation facilities with improved recreation and special use zones. Public access for recreational uses is the primary management strategy.

The zones established at the Preserve were based on the general criteria listed below:

1. **Preservation** – Zone established for the protection of high quality wetlands, including basin swamps, marshes and wet prairie communities, and sensitive and/or rare upland communities including sandhills and the pine flatwoods matrix.

2. **Special Protection Areas** – Zones established on sites undergoing restoration to provide compensatory mitigation; water resource monitoring, or providing key habitat for sensitive wildlife species.

3. **Resource Management** – Zones established to delineate existing stands of commercially planted timber that may be designated as permanent timber management zones, restored to natural densities, or maintained as forested visual and acoustic buffers adjacent to developed areas.

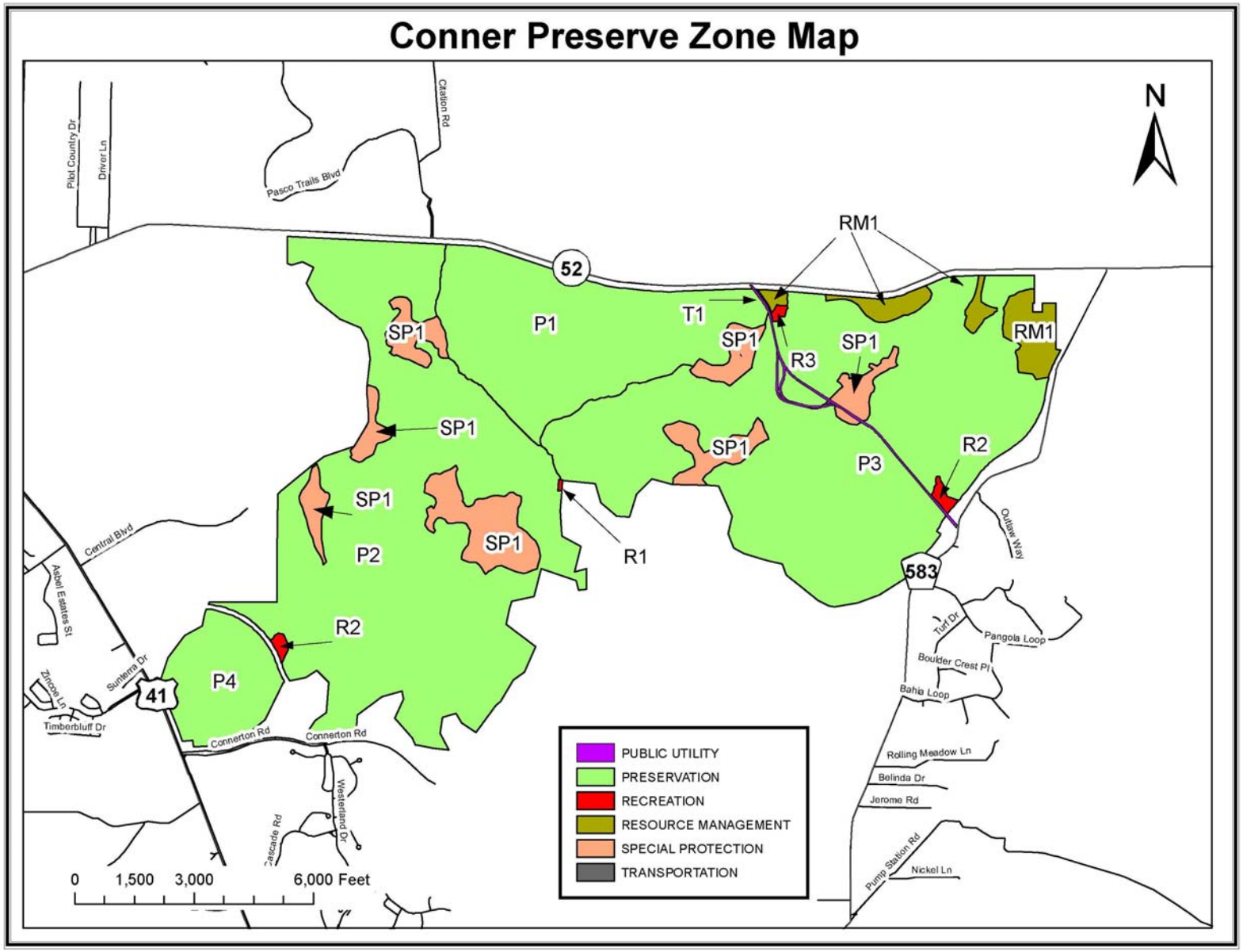
4. **Recreation** – Zones established include four potential public access points. Two access points may be established for plan-designated resource-dependent uses, and two may provide links to a planned off-site paved trail system.

