Land Use and Management Plan
Potts Preserve

August 2011

Southwest Florida
Water Management District

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Introduction

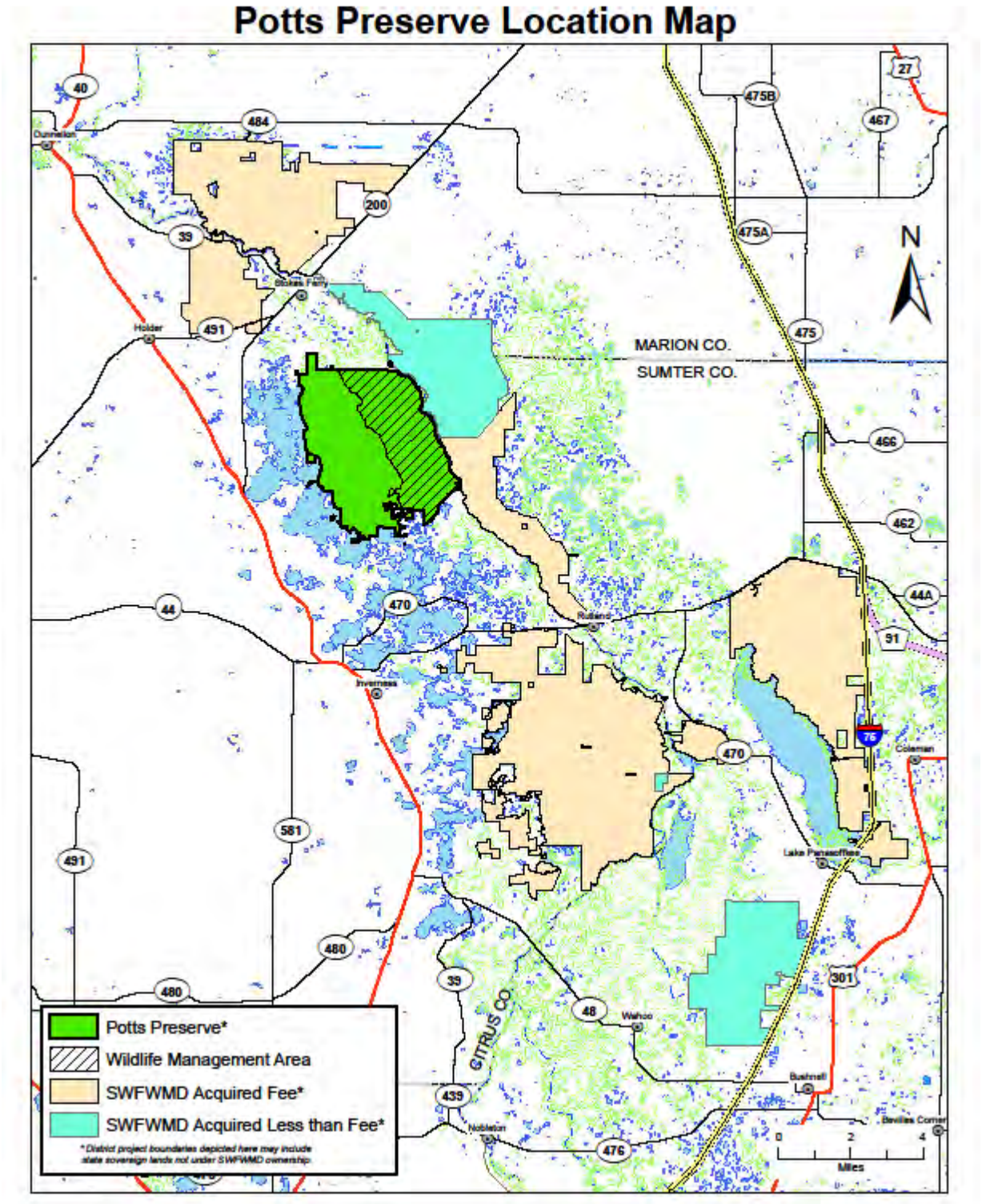
Potts Preserve is located along the northwest border of Citrus County (Figure 1) within the Withlacoochee River watershed. Acquisition of lands within the Preserve began in 1988. It is part of a contiguous 122,000-acre core of protected public conservation/recreation lands and was primarily acquired to protect, restore and maintain the quality and natural functions of land, water and wetland systems of the state; for natural flood control and water detention; and to increase natural resource-based public recreational opportunities. While several references and depictions in this Land Use and Management Plan may appear to represent the Preserve as more than 9,300 acres, the area within the project limits is, in fact, a mosaic of lands owned and managed by the Southwest Florida Water Management District and lands held in trust by the State of Florida under the designation of sovereign submerged lands.

Potts Preserve includes four miles of frontage along the Withlacoochee River which is designated by the Florida Department of Environmental Protection as an Outstanding Florida Water. The Preserve is comprised of mesic hammock and other forested uplands that total 3,742 acres with 1,533 acres of pasture and other lands covering the remainder of the uplands. The remainder of Potts Preserve and interwoven state lands consists of basin marsh, swamp and other wetland communities. Important natural resources and their ecological significance are summarized in the Water and Natural Resource Data Section of this plan.

The Preserve has a rich historic and prehistoric past. Early accounts from the Seminole Wars indicate that the elevated hammocks along the Withlacoochee River and along the east and west sides of the Tsala Apopka Lake system served as settlement locales for the Seminole Indians, and earlier native populations, and as sites for their fields. Several archeological sites scattered throughout the Preserve have been identified, are preserved under the guidelines of the state's Division of Historical Resources and are further protected by the District's ownership. Historical uses of the Preserve include cattle grazing, turpentining, logging and hunting. Today, there is a variety of recreational opportunities compatible with the natural communities present at the Preserve including bicycling, birding, backpacking, equestrian riding, hiking, hunting, geocaching, interpretive uses, nature study and photography.

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 this mission is protecting and maintaining water and related natural resources that provide the District's 16-county region with its existing and future water supply and maintaining the balance between the land use needs and current and future demand for these resources. This mission emphasizes four areas of responsibility (AORs): water supply, flood protection, water quality and natural systems protection. The District's land acquisition and management program supports and furthers the resource protection and management efforts under each of these AORs. The District adopts land use and management plans in order to ensure that District lands are managed in ways that are consistent with Florida Statutes and with the District's mission and goals. Land Use and Management Plans are created to maximize the quality of experience for recreationists and other users in ways that are compatible with the protection and sustainability of water resources and related natural systems. The first adopted plan for Potts Preserve, approved in 1988, guided land management objectives until the adoption of the current plan. This plan will guide the use and management of Potts Preserve for the ten-year period from 2011 through 2021.

Figure 1


Potts Preserve Location Map
MARION CO.
SUMTER CO.
CITRUS CO.
N
Potts Preserve*
Wildlife Management Area
SWFWMD Acquired Fee*
SWFWMD Acquired Less than Fee*
* District project boundaries depicted here may include state sovereign lands not under SWFWMD ownership.
Miles
Holder
Inverness
Coleman
Wahoo
Bushnell
Lake Panasoffkee
Dunnellon
Sumterville
Nobleton
Bevilles Corner

Water and Natural Resource Data

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

Water Quality

As part of a number of large, publically owned tracts along the Withlacoochee River/Lake Tsala Apopka region, Potts Preserve is comprised of natural uplands and extensive freshwater systems including emergent freshwater marshes, sloughs, and riverine floodplain along approximately four-miles of the Withlacoochee River. The Preserve is situated in a hydrologically distinct area between the Lake Tsala Apopka Chain-of-Lakes and the Withlacoochee River.

