

*A Plan for the Use and
Management of the*

**Hálpata Tastanaki
Preserve**

December 14, 1999

*Southwest Florida
Water Management District*

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ACKNOWLEDGMENTS

The Southwest Florida Water Management District wishes to acknowledge the assistance of Richard Noyes, Gary Beauchamp and David Bowman in development of this plan. They represented the Marion County Parks and Recreation Department, Florida Division of Forestry, and Florida Department of Environmental Protection, respectively, and helped to ensure that the future management and public use of the Hálpata Tastanaki Preserve will be conducted in a cooperative manner that complements the management and use of neighboring publicly owned lands. The Seminole Wars Historic Foundation (Foundation) and Gulf Archaeology Research Institute (GARI) provided valuable guidance on preservation of the historical and archaeological values of the property. Dr. Brent Weisman of the Foundation, Dr. Gary Ellis of GARI, and Dr. Patricia Wickman of the Seminole Tribe's Department of Anthropology and Genealogy guided us to an appropriate transliteration of the Maskoki title for "Alligator," the Seminole leader for whom the Preserve was named.

We also wish to acknowledge artist James Hutchinson, who allowed us to adapt his portrait of Hálpata Tastanaki to serve as the cover illustration for the finished document. The visage of Hálpata was extrapolated by Mr. Hutchinson through research that included a review of field notes compiled by U.S. Army surveyors around the time of the battle at Camp Izard. He also consulted with noted Florida historian Charlton Tebeau.

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EXECUTIVE SUMMARY

The 8,090-acre Hálpata Tastanaki Preserve (Preserve) is located in southwest Marion County near the City of Dunnellon. It is bordered by the Withlacoochee River on the south and by the Marjorie Harris Carr Cross Florida Greenway on the north. The Ross Prairie State Forest neighbors the property on the east. This plan is designed to guide future management and public use of the Preserve in a manner that will balance resource protection needs with the public's right to appropriate use of these lands.

Water management benefits associated with the property include flood protection, water quality protection and enhancement, and groundwater recharge. Approximately 80 percent of the total land area lies within the 100-year floodplain as delineated by the Federal Emergency Management Agency. The numerous isolated wetland systems on the property, in combination with the floodplain of the Withlacoochee River, assist in maintaining and enhancing water quality in the river. Recharge rates over the eastern portion of the property are estimated to exceed ten inches per year, ranking among the highest rates known for Florida.

A number of sites within the Preserve have been designated Special Protection Areas. These include areas of active habitat for the threatened Florida scrub jay; the Camp Izard battlefield and other significant archaeological sites; habitat restoration areas; and a historic wading bird rookery. Protection of these sites will take precedence over all other land management and public use considerations. Recreational uses will be directed to other portions of the property and such management activities as prescribed burning and control of exotic species will be tailored to meet the site-specific needs of all Special Protection Areas.

Permitted recreational uses of the Preserve will include hiking, horseback riding, bicycling, primitive camping, fishing, picnicking and nature

study. A decision regarding hunting will be deferred pending additional study of game populations and compatibility with approved recreational uses. Two access points will be developed to accommodate public use of the property. There is also a proposal under consideration to develop a visitor's center on the neighboring Cross Florida Greenway in partnership with the Department of Environmental Protection and the Florida Division of Forestry. Recreational use of the Preserve was designed to complement public use of the adjoining publicly-owned tracts, and the proposed visitor center would provide a central location for public use of all three properties.

An analysis of multiple use potential of all District-held lands resulted in the designation of approximately 1,315 acres of the Preserve as a Timber Management Zone. This portion of the property, which currently supports stands of pine plantation that pre-date District acquisition of the site, will be managed to produce a continuous and sustainable supply of merchantable timber. Revenues generated through future timber sales will be used to offset the cost of land management activities.

Major management needs and actions for the Preserve include continuing implementation of a prescribed burning program, habitat restoration of altered sites, and management and monitoring of resident wildlife to maintain existing biodiversity. Recommendations associated with the acquisition of inholdings and adjoining lands, and coordination of the proposed expansion of State Road 200 with the Florida Department of Transportation, are also outlined in the plan.

The following is a list of specific management actions enumerated in the plan. The list is not all-inclusive, as there are additional actions outlined in the text of the plan.

Water Management Values

Flood Protection

- ◆ Backfill any remaining ditches, as required, to restore natural conveyance paths and patterns of sheetflow, and continue restoration of altered wetland areas as warranted.
- ◆ Plan the design of future trails within Hálpata Tastanaki Preserve, and close or modify existing roads, to minimize or reverse alterations of natural conveyance paths.
- ◆ Explore options for the purchase of additional property adjoining the Preserve that would provide additional flood protection along the Withlacoochee River floodplain.

Water Quality Enhancement

- ◆ Assess the likelihood of runoff from the fish farm entering the Withlacoochee River and prevent the adverse impacts this may have on water quality in the river.

Recharge

- ◆ Avoid large-scale withdrawals of groundwater at Hálpata Tastanaki Preserve in order to prevent environmental impacts induced by aquifer drawdown.
- ◆ Preserve natural land cover over the property to maximize recharge potential while minimizing the potential for groundwater contamination from impermeable surfaces.

Special Protection Areas

Scrub Jay Habitat

- ◆ Coordinate with the managers of adjoining and nearby publicly-owned tracts, including the DEP, DOF and FFWCC, to ensure that the local scrub jay subpopulation is managed in an holistic manner, rather than as

individual occurrences, paying special attention to the need for restoration of potential movement corridors among tracts.

- ◆ Evaluate the suitability of Hálpata Tastanaki Preserve to serve as a receiving site for translocated scrub jays as a means of enhancing the local subpopulation and rescuing jays that will be displaced by development in the surrounding area.
- ◆ Prescribed burns in the Scrub Jay Management Zone will be designed to maintain scrubby conditions within the transitional habitat they currently inhabit.
- ◆ A substantial block of mature scrub located on the Withlacoochee River, but lying outside the Scrub Jay Management Zone, will be restored to an early successional state in order induce habitation by jays and serve as a bridge for promoting dispersal between the Preserve and the Two-Mile Prairie tract.

Camp Izard and Other Archaeological Sites

- ◆ All known archaeological and cultural sites, except for those that have been determined to be insignificant, will be treated as Special Protection Areas in order to prevent physical disturbance.
- ◆ The harvest of pines in the portion of the Timber Management Zone that overlaps Camp Izard and the surrounding battlefield will be conducted in a manner designed to minimize physical disturbance, and any extremely sensitive portions of the site may be removed from TMZ status following a final harvest. Archaeological investigators will be consulted for guidance on this issue.
- ◆ That portion of the Timber Management Zone in the immediate location of Camp Izard and the surrounding battlefield will be harvested of pines selectively and then removed from future pine production in order to restore a pine canopy reminiscent

of the pine flatwoods that occurred here historically.

- ◆ Appropriate interpretive facilities, including kiosks and monuments, will be constructed at Hálpata Tastanaki Preserve in recognition of the significance of the battle at Camp Izard. These facilities may be placed at the designated public access points, as well as the actual battle site, and will be designed in cooperation with the Seminole Wars Historic Foundation. All such structures and exhibits will be designed to be consistent with a natural setting and compatible with the character of the property.
- ◆ Proposals to conduct archaeological research on the Preserve will be reviewed by the District on a case-by-case basis and permitted research must be consistent with any requirements or protocols established by the Florida Department of State.

Habitat Restoration Areas

- ◆ Treat all restoration sites as Special Protection Areas to ensure that the planned restoration will be successful and the investment of resources is justified.

Wading Bird Rookery

- ◆ Monitor the wetland system where the former rookery occurred for evidence of renewed nesting activity. Such monitoring should be conducted on a semi-annual basis. In the event that nesting activity resumes at the site, management of the surrounding area will be tailored to prevent disturbance of nesting birds in accordance with recommended guidelines.
- ◆ Guide recreational uses that would be incompatible with a wading bird rookery, but otherwise compatible with resource management needs, to other portions of the property. Levels of recreational activity that could dissuade a resumption of nesting activity will be avoided in the area immediately surrounding the former rookery site.

- ◆ Any future on-site rookery will be managed as a Special Protection Area and in accordance with accepted guidelines, including those guidelines specified in the Wildlife Management section of this plan.

Land Use

- ◆ Make the Hálpata Tastanaki Preserve available for the compatible, resource-based recreational uses enumerated in this plan. Exclude user-based recreational uses as incompatible with the natural character of the Preserve.
- ◆ Coordinate with the Florida Department of Transportation to ensure that the future four-laning of State Road 200 incorporates an underpass or bridge at the southern end of Ross Prairie to accommodate safe passage between Hálpata Tastanaki Preserve and Ross Prairie State Forest by recreational users.
- ◆ Coordinate with DOF and DEP's Office of Greenways and Trails to develop the visitor center proposed near the SR200 right-of-way, contingent upon a location and design that will ensure safe access by recreators.
- ◆ In the event the proposed visitor center is to be constructed on the east side of SR200, coordinate with the Florida Department of Transportation to ensure that the future four-laning of SR200 incorporates an underpass or bridge at the southern end of Ross Prairie to accommodate safe passage by recreational users between the visitor center and Hálpata Tastanaki Preserve.
- ◆ By the end of fiscal year 2000, provide an interim access point on SR200. Contingent upon development of the proposed SR200 visitor center on lands of the Greenway, the interim access point may be expanded to serve as a permanent facility.
- ◆ By the end of fiscal year 2000, develop the primary access point off CR484.

- ◆ Construct kiosks or other structures at each of the designated public access points to display interpretive materials and disseminate informational literature on use of the property. Interpretive information about the Camp Izard Battlefield Preserve archaeological site will also be provided at each access point.

Land Management

- ◆ Coordinate as necessary with FDOT to ensure that the restoration project conducted as mitigation for off-site wetland impacts is successfully completed through appropriate monitoring and maintenance.
- ◆ Conduct a hydrologic analysis of ditched wetland systems in order to identify and implement an effective approach to restoration of hydroperiods.
- ◆ Consider reintroduction as a method of restoring species that have been extirpated from Hálpata Tastanaki Preserve's recovering xeric scrub and sandhill communities.

Gopher Tortoise

- ◆ Prescribed fires will be conducted primarily during the growing season to optimize maintenance of open habitat and growth of preferred forage plants. Return intervals for fire will be based on community-specific recommendations.
- ◆ District staff will coordinate with contractors performing thinning or harvest cuts in the Timber Management Zones to minimize impacts to tortoises. Burrows will be flagged as necessary and operators of logging trucks and other heavy equipment will be instructed to exercise caution in areas that support tortoises. Such considerations will be outlined as logging contracts are put up for bid.
- ◆ Monitoring activities will consist, at a minimum, of burrow density surveys

conducted following prescribed fire applications in appropriate habitat types.

Florida Scrub Jay

- ◆ Use prescribed fire and/or mechanical methods to maintain 50–75 percent cover of scrubby oaks at a height of 2–10 feet (1–3 meters), a open canopy of trees with no more than 20 percent total canopy cover, and 10–30 percent cover consisting of bare sand. Other optimal habitat characteristics include a matrix of recently burned flatwoods and marshes, few or no patches unburned for >20 years, and few or no dense forests or dense stands of trees within or adjacent to the managed scrub (Fitzpatrick et al., 1991).
- ◆ Coordinate with other public and private land management entities, particularly the Division of Forestry and DEP's Office of Greenways and Trails, to manage the local scrub jay population in a cooperative fashion that will allow the scattered concentrations of jays to function as subpopulations of a larger metapopulation. This should include coordinated efforts to protect and restore scrub tracts to achieve stands large enough to support a sustainable population, and to enhance prospects for dispersal within and among tracts.
- ◆ Develop a Scrub Jay Management Plan for the property that includes an active monitoring program and implementation of a banding program to facilitate elucidation of demographic characteristics and changes within the population.
- ◆ Investigate the need for, and feasibility of, implementing a scrub-jay relocation project that will translocate scrub jays to Hálpata Tastanaki Preserve from an appropriate, nearby population. A final decision to implement such a program will be based on: the success of maintaining habitat suitability within the designated Scrub Jay Management Zone; the availability of jays from an

appropriate donor site; and salient demographic characteristics of the resident population.

Red-Headed Woodpecker

- ◆ Allow clusters of turkey oak stands to reach maturity rather than maintaining them at low stature.
- ◆ Except as absolutely necessary to protect the public's safety and property, snags will not be removed to accommodate human use areas; red-headed woodpeckers do not typically utilize nest boxes, increasing the importance of retaining natural nesting sites.

Southeastern American Kestrel

- ◆ A regular census will be conducted between May 1 and August 1 to determine population trends.
- ◆ Maintain a buffer zone 100 feet in diameter around all active nests during the breeding season, which extends from January-August (Stys 1993).
- ◆ Maintain dead or dying trees at a density of at least 1 tree/20 acres (Stys 1993). It does not appear that snags are a limiting factor; therefore, at this time, there is no need to install nest boxes.
- ◆ Conduct prescribed burns every 2–3 years to maintain foraging areas with ground cover heights less than 10 inches (Stys 1993).

American Bald Eagle

- ◆ A primary zone extending 750–1,500 feet from any on-site eagle nest will be established. Within this zone, no chemicals toxic to wildlife will be used and no clearing or tree removal will occur. During nesting season, no human entry will be allowed and no District-employed aircraft will operate within 500 feet vertical distance or 1,000 feet horizontal distance of the nest.

- ◆ A secondary zone extending 750 feet to one mile beyond the primary zone will be established. Within this zone, no new trails or roads will be developed and chemicals toxic to wildlife will not be utilized at any time. Prescribed fire will not be conducted within this zone during the nesting season.

- ◆ Maintain an inventory of all nests on the property and map precisely where each is located using GPS equipment. Nests will be monitored and a cumulative history of nest use and fledgling success will be maintained.

Florida Sandhill Crane

- ◆ Identify and protect significant nesting sites. This may include limiting human access during the nesting period. Recreational facilities and trails will not be sited in proximity to known nesting areas.
- ◆ Applications of prescribed fire application should be conducted primarily during the growing season—June through October—to minimize disturbance to nesting birds and to maintain herbaceous marsh habitat.