5. **Transportation** – Zone established at a primary access point where vehicular access may be permitted.

6. **Special Use** – There was no zoning for this use as no areas on the Preserve were identified which could accommodate this more intensive use.

The Preserve Zone Map (Figure 5) depicts the land use and management zones established for the Preserve. This map illustrates where special protection is required and where recreation and other special uses may be compatible. Each zone contains unique qualities that may include current and anticipated resource conditions; presence of or importance to imperiled species; need for restoration or mitigation and opportunities for high-quality user experiences.

Figure 5. Conner Preserve Zone Map



Land Use Matrix – The initial matrix used in this step of the process contained a wide range of resource-dependant recreation activities and renewable resource land uses that were considered on the Preserve (See Appendix 1). The zoning designations specifically established for the Preserve were incorporated into the initial matrix and the entire range of resource-dependant recreation activities and renewable resource land uses listed on the matrix were considered for each zone. Only those activities considered compatible with the zoning designations established for the Preserve were selected and are depicted on the Preserve's final matrix shown in Table 1.

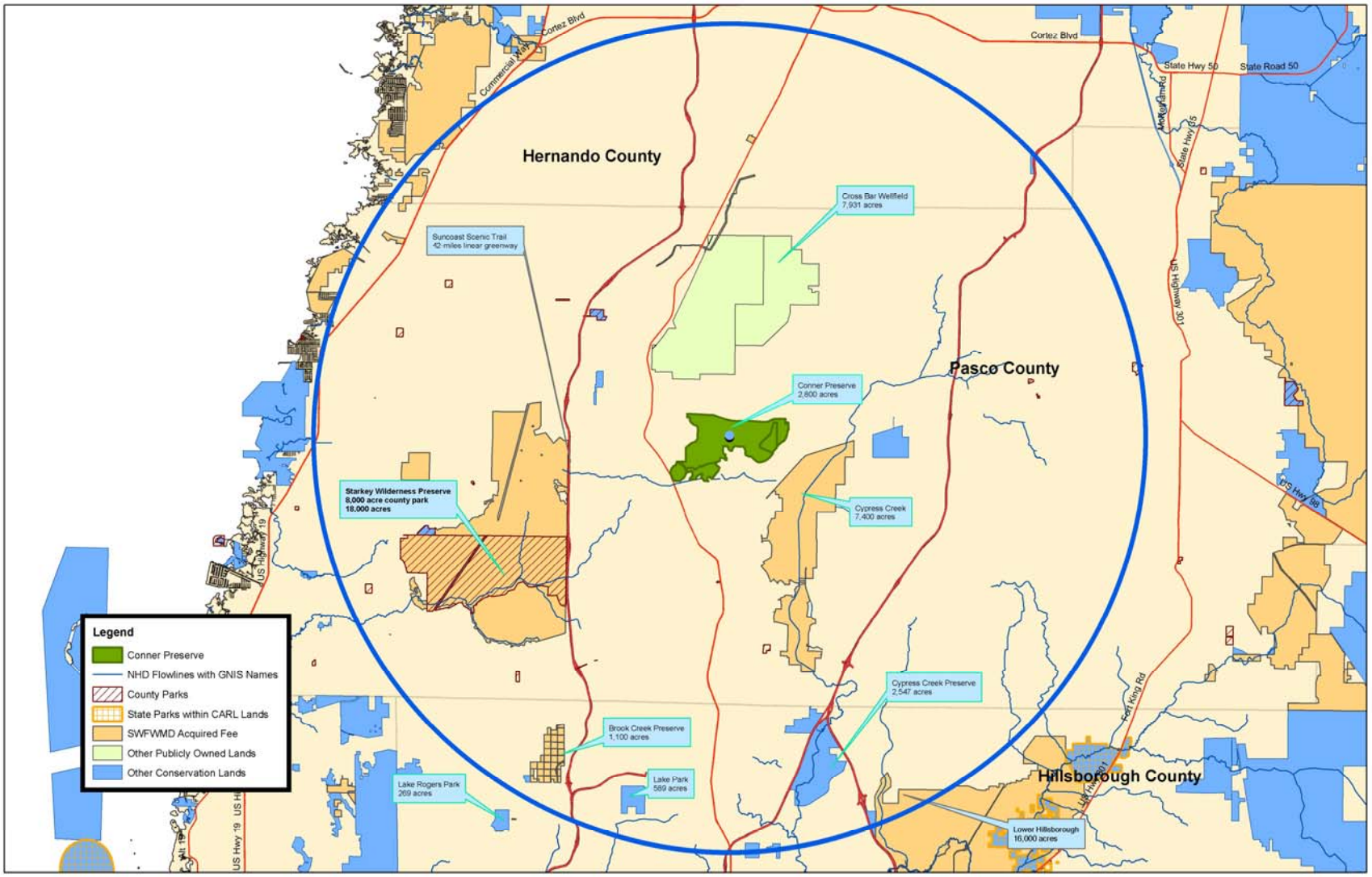