Lake Tsala Apopka is the largest freshwater resource in Citrus County. The system is comprised of an interconnected series of marshes and open water pools covering nearly 22,000 acres. The lake system is divided into three separate and hydrologically distinct "pools." While these pools are distinct, they are connected with the Withlacoochee River through a vast expanse of marsh lying between the pools and the Withlacoochee River. Both the Withlacoochee River and Lake Tsala Apopka have been designated as Outstanding Florida Waters (OFW) by the Florida Department of Environmental Protection (DEP). This OFW designation is applied to certain waters, and is intended to protect existing good water quality. DEP cannot issue permits for direct pollutant discharges to OFWs which would lower ambient (existing) water quality or for indirect discharges which would significantly degrade the OFW.

Prior to structural modifications, including the installation of berm roads by the previous land owners, surface water flows between the Withlacoochee River and the Hernando Pool of Lake Tsala Apopka occurred frequently through The Preserve. This natural exchange served to improve water quality by allowing plants to remove nutrients. In December 2010, the District completed a significant restoration project by removing 11 separate fill areas known as the Western Dike Road. This restoration is expected to improve the exchange of water through the marshes of the Preserve thereby improving water quality and improving the hydrologic condition of the marshes. Continued maintenance including prescribed fire application in the marshes of The Preserve will contribute to the overall health of the Withlacoochee River and Lake Tsala Apopka.

Water quality of the marshes is good, based on data collected by the District for specific restoration projects. Additionally, other indicators including desirable emergent vegetation and healthy invertebrate and fish populations suggest that water quality is good. Although the District collects only limited long-term water quality data on the marshes, it does, however, conduct frequent water quality sampling and analysis of the Withlacoochee River and 21 named lakes in the Tsala Apopka Chain. Based on results of the long-term data collection of the Withlacoochee River and Lake Tsala Apopka, water quality is good which is directly attributable to the natural landscape, including the health and condition of the Potts Preserve wetlands.

Water Supply

There are a modest number of agricultural and potable water users adjacent to Potts Preserve. Future water supply use at or near Potts Preserve should be permitted with respect to the Minimum Lake Level established for the Inverness Pool of the Tsala Apopka chain of lakes,

which extends into the western portion of the Preserve. The lake levels have a close hydrologic connection to the Upper Floridan aquifer. The eastern portion of Potts Preserve reserve has a slightly higher elevation and a thinly distributed confining layer developed by fluvial deposits from the Withlacoochee River. Water levels in the Inverness Pool are managed by a network of control structures; however the levels are strongly influenced by high recharge rates in the vicinity and climatic conditions. The Potts Preserve Hydrologic Restoration Project, completed in July 2010, allows high flows in the Withlacoochee River to inundate wetlands in the Preserve, and is expected to enhance infiltration and increase the groundwater resources available for the local users.

Three agricultural facilities and a hatchery are located by the Inverness Pool on the southwest border of Potts Preserve and are permitted for a combined annual average of 142,400 gallons per day (gpd). A golf course near the pool has a recreational/aesthetic permit for 133,000 gpd annual average. A blueberry farm located on a more hydraulically confined area southeast of the Preserve is permitted for 19,200 gpd annual average.

The utility service areas of Citrus County Utilities and the City of Inverness overlap the boundaries of Potts Preserve; however many of the residents living adjacent to the Preserve use domestic wells for water supply. The public utilities are members of the Withlacoochee Regional Water Supply Authority (WRWSA), who is responsible for evaluating regional potable water needs. Potential regional wellfield locations have been evaluated by the WRWSA based in part by the distance from sensitive wetlands that might be impacted by large withdrawals (7,500,000 gpd or greater). Potts Preserve was not considered a suitable location to develop a regional wellfield based on this criterion.

Recharge

The Floridan aquifer is recharged to some degree in all parts of the basin except at or near the Withlacoochee River and springs. Potts Preserve is located in an area of moderate recharge, the rate of which is limited primarily by the close proximity of the potentiometric surface of the Floridan aquifer to the top of the aquifer (Anderson and Laughlin 1982).

Flood Attenuation

Potts Preserve is uniquely located between the Withlacoochee River and the Tsala Apopka Chain-of-Lakes. This large, relatively flat area provides significant flood attenuation to the region. It contains a series of interconnected marsh, wetlands, and sloughs that connect the lakes to the river during periods of high water. Under normal hydrologic conditions, these wetlands are isolated from the river and interact with the Hernando Pool within the Tsala Apopka system. Over the past decade, several hydrologic restoration projects have corrected man-made alterations within the Preserve. In 2003, fill material and culverts were removed along the Main Road to restore the natural hydrologic connection between the wetlands to the west and sloughs to the east that connect to the Withlacoochee River. Ditches that were previously constructed to dewater the marsh and isolated wetlands were filled to restore natural flow patterns and hydro-periods. In 2010, the remaining fill material that was designed to block flow from the Hernando Pool, near the western edge of the property, was removed. This completely restored the natural hydrologic connection between the Potts Preserve marsh and the lakes to the west.

Unique Management Issues

Sovereign Submerged Lands

Florida's sovereign submerged lands are those public trust lands below navigable water that the United States Congress transferred to the state of Florida in 1845 as Florida was granted statehood. "Lands below navigable water" means all lands which are covered by non-tidal waters that are navigable under the laws of the United States. Sovereign submerged lands are held in trust by the Florida Board of Trustees of the Internal Improvement Trust Fund for the use and benefit of the citizens of the state, as set forth in the state constitution. The Florida Department of Environmental Protection (DEP) is responsible for delineating the boundaries of, and managing sovereign submerged lands.

The exact boundary between sovereign submerged lands and District-owned lands within Potts Preserve has not been delineated by DEP. A "safe upland line" is typically used to determine the potential location of non-sovereign lands that the District is required to manage within the Preserve. In the past, with DEP's approval, the District identified a "safe upland line" at an elevation of 39.5 feet for management activities conducted in the western portion of the Preserve. However, due to the varying hydrology and geography, that elevation is not suitable to determine the location of non-sovereign lands in the eastern portion of the Preserve. The District conducts prescribed fire activities on non-sovereign lands it owns in the Preserve. The interwoven nature of sovereign and non-sovereign lands in the Preserve creates a meandering ownership boundary that presents a challenge to implementing prescribed burning activities on only non-sovereign lands. During the development of this land use and management plan, DEP indicated its support of the District's stewardship practices at the Preserve, including prescribed fire activities. When appropriate and approved by DEP, the District will include sovereign and non-sovereign lands in future prescribed fire activities to increase the effectiveness of fire management. Prescribed burning activities conducted on sovereign lands will not interfere with the rights of other entities or individuals that use the sovereign lands.

Wildlife Management Area

The District is under partnership with the FWC for the management of hunting activities on approximately 4,155 acres of Potts Preserve (Figure 2). The Wildlife Management Area (WMA) agreement is a ten-year agreement established in 2009 which included District-owned lands that were interwoven with a heavy inter-disbursement of sovereign lands not subject to the WMA. The acreage of the WMA was reduced in February, 2010, at the request of FWC. The previous WMA boundary included numerous upland islands scattered over an area of more than 4,300 acres west of Main Road. The high percentage of sovereign lands in this area resulted in management challenges, as hunting rules within the WMA boundary are different from those on sovereign lands.

District-owned lands scattered throughout the 4,300 acres west of Main Road that were removed from the WMA will remain available for public use activities, including hunting. Hunting will be allowed in compliance with all applicable state statutes and FWC guidelines, consistent with hunting rules established for sovereign lands. A permit that is available online will be required to hunt on District-owned lands within this 4,300-acre area.