Wood Stork

- ◆ No construction of tall towers within 3 miles or high power lines within 1 mile of feeding, roosting or colonial nesting sites should be allowed.
- ◆ Identify and locate important foraging and/or nesting sites. At important feeding sites, there should be no human intrusion, alteration of hydrology, nor introduction of fertilizers or herbicides that may cause in increases or decreases in vegetation.
- ◆ Primary and secondary buffer zones should be established around rookeries. The primary buffer zone should extend 1,000 to 1,500 feet in all directions from the colony boundaries. Logging, hydrological alterations, unauthorized human intrusion,

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INTRODUCTION

Location

The Hálpata Tastanaki Preserve (Preserve) is located in southwest Marion County near the junction of State Road 200 (SR200) and County Road 484 (CR484). It is bordered on the south by the Withlacoochee River, on the north by the Marjorie Harris Carr Cross Florida Greenway State Recreation Area (Greenway), and on the east by SR 200 (Figure 1). Ross Prairie State Forest lies on the east side of SR 200 and the Two-Mile Prairie tract of the Withlacoochee State Forest neighbors the property along a short segment of frontage on the Withlacoochee River. The juxtaposition of these publicly owned tracts produces a contiguous block of protected lands approximately 18,500 acres in size, with the 8,090-acre Preserve at the central core of the land mass.

Planning Process

In accordance with District Procedure 61-3, a standard methodology is employed in the development of land use plans for District-owned properties (Christianson, 1988). The first step of this systematic process is the identification of special protection areas that occur within the property. These areas may include wetlands, floodplains, flood control facilities, potable water sources, and significant ecological features. Restrictions on the use of the property are imposed to ensure the protection of these areas. Land use constraints resulting from the size and configuration of an area also considered during this phase of the process. Public uses that are compatible with the basic resource protection needs of the property are then identified. These consist generally of resource-based recreational activities, but can potentially include such uses as cattle grazing and timber production as a means of generating revenue to support the District's land management program while supporting local economies and rural traditions. The ultimate objective is to balance resource protection needs with the public's right to

appropriate use of these lands. This is accomplished by concentrating land uses in appropriate areas and preventing incompatible or conflicting uses from occurring within a property.

Each property is also evaluated to determine its placement within a classification system. The two factors upon which the property classifications are based are the population density of the area surrounding the property and the extent to which the property has been developed or altered. The classifications have been devised to provide guidance in the formulation of an overall management philosophy for each property. The management philosophy is an expression of the level of development that should be allowed on the property and the types of uses that are appropriate. On the basis of this evaluation, the Hálpata Tastanaki Preserve property has been designated an Urban Fringe Wildland. The planning process is initiated by an interdisciplinary team of District staff. Affected local governments and others with a vested interest in the property may also be invited to appoint a representative to the plan development team. Representatives from Marion County, the Florida Division of Forestry (DOF) and the Florida Department of Environmental Protection's (DEP) Office of Greenways and Trails participated with the Preserve's plan development team so that shared issues associated with management of the property could be considered. A representative of the Seminole Wars Historic Foundation also provided input to the plan development team.

Prior to presenting a plan for approval by the District's Governing Board and the appropriate Basin Board, management plans must be reviewed and approved by the Land Management and Acquisition Task Force. This committee is composed of senior District staff assigned various roles in directing the management and use of District-held lands. Plans are also presented at public workshops conducted near the site of the subject property so that affected members of the public have an opportunity to participate in development of the final plan. Workshops for the Preserve plan

were conducted at the nearby Rainbow River State Campground and consisted of a workshop conducted prior to plan development, and a follow-up workshop to present the draft plan for public information and comment. Final review and approval of all plans by the Governing Board is conducted in a public hearing during which members of the public may provide comments or recommendations about the future use and management of the property. Comments received at public workshops are also summarized for the Governing Board's consideration.

Management Philosophy and Emphasis

On the basis of the moderate population density of the area surrounding the Preserve, and the relative lack of intrusion by roads open to unrestricted motorized traffic, the Preserve has been designated an urban fringe wildland. This designation recognizes the influence that the moderate, but expanding, human population will have on the character and use of the property. Although SR200 borders the Preserve's eastern property line, there are no other public roads in immediate proximity to the property. Coupled with the absence of vehicular access through the property, as outlined by the conceptual recreational plan formulated herein, the limitations on access allow the Preserve to provide "wildland" conditions within "urban fringe" surroundings. The absence of vehicular traffic through the property will not greatly constrain the public's ability to access the property given the availability of direct access from both SR200 and CR484.

Although the neighboring Marjorie Harris Carr Cross Florida Greenway State Recreation Area (Greenway) is still in development and the portion adjoining the Preserve is not yet open for recreational use, it is a high-profile publicly owned property that is projected to receive a high amount of public use. The Recreation Area designation is used by DEP to denote those properties where accommodation of recreational use by the public is the primary manage-

ment goal. The Greenway's contiguity with the Ross Prairie State Forest and the Preserve will provide the public with an outstanding opportunity to choose among recreational options that range from the developed campgrounds, paved trails and user-based activities offered on sections of the Greenway, to exploration of the backcountry trails and wild, undeveloped reaches of the Preserve and Ross Prairie State Forest. Coordination with DEP, DOF and Marion County during the development of this plan concentrated on integrating the public's recreational use of these adjoining lands to ensure a maximum of recreational opportunities while protecting the important natural values on these properties.

Development of this plan was conducted with clear recognition of the important role Hálpata Tastanaki Preserve will play in the long-term function of the Greenway and other conservation lands. Together with Ross Prairie State Forest, the Preserve provides the only protected expanse of core wildlife habitat to complement the Greenways role as a wildlife dispersal corridor of state-wide significance. Without such nodes of core habitat, the Greenway will not be able to effectively fulfill its role as a wildlife corridor. The Preserve's frontage along the Withlacoochee River also permits it to serve as a critical link in a larger regional network of conservation lands that are concentrated along the floodplain of the river (Figure 2). This plan outlines an approach to management and public use that will protect the extremely-significant natural values of the property while accommodating recreational uses by the public that will be efficiently linked with, and be complementary to, recreational use of the both the Greenway and Ross Prairie State Forest.

Regular updates of the plan will also provide an opportunity for approved public usage and management strategies to be reevaluated. It is anticipated that future archaeological investigations of the Camp Izard site, discussed in detail in the following section of the plan, may also suggest new approaches to the interpretation and public enjoyment of this important historical landmark.

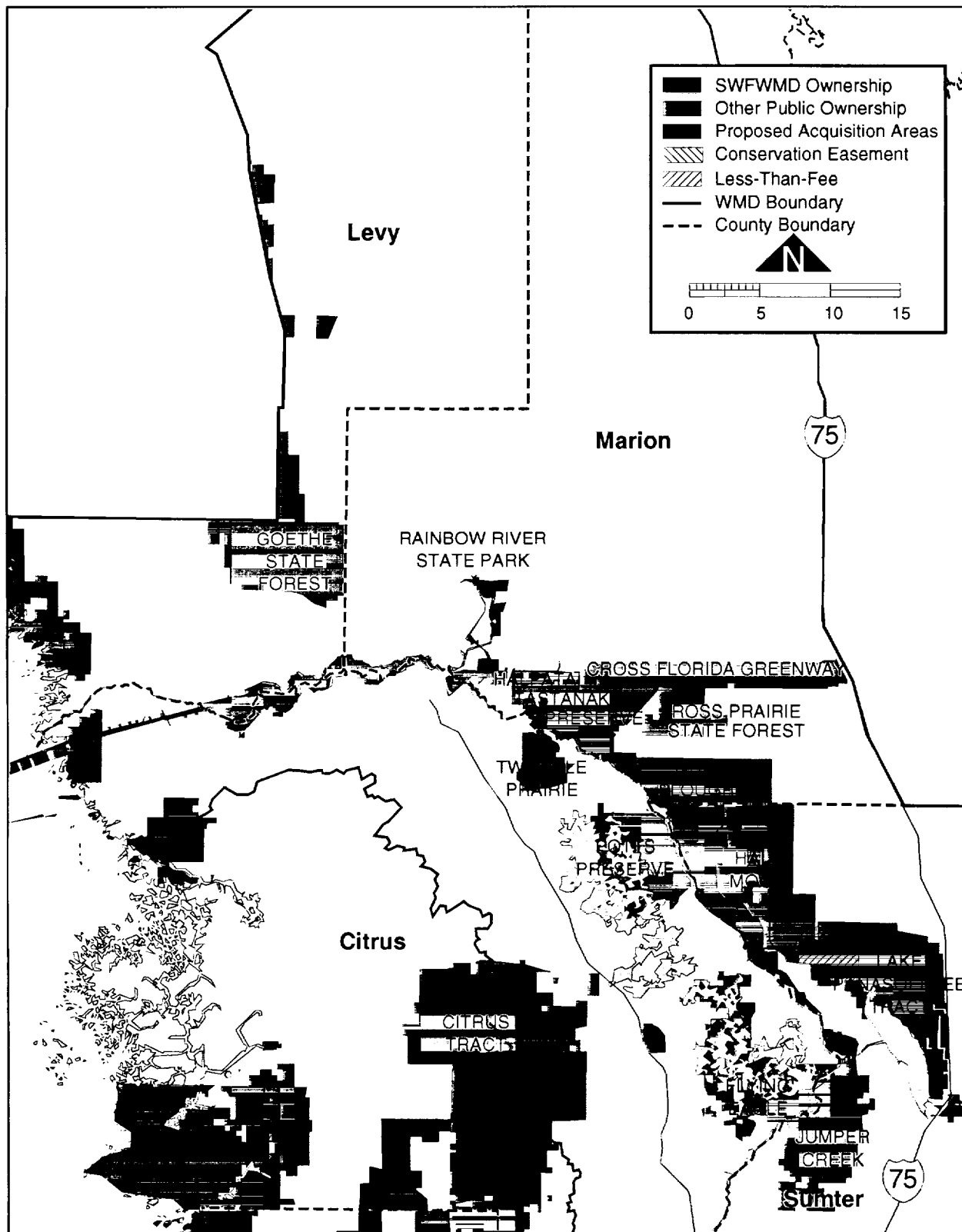


Figure 2. Conservation Lands in the Lower Withlacoochee Area.

History of the Property

The Preserve is composed of two primary parcels. The western-most 5,800 acres were acquired in 1994 and constitute the Pruitt parcel. The remaining 2,290 acres consist of the Moxson parcel and were acquired in 1995. Both parcels remained in a relatively undisturbed condition prior to 1950, with alteration limited to the logging of pine and cypress. Between 1950 and 1955, the majority of the Pruitt parcel was converted from pine flatwoods to improved pasture. Sometime after 1984, the southeastern third of the property was converted to pine plantation. The remaining natural, pre-alteration vegetation on the Pruitt parcel is limited almost exclusively to wetlands, including both forested systems and herbaceous marshes and wet prairies.

Although the Moxson parcel has also experienced intensive use over the years, it appears that the use was limited primarily to grazing of cattle over native range. The southern portion of Moxson has been planted in pine, and pine had previously been harvested from portions of the property; however, much of Moxson exhibits natural vegetation that is regenerating on lands that were not as highly modified as the lands of the Pruitt parcel. Please refer to the discussion of land cover for additional information on the vegetation of the property.

Of greater interest and cultural significance is the history of this area during the 19th Century. The previous owner of the Pruitt parcel (Dr. Clayton Pruitt), and the District upon its subsequent acquisition of those lands, have worked cooperatively with the non-profit Seminole Wars Historic Foundation to facilitate an archaeological investigation of the on-site Camp Izard battlefield. A 680-acre portion of the Pruitt parcel has been made available to the Foundation for a phased investigation designed to identify the original boundaries of the Camp Izard site and surrounding battlefield, and to identify other sites of cultural or archaeological significance located within the study area. The Phase I study was completed in 1997 (Gulf Archaeological Research Institute, 1997) with

funding provided through an Historic Preservation grant-in-aid from the Florida Department of State, Division of Historical Resources. The grant award required a 50 percent match from the Foundation. A license agreement between the District and the Foundation allows the Foundation to initiate Phase II and Phase III investigations of the site during the period of the agreement, which expires in 2005.

Camp Izard was a hastily constructed fortification that was built to protect federal troops from a fierce attack waged by Seminoles during the opening weeks of the Second Seminole War. The attack commenced on February 28, 1836, and concluded on March 9 with the retreat of the army following a temporary truce with the Seminoles (Gulf Archaeological Research Institute, 1997). Lieutenant Lewis Izard, the first army casualty of the battle, was mortally wounded while reconnoitering the banks of the Withlacoochee River for a suitable site to ford the river. The army was seeking to move southward across the river into present-day Citrus County, which was the stronghold of the Seminole people at that time.

Federal forces participating in the battle were under the command of General Edmund Gaines and are estimated to have numbered approximately 1,200. Seminole forces, under the joint leadership of Osceola, Jumper and Alligator (Hálpata Tastanaki), are estimated to have numbered about 1,000. On the basis of these numbers, the Camp Izard battle was the largest battle of the entire Second Seminole War. Federal casualties numbered five killed and 46 wounded, and Seminole casualties consisted of three killed and five wounded.