Table 1. Land Use Matrix for Conner Preserve

Land Use Categories		Resource-Dependant Recreation														
	Mobility-impaired access	Access-Walkthrough	Access-5 vehicles	Access->5 vehicles	Bicycling- Unimproved dirt trail	Birdwatching	Camping-Backpacking	Camping-Group	Equestrian	Hiking	Geocaching	Interpretive areas or trails	Nature Viewing	Nature Photography	Trail Running	Timber
Management Zones																
Preservation-1						√				√	√	√	√	√	√	
Preservation-2					√	√	√	√		√	√	√	√	√	√	
Preservation 3		√		√		√	√	√	√	√	√	√	√	√	√	
Preservation 4		√				√	√	√		√	√	√	√	√	√	
Res. Management-1									√	√			√	√	√	√
Recreation-1	√	√			√	√				√	√		√	√	√	
Recreation-2	√	√	√		√	√			√	√	√	√	√	√	√	
Recreation-3	√	√		√		√			√	√	√	√	√	√	√	

Review of Regional Recreational Supply and Demand

Before the land use zone map and matrix steps were finalized, a regional recreation assessment was conducted to identify nearby recreational opportunities offered by other recreation providers including state and local government. The assessment identified the existing regional and local resource-dependant recreation supply and demand and projected demand. The assessment was primarily conducted to identify the unmet demand for resource-dependant recreation activities near the Preserve that may be considered at the Preserve if compatible with resource management objectives. The area established for the assessment was a 15-mile radius around the Preserve as shown in Figure 6.