Natural Systems

Of the 82 natural communities defined by the Florida Natural Areas Inventory, 16 occur on Potts Preserve and the interconnected sovereign submerged lands. The unique mosaic of community types is comprised of vast wetlands and 5,338 uplands acres. Two communities

(scrub and shell mound) are globally imperiled. Four others are considered rare-basin swamp, scrubby flatwoods, xeric hammock and blackwater stream. Primary surface water features include four miles of floodplain along the southern bank of the Withlacoochee River. Expansive wetlands, most of which are sovereign, are concentrated in the western half of the project limits of the Preserve, form the bulk of the internal drainage system and provide extensive water storage and flood protection benefits. Upland communities are dominated by mesic hammock and disturbed lands but significant areas of scrub and scrubby flatwoods exist as well. The current natural and altered communities and the total acreage for each are shown in Figure 3. The depiction and acreage figures do not differentiate between District-owned and sovereign lands.

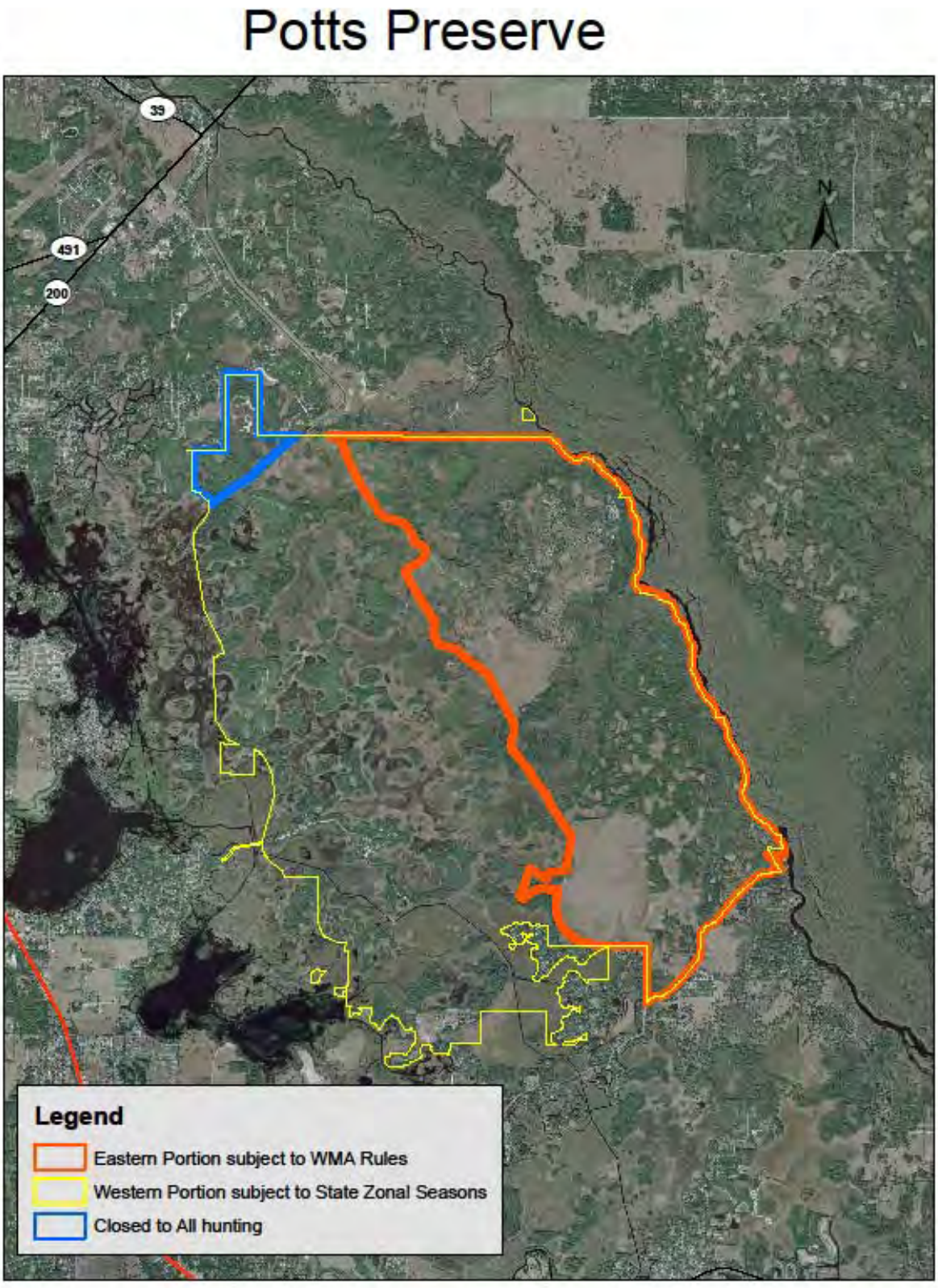
Natural Communities

The natural communities on Potts Preserve are illustrated in Figure 3 and described below:

Basin Marsh and Swamp: Basin wetlands (3,748 acres), most of which are sovereign, are distributed throughout the Preserve but are predominate in the western half. Isolated depression marshes (335 acres) are contained primarily in the eastern portion where pine and scrub uplands are concentrated, but also occur on a number of upland islands. Both communities are herbaceous wetlands that differ primarily in hydroperiod and fire frequency – both of which are longer for basin marsh. The vegetation is typically grasses and other herbaceous plants but woody species such as wax myrtle, buttonbush and Carolina willow may proliferate in marshes with shortened hydroperiods or altered fire regimes. Their condition is highly variable, but appears overall to be good to fair. Historic impacts resulted primarily from altered water levels, interruption of the natural fire regime and cattle grazing which contributed to shifts in community structure and species composition. In recent years, however, the activity of watercraft and other off-road vehicles, as well as feral hog rooting, have contributed to fragmentation that has degraded the marshes and complicated their management, particularly with regard to prescribed fire.

Mesic Hammock, with 1,542 acres, accounts for most of the acreage of mesic uplands (1,790 acres) on the Preserve. Structure and species composition is highly variable, primarily due to flooding, soils, fire history and historic land uses. Though most of the characteristic live oak canopy was logged, scattered large trees remain in hammocks off the river and on a few marsh islands. There are many high quality examples of this community on the property and prescribed fire has been applied to some areas to reintroduce this important disturbance. Though historically prominent, mesic flatwoods today occupy only 246 acres, most of which is located in the center of the Preserve. Most of the original extent was cleared in the 1970s and 1980s to create pasture and cropland. Remaining stands are degraded due to cattle grazing and altered fire regimes that have eliminated much of the grass component of the groundcover. Shell mounds, though anthropogenic in origin and accounting for a small portion of the Preserve, are a unique and globally rare plant community. They were created by aboriginal inhabitants who used these areas to dispose of mollusk shells and other refuse. Because of the predominance of shells, the soils tend to be slightly alkaline and support species not usually found in the otherwise acid soils of the surrounding landscape. The canopy is mainly live oak, cabbage palm and red cedar. Other characteristic plants include basketgrass, white crownbeard, yaupon, beautyberry, sour orange, hackberry, woodoats and ponysfoot. A list of rare and unique plants found on the Preserve is shown in Appendix 3.

Figure 2. Potts Preserve Wildlife Management Area



Pasture and Ruderal: The majority of the Preserve's disturbed upland areas (1,531 acres) are the result of land conversion to agricultural uses in two large areas located in the eastern half of the property that were historically made up of a mosaic of communities dominated by pine and xeric uplands. Much of this land was cleared for pasture or row crops. Areas only partially cleared retain components of the natural community allowing for passive restoration in some areas. Conservation of these lands is crucial to the long-term management of the Preserve due to their significant area, species habitat, restoration potential and their role in the managing adjacent communities.