The absence of widespread public awareness of the Camp Izard battle belies its actual significance and may be attributable to an odd set of historical circumstances. Immediately prior to the battle, General Gaines and his troops had ventured to the site of the Dade Massacre near present-day Bushnell in order to bury the dead. That battle, which took place on December 28, 1835, resulted in the deaths of all but three of the 108 soldiers participating. The Seminoles,

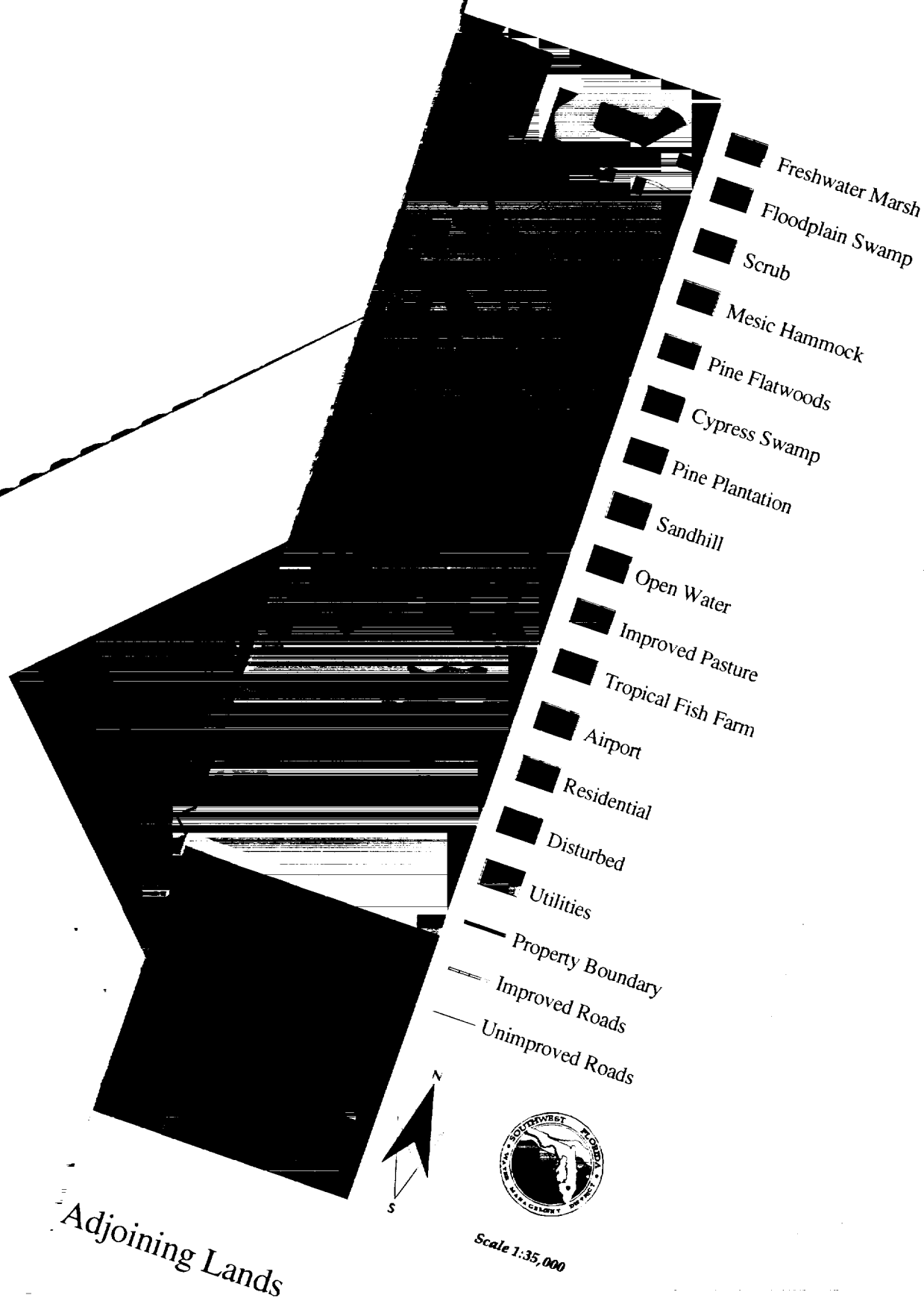
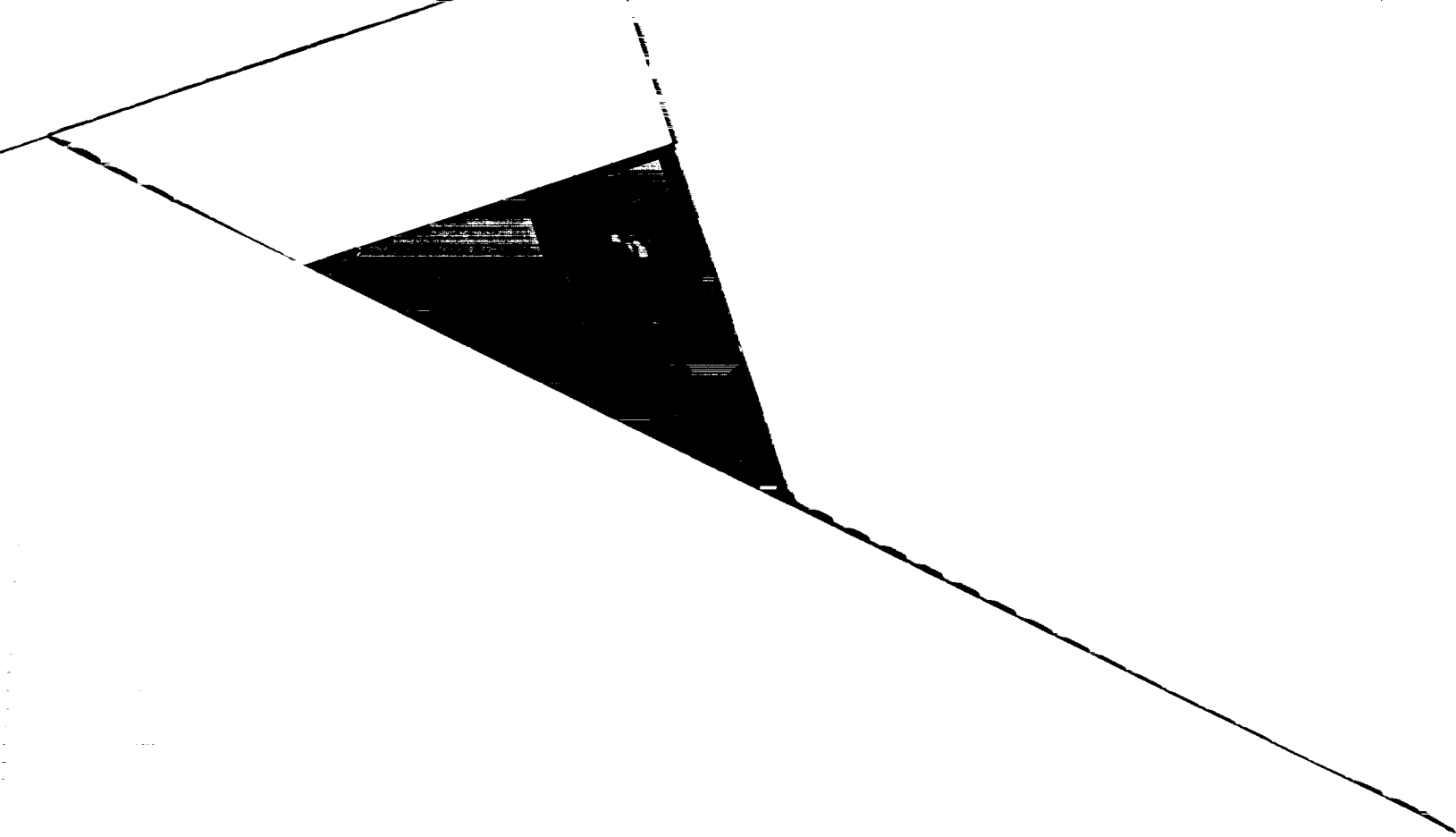


Figure 3



and

contrast to the pine canopy, can be extremely diverse and is related to the relative availability of moisture. Wet flatwoods occur in relatively low-lying sites that are subject to occasional flooding and frequent saturation. Scrubby flatwoods occur on sites at the other end of the moisture spectrum and characteristically include species that are more tolerant of dry conditions. Mesic flatwoods are intermediate in character.

The western half of the Preserve, which is where the flatwoods were historically concentrated, is noteworthy for its very flat terrain and the preponderance of its land area lying in the 100-year floodplain. As such, it is suspected that the Preserve flatwoods consisted of a mixture of wet and mesic flatwoods and habitat restoration efforts will focus on restoring vegetation typical of these plant associations. Common shrubs would include saw palmetto (*Serenoa repens*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*) and gallberry (*Ilex glabra*). Groundcover species include a great variety of such native grasses and herbs as wiregrass (*Aristida sp.*), bluestem (*Andropogon sp.*) and deer tongue (*Carphephorus odoratissimus*). Pine flatwoods were historically the predominant plant community of Peninsular Florida and their value to wildlife, based on the great range of wildlife species that depend upon them, exceeds that of most other plant communities. Restoring pine flatwoods on the pasturelands will be a long process, but one that will greatly enhance the property's value to wildlife.

Xeric communities occurring at the Preserve include both scrub and sandhill. Scrub is very limited in total extent (70 acres) and the majority occurs in one block along an elevated stretch of Withlacoochee River shoreline. This block of scrub is in an overmature condition due to long-term absence of fire and this plan proposes that the vegetation be restored to a younger transitional stage. Scrub is dominated by shrubby oaks, including sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*) and Chapman's oak (*Quercus chapmanii*). The canopy, when one is present, consists of sand pine (*Pinus clausa*). Among the high-profile

wildlife species that are dependent on scrub habitat are the Florida scrub-jay (*Aphelocoma coerulescens*) and gopher tortoise (*Gopherus polyphemus*).

Like scrub, the sandhill community occurs on well-drained sites; however, it supports a much more diverse overstory, including longleaf pine, turkey oak (*Quercus laevis*), and bluejack oak (*Quercus incana*). The groundcover is usually dominated by a carpet of wiregrass (*Aristida stricta*) that carries the frequent, low-intensity fires typical of sandhill. Sandhill accounts for approximately 1,650 acres of the Preserve, or 20 percent of the total land area, making it the single most extensive natural community on the property. Its value to wildlife is reflected in the section of the plan devoted to wildlife management. Much of the sandhill is in a transitional state due to previous land uses, which included silviculture and cattle grazing, and the transitional state includes pockets of scrub oaks that are characteristic of scrub. These transitional sites are now providing habitat for seven families of scrub jays and management goals discussed elsewhere in the plan call for maintaining the islands of scrub vegetation in order to perpetuate and expand the extent of scrub jay habitat.

The only other upland community that occupies a significant portion of the Preserve is mesic hammock. Mesic hammocks are hardwood-dominated forests with canopies of live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), sweetgum (*Liquidambar styraciflua*) and pignut hickory (*Carya glabra*). Understory and groundcover is usually sparse. Many bird species favor the diverse canopies of mesic hammocks, which account for approximately 1,120 acres of the Preserve, or nearly 15 percent of the total land area.

Wetlands

Wetland communities cover a total of approximately 2,070 acres at the Preserve, or 25 percent of the total land area. The predominant wetland community is freshwater marsh (1,200

acres), with smaller areas of floodplain swamp (530 acres) and cypress swamp (340 acres). The freshwater marsh category includes areas of wet prairie that are commonly associated with the higher outer-fringe of marshes. The herbaceous vegetation that dominates these communities includes a diversity of grasses, sedges, and other plants that are adapted to regular submersion and saturated soils.

The floodplain swamp is associated primarily with the floodplain of the Withlacoochee River, although small stands of such forest are isolated among the marshes and cypress swamps. Cypress swamp occurs in those wetlands with the longest hydroperiods because the pond cypress (*Taxodium ascendens*) that dominates these systems is more tolerant of frequent and sustained flooding than the hardwood species that dominate the floodplain swamps. The floodplain swamp communities have an extremely diverse canopy of red maple (*Acer rubrum*), sweetgum, loblolly bay (*Gordonia lasianthus*), magnolia (*Magnolia grandiflora*), cabbage palm, and bald cypress (*Taxodium distichum*). Groundcover ranges from sparse to heavy, often consisting of such ferns as cinnamon fern (*Osmunda cinnamomea*), swamp fern (*Blechnum serrulatum*) and chain fern (*Woodwardia virginica* and *Woodwardia areolata*).

Wetland communities are valuable for a large array of wildlife species, including many neotropical migratory birds. It is essential that the forested wetlands such birds depend on be preserved in large blocks, because they typically cannot nest successfully in small stands or fragments that may result from development and the construction of utility lines and other linear facilities. Wetlands are also important to Florida's wide variety of wading birds, and to the amphibian fauna that require water for successful reproduction.

Soils

The gently sloping topography of the property is characterized by a predominance of poorly drained soils that support several important

wetland vegetative communities. Poorly drained to very poorly drained soils of the Anclothe and Holopaw series (Anclothe/Tomaka and Holopaw sands, respectively) are present along the Withlacoochee River where topography is nearly flat and the ground is covered with water for a period of two to six months per year (SCS, 1979). The frequency and duration of this inundation reflects a watertable level that is located ten inches or less below the soil surface for much of the year. Due to a natural ability to tolerate such conditions, swamp hardwood communities colonize these regions.

In nearly level areas where the watertable is slightly lower, soils of the Lynne, Paisley and Pomona series (Lynne sand, Paisley loamy fine sand and Pomona sand, respectively) replace those of the Anclothe and Holopaw series. Inundation in these areas is restricted to periods of flood, resulting in the replacement of hardwood swamp by hydric and, to a lesser degree, mesic hammock.

Soils of the Placid and Pomona series predominate in the northwest section of the property. These very poorly drained soils are characteristic of shallow depressions occurring along sandy uplands in the region and support various wetland communities (SCS, 1979). Patches of soil of the Placid-Pompano-Pomona complex occur as well which, being covered with water up to six months per year, create an environment particularly suited to native water-tolerant grasses and hardwood swamp species. The vast majority of this section of the property was cleared and drained to create pasture. While the wetlands in the area remain, the effects of this land use are apparent as some wetlands reflect a history of reduced hydroperiods.

Pomona sands comprise the majority of the surface soil in the central portion of the property. These soils commonly occur in flatwoods and on sandy ridges adjacent to wet depressions. Much of this area was cleared to establish approximately 1,300 acres of planted pine, the majority of which still remains. Though scattered patches of mesic hammock and cypress swamp are present as well, the impact

of such land use on soil and topography creates difficulties in determining the past extent of natural communities in this area.

In contrast to the rest of the property, soils in the eastern sections are relatively well-drained. These include, in order of increasing drainage: Jumper fine sand, Sparr fine sand and Adamsville sand (somewhat poorly drained); Tavares sand (moderately well-drained); Apopka sand (well-drained); and Candler sand (extremely well-drained). These soils types are common in upland areas and along ridges where the water table is generally more than

five feet from the surface. Scrub and sandhill communities exist where the most well-drained soils occur. In the southeast portion of the property, where soils are more poorly drained, mesic hammock is the predominant vegetative community.

The above discussion is based on soil surveys conducted by the Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Field verification was not conducted during preparation of this plan, and other soil series may also be present on the property.

important flood protection function as it drains approximately 82 percent of the 870 square mile Green Swamp. As a component of this system, the property borders approximately five miles of the river with 6,550 of its 8,090 acres (80 percent of total) contained within the 100-year floodplain (Figure 4). Floodplain areas are generally of a flat or gradually sloping topography and support a variety of wetland communities, creating a natural system of surface water detention and attenuation. Wetlands physically store floodwater, reduce the peak elevation of flood waters and moderate or attenuate the release of flood water (SWFWMD, 1987). This capability was demonstrated directly at the Preserve during the "El Nino"-induced flooding which occurred throughout the region as the result of heavy rains that fell during the winter of 1997-1998. Over 15 inches of rain fell during a two-month period, resulting in flooding conditions in many areas that lasted for several months. At the Preserve, the Withlacoochee River crested just under 10-year flood levels of 38.6 feet NGVD, leaving the majority of the floodplain forest submerged in over five feet of floodwater for most of the duration of the flood. Discharge rates at the peak of flooding reached 5,000 cubic feet of water per second, but would likely have measured higher without the attenuation of flow provided by the forested floodplain.