Figure 6. Recreation Opportunities within a 15-mile radius of Conner Preserve



Recreation Supply Table - Table 2 contains a list of resource-dependant recreation opportunities that are available to the general public within a 15-mile radius of the Preserve. The 15-mile radius was used in order to include significant population densities that may utilize the property as well as identify other recreation areas within a reasonable distance of those population densities. As the table indicates, there are approximately 72,000 acres of public lands that have quality resource-dependant recreation opportunities that include hiking, biking, equestrian riding, camping, fishing and nature appreciation. There are five significantly large properties listed on the table that offer diverse opportunities and ample trail network to accommodate many resource-dependant recreation opportunities. The primary providers of these opportunities include state and local governments, and the District. The District owns 53,000 acres of the 72,000 listed in the table and contributes significantly to providing opportunities for resource-dependant recreation in this area and county-wide. The larger sized properties listed on Table 2 will provide additional opportunities over time when demands increase.

Table 2. Regional and Local Resource-Based Opportunities

Name	Owner	County	Acreage	Hike	Bike	Horse	Camp	Nature	Bird	Picnic	Fishing	Paved Trails	ADA Access	Env. Education	Rest-rooms
Weekiwachee Preserve	SWFWMD	Hernando	10,735	✓	✓	·	·	✓	✓	✓	✓	✓	✓	✓	·
Cypress Creek Preserve	SWFWMD	Pasco	7,393	✓	✓	✓	✓	✓	✓	✓	✓	✓	·	·	·
Lower Hillsborough FDA	SWFWMD	Hillsborough	15,964	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	·
Brooker Creek Headwaters	SWFWMD	Hillsborough	1,111	✓	✓	✓	✓	✓	✓	✓	✓	✓	·	·	·
Werner-Boyce State Park	State	Pasco	3,999	✓	·	·	·	✓	·	·	✓	✓	✓	·	·
Cypress Creek Preserve	Hillsborough	Hillsborough	2,547	✓	·	·	·	✓	·	·	·	·	·	·	·
Starkey Wilderness Preserve	SWFWMD	Pasco	18,000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	·	·
Cypress Creek Wellfield	TBW	Pasco	1,270	✓	✓	✓	✓	✓	✓	✓	✓	✓	·	·	·
John S. Burks Memorial Park (C)	Pasco	Pasco	67	✓	·	·	·	✓	·	✓	·	·	✓	·	✓
Crews Lake Wilderness Park (R)	Pasco	Pasco	111	✓	✓	·	·	✓	·	✓	✓	·	✓	·	✓
Suncoast Scenic Trail (R)	FDOT	Pasco	21	✓	✓	·	·	✓	✓	·	·	✓	✓	·	✓
Jay B. Starkey Park (R)	SWFWMD	Pasco	8,069	✓	✓	✓	✓	✓	✓	✓	·	✓	✓	✓	✓
Veteran's Memorial (D)	Pasco	Pasco	49	✓	·	·	·	✓	·	✓	·	·	·	·	✓
Wesley Chapel District (D)	Pasco	Pasco	144	✓	·	·	·	✓	·	✓	·	·	·	✓	·

County Park Designations Population Service: Regional (R) = 100,000, District (D) = 50,000, Community (C) = 25,000