Hydric Hammock and Wet Flatwoods communities (989 acres) accounts for the majority of the forested wetlands within the Preserve and interwoven sovereign lands. The canopy of hydric hammock is typically a mixture of live oak, laurel oak, cabbage palm and southern magnolia. The open understory supports a diverse understory of ferns, palms, grasses, shrubs and orchids. The soils are usually saturated, but standing water is present only for short periods after heavy rains. This community is well represented in the area known as Long Arm Slough (an intermittent conveyance feature that connects the Withlacoochee River to the interior marshes of the Preserve during high water periods). Wet flatwoods are concentrated on the east side of the property and occur primarily as transitions between marshes and uplands but also as larger inclusions in mesic flatwoods. Slash, pond and loblolly pine are the predominant canopy species. Large laurel and water oak occur due to fire exclusion. The groundcover is dominated by maidencaine and supports diverse herbaceous species including hatpins, meadow beauty, swamp milkweed, sundews, pipeworts, butterworts and lobelia. Floodplain swamp is restricted to frequently flooded areas along the river and the canopy is comprised of buttressed, hydrophytic trees such as bald cypress and tupelo. The groundcover, if present, is sparse due to frequent inundation. Basin swamps are limited in extent and usually occur as depressions within hydric hammock. They tend to have a mixed canopy of pond or bald cypress, oaks, American elm, red maple and occasional slash or loblolly pine. The understory is more diverse than that of floodplain swamp and typically contains various woody shrubs, ferns and vines. Dome swamps are often associated with pine flatwoods but on the Preserve typically occur embedded within basin swamp, hydric hammock and mesic hammock on the east side of the property. These communities are overall in good condition. However, formerly drained swamps were impacted by shortened hydroperiods and damage from feral hog rooting is an increasing threat.

Xeric Uplands Scrub: scrubby flatwoods and xeric hammock (965 acres) were much more extensive before large-scale land conversion occurred on the property in the 1970s and 1980s. Scrub is the dominant community and is concentrated along the western boundary where numerous upland islands occur with steep slopes and well-drained, nutrient-poor soils. These scrubs have no canopy other than small patches of sand pine or occasionally slash pine and appear as large tracts of scrub oaks and other shrubs, Florida rosemary, scattered saw palmetto and patches of open sand. Rosemary 'balds' are found on a few of the highest knolls. Unique plants include giant orchid, sand butterfly pea, scrub wild olive and silk bay. Xeric hammock and scrubby flatwoods occur in nearly identical proportions. Scrubby flatwoods on the Preserve have a slash pine canopy and an understory dominated by saw palmetto and low shrubs. Interestingly, the groundcover is devoid of wiregrass and the lack of fine fuels has created a lower fire frequency of every six to ten years. Most xeric hammocks on the property are the result of long-term fire suppression of scrub and scrubby flatwoods. Without fire, these communities become dominated by a dense canopy of sand live oak and other species that shade out most of the characteristic vegetation and eliminate open sand patches. Naturally occurring xeric hammocks are found in close proximity to the river and are formed on well-drained soils embedded within mesic hammock.

Exotic Species

Invasive plant species documented on the Preserve include Chinese tallow, skunk vine, cogon grass, green wandering jew, Chinaberry, tropical soda apple, sword fern, Japanese climbing fern, water hyacinth, water lettuce, wild taro, torpedo grass, air potato and Caesar's weed. Most of these species are at a maintenance level of control. However, Chinese tallow, cogon grass and skunk vine require more intensive management due to their high propensity to spread and infest remote areas.

Feral hogs are the primary exotic animal occurring on the property and are an increasing threat to Florida's natural areas because of the damage caused by their rooting and as carriers of diseases that can spread to both humans and wildlife. In an effort to reduce the population, a District-wide trapping program began in 2005 and was followed in 2008 by special public hunts on its lands not designated Wildlife Management Areas (WMAs). In addition to these measures, the District has coordinated with the Florida Fish and Wildlife Conservation Commission (FWC) to increase the take of feral hogs by offering additional public hunting opportunities at Potts Preserve and its other WMAs.

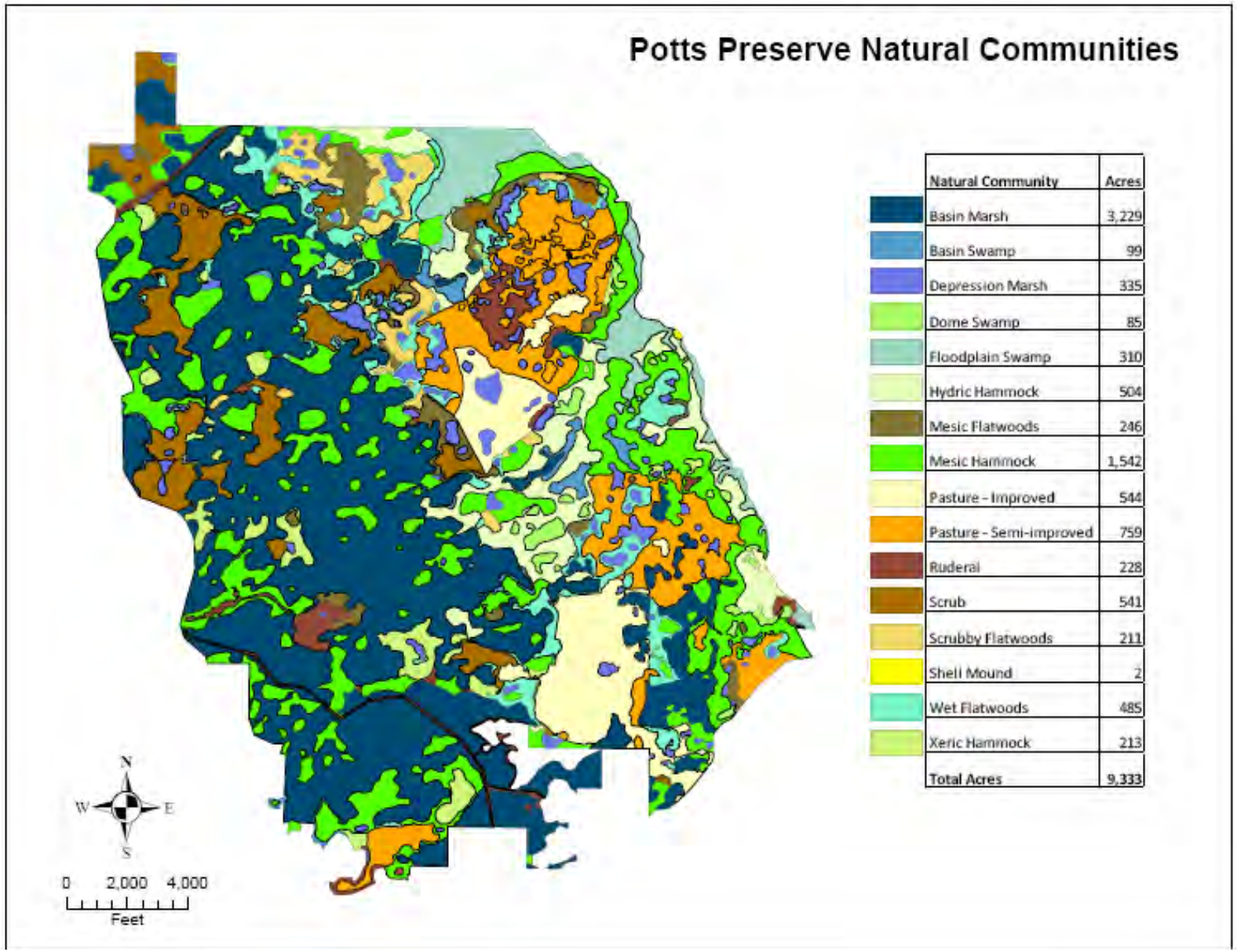
Species

The FWC designated the Tsala Apopka region as a Strategic Habitat Conservation Area for limpkin and sandhill crane (Cox et al. 1994). Other rare wading birds documented on the Preserve include white ibis, wood stork, tricolored heron, little blue heron, snowy egret and great egret. Two federally threatened species occur on the Preserve – the Florida scrub-jay and eastern indigo snake. The property's extensive xeric habitat supports a large population of the state-threatened gopher tortoise and associated commensal species including gopher frogs, numerous insects, mammals and snakes, including the eastern indigo snake and declining eastern diamondback rattlesnake. One bald eagle nest, active as recently as 2006 (Nest ID CI031), has been documented by FWC. Other unique wildlife known to occur on the property include the American bald eagle, American alligator, round-tailed muskrat, Suwannee cooter, Florida black bear, American river otter, swallowtail kite, Bachman's sparrow and Florida sandhill crane. Numerous rare plants are known on the property and are listed in Appendix 3.