Isolated wetland areas on the site also provided valuable storage of flood waters during this time as rainwater and runoff from upland areas rapidly filled them. Many were inundated beyond their holding capacities and resulting overflow was transported gradually down-gradient toward the Withlacoochee via sheet flow. The cumulative storage capacity of wetlands in Hálpata Tastanaki Preserve provided valuable flood protection by reducing the amount of water entering the Withlacoochee River, thereby helping to reduce the peak elevation of flood waters.

The Withlacoochee River watershed includes portions of eight counties including Polk, Lake, Sumter, Pasco, Hernando, Citrus, Marion and Levy. Eleven District-managed properties stretch throughout the watershed, extending

from the Green Swamp (the headwaters of the Withlacoochee River) to Hálpata Tastanaki Preserve which lies approximately 30 miles upstream from the mouth of the river. In all, including other public lands, over 307,000 acres of the watershed are currently being managed for the protection of natural systems and the analogous natural flood protection they provide.

Management Actions:

- ◆ **Backfill any remaining ditches, as required, to restore natural conveyance paths and patterns of sheetflow, and continue restoration of altered wetland areas as warranted.**
- ◆ **Plan the design of future trails within Hálpata Tastanaki Preserve, and close or modify existing roads, to minimize or reverse alterations of natural conveyance paths.**
- ◆ **Explore options for the purchase of additional property adjoining Hálpata Tastanaki Preserve that would provide additional flood protection along the Withlacoochee River floodplain.**

Water Quality Protection and Enhancement

Assuring and protecting the quality of water resources is a critical aspect of the land management planning process. Contamination of surface and groundwater, while at times brought about by natural agents, is most often associated with human activities. As the demands placed upon water supplies have increased, likewise have issues of contamination and the treatment necessitated by it. In response to the need to supplement traditional treatment methods, the ability of natural systems, particularly wetlands, to improve water quality have become important considerations in quality related issues. Wetlands are defined as transitional habitats located between terrestrial and aquatic systems where the water table is at

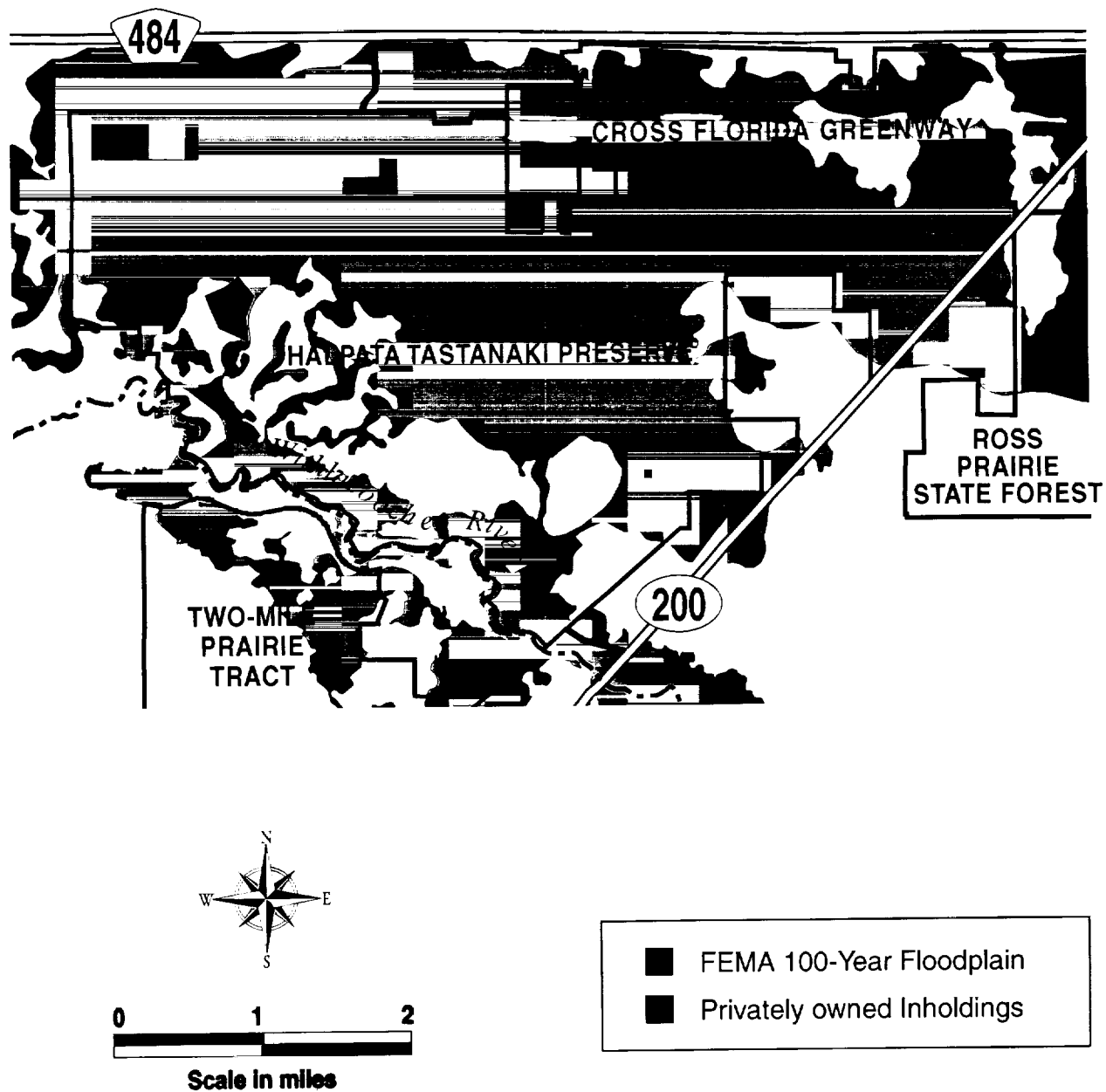


Figure 4. Extent of the 100-year Floodplain in the Hálpata Tastanaki Preserve and Surrounding Area

or near land surface and is covered with shallow water for at least a portion of the year (Cowardin and others, 1979). As water passes through a wetland, its velocity is reduced causing the sedimentation of suspended particles which may include an array of toxic compounds, nutrients or other pollutants. These can then be consolidated into bottom sediments or taken up by the metabolic processes of plants, animals and microbes which bind these compounds into living tissue. This natural process effectively removes many contaminants from the water column, preventing them from entering adjacent water bodies or the aquifer (SWFWMD, 1987).

A five-mile stretch of the Withlacoochee River constitutes the southern extent of the Preserve and as such is directly impacted by runoff from the site. The river is designated an "Outstanding Florida Water" by the Florida Department of Environmental Protection, a status which prohibits any discharge that would result in reduced water quality. Prior land uses at the Preserve which may have impacted water quality in both the river and aquifer included silviculture (pine plantation), improved pasture (cattle grazing), residential use, cropland and other agricultural endeavors such as sod farming and fish hatchery ponds. District acquisition precluded the continuation of the majority of these practices. Though no current documentation cites these land uses as contributing pollutants to runoff entering the river at the site, runoff associated with these activities typically contains a variety of pollutants which can reduce water quality. Those present in such runoff can include nutrients, pesticides, coliform bacteria and other contaminants from agricultural lands; high nutrient and coliform bacteria levels associated with animal wastes from pasture land; and leakage of fecal and coliform bacteria associated with septic systems. The former fish pond operation incorporated a drainage system that directed overflow to a ditch that discharges to the Withlacoochee River, but it is unlikely that discharge from the defunct operation is a potential point source of tainted discharge to the river.

The role of the Preserve in the protection of water quality in the Withlacoochee centers around its wetlands and their ability to control and improve the quality of runoff entering the river. While wetlands provided a measure of water quality protection preceding acquisition, the cumulative benefit they could provide was likely diminished due to impacts necessitated by on-site land uses. Specifically, the digging of ditches to drain and improve pasture in the northwest portion of the property shortened hydroperiods in some wetlands, resulting in disrupted vegetation patterns, reduced species diversity and altered natural conveyance paths.

In efforts to reverse these impacts, mitigation was undertaken by the Florida Department of Transportation in cooperation with the District to recreate lost plant communities, re-establish area hydrology and restore wetland hydroperiods. This project involved the backfilling of ditches to divert water back to natural areas, allowing wetlands within the restoration area the opportunity to retain historic levels of surface water and runoff. The planting of native trees, shrubs and herbaceous ground cover species which had a high probability of existing prior to the historic land alterations was also included to further the transformation of the site to a more natural state. In all, the project restored or enhanced nearly 460 acres of native wetland and upland communities, thereby restoring the area's capacity to improve and protect water quality to near pre-impact levels. Additional restoration is planned by the District to improve wetland conditions elsewhere on the property, further enhancing water quality protection capabilities.

Management Actions:

- ◆ **Assess the likelihood of runoff from the fish farm entering the Withlacoochee River and prevent the adverse impacts this may have on water quality in the river.**

Recharge

Groundwater recharge is defined as the passive, downward transport or percolation of surface water to underlying water-bearing aquifers. Within the northern portion of the District, the ground-water system is comprised of a discontinuous surficial or "water table" aquifer and the Floridan aquifer which are usually separated by the presence of impermeable clay "confining" layers. Where the confining layer is discontinuous or does not exist, as is encountered in the region of the Preserve, the Floridan aquifer is considered to be unconfined. Groundwater supply development may be precluded in these areas due to the increased possibility of aquifer contamination and other environmental impacts such as aquifer draw-down, sinkhole development and shortened wetland hydroperiods. While the surficial aquifer is generally able to supply high quality water for irrigation and domestic purposes where smaller supplies are needed, it is the Floridan aquifer that satisfies the majority of the state's water supply needs (SWFWMD, 1992). Rainfall is the primary supplier of water to the aquifer and as a result, levels fluctuate dependent on the amounts received. Generally, the highest water levels occur in September or October, following the rainy season when water use and ground-water withdrawals are at a minimum (Yobbi, 1983).

Aquifer levels can be expected to remain fairly stable when not affected or depleted by large-scale pumping of water from the aquifer or extended drought conditions. Both of these scenarios can cause lowering of the potentiometric surface of the Floridan aquifer. Potentiometric surface elevation is established by measuring the level to which water will rise in a tightly cased well in response to the hydraulic pressure present within that region of the aquifer. In the case some wetlands, water level is influenced by aquifer levels and vary with fluctuations in the elevation of the potentiometric surface. In extreme circumstances, impacts are sometimes observed as shortened hydroperiods which can cause them to undergo changes in vegetation and habitat structure

(Rochow and Lopez, 1984; Lopez, 1985; and Rochow, 1985).

Recharge rates to the Floridan aquifer are highly variable and site-specific and are categorized into areas of generally no recharge; very low recharge (less than two inches per year); very low to moderate recharge (two to ten inches per year); and high recharge (greater than ten inches per year) (SWFWMD, 1987). These rates are determined by a combination of factors that include the thickness and hydraulic conductivity of materials overlying the Floridan aquifer; the elevation of the potentiometric surface in the region; and transmissivity values (a measure of the ability of the aquifer to transmit water away from the area) (Aucott, 1988). Highly permeable soils are capable of conducting greater volumes of recharge; however, a high potentiometric surface creates hydraulic pressure that impedes infiltration through the soil layer. In contrast, hydraulic pressure will not impede recharge in areas where the potentiometric surface is below the water table. Recharge rates are also affected by runoff, evaporation and evapotranspiration which all act to determine the net amount of water available for recharge. While evaporation and runoff occur to some degree in all areas, evapotranspiration accounts for the greatest losses of precipitation in Florida (Aucott, 1988). Evapotranspiration is derived from the words 'evaporation' and 'transpiration' and describes the amount of precipitation that is metabolized by vegetation and lost as evaporation from land and water surfaces. Flow from the land surface downward to the Floridan aquifer may also be very rapid in areas where the confining unit is absent (Seaburn and Robertson, 1985).

Lying within the Withlacoochee River Basin, recharge rates in the region of the Preserve are considered to be among the highest encountered in the state and can occur at rates of over ten inches per year. Due to the combination of factors affecting recharge rates, similar rates are expected over much of the Preserve. The property is located between four highs in the potentiometric surface of the Upper Floridan aquifer and groundwater flows radially outward

from these potentiometric highs to areas of discharge. Specifically, groundwater flow at the Preserve is influenced by the Keystone and Green Swamp highs and is generally directed to the southwest (SWFWMD, 1992). Evidence of this lateral directional flow is seen at the southern boundary of the property where discharge from the Floridan into the Withlacoochee River occurs at a rate of one to five inches per year. (Aucott, 1988).

Regional literature approximates the annual water budget of the region at 55 inches of rainfall; 39 inches of evapotranspiration; 10–20 inches of recharge and only residual runoff after recharge (SWFWMD, 1987; SWFWMD, 1992). Prior to acquisition, larger volumes of water were likely lost to runoff via drainage paths cut across the property to improve pasture areas. These drainage paths were back-filled soon after acquisition in order to restore natural conveyance paths. Runoff at the site is minimized due to the gradual slope of the land surface (30 ft. NGVD at the Withlacoochee River to 65 ft. NGVD at the northern site boundary); the numerous wetlands and other native vegetation located on the property; and the considerable amounts of leaf litter associated with the forested areas of the site. These characteristics work in combination to attenuate surface water flow, increase detention time and reduce the amounts of precipitation lost to evaporation, thereby resulting in more surface water available to infiltrate to the surficial aquifer.