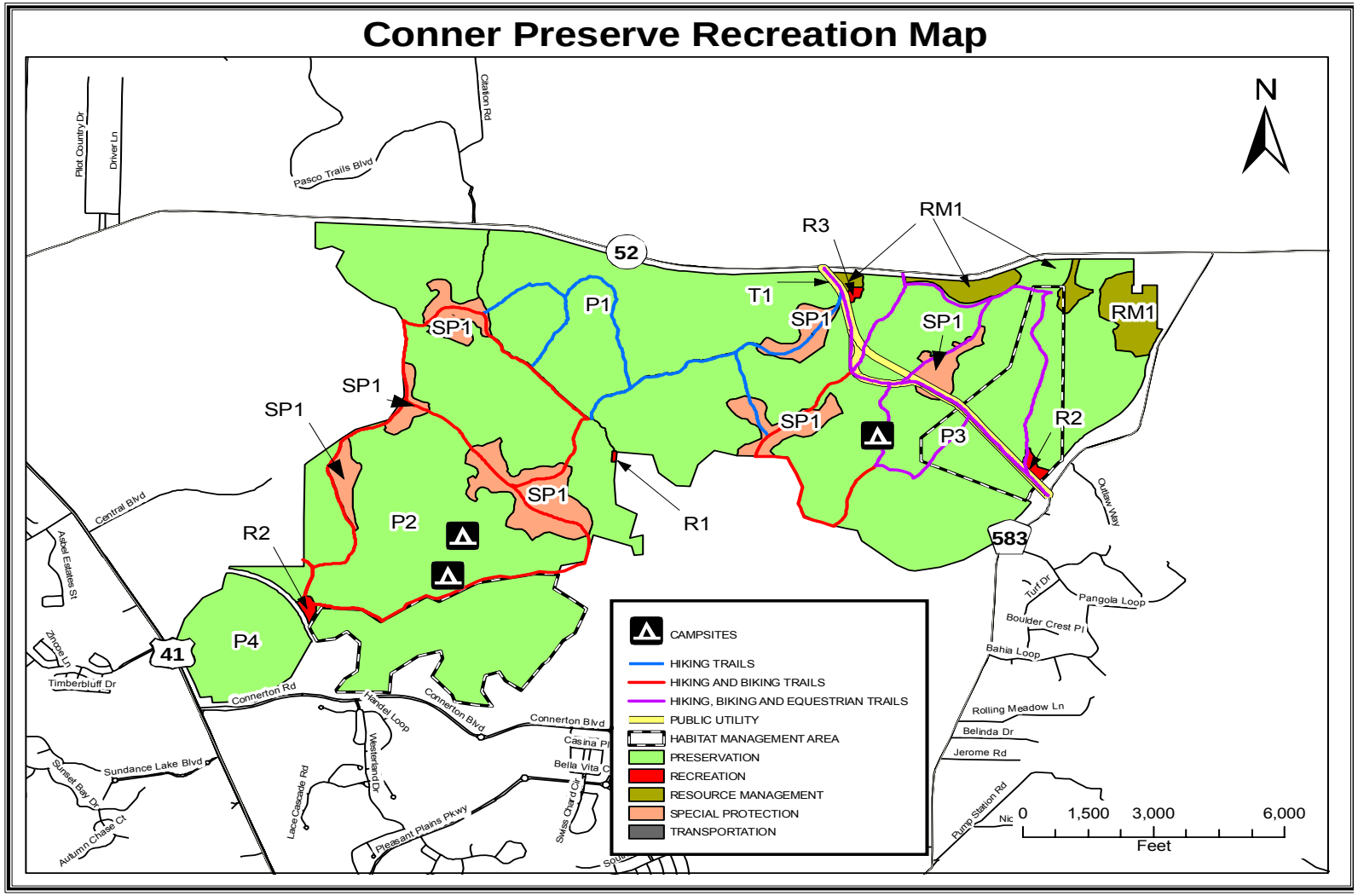
Regional and Local Demands and Influence - The Pasco County Comprehensive Plan indicates that the County's population is rapidly growing and will grow significantly over the next 15 years. An age-profile of the population around the Preserve was established. The age profile was used to determine which types of resource-dependant recreation opportunities the local population would anticipate at the Preserve. Age profiles are commonly used by national and state recreation providers to identify recreation use trends. Two published surveys (National Survey on Recreation and the Environment -NSRE 2004 and the Outdoor Industry Foundation - OIF 2002) that describe recreation trends were reviewed. According to the surveys, the population adjacent to the Preserve will likely participate in bicycling, hiking, trail running, canoeing, camping, bird watching, and backpacking. Pasco County's Comprehensive Plan indicates that by the year 2025 there will be a need for more hiking, camping and picnicking opportunities county-wide. These resource-dependant recreation demands and others will be fulfilled collectively by existing and future opportunities managed by the Florida Office of Greenways and Trails, Pasco County and the District. District staff will continue to monitor supply and demand needs for this area that may be indicated in the Pasco County Comprehensive Plan.