The Florida Atlas of Breeding Sites for Herons and their Allies: 1986-1989 Update documents three historic rookeries on the property and five within ten miles of the Preserve. Although substantial rookery activity has not occurred in recent years, wood storks and other wading birds frequently use the marshes for foraging when conditions are suitable.

Potts Preserve constitutes part of the Northern Gulf Coast Sub-Region for the Florida scrub-jay, as defined by the United States Fish and Wildlife Service. Approximately 750 acres of potential scrub-jay habitat (scrub, scrubby flatwoods and associated communities) exist that could conservatively support as many as 30 scrub-jay groups. The existing population is estimated to be five groups totaling 15-20 individuals. Expansion is expected given the potential carrying capacity and active management of the habitat and the proximity of the property to occupied habitat within the dispersal distance of the species. Recent occurrences include a 2010 observation of scrub-jays in a restored area of the property not known to have supported scrub-jays since acquisition and the appearance of a pair of banded scrub-jays from the Half Moon Wildlife Management Area in Sumter County in 2009.

Figure 3. FNAI Natural Communities



Gopher tortoises are abundant on the Preserve and provide important habitat to a variety of commensal species. Formerly a Species of Special Concern, the gopher tortoise is now listed as threatened in Florida, primarily due to continuing habitat loss and disease. New management goals and objectives for recovery of the species were adopted in September 2007 in FWC's Gopher Tortoise Management Plan. District staff will continue its coordination with the FWC regarding the new guidelines as well as its ongoing monitoring program for the Preserve.

Restoration

Hydrologic restoration on the Preserve has included the installation of wet crossings and ditch blocks at strategic locations to re-establish original drainage patterns (SWFWMD 2000). Most recently, 11 berm sections of the road traversing the western half of the property were removed to restore the historic connection of marshes on the Preserve to the Hernando Pool of the Tsala Apopka Chain-of-Lakes.

Upland restoration has focused on the mechanical treatment of scrub and scrubby flatwoods. These communities are under-represented on regional conservation lands and provide habitat for the federally threatened Florida scrub-jay, a species known to occur on the Preserve. Approximately 514 of the 752 acres estimated to occur has been restored. Treatment methodology and schedules are contained in the Potts Preserve Scrub Management Plan (SWFWMD 1999).

Planning Process

Governing Board Policy 610-3 requires that District conservation lands be managed for water supply, natural systems, public access, recreation and education, biodiversity, archaeological resources and forestland. Governing Board Procedure 61-3 provides the framework to implement Policy 610-3 and to evaluate appropriate land management activities and recreation opportunities on District lands. The process includes the following steps:

- Review the previously adopted management plan
- Verify water and natural resource data
- Delineate management zones
- Review regional recreational supply and demand
- Complete land use matrix
- Obtain public input

The first steps taken for the development of this plan were the review of the previously adopted management plan (1990) and verification of the Preserve's water and natural resource data. Specific data about the Preserve's water resources, natural habitat and species are summarized in the Water and Natural Resource Data Section of this plan.

Land Use and Management Zone Map

The natural resource data and information contained in the previous management plan were evaluated to create a Land Use and Management Zone Map. Science-based preserve design and management principles were applied to the Preserve to delineate management zones as shown in Figure 4. The six management zones contained in District Procedure 61-3 that were considered during the zoning process are shown in Appendix 1 and describe the purpose for which that zone would be assigned. Land Use and Management Zones group the Preserve into

geographic units sharing similar natural traits, protection requirements, use potential and management needs and are used to organize management activities and to locate compatible land uses within appropriate areas of the Preserve.

The Preservation layer was applied first as it is the key management objective for the Preserve. Special Protection Areas were applied next to provide adequate protection to important and sensitive features of the Preserve. Each remaining zone was applied, if applicable, based on the Preserve's resource conditions and user experiences on the property. The final zones assigned to the Preserve are listed below:

- **Preservation** – Zone established for the protection of non-sovereign high quality wetlands, including basin swamps, marshes and wet prairie communities and sensitive and/or rare upland communities.
- **Special Protection Areas** – Zones established in areas of expansive and viable scrub-jay habitat, an increasingly imperiled ecosystem. Special Protection Areas have also been established to protect a high concentration of giant orchid, a state threatened plant federally recognized as a species of management concern.
- **Resource Management** – Much of Potts Preserve's hydrology has been altered in the interest of supporting historical uses, most notably, cattle grazing. Resources are currently managed such that these conditions may recover naturally. Although many of the wetlands have been hydrologically impacted, the majority f the natural communities remain functionally intact. Recent and projected land uses on the property are not consumptive in nature. As such, this plan does not recommend any sustainable resource utilization.
- **Recreation** – Zones established include public access points, parking areas, campgrounds and recreation trails.
- **Transportation** – Zone established at primary access points and where vehicular access may be permitted for general traffic associated with authorized hunting activities. All transportation zones are considered recreation trails as well.
- **Special Use** – A Special Use Zone has been established for a recreation/picnic area in the western portion of the Preserve accessible only through sovereign submerged lands.

The final zone map with the above described zones is shown in Figure 4. The depiction does not differentiate sovereign and non-sovereign lands as a clear delineation has not been made. Sovereign submerged lands do not fall under any zoning classification related to this section of the plan.

Review of Regional Recreation Supply and Demand

Before the land use and management zone map was finalized, a regional recreation assessment was conducted to identify nearby recreational opportunities offered by other recreation providers including state and local government. A 20-mile radius was established around the Preserve to determine the segment and size of the population likely to use the Preserve. The resource-dependant recreation opportunities within the 20-mile radius available to that segment of population were also identified. 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 radius established around the Preserve is shown in Figure 4.

Table 1 contains a list of resource-dependant recreation opportunities that are available to the public within a 20-mile radius of Potts Preserve. The 20-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 176,490 acres of public lands that have quality resource-dependant recreation opportunities that include hiking, biking, equestrian riding, camping, fishing and nature appreciation. There are 13 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 is the full or partial owner of 57,872 acres (this acreage includes sovereign submerged lands within project limits) of the 176,490 listed in the table and contributes significantly to providing opportunities for resource-dependant recreation in this area and throughout the region. The larger sized properties listed on Table 1 may provide additional opportunities over time when demands increase.

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 Potts Preserve (see Appendix 2). The zoning designations specifically established for the property 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 Property's final matrix shown in Table 2.

Public Input

A draft zone map and matrix, along with natural resource data for the Preserve, were presented to the public for input and comment at a public meeting noticed through various news publications, the District's web site and through the District's Land Use Stakeholders/Basin Board Land Resources Committee. Public comments received at the workshop were minimal and did not constitute a need to revise the plan.

Demand, Supply and Opportunities Summary

The Citrus County Comprehensive Plan indicates that from 1980 t0 2000, Citrus County was the tenth fastest growing county in Florida in percent population change. The estimated County population in 2010, 2015 and 2020 is 141,300, 153,200 and 165,400 respectively. Land use planning for Potts Preserve must incorporate projected population increases as well as the types of resource-dependant recreation opportunities that will be desired. An age profile of the population around Potts Preserve was considered in determining which types of resource-dependant recreation opportunities the local population would anticipate at the Preserve. The population adjacent to the Preserve will likely participate in horseback riding, bicycling, hiking, trail running, canoeing, camping, bird watching, backpacking and hunting. Citrus 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 state agencies, Citrus County and the District. District staff will continue to monitor supply and demand needs for this area that may be indicated in the Citrus County Comprehensive Plan.