The process of groundwater recharge begins with, and is predicated upon, rainfall which is initially impacted by soil type and topography upon reaching the land surface. As a result, these factors also initially affect recharge rates. From the northern boundary of the Preserve the land slope is gradually down-gradient to the Withlacoochee River at a rate of approximately 1.8 feet of land surface elevation for every 1,000 feet of lateral distance (SWFWMD, 1992). This relatively flat topography results in the occurrence of cypress domes or freshwater marshes in the many small, shallow depressions that are scattered across the landscape,

and that serve as basins within which surface water collects. These sites become important areas of recharge during drought periods when the water table adjacent to them drops (Florida Natural Areas Inventory, 1990). Poorly to somewhat-poorly drained soils are predominant within the Preserve (SCS, 1979); however, they are able to absorb relatively large amounts of water if exposed to prolonged hot, dry climatic conditions. This is a critical factor to recharge within the Preserve due to the ability of these soils to serve interchangeably as storage and supply of water to the surficial aquifer. Storage occurs mainly during the rainy season when saturation of the surficial aquifer impedes downward infiltration of surface water. This situation is reversed during drier months as water levels in the surficial aquifer drop sufficiently, allowing the water stored within surface soils to percolate to it. Recharge rates in these areas is considered to be in the low to moderate range (two to ten inches per year), primarily as a result of the influence of potentiometric surface elevation. Although infiltration is relatively unrestricted by unconsolidated deposits throughout this area, the amount of recharge that the aquifer will accept is limited because the potentiometric surface is so close to the land surface that during periods of heavy rainfall the aquifer becomes full and is unable to accept the additional water (Anderson and Laughlin, 1982).

Not all soils within the Preserve are poorly drained. Moderately well-drained to well drained soils are found in the eastern and northeastern sections of the property that also affect recharge rates. (SCS, 1979) The highest elevations on the property are encountered here and support native scrub and sandhill communities. Soils in these areas are remnants of ancient shorelines and as such are sandy and highly porous which allows water to reach the surficial aquifer quickly, avoiding the losses to evapotranspiration and runoff experienced elsewhere on the property (Florida Natural Areas Inventory, 1990). The surficial aquifer reaches its greatest thicknesses here and deposits up to 30 feet deep are not uncommon. As a result the surficial aquifer is able to accept

CONCEPTUAL LAND USE PLAN

Special Protection Areas

Certain areas within the Preserve will warrant special protection efforts in order to more effectively preserve water management functions and/or other outstanding natural values. Any areas that are extremely sensitive to disturbance; that harbor unique or regionally-significant natural features; or that play a critical role in maintenance of the water management values attributed to the property will merit designation as a Special Protection Area. Typically, Special Protection Areas must be discrete features that can be readily defined. Protective measures in these areas will take precedence over other land use and management considerations.

Special Protection Areas designated for the Preserve include: a Scrub Jay Management Zone that is currently providing habitat for at least six families of the threatened Florida scrub jay; the Camp Izard Battlefield Preserve and other sites of archaeological or cultural significance; two habitat restoration areas; and a site that formerly served as a wading bird rookery. Additional Special Protection Areas may be designated in the future on the basis of colonization or regular use by an imperiled species, or in recognition of other significant resource values or concerns.

Scrub Jay Habitat

The documented presence of at least seven families of the Florida scrub jay (*Aphelocoma coerulescens*) on the Preserve will serve as the basis for the most intensive, species-specific wildlife management actions required on the property. The Florida scrub jay is currently designated a threatened species by both the State of Florida and the United States Fish and Wildlife Service (FGFWFC, 1996). It is an extremely habitat-specific species, occurring only in immature stands of scrub or scrubby flatwoods. Sites that have become overgrown or over-mature due to long-term absence or suppression of fire will not support jays. The

well-drained sands that are characteristic of scrub sites also makes them highly coveted for development. The scrub jay's specificity for a habitat type that has always been relatively rare, and that has become increasingly rare due to fire suppression and human development, has led to their elimination across much of their historic range and to the species' threatened status (Cox, 1987).

The scrub jay historically occurred in four large, contiguous populations that coincided with ancient dune ecosystems. One of these, defined as the Gulf Coast Subregion, originally extended across a swath of relict dunes that paralleled the Gulf coast of Florida from Levy County southward to Lee County. As a result of the extensive habitat destruction and fragmentation that accompanied human development of the Gulf coast, this population has now been bisected into a Northern Gulf Coast Subregion and a Southern Gulf Coast Subregion (USFWS, 1998), with the species essentially eliminated from the central portion of the population's former range.

Based on the present distribution of scrub jays in the Northern Gulf Coast Subregion, the Preserve may serve as the nucleus of the population. It is important to note that the habitat base of this population consists of disjunct fragments of scrub distributed across a wide area. As such, the members of this population are scattered in a diffuse pattern across southern Levy County, southwestern Marion County, northern Citrus County, and northwestern Sumter County. Hálpata Tastanaki Preserve lies roughly at the physical center of this range and helps to bridge the gaps that exist between some of the isolated subpopulations which comprise the larger Northern Gulf Coast "metapopulation." The long-term survival of the entire metapopulation will be contingent upon a coordinated management approach that seeks to protect existing habitat, restore degraded habitat, and maintain corridors suitable for movement by jays so that the gaps between neighboring habitat patches do not exceed the estimated dispersal distance for scrub jays. In this way, jays will be able to

A portion of the southern end of the Scrub Jay Management Zone is in a more advanced state of recovery than the portions occupied by scrub jays and will be managed to allow continued recovery to sandhill. The dense canopy of slash pine that is regenerating here was planted in 1994, just prior to the District's acquisition of the site, and will be allowed to grow until the trees have attained fence post stature. At that time, a clear-cut harvest will be conducted to eliminate the canopy of off-site slash pine to that an open canopy of native longleaf pine can be restored. In this way, the sandhill community can be restored before the recovering groundcover and understory vegetation are degraded by a dense plantation-style canopy, while also allowing for a revenue-generating harvest. The presence and maintenance of both sandhill and scrub vegetation within the Scrub Jay Management Zone will enhance the habitat diversity of the property, allow for maintenance and expansion of scrub jay numbers, and increase the likelihood of scrub jay dispersal across the sandhill area by limiting canopy density. As stated previously, dense forest can greatly inhibit successful dispersal by jays.

Other non-scrub areas within the Scrub Jay Management Zone will also be managed, to the extent practical, in a manner that enhances the likelihood of scrub jay dispersal within and among neighboring lands. This includes the on-site portion of the Florida Power Corporation transmission line right-of-way. A moderate density of shrubs, if permitted to regenerate in the open right-of-way, would greatly enhance its suitability as a dispersal corridor by providing cover from predators. The District will coordinate with Florida Power Corporation to outline an approach whereby their management of the transmission line corridor will meet their needs for safety and accessibility within the corridor while also permitting safe movement by jays.

The suitability of the Preserve to serve as a receiving site for translocated scrub jays will also be explored to determine if translocation is a viable strategy for augmenting the population. The Ocala National Forest has been identified as one of the two sites most suitable as a donor

site for jays based on the secure status of its population (USFWS, 1990). It is also relatively close to the Preserve, which could serve as a prerequisite for permitted translocation. The Marion Oaks DRI may also serve as a donor site if resident families of scrub jays are threatened by the progressive development of that residential subdivision. The Florida Scrub Jay Recovery Plan (USFWS, 1990) recommends that the undeveloped portions of the Big Scrub region, which coincides closely with Marion Oaks, should be surveyed for surviving jays. The Preserve could serve as a receiving site to salvage birds that would be lost to future development. The District will proceed cautiously in its evaluation of relocation as a means of augmenting the population in recognition of the pitfalls generally associated with translocations of wildlife. Additional monitoring of the existing birds will be an important prerequisite to evaluating the possible merits of a relocation project.

The management strategies employed in the Hálpata Tastanaki Preserve Scrub Jay Management Zone will be consistent with scrub management guidelines promoted in the official recovery plan for the species (USFWS, 1990). Other applicable sources of information will be used as they become available. Sites located outside the Scrub Jay Management Zone that could potentially support jays will also be managed, to the extent practical, in a manner designed to accommodate habitation or dispersal by jays.

Management Actions:

- ◆ **Coordinate with the managers of adjoining and nearby publicly owned tracts, including the DEP, DOF and FFWCC, to ensure that the local scrub jay subpopulation is managed in an holistic manner, rather than as individual occurrences, paying special attention to the need for restoration of potential movement corridors among tracts.**

- ◆ **Evaluate the suitability of Hálpata Tastanaki Preserve to serve as a receiving site for translocated scrub jays as a means of enhancing the local subpopulation and rescuing jays that will be displaced by development in the surrounding area.**
- ◆ **Prescribed burns in the Scrub Jay Management Zone will be designed to maintain scrubby conditions within the transitional habitat they currently inhabit.**
- ◆ **A substantial block of mature scrub located on the Withlacoochee River, but lying outside the Scrub Jay Management Zone, will be restored to an early successional state in order induce habitation by jays and serve as a bridge for promoting dispersal between Hálpata Tastanaki Preserve and the Two-Mile Prairie tract.**

Camp Izard and Other Archaeological Sites

As recounted in a preceding discussion of the history of the property, the Camp Izard Battlefield is located near the property's riverfront. An archaeological investigation of the battlefield, and of the area immediately surrounding it, revealed the presence of additional sites of archaeological and cultural significance (Ellis et al., 1997), and suggested that there are probably other such sites scattered around the property. All known sites will be treated as Special Protection Areas in order to prevent physical disturbance that would compromise their integrity and thereby reduce their value for systematic investigation in the future.

The archaeological investigation of the battlefield, which was sponsored by the Seminole Wars Historic Foundation and conducted by Gulf Archaeology Research Institute, was only the first phase of a study that may ultimately consist of three phases. The Phase I study identified the general boundaries of the battlefield, the Camp Izard breastwork, sur-

rounding Seminole emplacements, the Camp Izard Ferry Landing, and several other sites. The latter include an archaic site that is considered a potential candidate for listing in the National Register of Historic Places and some old homesteads that are not considered to be significant cultural resources. Two old roadbeds were also identified, including one that is presumed to be the military road that led to Fort Clinch near present-day Yankeetown. The Camp Izard Battlefield is certainly the most significant of the sites. It has already been nominated to the National Register and is also considered to merit designation as a National Historic Landmark. As noted previously, the battle at Camp Izard was the largest battle of the Second Seminole War, which was itself the most costly of all the Indian wars waged against Native Americans by the United States Army. On the basis of its significance, the District has formally designated the battlefield site the "Camp Izard Battlefield Preserve."

The District executed a license agreement with the Seminole Wars Historic Foundation (Foundation) in February, 1997, for the purpose of accommodating their archaeological investigation. The 8-year agreement will expire in February, 2005, and allows the Foundation to extend the agreement one additional year if archaeological surveys have not been completed. Rights and responsibilities of each party are defined in the agreement, including the Foundation's right to access a 680-acre study area. The District reserved the right to conduct any necessary resource management activities in the study area, but agreed to forego placement of any recreational facilities or improvements that could interfere with the Foundation's research. An archaeological report that includes an inventory of excavated sites, a description of all artifacts collected, and management recommendations for the protection and appropriate interpretation of the sites must also be submitted to the District.

The Phase 1 study determined that the Camp Izard site and battlefield had already been altered substantially by agricultural activities and silvicultural operations conducted on the

property prior to acquisition by the District. The site partially overlaps the Timber Management Zone (TMZ) that has been designated on the property, which coincides generally with those areas that were already in timber production at the time of acquisition. Future timber harvests in the area of overlap, and in the area immediately surrounding it, will be conducted in a manner designed to prevent additional disturbance. This may include the possibility of removing any extremely sensitive areas from TMZ-status following the next harvest, and retaining a natural density of pines in such areas in order to recreate the pine flatwoods setting that existed during the battle. Consultation with the archaeological investigators and the results of the Phase II study, if one is eventually conducted, will be used to help guide future harvests at this location.

Historical records indicate that Camp Izard, and much of the surrounding battlefield, supported pine flatwoods vegetation during the 1836 battle. The future harvest of pines over a portion of this location will also be designed to produce an open pine canopy reminiscent of pine flatwoods through the selective retention of trees. The land where this approach will be employed will be removed from the Timber Management Zone. It is anticipated that the total land area affected by this approach will be very small, amounting to less than five acres, and would produce a minimal effect on future revenue generation from timber production. It will greatly enhance the interpretive value of the site by restoring a physical setting and context that would be consistent with that experienced by the actual combatants of 1836 and by early settlers of the area.

The other significant cultural sites, including that of the Camp Izard Ferry Landing community, are physically separated from the sites now in timber production; however, they may still be subject to physical disturbance based on proximity to the riverfront and existing roads. As at the Camp Izard site, the construction of recreational improvements and other physical disturbances that are not directly related to approved interpretive facilities will not be

permitted in these areas. Although the District does not generally provide funding to support archaeological investigations and assessments, the property's sites will continue to be made available for supervised study by professional archaeological researchers. Proposals to conduct such research will be reviewed on a case-by-case basis and must satisfy any requirements or protocols dictated by the Division of Historical Resources of the Florida Department of State.

Management Actions:

- ◆ **All known archaeological and cultural sites, except for those that have been determined to be insignificant, will be treated as Special Protection Areas in order to prevent physical disturbance.**
- ◆ **The harvest of pines in the portion of the Timber Management Zone that overlaps Camp Izard and the surrounding battlefield will be conducted in a manner designed to minimize physical disturbance, and any extremely sensitive portions of the site may be removed from TMZ status following a final harvest. Archaeological investigators will be consulted for guidance on this issue.**
- ◆ **That portion of the Timber Management Zone in the immediate location of Camp Izard and the surrounding battlefield will be harvested of pines selectively and then removed from future pine production in order to restore a pine canopy reminiscent of the pine flatwoods that occurred here historically.**
- ◆ **Appropriate interpretive facilities, including kiosks and monuments, will be constructed at the Preserve in recognition of the significance of the battle at Camp Izard. These facilities may be placed at the designated public access points, as well as the actual battle site, and will be designed in cooperation with**

ground-truthing in one of the forested wetland systems. While the presence of several wood storks and possible evidence of nest construction was noted, actual nesting activity could not be confirmed. Similarly, observations made later in the nesting season revealed no evidence of a rookery and it appeared that conditions were unsuitable for the occurrence of such activity. However, the activity that has been observed indicates that an eventual resumption of nesting may occur. It is not unusual for rookery sites to cycle between multi-year periods of nesting activity and inactivity, often based on the need for a nesting site to "rest" and recover from the vegetative damage to tree canopies caused by large numbers of nesting birds.