Limitations on Preserve - The land use zones established at the Preserve are to protect and preserve documented sensitive habitat and wildlife and ensure compliance with the Florida Department of Transportation's mitigation permit conditions that require ecological improvement across the entire property. These permit conditions have limited the amount of acreage and trail network available for resource-dependant recreation activities. A significant portion of the preserve is wetlands, 52%, and will not support public access.

Only those opportunities that require minimal amenities should be considered for the Preserve. Consequently, only those resource-dependant recreation activities that could co-exist on the existing base-trail network and still experience a quality recreation experience were considered compatible with the long-term management objectives for the Preserve. As a result, the recreational experience offered at the Preserve will be geared toward passive resource-based users seeking to experience the Preserve's scenic qualities and view outstanding wildlife.

Conclusion - Based on the intrinsic character of the Preserve, current and projected recreational opportunities afforded on public lands within the planning region, current and projected public recreation need, and site opportunities and limitations, the Preserve will feature quality passive, resource-dependent recreational uses. The location and type of uses are depicted in Figure 7.

Figure 7. Conner Preserve Recreation Map



Management Goals and Objectives

There are six broad-defined goals listed below that describe the land and water resource condition and the resource-dependant recreation experiences to be achieved on the Preserve over time.

1. **Water Resource Protection** – Groundwater and surface water resources are protected, restored and maintained in good condition.

2. **Natural Flood Control** – Surface water attenuation within all Reserve wetland and upland systems functions normally and naturally.

3. **Natural Systems Protection/Restoration** – Natural systems are protected, restored, maintained by natural processes and function normally and naturally.

4. **Resource-dependant Recreation –** Visitors safely enjoy and are satisfied with appropriate recreational opportunities and amenities

5. **Renewable Resource Utilization** – Renewable resources are utilized where appropriate and when compatible with water and natural resource protection goals.

6. **Special Uses** – User-based land uses are accommodated on sites designated as suitable for those purpose, if they exist.

The achievement of goals established for the Preserve will occur under eight ongoing land use and management programs at the District and specific strategies that fall under these programs. These programs include Resource Protection and Security, Public Use, Land Maintenance, Fire Management, Exotic Species Control, Natural Systems Restoration, Resource Utilization and Resource Monitoring (Appendix 2). All of these programs generally have four phases that include Start-up Phase, Planning Phase, Operation & Maintenance and Program Review. As a result, a complete description of all the objectives/strategies implemented under these programs to achieve the goals will not be summarized in this plan. Objectives that are considered frequent and routine, or already completed for the Preserve, will be listed in an annual work plan. Only primary objectives yet to be achieved and broadly described below are listed in this plan with the anticipated achievement period indicated. The objectives are broken down as Short-term (1-3 Years) 2008 to 2010, Mid-term (4-7 Years) 2008 to 2015 and Long-term (8-10 Years) 2008 to 2018.

Resource Protection and Security

Short-term – Initiate coordination with County and State transportation entities, and adjacent developments, to reduce or mitigate stormwater impacts and stormwater facilities affecting the Preserve, and to ensure adequate size, type and design of planned wildlife crossings under US41 and SR52.

Develop, generate and post perimeter advisory signage to indicate that Preserve is a conservation land that is subject to continuous management practices including prescribed burning, herbicide application, exotic and nuisance plant and animal removal, usage of heavy equipment and machinery, and routine maintenance of firelines.

Identify security issues on the Preserve and generate a tiered plan that includes education and public outreach; encouragement of voluntary compliance utilizing signage; installation of physical impediments and deterrents; and enforcement of rules and regulations, the District's contract security firm and off duty law enforcement officers or any successor arrangement in the future.