Figure 4. Potts Preserve Recreation and Zone Map

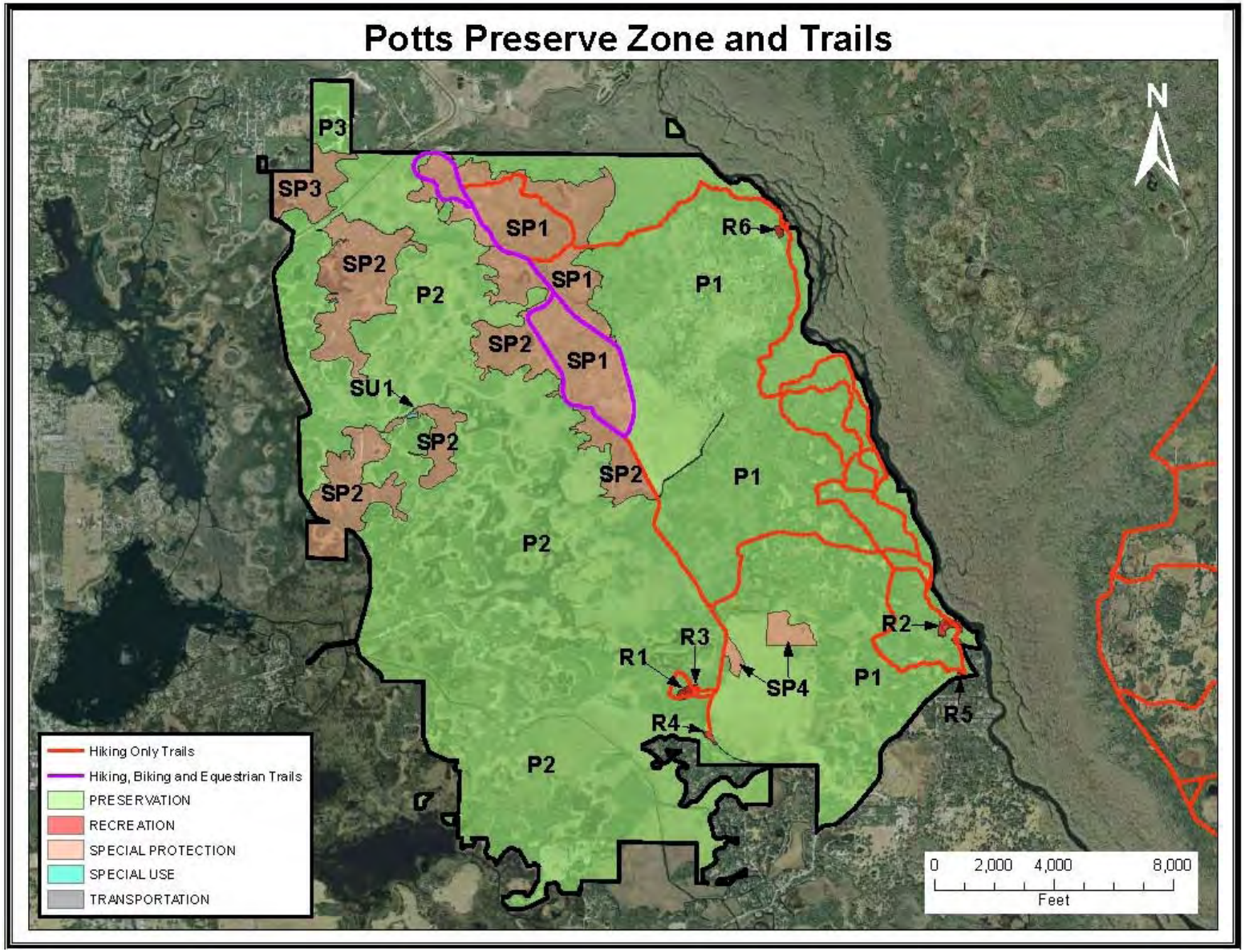


Figure 5. Regional Recreation Assessment for Potts Preserve

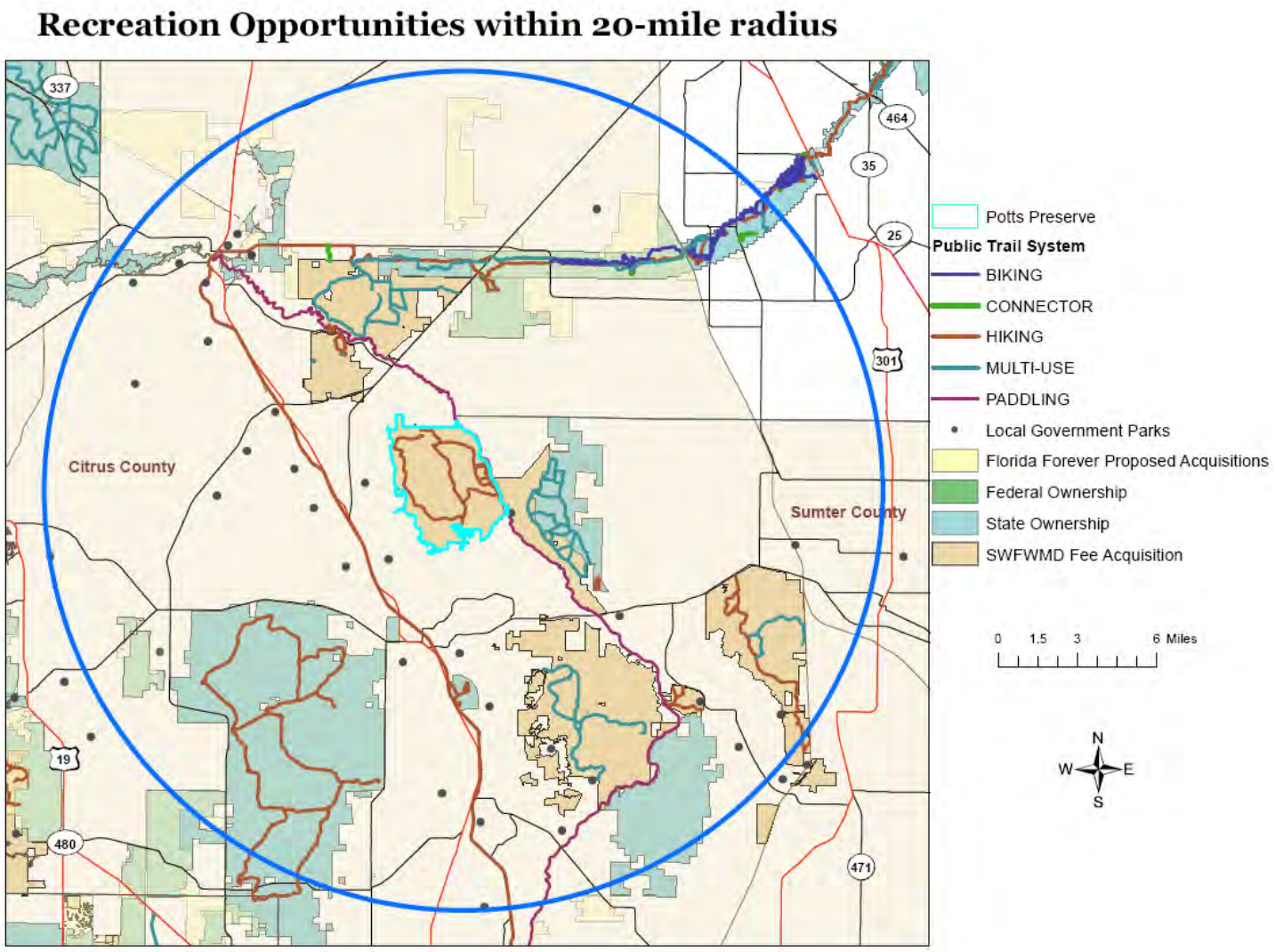


Table 1. Regional Opportunities

Name	Owner	County	Acreage	Hike	Bike	Horse	Camp	Nature	Bird	Picnic	Fishing	Hunt	Paved Trails	ADA Access	Env. Education	Rest-rooms
Halpata Tastanaki Preserve	SWFWMD	Marion	8,146	✓	✓	✓		✓	✓	✓	✓			✓		✓
Two Mile Prairie	SWFWMD TIITF	Citrus	2,980	✓		✓		✓	✓		✓					
Potts Preserve	SWFWMD	Citrus	9,379	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Half Moon Wildlife Management Area	SWFWMD TIITF	Sumter	9,565	✓	✓	✓		✓	✓		✓	✓				
Flying Eagle	SWFWMD	Citrus	16,331	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Lake Panasoffkee Preserve	SWFWMD	Sumter	10,320	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Panasoffkee Outlet	SWFWMD	Sumter	807	✓				✓	✓	✓	✓					✓
Annutteliga Hammock Preserve	SWFWMD	Hernando	344	✓		✓		✓	✓							
Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area	TIITF SWFWMD	Citrus Marion Sumter	10,905	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		
Withlacoochee State Forest	TIITF	Sumter Citrus Hernando	97,052	✓	✓	✓		✓	✓	✓	✓	✓				✓
Ross Prairie State Forest	TIITF	Marion	3,527	✓		✓	✓	✓	✓	✓		✓				✓
Goethe State Forest	TIITF	Levy	53,090	✓	✓	✓	✓	✓	✓	✓		✓				✓
Fort Cooper State Park	TIITF	Citrus	708	✓	✓		✓	✓	✓	✓	✓			✓		✓
Withlacoochee State Trail (46 miles)	TIITF	Citrus	625	✓	✓	✓		✓	✓	✓			✓			✓
Chassahowitzka Wildlife Management Area	TIITF	Citrus	33,919	✓	✓			✓	✓	✓		✓				
Chinsugut Wildlife and Environmental Area	TIITF U.S Dept. of Education	Hernando	822	✓				✓	✓	✓				✓	✓	✓
Crystal River Preserve State Park	TIITF	Citrus Levy	30,935	✓	✓			✓	✓	✓	✓					

Table 2. Land Use Matrix for Potts Preserve

Land Use Categories	Resource-Dependant Recreation															
	Mobility-impaired access	Access-Walkthrough	Access-5 vehicle maximum	Access->5 vehicles	Bicycling- Unimproved dirt trail	Birdwatching	Camping-Backpacking	Camping-Group	Equestrian	Hiking	Geocaching	Interpretive areas or trails	Nature Viewing	Nature Photography	Non-Wildlife Manangement Area Hunting	Wildlife Management Area
Management Zones																
Preservation 1		✓			✓	✓			✓	✓	✓		✓	✓		✓
Preservation 2		✓			✓	✓			✓	✓	✓		✓	✓	✓	
Preservation 3						✓				✓			✓	✓		
Special Protection 1		✓			✓	✓			✓	✓	✓		✓	✓		✓
Special Protection 2		✓			✓	✓				✓	✓		✓	✓	✓	
Special Protection 3						✓				✓			✓	✓		
Special Protection 4		✓				✓				✓	✓		✓	✓		✓
Recreation 1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
Recreation 2		✓		✓	✓	✓				✓	✓	✓	✓	✓		
Recreation 3		✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓		
Recreation 4	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		
Recreation 5		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Recreation 6		✓				✓	✓			✓	✓		✓	✓		
Special Use 1										✓	✓		✓	✓		

Limitations

The land use zones at Potts Preserve are established to protect and preserve documented sensitive habitat and wildlife and to ensure the property serves the conservation purpose for which it was acquired. Constraints arise when striving to meet management goals with projects such as scrub restoration. The preponderance of sovereign submerged lands, particularly on the west side of the property, creates land use constraints as well. With the removal of the western berm, access is now further limited.

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

Conclusion

Based on the intrinsic character of Potts 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, Potts Preserve will feature quality passive, resource-dependent recreational uses. The location and type of uses are depicted in Figure 4 and in conjunction with the Land Use Matrix in Table 2.

The following summary describes the accomplishments that occurred under the previous plan. Accomplishments are listed under the respective management-related program and are followed by planned goals listed for the current plan period.

Management Goals

The current Land Use and Management Plan guides the use and management of Potts Preserve throughout the ten-year period from 2010 to 2020. This Executive Summary describes the accomplishments that occurred from 1999 to 2010 and the goals identified for 2010 to 2020. The various goals and accomplishments are listed according to the corresponding management-related program. Additionally, District staff has identified external factors that have the potential to impede appropriate management and use of District lands.