The invasion of flood-intolerant vegetation into the perimeter of the wetland, low moss growth on cypress buttresses, and high fire scars on some trees suggest a history of long-term hydroperiod depression and fire suppression (Lopez, pers. comm.). Wood storks generally forego nesting in areas exhibiting these conditions due to absence of protection from such predators such as raccoons (USFWS, 1996; Lopez, pers. comm.). These domes also lack the deep perimeter of cypress cover typically favored by wood storks for their added protection and to serve as a buffer against disturbance. However, the presence of wood storks does suggest that foraging areas exist on the property that may be helping to support active rookeries elsewhere. Large amounts of food are required to fledge young; therefore, substantial feeding areas must be located proximal to nesting sites (Buckley and Buckley, 1976). Nesting wood storks do most of their feeding in wetlands between five and 40 miles from the colony, and occasionally at distances as great as 75 miles (Ogden, 1991). Numerous smaller domes and marshes on the property, as well as wetlands of the Tsala Apopka lake chain, Cross Florida Greenway, Jordan Ranch, Gum Slough and other adjacent sites, are typical of wood stork foraging areas and likely contribute to the prey base necessary to sustain area rookeries.

Due to the threatened status of many wading bird species and their sensitivity to disturbance at colonial nesting sites, any future rookeries established at Hálpata Tastanaki Preserve will be afforded Special Protection Area status. The former rookery site will be monitored regularly for evidence of renewed nesting activity. Recreational uses and potentially disruptive land management activities will be controlled to minimize their effects on any future rookeries and may be directed to other areas of the property as necessary (Tremblay and Ellison, 1979). This will be achieved through the establishment of minimum set-back distances to protect rookeries from disturbance. Recent research suggests that, for vehicle and pedestrian traffic, an exclusion zone of 1,000–1,500 feet in all directions from the rookery boundary should be established during the nesting season, which generally spans from late November through May in West-Central Florida (USFWS, 1996; Rodgers and Smith, 1995; Ogden, 1983). Recommended management within set-back areas includes: the exclusion of silviculture or the removal of other vegetation; any activity that reduces the area and depth of flooding in wetlands, except where required to maintain wetland health; and any unauthorized human presence within 300 feet of the colony (USFWS, 1986). A secondary exclusion zone should also be established, which extends an additional 1,000–2,000 feet, in order to protect habitat used by nesting storks for collecting nesting material, roosting, loafing and foraging (USFWS, 1996).

An additional concern regarding on-site wetlands that may be used for nesting by wading birds is related to the possibility of disturbance by aircraft using the Dunnellon Municipal Airport. The airport is located 2.3 miles northeast of the former rookery. It is used exclusively by small aircraft and those approaching or departing from the southwest to northeast oriented runway pass over the site. Guidelines specific to the management of wood stork populations recommend the exclusion of aircraft operation within 500 vertical feet of a colony (USFWS, 1996; Ogden, 1983). At a

that have been altered from a natural state, and where such activities are not inconsistent with the protection of natural resources. This has typically been limited to structural flood control facilities and other highly altered sites in urban or urban-fringe areas. There are no such sites at the Preserve and the enjoyment of resource-based uses approved for this property, and for the adjoining public lands, would be diminished by more intensive user-based recreational activity. Recreational use of the Preserve has been designed to be consistent with, and complement, recreational use of the adjoining Cross Florida Greenway and Ross Prairie State Forest. This will be accomplished through the placement of shared public access points and the configuration of designated recreational trails. A detailed discussion of this issue is provided in the next section of the plan.

Recreational uses that will be permitted at the Preserve include hiking, horseback riding, bicycling, picnicking, fishing, primitive camping, birdwatching and other nature study. A decision regarding hunting will be deferred pending further study; however, this deferment will not preclude the implementation of special hunts considered necessary to minimize destruction caused by the resident feral hog population. The property's natural riverfront provides an outstanding setting for the public to boat, canoe and fish in the Withlacoochee River. Fishing from the property's shoreline will be permitted, provided fisherman are properly licensed and comply with all applicable regulations of the State of Florida. These uses are discussed in greater detail below.

Although user-based activities are to be excluded from the Preserve, user-based recreational opportunities abound in the local area. Altered portions of the Greenway, including the segment immediately east of the Interstate Highway 75 corridor, will accommodate such intensive user-based activities as model airplane flying, equestrian shows and events, and off-road bicycling. Marion County is considering proposals for the development of a gun range and a campground suitable for recreational vehicle camping in the immediate

vicinity of the Greenway. The proximity of Ocala and Dunnellon ensure availability of a multitude of opportunities for user-based recreational activities and guarantee that a full range of recreational options are available to local residents and visitors.

Coordination of Use With Adjoining Publicly Owned Lands

— The primary goal of the recreational program developed for Hálpata Tastanaki Preserve is to provide a high-quality user experience while protecting the resources that led to acquisition of the lands, and which make the property attractive for such use. The State of Florida and the District have adopted an ecosystem approach to land management that requires an holistic, landscape-level perspective to ensure the protection of entire natural systems. Public use must likewise be viewed from a landscape perspective. The Preserve is part of a large network of protected lands that provide valuable economic and environmental benefits to the rural counties and communities in the surrounding region (see Figure 2). The protected areas vary considerably in size and four separate public agencies are responsible for management of the individual tracts that comprise the network. Each managing agency is guided by its own rules and objectives for lands under its stewardship; however, together these lands provide a wide array of recreational opportunities. The following is a brief listing of nearby publicly owned tracts, the agency with primary responsibility for the management of each tract, and a summary of the comprehensive, cumulative recreational benefits provided by these public lands:

◆ **The Marjorie Carr Cross Florida Greenway State Recreation Area** is managed by the Office of Greenways and Trails (OGT) of the Florida Department of Environmental Protection. It adjoins the northern boundary of the Preserve and is projected to serve as an important dispersal corridor for wildlife and as a major destination for recreators. A paved trail will be constructed the entire length of the Greenway for use by hikers, bicyclists and skaters. The stabilized surface will also permit

use by mobility-impaired individuals. Unpaved trails will be developed for equestrians in cooperation with local riding clubs. The total length of trails to be made available on the Greenway is projected to eventually exceed 130 miles. As noted previously, a variety of other uses will be accommodated along altered sections of the Greenway. An arena will be developed for competitive equestrian events, several sites have been set aside for model airplane enthusiasts, and an old quarry area will provide a challenging course for off-road bicyclists. Campgrounds and visitor centers will be provided at appropriate locations. As a designated State Recreation Area, a high priority is placed on accommodating recreational use. Management of recreational use will be conducted in partnership with Marion County's Parks and Recreation Department.

◆ **The Ross Prairie State Forest** is managed by the Florida Division of Forestry (DOF), which has also accepted resource management responsibility for the adjoining section of the Greenway. Recreational trails through the forest will be linked to those of the Greenway, allowing users of the Greenway to access the more remote lands of the State Forest. Hunting will be accommodated with the pending implementation of special youth hunts in the year 2000. A visitor center is planned for a site on State Road 200. Although the site of the proposed visitor center is within the Greenway, the center would also serve as a trailhead and staging area for users of both the State Forest and the Preserve. As a State Forest, Ross Prairie is managed under a multiple-use philosophy that recognizes recreation as an important element of management, but places an equivalent priority on management of the site's valuable natural resources. As such, recreational facilities tend to be less elaborate than those of parks and permitted recreational uses are more strongly limited to resource-based activities.

◆ **The Two-Mile Prairie Tract** of the Withlacoochee State Forest is also managed by DOF. It shares a small section of the Preserve riverfront, and preliminary discussions with DOF

indicate that a primitive camping area may eventually be provided along the riverfront. Recreational uses proposed in the draft management plan for Two-Mile Prairie also include trails for hiking, bicycling and horseback riding. Johnson Pond, a beautiful lake located in the interior of the tract, will be available for fishing.

◆ **The Half Moon/Gum Slough/Potts Preserve complex** consists of lands managed by the District (Gum Slough, and Potts Preserve) and the Florida Fish and Wildlife Conservation Commission (FFWCC). The FFWCC manages a hunting program on all but the Gum Slough tract. Although hunting has just been initiated at Potts Preserve, Carlton and Halfmoon have a long history of public hunting and they are very popular sites among local hunters. A variety of trails are available for hiking, bicycling and horseback riding. Primitive camping and group camping opportunities exist, and the Withlacoochee River segment through this area is popular for boating, canoeing and fishing.

◆ **Rainbow Springs State Park**, at only 1,040 acres, is considerably smaller than the other sites discussed above. However, its location along the banks of the beautiful Rainbow River makes it a popular destination for recreators. A large campground with complete facilities has been developed along the river and provides an alternative to the primitive style of camping accommodated on the tracts discussed previously. A boat ramp is available for public use, and canoes and inner tubes can be rented at the Park. The forested areas that account for the majority of the total land area allow for hiking and nature observation. As a unit of the State Park system, Rainbow Springs is managed by DEP and the management philosophy for the site places a strong emphasis on providing for recreational use while preserving or restoring the natural values that make the area so appealing.

◆ **Lake Rousseau State Recreation Area** is comprised primarily of the open waters of Lake

Rousseau; however, a boat ramp is available to make access to the water readily available.

◆ **There are additional publicly owned tracts in the immediate vicinity of the Preserve, including the Citrus Tract, Flying Eagle, Withlacoochee State Trail, and the Lake Panasoffkee tract.** The Withlacoochee State Trail is a Rails-to-Trails project that provides a 43-mile, paved recreational trail that is enjoyed by many thousands of recreationists each year. The northern terminus is located near Dunnellon. The other tracts listed are large properties that provide resource-based recreational uses similar to those discussed above. Each is also open to the public for seasonal hunting.

◆ **There are a handful of recreational facilities provided by local county and municipal governments, including sites with public boat ramps that make the waters of the Withlacoochee River readily available to boaters, e.g. the East Riverside Drive, Goldendale, and Dunnellon boat ramps.** The East River Drive park is located immediately south of the Preserve, providing convenient access to the Preserve's riverfront.

Public Access — The District is mandated to allow appropriate public access to the lands under its management. The location of public access points and the nature of permitted access is generally determined by considerations related to compatibility with natural resources, the configuration of existing roads and trails, security needs, and opportunities for coordination with local governments or other public agencies. There are currently five points of entry to the Preserve, two of which will serve as access points for public entry to the property. Access will generally be limited to foot, equestrian and bicycle traffic, with the primary entrance being located just south of County State Road 484 (CR484) along the northern boundary of the property (Figure 6). A secondary entrance will be provided along the State Road 200 (SR200) frontage on the eastern boundary Preserve. Vehicular travel within the property will not be permitted, although special

permits may be granted on a case-by-case basis to allow vehicular access for certain activities or to accommodate special circumstances.

As currently proposed, the facilities associated with the primary entrance off CR484 will be developed on the portion of the Preserve that has been leased to DEP and will be managed as a portion of the Greenway. It will provide a parking area, be designed to accommodate horse trailers, and serve as an entrance and staging area for recreational use of both the Greenway and the Preserve. An informational kiosk will be constructed for the distribution of informational literature. An interpretive exhibit related to the Camp Izard archaeological site will also be provided as either a component of the informational kiosk, or as a stand-alone structure. As required by the purchase agreement executed between the District and the prior owner of the property, and as detailed in the lease between the District and the OGT, OGT will construct a memorial to the deceased son of Crayton Pruitt at a site associated with this entrance.

The land on this section of the Preserve was converted to improved pasture prior to acquisition by the District and portions are now undergoing restoration. In order to enhance the public's recreational enjoyment of the property, the District will coordinate with the OGT to develop an additional trailhead into the Preserve approximately one mile east of the secondary access point discussed above. This will allow recreationists to enter the property from the Greenway via a trailhead located in a naturally forested site and provide them with an alternative to traversing the broad expanse of pasture that dominates the northwest corner of the property. It will provide the same opportunity for recreators coming from the east and improve the integration of recreational use among the Greenway, Ross Prairie State Forest, and the Preserve.

The secondary entry point, to be located on SR200 (Figure 6), will provide a parking area and walk-thru entrance to the Preserve. Entry

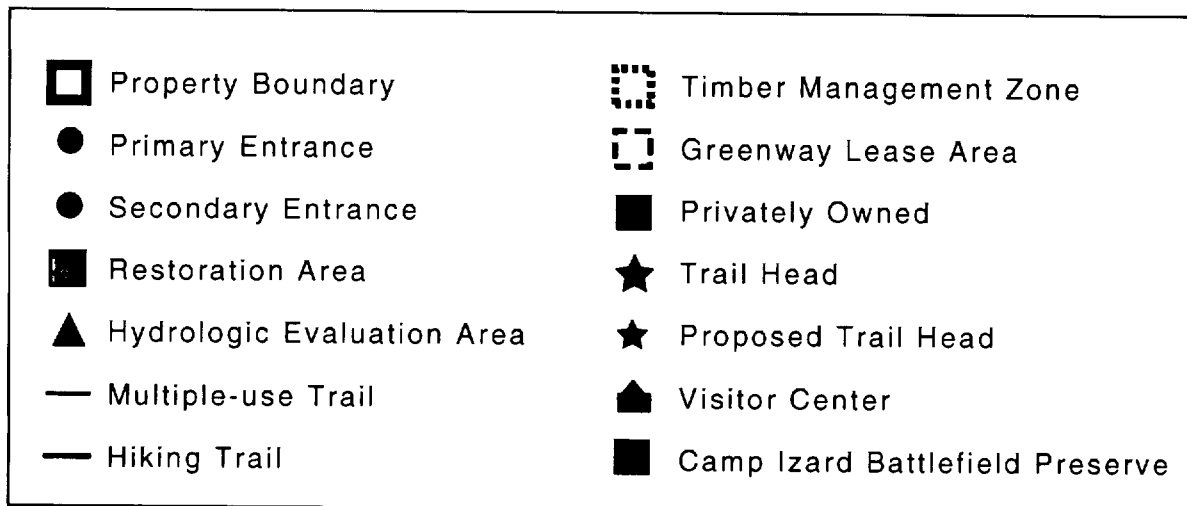
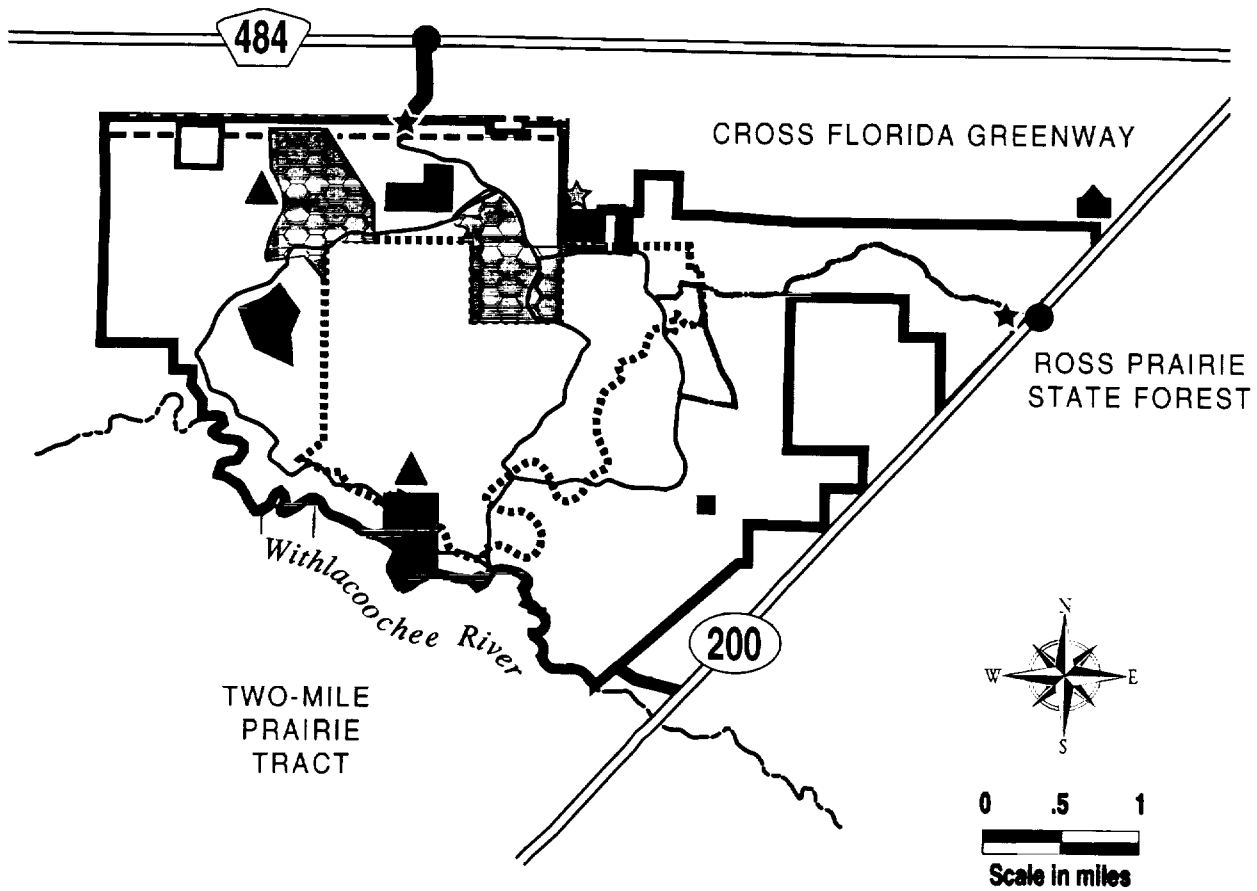