Long-term – Assess all fencing along the south boundary to ensure compliance with legal requirements, and replace/install fencing as deemed necessary. Continuously evaluate effectiveness of security and adapt as appropriate.

Public Use

Short-term -- Designate and establish public use areas, including access points and trails network, on the Preserve that provide quality hiking, biking, nature photography, birding, geocaching, camping, and nature appreciation experiences for resource dependant recreation users and simultaneously meet the established resource protection objectives and land use zones.

Establish and clearly mark trail network(s) for hiking and birdwatching, and also designate trails available for bicycling.

Publish public use map through update of recreation guide to communicate the recreation opportunities available on the Preserve.

Establish recreational access points and amenities in accordance with the Recreational Amenities Plan (RAP).

Coordinate with Pasco County and Terrabrook on methods to integrate the Preserve into the County Regional Park system including potential connections to the Preserve.

Proactively develop a list of volunteer opportunities focusing on recreational amenities and resource management services.

Begin to coordinate and schedule public speaking engagements and field trips with adjacent and potentially impacted residential communities and user groups to educate residents and users on resource management activities, particularly ongoing restoration, exotic species control and prescribed fire application. Develop relationships with neighbors and user groups to facilitate communication and feed back loops on management activities.

Mid-term – Design and implement monitoring program for recreation use areas and trails. Establish methods to monitor proper usage of designated trails, number of users, effectiveness and success of public access points to accommodate users.

Long-term – Using results of mid-term monitoring program determine level of secondary impacts that result from public use of the Preserve and implement steps to reverse impacts.

Land Maintenance

Short-term -- Install & replace culverts at key areas to repair/maintain hydraulic connectivity, and stabilize using rip-rap, as needed, and native seed mixes to the degree possible.

Complete inventory and removal of all interior fencing from the property to allow unimpeded movement of wildlife, to prevent injury to wildlife, to reduce development of weedy hedgerows and to minimize establishment of nuisance and exotic vegetation.

Mid-term -- Remove all asphalt dumps and roadbeds remaining on the property and restore impacted area, if warranted.

Fire Management

Long-term -- Maintain natural fire frequencies, intensities, seasonality, and randomness on the Preserve, specifically low fuel loads at wildland urban interface, and identify and mitigate obstacles to fire management on the Preserve

Exotic Species Control

Mid-term – Conduct hog trapping or special hunts on the Preserve

Long-term -- Inventory and assess need and ability to control exotic and weedy wildlife species and feral canines and felines.

Review Exotic plant management program to assess new infestations and establish priorities for species control.

Natural Systems Restoration

Short-term -- Assess potential erosion areas, based on soils and gradients, and if deemed necessary, develop erosion control plan, and repair existing problem areas.

Mid-term -- Complete initial restoration activities (exotics eradication, re-vegetation, hardwood reduction, release of native groundcover) per the Conner Preserve FDOT Mitigation Plan (2006) and the Conner Preserve Sandhill Enhancement Plan (2006).

Long-term -- Achieve mitigation success as stipulated in the Conner Preserve FDOT Mitigation Plan.

Identify and evaluate the Preserve to determine if there is need and opportunity to actively restore wildlife species that were historically present but have been greatly significantly or extirpated.

Resource Utilization

Short-term -- Conduct assessment of existing pine plantations for classification to either timber management zone or natural systems restoration status, and develop management schedule in accordance with re-classification.

Long-term -- Identify all resource management activities that are renewable and capable of producing revenue to offset management costs.

Resource Monitoring

Short-term -- Establish 14-20 permanent photoplots in accordance with District LM Photoplot Guidelines and complete first set of photographs.

Mid-term -- Complete assessment of R/C model airplane field to develop ways to reduce or mitigate any identified impacts.

Key External Factors

Challenges to Achieving Goals

There are several key factors external to the District that could significantly affect the achievement of long-term goals described in this plan. Below is a summary of external factors that may affect or influence future management of the Preserve.