Resource Protection and Security Program

Goals

- Continue to identify and address security issues at Potts Preserve.
- Establish strategy to address areas prone to vandalism and unauthorized uses. Implement and adjust strategy as needed. Achieve maintenance-level status.
- Assess all fencing along the boundary to ensure compliance with legal requirements, and replace/install fencing as necessary. Continuously evaluate effectiveness of security and adapt as appropriate.

Public Use Program

Goals

- Evaluate recreational amenities to ensure accurate information is presented in periodic Recreation Guide updates.
- Increase volunteer activity focusing on recreational amenities and resource management services.
- 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 feedback loops on management activities.
- Enhance monitoring program for recreation use areas and trails. Establish methods to most effectively monitor proper use of trails, number of users, effectiveness and success of public access points to accommodate users.
- Monitor use of adjacent sovereign lands to determine level of impacts on District lands.
- Monitor trail use in area affected by the berm removal completed in 2010 to determine if desired use of inundated area changes.
- Determine level of secondary impacts that result from public use of Potts Preserve and implement steps to reverse impacts. Refine monitoring protocols and utilize data to ensure protection of the resource.

Land Maintenance Program

Goals

- Coordinate with the local power company to remove old power lines and converter boxes.
- Remove former ranger residence.

Fire Management Program

Goals

- Obtain necessary authorization from the DEP for use of heavy equipment in sovereign lands to conduct fireline construction and maintenance.
- Burn scrub restoration units as needed and apply mechanical preparation as needed.
- Conduct priority marsh burns west of Main Road when conditions are suitable.

Exotic Species Control Program

Goals

- Survey for, and treat as necessary, Category I and II exotics following removal of berm sections on Loop Road and Middle Loop Road. Focus will be on roads, haul routes and fill disposal areas.
- Implement feral hog trapping program.
- Achieve maintenance level status for treatment of Chinese tallow.
- Assess District's exotics control program and, if necessary, take practicable measures to maximize effectiveness.

Water Resources and Natural Communities Restoration Program

Goals

- Complete mechanical treatment of remaining scrub restoration units.
- Complete selective follow-up treatment of overgrown hardwoods.
- Develop strategy to identify and conduct joint upland restoration and habitat enhancement projects utilizing combined expertise of District and FWC staff.

Resource Utilization Program

Goals

- Continue to evaluate/explore potential for resource management activities to generate revenue, in ways that are renewable, to offset management costs.

Resource Monitoring Program

Goals

- Achieve maintenance level status with regard to banding of Florida scrub-jays.
- Assess status of gopher tortoise population in the Point Lonesome Grove area located in southwest corner of the Preserve and on upland islands on west side of the Preserve.
- Complete GIS mapping of gopher tortoise locations in all suitable habitat.

Appendix 1— Management Zones and Definitions

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.

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 determined that standard protection measures provided under normal management practices are insufficient to protect the feature from potential risks.

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.

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.

Special Use Zones (SU) – The function of special use zones is to cluster compatible user-based and developed uses to minimize impacts to all other uses on the project. These include altered areas that are 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.