Figure 6. Conceptual Land Use Plan for the Hálpata Tastanaki Preserve.

from this access point will be limited solely to foot traffic. An informational kiosk and Camp lizard exhibit similar to that erected at the primary entrance discussed above will also be provided.

The District, OGT and DOF have proposed construction of a visitor center on a site proximate to the secondary access point. It will be built within the Greenway at a location immediately adjacent to both Ross Prairie State Forest and the northeast corner of the Preserve (Figure 6). Given the central location of the proposed visitor center site, it would serve as a convenient staging area for recreational users of all three neighboring tracts. Restrooms, parking designed to accommodate equestrians, picnic pavilions, informational kiosks, and various other amenities would be provided.

The Florida Department of Transportation is currently planning to four-lane SR200. The District may choose to participate in development of the visitor center described above; however, such participation may be contingent upon the center being located along the west side of SR200. If it is constructed on the east side of SR200, District participation would be contingent upon inclusion of an underpass or other structure in the SR200 expansion that would allow recreationists to safely cross the highway right-of-way and access the Preserve.

A visitor center that is convenient to users of all three tracts would be an extremely effective method for integrating public use of the three sites. The secondary access point discussed previously could become superfluous and be closed, or be maintained with a minimum of facilities and improvements. If the visitor center is constructed on the east side of SR200 and does not include a crossing structure, then the secondary entrance developed independently by the District will continue to be essential for providing safe, convenient access to this portion of the property.

Due to the outstanding issues related to widening of SR200, the primary access point off CR484 will be the first of the access points

opened for public use. OGT has included funds for development of the CR484 entrance in its budget for fiscal year 2000. The District will coordinate with OGT as necessary to ensure that the entrance is available for public use by the end of FY 2000. The District will also budget to develop the facilities of the secondary access point along SR200 during FY 2000. The latter access point will be considered interim in nature and will be designed to provide the minimum of facilities necessary to allow access, including a small area for parking and a walk-thru entrance. If the proposed visitor center and four-laning of SR200 do not conform to the District's needs, then the interim secondary access point will be modified to serve as a permanent entrance and informational kiosks and other related improvements will be added to the site.

The remaining points of entry to the Preserve either bisect private property or traverse private roads. Although the District can legally access the property via these entrances, such access must be for official business by District staff or other authorized personnel. The exclusive nature of the District's easement for access via these entrances precludes use by the general public.

As noted previously, access to the Preserve will generally be limited to those on foot, horseback or bicycle. Vehicular access by the public will be prohibited unless authorized by a special permit. Such permits are issued on a case-by-case basis to accommodate special needs or unusual circumstances, including access by individuals who are mobility-impaired or to allow approved scientific and archaeological investigations.

Management Actions:

- ◆ **Make the Hálpata Tastanaki Preserve property available for the compatible, resource-based recreational uses enumerated in this plan. Exclude user-based recreational uses as incompatible with the natural character of the Preserve and the adjoining lands of the Cross Florida Greenway and Ross Prairie State Forest.**

- ◆ **Coordinate with DOF and DEP's Office of Greenways and Trails to develop the visitor center proposed near the SR200 right-of-way, contingent upon a location and design that will ensure safe access by recreators.**
- ◆ **In the event the proposed visitor center is to be constructed on the east side of SR200, coordinate with the Florida Department of Transportation to ensure that the future 4-laning of SR200 incorporates an underpass or bridge at the southern end of Ross Prairie to accommodate safe passage by recreational users between the visitor center and Hálpata Tastanaki Preserve.**
- ◆ **By the end of Fiscal Year 2000, provide an interim access point on SR200. Contingent upon development of the proposed SR200 visitor center on lands of the Greenway, the interim access point may eventually be expanded to serve as a permanent facility.**
- ◆ **By the end of Fiscal Year 2000, develop the primary access point off CR484.**
- ◆ **Construct kiosks or other structures at each of the designated public access points to display interpretive materials and disseminate informational literature on use of the property. Interpretive information about the Camp Izard Battlefield Preserve archaeological site will also be provided at each access point.**

Hiking — Hiking is a low-impact recreational activity that appeals to a broad segment of the public. Part of its broad appeal may be related to the limited need for specialized equipment or other accouterments. A comfortable pair of shoes and a daypack loaded with some drinking water and snacks (and ideally a map and compass) are all that's needed. The unobtrusive qualities of hiking also make it an ideal vehicle for observing wildlife. The Hálpata Tastanaki

Preserve provides an exceptional opportunity for those seeking an outdoor experience in an area that showcases a diverse natural landscape and undisturbed riverfront, in combination with a culturally-significant site that allows users to explore and contemplate a compelling aspect of Florida's history. In recent surveys by Marion County, hiking ranked second only to picnicking in terms of public demand (Marion County, 1998).

When planning trails for hikers and other recreational users of the property, the preferences and enjoyment of the recreationist must be balanced with considerations related to the sensitivity of the property's wildlife and natural communities. The conceptual trail system delineated in Figure 6 provides a series of loop trails that will allow hikers to tailor their hike to personal preferences of both hike duration (distance) and the variety of landscapes to be traversed. Nearly all of the trails follow existing roads, thereby minimizing disturbance to the property and allowing recreational users to enjoy virtually immediate access. The easternmost loop of the trail network traverses the scrubby areas of the Scrub Jay Management Zone. It will be reserved for foot traffic because the loose, porous sands on this portion of the property cannot support the horseback riders and bicyclists that will have access over the remaining "multiple use" segments of the trail network.

Although the future development of new recreational trails is not precluded entirely, the development of such trails must be conducted in partnership with organized user groups, e.g. the Florida Trail Association, that will assist with trail delineation and long-term maintenance needs. The extensive network of existing roads is a legacy of past agricultural and silvicultural uses and the creation of new trails through remote, undisturbed sections of the property will be discouraged. The development of any new trails through undisturbed portions of the property will not be contemplated until appropriate wildlife surveys and research have been completed. Information provided by such surveys and research will be essential to

guiding future decisions regarding any expansion of public use. Other prerequisites to creation of new trails will include: creation of a partnership with an established user group; and confirmation that a clear need or demand exists for additional trails.

As discussed in the Resource Management section of this plan, existing roads that are not projected to be needed for future land management purposes will be retired from vehicular use to promote recovery of the natural vegetation and to enhance their attractiveness and potential for future recreational and wildlife use. Measures to enhance the designated network of trails will also be undertaken, including the construction of rest shelters, installation of interpretive signs at appropriate points of interest, and construction of kiosks at the two public access points to provide central locations for the dissemination of informational literature.

The District will consider offering guided interpretive walks that highlight the diversity offered by the trail system. These walks may be sponsored by District personnel or other experienced naturalists, or through development of a volunteer naturalist program. The walks should be scheduled to take advantage of seasonal variations in vegetation and wildlife. The subject matter of the walks should describe the ecology of the property, explain land management goals, and emphasize the natural values which served as the motive for preservation of the property.

Horseback Riding — Marion County is virtually synonymous with horses. Its long-established reputation as a hot-bed of equestrian activity is reflected in its renowned local ranches, which are famous for breeding worldclass thoroughbred horses, and in the widespread popularity of recreational horseback riding. A large, state-of-the-art complex for competitive equestrian events is planned for a site on the Cross Florida Greenway just south of Ocala, and organized equestrian clubs have been coordinating with DEP's Office of Greenways and Trails to develop an equestrian trail system along the length of the Greenway.

Two of the three recreational trail loops designated for the Preserve are intended to serve as a multiple use system for equestrians, bicyclists and hikers (Figure 6). Most of this multiple use network passes through forested areas that provide the shade so coveted by trail users, whether human or equine, and the network also allows equestrians to choose from a variety of trail lengths. The width and vertical clearance of the designated trails, which coincide with existing trail roads, are also conducive to use by equestrians. These trails are more remote than those of the Greenway and provide horseback riders with the option of a more primitive, backcountry riding alternative. When considered in combination with the equestrian trails proposed for the Greenway and Ross Prairie State Forest, the trail network made available to horseback riders is extensive and diverse, and is consistent with the equestrian tradition of Marion County.

Bicycling — The popularity of bicycling as a recreational activity has increased greatly in recent years, due in large part to the emergence of off-road bicycling or "mountain biking." The multiple-use loop trails designated for the Preserve (Figure 6) will be open for such use and will complement the trails offered by the Greenway by providing a "backcountry" alternative.

Some off-road bicyclists favor the use of "single track" trails over use of "double track" trail roads because such trails can present a more physically demanding and challenging experience. The trail network designated for the Preserve, as stated previously, follows existing double track trail roads and may not hold as much appeal for such riders as other local options. The Preserve will appeal instead to the segment of off-road bicyclists that are more interested in enjoyment of the natural surroundings and solitude offered by the property. The Santos portion of the Greenway is located a short distance east of Interstate 75 and provides a technically challenging off-road network for bicyclists. The Croom Tract of the Withlacoochee State Forest, which is located approximately 20 miles south of the Preserve, provides

laws governing fishing in the State of Florida. The only other areas of open water within the property are the deep-water central pools of various freshwater marshes. These areas are incapable of supporting sport fisheries and, although fishing at such sites will not be prohibited, it is expected that recreational fishing will remain confined to the riverfront.

The closure of the Preserve to vehicular traffic precludes the launching of boats; however, there are several public boat ramps that provide convenient access to the Withlacoochee River. These include: the East Riverside Drive boat ramp, which is managed by Citrus County and is located immediately south of the Preserve; the Goldendale boat ramp, which is also managed by Citrus County and is located on Lake Rousseau; and the Dunnellon boat ramp.

Picnicking — A recent survey by Marion County attempted to measure the public's demand for various recreational activities (Marion County, 1998). Picnicking was the activity that local residents identified most frequently as a favored activity for Marion County parklands. Small rest stations will be constructed at several locations on the property to provide a sheltered area where recreational users can rest, seek protection from rain, or eat lunch. The stations will be designed to be consistent with a backcountry setting, consisting of little more than a covered picnic table, and will assist the County in efforts to meet the public's demand for additional opportunities to picnic.

Hunting — The District allows managed hunting on its lands when compatible with site-specific management goals and other permitted public uses. A decision regarding hunting at the Preserve is being deferred pending a determination of its compatibility with other uses projected to occur on the property and on adjoining public lands. The District will also conduct studies to assess the on-site populations of typical game species. Deferment of a decision regarding recreational hunting on the property will not preclude the possibility of

scheduling special feral hog hunts to control populations of this destructive species.

Feral hog populations have grown to nuisance levels on many publicly owned lands and observations on the Preserve suggest that the local population is growing. Damage caused by hog rooting can be extensive and produces conditions that can alter the flow of surface water, eliminate existing native vegetation, induce erosion, reduce forage for native species of wildlife, and invite invasion by non-native plant species. Trapping has frequently proven to be an ineffective control measure, leading to the implementation of special hog hunts on District lands as an alternative method of resource protection. Special hog hunts will be implemented, as necessary, to manage the on-site population of feral hogs. Such hunts will be managed by the District and will be designed to provide a recreational benefit to the public while achieving the resource management goal of removing as many hogs as possible from the property. The removal of hogs will be maximized in such hunts by excluding any size or bag limits.

Sport hunting generally requires large, remote tracts of land able to support self-sustaining populations of game species. Large areas are also needed to accommodate the buffer zones required for hunted lands. While the total size of the Preserve appears sufficient to meet this requirement, there are limiting factors that would reduce the net amount of land suitable for hunting. More than 3,000 acres have been converted to pine plantation (1,315 acres) or improved pasture (1,710 acres). Pine plantations are monocultures of pine that do not provide ideal habitat for either game or non-game species. Pastures may provide suitable habitat for dove and quail, and in combination with surrounding forested areas can provide supplemental habitat for deer; however, the pastures of the Preserve are targeted for restoration. Ongoing monitoring of habitat and wetland restoration sites on 458 acres of the property's pastures necessitates that public access to these areas be confined to use of the

approved recreational trail segments that traverse these sites. The expanse of pasture also adjoins the Cross Florida Greenway, which is projected to experience heavy year-round trail use that would make hunting in neighboring pastures extremely problematic.