- Natural disasters such as hurricanes, floods, climate change, and disease that potentially cause unrecoverable resource losses in the Preserve and affect the long- term balance and viability of populations and functionality.
- Exponential proliferation of exotic flora and fauna, particularly those that originate offsite and rapidly infest the Preserve.
- Development adjacent to or in proximity to the Preserve may impact resources and ecosystem processes within the Preserve.
- Management practices of adjacent landowners engaged in timber harvesting, mining, cattle grazing, water withdrawal or water pollution may adversely affect the Preserves resources.
- Conflicting missions and goals between other state and local stakeholders that affect protection of the Preserve's resources and enforcement of unauthorized activities. Other state and local stakeholders elevate importance of other conservation lands to their mission and do not support the District's needs to protect the Preserve's resources.
- Increased demand and market values for natural resources that are present in the Preserve, such as saw palmetto berry, pine heartwood and commercially exploited plants and animals may result in poaching and subsequent degradation of resources.
- Lack of partners that share stated management priorities and goals for the Preserve.
- Expansions of primary roads and highways that impact habitat and buffers.
- Competing State of Florida priorities that divert funds away from land conservation and management resulting in reduced resources to achieve management goals.
- Legal impediments and policy shifts to fire management, such as increasing air quality standards, and exotic plant and animal treatments, such as herbicide restrictions and public opinion.

APPENDIX 1

Land Use Matrix - Resource-Dependant Recreation Activities and General Land Uses

Use Categories	Resource-Dependant Recreation																									Renewable Resource Utilization			Special Uses	
	Mobility-impaired access	Access-Walkthrough	Access-5 vehicles	Access->5 vehicles	Access Equestrian	Bicycling- Unimproved dirt trail	Bicycling - Mountain	Birdwatching	Camping-Backpacking	Camping-Group	Camping Equestrian	Equestrian	Fishing- Shoreline	Fishing - Dock	Fishing - Fly	Hiking	Geocaching	Hunting - WMA	Hunting - Special	Interpretive areas or trails	Nature Viewing	Nature Photography	Paved Trail Uses	Swimming	Scuba Diving	Trail Running	Timber	Cattle	Other	Permanent Structure	User-Based Recreation
Management Zones																														
Preservation Zone																														
Special Protection Area																														
Resource Management Zone																														
Recreation Zone																														
Special Protection Zone																														
Public Transportation Zones																														

Appendix 2

Land Use and Management Programs

1. **Resource Protection and Security –** Secure property with gates and fencing; install informational & boundary signage; conduct patrol and enforcement as necessary; protect cultural and natural resources

2. **Public Use –** Develop entrance and access points, install recreational signage, amenities and infrastructure; issue recreation permits; establish volunteer groups and environmental education; develop land use agreements, coordinate public outreach & education; coordination with other stakeholders and entities to ensure adequate protection of resources and maximum public benefit; and implementation of recreational monitoring program.

3. **Land Maintenance –** Maintain, install, & remove roads, firelines, structures, and capital improvements; remove unneeded infrastructure.

4. **Fire Management –** Conduct prescribed burning for varied silviculture purposes, wildfire suppression and control, and fuel reduction activities.

5. **Exotic Species Control –** Inventory, monitor and develop strategies for removal or control of exotic plants and animals.

6. **Natural Systems Restoration –** Identify, assess and successfully restore altered uplands and wetlands via capital or management projects to optimize natural ecosystem services; restore native wildlife populations.

7. **Resource Utilization –** Identify, assess and implement existing and potential resource utilization opportunities, including timber, cattle, game species and native seed production.

8. **Resource Monitoring –** Establish baseline conditions and monitor the effects of various land management practices and land uses on the natural resources via natural communities mapping and assessments; species surveys, restoration and mitigation program monitoring directed research projects; scientific review and data analysis, photo-monitoring, and monitoring of conservation easements.

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