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.

Utility Zone (U) – This zone is established for existing areas that are used for transmitting or distributing utilities such as electric, water, sewer, gas, or telecommunications services that include underground or overhead pipelines, poles, towers, wire, or cables. Collocation is the preferred option for new linear utilities.

Appendix 2

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																														
Utility Zones																														

Appendix 3

Rare and unique plants documented on Potts Preserve:

Common Name	Scientific Name	Natural Community
Angular fruit milkvine	*Gonolobus suberosus*	Mesic and hydric hammock
Blue butterwort	*Pinguicula caerulea*	Wet Flatwoods
Crested coralroot	*Hexalectris spicata*	Mesic hammock
Florida butterfly orchid	*Encyclia tampensis*	Mesic hammock
Florida spiny-pod	*Matelea floridana*	Mesic and xeric hammock
Garberia	*Garberia heterophylla*	Scrub
Giant orchid	*Pteroglossaspis ecristata*	Scrub; scrubby flatwoods
Giant wild pine	*Tillandsia utriculata*	Mesic hammock
Green-fly orchid	*Epidendrum conopseum*	Mesic hammock
Lacelip ladies'-tresses	*Spirantheslaciniata*	Basin marsh
Long-horned rein orchid	*Habenaria macroceratitis*	Mesic hammock
Michaux's orchid	*Habenaria quinqueseta*	Mesic hammock
Terrestrial peperomia	*Peperomia humilis*	Mesic hammock
Plume polypody	*Pecluma plumula*	Mesic and hydric hammock
Swamp-plume polypody	*Pecluma ptilodon*	Floodplain and basin swamp
Widespread polypody	*Pecluma dispersa*	Mesic hammock
Sand butterfly pea	*Centrosema arenicola*	Scrub/scrubby flatwoods
Scrub wild olive	*Osmanthus megacarpus*	Scrub;xeric hammock
Shadow witch	*Ponthieva racemosa*	Hydric hammock
Silk bay	*Persea humilis*	Scrub; xeric hammock
Swamp-plume polypody	*Pecluma ptilodon*	Basin swamp
Southern tubercled orchid	*Platanthera flava*	Hydric hammock; swamp
Yellow butterwort	*Pinguicula lutea*	Wet flatwoods
Wister's coralroot	*Corallorhiza wisteriana*	Mesic hammock

References

Anderson, Warren and Laughlin, Charles P. 1982. Geohydrology of the Floridan Aquifer in the Withlacoochee River Basin of the Southwest Florida Water Management District. U.S. Geological Survey Water-Resources Investigations Open-File Report 82-331.

Cox, James, Randy Kautz, Maureen MacLaughlin, and Terry Gilbert. 1994. Closing the Gaps in Florida's Wildlife Habitat Conservation System: Recommendations to meet minimum conservation goals for declining wildlife species and rare plant and animal communities. Florida Game and Freshwater Fish Commission, Office of Environmental Services. 239 pp.

Egan, Dave and Evelyn A. Howell (Eds). 2001. The historical ecology handbook: a restorationist's guide to reference ecosystems. Society for Ecological Restoration. Island Press. 457 pp.

Fitzpatrick, J. W., G.E. Woolfenden, and M.T. Kopeny. 1991. Ecology and development-related habitat requirements of the Florida scrub-jay (Aphelocoma coerulescens coerulescens). Nongame Wildlife Program Technical Report No. 8. Office of Environmental Services.Florida Exotic Pest Plant Council. 2003 Invasive Plant List. World-wide-web site http://www.fleppc.org/Plantlist/03list.htm. Accessed 07-29-2004.

Florida Game and Freshwater Fish Commission. 1991. Florida Atlas of Breeding Sites for Herons and their Allies: Update 1986-1989. Nongame Wildlife Program. Technical Report #10. September 1991. 147 pp.

Florida Natural Areas Inventory. 1990. Guide to the Natural Communities of Florida. http://www.fnai.org/PDF/Natural_Communities_Guide.pdf Accessed September 12, 2006.

Florida Department of Environmental Protection. Geoplan. 2004 Existing Trails Prioritization Maps. http://www.geoplan.ufl.edu/projects/greenways/greenwayindex.html.

Florida Department of Environmental Protection, Office of Greenways and Trails System Design Guidelines for Unpaved and Paddling Trails. 1998. Appendix E

Langeland, K.A. and K.Craddock Burks (Eds). 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. University of Florida. 165 pp.

Myers, Ronald L. and John J. Ewell. (Eds.). 1990. Ecosystems of Florida. University of Central Florida Press. 765 pp.

Outdoor Recreation Participation and Spending Study – A State by State Perspective. 2002. Outdoor Industry Foundation

Citrus County, 2008. Pasco County Comprehensive Plan, Update December 9, 2008 Ord. No. 2008-A31 - http://www.citruscountyfl.org/devservices/commdev/comp_plan/comp_plan.htm

Payne, Neil F. and Fred C. Bryant. Techniques for wildlife habitat management of uplands. Biological Resource Management Series. McGraw-Hill, Inc. 840 pp.

Payne, Neil F. 1992. Techniques for wildlife habitat management of wetlands. McGraw-Hill Biological Resource Management Series. 549 pp.

Pranty, Bill, "The Important Bird Areas of Florida: 2000-2002"Audubon of Florida. Accessed 3/15/2008 <http::www.audubon.org/bird/iba/florida/entire-ms.pdf

Robbins, E. Louise and Ronald L. Myers. 1992. Seasonal effects of prescribed burning in Florida: a review. Tall Timbers Research, Inc. Miscellaneous Publication No. 8. 93 pp.

Simberloff, Daniel, Don C. Schnitz, and Tom C. Brown (Eds.). Strangers in paradise: impact and management of non-indigenous species in Florida.

Southwest Florida Water Management District. 1988. A Plan for the Land Use and Management of the Flying Eagle, Save Our Rivers Project Lands.

Southwest Florida Water Management District. 1990. A Plan for the Land Use and Management of Potts Preserve, Save Our Rivers Project Lands.

Southwest Florida Water Management District –District Governing Board Policy 610-3 - Land Use and Management Planning.

Southwest Florida Water Management District – District Governing Board Procedure 61-3b – Land Use and Management Planning.

Southwest Florida Water Management District, Florida Forever Work Plan Annual Update 2009.

Southwest Florida Water Management District, Florida Forever Work Plan Annual Update 2010.

Southwest Florida Water Management District. GIS Data Base.

The Next Generation of Outdoor Participants, For the Years 2005/2006. 2007. Outdoor Industry Foundation, United States Department of Agriculture, U.S. Forest Service, Recreation Statistics update, Report No. 1, August 2004, Participation Rates for Outdoor Activities in 2004. National Survey of Recreation and the Environment.

United States Department of Agriculture, Forest Service. Recreation Statistics update, Report No. 1, September 2004, Trends in Activity Participation Since Fall 1999. National Survey of Recreation and the Environment.

United States Fish and Wildlife Services. Compatibility Determination. Shawangunk Grasslands National Wildlife Refuge. www.fws.gov/northeast/shawangunk/cd.htm (Accessed 06/08/2005). 21 pp.

US Forest Service. 1978. Mobley, Hugh E., Robert S. Jackson, William E. Balmer, Wayne E. Ruziska and Walter A. Hough. A guide for prescribed fire in southern forests. 40 pp.

Wade Trim. 2006. Pasco County Parks and Recreation Master Plan Update. June 16, 2006, Pages 1-64.

Wildland Fire Risk Assessment (FRAS) http://www.fl-dof/wildfire/wf_fras.html

Wood, D. A. 1996. Florida's endangered species, threatened species and species of special concern: Official lists. 29 April 1996. Florida Game and Fresh Water Fish Commission. Tallahassee, Florida