Hálpata Tastanaki Preserve is located within a patchwork of public lands which comprise a sizeable amount of preserved land within the Withlacoochee River basin (see Figure 2). These include lands immediately adjacent to the Preserve (Cross Florida Greenway, Two-Mile Prairie, and Ross Prairie State Forest). The close proximity of these lands and the various recreational opportunities they provide are anticipated to create a large user base, with subsequently high user rates likely reflected at the Preserve. An extensive trail system has been designated for use by hikers and equestrians (Fig. 6) and will be part of a continuous network of trails ultimately connecting the Preserve with the Greenway and Ross Prairie. This requires that decisions regarding the implementation of managed seasonal hunts recognize possible conflicts with the other public uses outlined in the plan or proposed for the adjoining tracts. These considerations are also necessary when assessing the river corridor as a possible area for hunting. The riverfront supports a narrow, 600-acre band of floodplain swamp that may represent the most productive habitat for deer on the property. However, regular public use of the river, residential development along its southern shoreline, and a possible lack of sufficient buffer area may require that all but primitive weapons be excluded from hunting along the riverfront. The presence of approximately 150 acres of utility easements and privately owned inholdings from which the public must be excluded produces additional safety concerns and results in the need for additional buffers around a residence and church. Finally, the presence of Florida scrub jays presents additional constraints on hunting within the eastern half of the property.

In the event that managed seasonal hunts are not found to be a viable public use of the Preserve, there are many alternative sites for

recreational hunters in the local area. Numerous hunting opportunities are available on publicly owned Wildlife Management Areas (WMAs) located within a 25-mile radius of the property, including: Potts Preserve WMA (9,349 acres); Flying Eagle WMA (10,247 acres); Lake Panasoffkee WMA (9,911 acres); Chassahowitzka WMA (18,710 acres); Homosassa WMA (5,468 acres); Half-Moon WMA (9,357 acres); Croom WMA (20,555 acres); Citrus WMA (41,000 acres); Jumper Creek WMA (10,068 acres); and Goethe WMA (43,614 acres). Additionally, small game hunts for youths aged 16 and under will be managed by the FFWCC at the adjacent Ross Prairie State Forest. Although privately owned, the Gulf Hammock WMA located 10 miles northwest of the Preserve is open to the public for hunting and provides an additional 24,685 acres of huntable land. This yields a grand total of nearly 205,000 acres of land within 25 miles of the Preserve that are open to the public for hunting, far and away the vast majority of publicly owned lands in the surrounding area. The Ocala National Forest, which lies just beyond the 25-mile radius discussed above, provides an additional 370,000 acres of hunting land.

Opportunities for Environmental Education

Most people who are attracted to visiting a property like the Preserve enjoy a natural outdoor experience and are committed to protecting the area and the ecosystems it sustains. However, many visitors may be relatively unaware of the dynamics of the surrounding environment and the effects their recreational activities may have on ecological processes at work within the property. Opportunities to learn about the ecology of the Preserve and its resident wildlife will be incorporated into the educational displays exhibited at the entrance kiosks. The District will be amenable to accommodating requests for field trips by local schools or private groups interested in capitalizing on the availability of this natural classroom. Typically, the District's role in such trips will be limited to organizational matters, including arrangements for vehicular access

and guidance on educational content or curriculum. Interpretive tours conducted by knowledgeable staff may also be arranged depending on the availability of appropriate staff, compatibility with resource protection goals, and liability concerns. The District's approach to environmental education will emphasize cooperation and coordination with the Marion County School Board and nearby private schools.

A curriculum guide has been prepared through a partnership between the District, Gulf Archaeology Research Institute, and the Seminole Wars Historic Foundation to address a variety of issues associated with the Withlacoochee River. Although some portions of the curriculum may more correctly be described as lessons in social studies, several include treatments related to the hydrology of the Withlacoochee. An additional section of the curriculum describes the battle of Camp Izard and is derived from the Phase I archaeological study described previously (DeLong, 1995). The District will attempt to incorporate such lessons into any future environmental education program implemented at the Preserve.

Multiple Use Potential

The State of Florida's landmark land acquisition programs have successfully protected a large portion of natural Florida from development, and are conserving an amazing diversity of natural resources for future Floridians. A direct result of this aggressive approach to land protection has been a concomitant increase in the amount of lands for which the District, and other public agencies, must accept management responsibility. While the public acquisition of land for conservation purposes will eventually reach a conclusion, the management of lands so protected will remain a continuing responsibility.

In 1996, the District began to evaluate various alternatives for generating revenue on District-held lands in order to assure a continuous source of funding to support land management. Legislative constraints on the use of lands held in trust by the District limited the range of

options to those that would be compatible with resource protection needs. As a result, the District considered only those alternatives that would capitalize on existing resources and not result in the alteration of natural, undisturbed lands. Fallow improved pastures were analyzed to determine viability for revenue-generating cattle leases, harvesting of hay, or timber production (Fox and Tully, 1996a). Likewise, existing stands of planted pine on District lands were evaluated to project their long-term capability to support continuous, sustainable timber harvests (SWFWMD, 1997; Fox and Tully, 1996). As a result of this comprehensive analysis of District-held lands, more than 8,000 acres have been designated as Timber Management Zones where sustainable silviculture will be practiced to provide a continuous revenue stream to support land management. Additional pastures have been, or will be, leased to private citizens to serve as grazing sites for cattle or as sites for the harvest of hay.

The preponderance of wetlands and other flood prone areas on the Preserve limit the ability of existing pastureland to support cattle while protecting wetlands and other on-site resources. Other constraints on use of the Preserve's pastures for grazing include projected recreational use of the property, the presence of two Florida Department of Transportation (FDOT) restoration sites within the Preserve's pastures, and a long-term goal of restoring native habitat to additional pasturelands. The latter goal is especially relevant in the pastures of the eastern half of the property, which are located within the Scrub Jay Management Zone and are intermingled among active patches of scrub jay habitat. Additionally, the comprehensive assessment of pastures on District-held lands rated the Preserve's pastures as only marginal in quality. The FDOT restoration sites total approximately 458 acres, were restored as required mitigation for environmental impacts associated with FDOT roadwork, and represent a significant public investment. The District's long-term goal for the Preserve's pastures will be continuing restoration as a means of enhancing value for both wildlife and recreators.

The extensive stands of plantation timber inherited by the District upon acquisition of the Preserve have been inventoried (Fox and Tully, 1996) and are designated a Timber Management Zone in which future management will seek to maximize commercial timber yield. This revenue-generating multiple use is the only such use proposed for Hálpata Tastanaki Preserve. Additional discussion of the TMZ is provided below.

Timber Production —As noted above, the District has implemented a timber management program for lands under its stewardship as a strategy for generating revenue that can be used to defray the expense of land management activities. Surveys of all District-held lands are conducted to identify altered sites within each property that could be planted in pine without disrupting undisturbed natural areas. These sites have consisted almost exclusively of improved pastures that have soils conducive to the production of pine. In the case of the Preserve, the former owner had already planted extensive areas of pine on agricultural land. The District acquired these areas of pine plantation coincident with acquisition of the property. The District's analysis of the pine stands determined that they are productive sites well-suited to the production of timber. They were subsequently designated a Timber Management Zone (TMZ) and will continue to be managed in a manner that ensures a continuous and sustainable supply of merchantable timber. The TMZ accounts for a total land area in excess of 1,315 acres.

The baseline inventory conducted by the District noted the presence of pitch canker throughout much of the existing plantation and "sanitation" harvests have been conducted to thin the canopy and improve the vigor and health of remaining trees. The property's prescribed burning program (see page 41) will include regular low-intensity fires within the TMZ to maintain low fuel loads and assist in nutrient cycling. Among District-held lands, Hálpata Tastanaki Preserve is second only to the Green Swamp in total land area dedicated to timber production and future revenue generation.

As noted in a previous discussion of the Scrub Jay Management Zone (see page 19), a relatively young stand of planted pine will be removed from the Preserve's TMZ to maintain the habitat values of recovering sandhill vegetation. The existing pine stand will be permitted to mature to fence post size and then be harvested. Subsequent management at this site will be tailored to maintenance of native sandhill and will also seek to maintain an open canopy conducive to dispersal by scrub jays. A small area around the Camp Iazard Battleground may also be removed from timber production to improve the interpretive appeal of the archaeological site and to reduce the potential for physical disturbance related to future harvest activities.

Utilities and Other Public Facilities

Consistent with legislation that was adopted by the State of Florida in 1999, lands acquired through state-funded acquisition programs can be used for a variety of public facilities. These include utility lines and other linear facilities; stormwater management projects; water supply development projects; and sustainable agriculture or forestry. Approval of such uses is contingent upon a number of criteria, including: the use must be compatible with the natural resource values of the property; reasonable compensation must be provided to the titleholder of said lands; the use is in the public interest; the use is located appropriately on the lands, with due consideration given to use of other lands; and the proposed use is not inconsistent with the management plan for the property.

A Florida Power Corporation transmission line runs along the southeastern boundary of the property, on lands that are a portion of the Preserve. The installation of the line pre-dates the District's acquisition of these lands. As noted in the discussion of scrub jay management, the District will coordinate with Florida Power Corporation to outline a management approach for the right-of-way that will maintain and enhance the suitability of the corridor for

dispersal by scrub jays. Selective retention of shrub growth will also benefit scrub jays dispersing along the corridor, and reduce the role of the corridor as a barrier to movement by many other wildlife species.

Security

Security will be provided on the Preserve through several means. A certified law enforcement officer will reside on the property near the secondary access point approximately one-half mile south of CR484. By contractual agreement, this officer must spend a prescribed period of time patrolling the property during off-duty hours. The presence of a resident security officer confers a measure of security that cannot be attained solely by District staff patrolling the site during work hours. The District's Land Resources staff provide security by maintaining a regular daytime presence on the property through the course of conducting normal land management activities.

Supplemental security is provided by limiting access points and restricting vehicular traffic. In accordance with District policy 610-3, perimeter fencing will be placed and/or maintained around the perimeter of the property. Maintaining appropriate perimeter fencing and other barriers to unauthorized access is a priority of the District's Land Resources Department. Informational signage can aid in providing security by apprising the public of the permitted and prohibited activities. Limiting public use to daylight hours will also help to reduce both security concerns and concerns related to public safety. Vehicular access and nighttime use of the property will remain limited to those users holding special use permits for camping and other activities, as issued by the District on a case-by-case basis. In the event that Marion County, or another outside governmental entity, agrees to sponsor and/or supervise public access and related recreational use, strategies for maintaining security will be amended as appropriate.

Land Management

The District engages in a variety of land management activities designed to protect or enhance the natural resource values of its properties and to ensure public safety. The following is a discussion of some of the management practices and resource protection measures to be employed at the Preserve.

Prescribed Fire

Prescribed fire is the most important management tool available to public land managers in Florida. Approximately 6,000 acres of the Preserve's 8,090 acres, or 75 percent of the total land area, supports vegetation that will benefit from regular, controlled applications of fire. The sandhill, scrub, pine flatwoods, and freshwater marsh communities at the Preserve are fire-maintained systems that are dependent upon recurring fire for their long-term maintenance and viability. In the prolonged absence of fire, the vegetative structure and species composition of these communities would gradually change and be of reduced value to wildlife. Given the degree to which the natural Florida landscape has been altered, and the need to prevent fires from escaping to adjoining private lands, the natural mechanism of lightning-induced fires cannot be expected to fulfill the fire needs of these communities. The use of prescribed fire will be necessary to achieve many of the land management objectives established for this property. Long-term fire management will be critical to maintaining these fire-dependent communities in a natural, biologically productive state and to maintaining fuel loads that pose less potential for catastrophic wildfires.

The inclusion of a detailed prescribed burning strategy is beyond the scope of this plan. Burn plans are developed for each District-held property individually, and independently of site-specific land management plans such as this. The District's land management staff has extensive experience in the use of prescribed

fire and a burning program has already been implemented on the property. Generally, prescribed fires on the Preserve will be designed to mimic natural, lightning-induced fires. Appropriate burn seasons and fire return frequencies will be established for each fire-maintained community and will be adhered to whenever possible. Burns will attempt to create a natural mosaic of burned and unburned patches to maximize diversity. Additional details on the use of prescribed fire at the Preserve are included in the discussions related to wildlife management issues, including a rationale for maintaining scrubby conditions suitable for scrub jays in a portion of the property's successional sandhill area.

Although pine plantation and pastureland are not natural communities, the proper management of these portions of the property will still require occasional applications of fire. Accounting for slightly more than 3,000 acres, or half of the land area subject to prescribed burning, the pine plantations and pastures will nonetheless require fire to keep fuel loads down, promote nutrient cycling, and enhance habitat value for wildlife. Prescribed burning of the pastures will also promote natural successional processes that will accelerate the natural recovery or restoration of the pre-existing natural vegetation (Newman et al., 1988). The majority of the pastures supported pine flatwoods prior to conversion and the recovery of these areas will greatly increase the habitat value of the property and enhance the recreational appeal.

Smoke management is often one of the most problematic issues associated with implementation of a prescribed burning program due to proximity of residential and commercial development and heavily traveled transportation corridors. Although there is a residential community to the east of the Preserve, development is relatively sparse around the remainder of the property. The SR200 right-of-way along the east will be an important factor in conducting prescribed fires on the eastern end of the property. CR484 to the north of the property will be buffered from fires by a one-half mile strip of intervening rural agricultural land, which

provides a wide zone for the dissipation of smoke, although several residences in that area will also represent a concern, as will the presence of two inholdings that include a residence and a church.

Habitat Restoration

As noted above, approximately 3,000 acres of the Preserve, or nearly 40 percent of the total land area, consists of pasture and pine plantation. This large proportion of altered area, relative to natural area, underscores the need for restoring pre-alteration habitat over a portion of the property. Initially, all 3,000 acres of altered land supported pasture; approximately 1,300 acres of former pasture were subsequently planted in pine by former landowners. The economic value of the standing timber in the pine plantations, and the potential for continued pine cultivation to generate a sustainable stream of revenue to support land management needs, served as the basis for designating the majority of the pine plantation as a Timber Management Zone (TMZ). The TMZ occurs as an essentially contiguous block in the center of the property (Figure 3). In contrast, much of the pasture is aligned along the property's northern boundary and is contiguous with the Cross Florida Greenway. As such, the pasture area is highly visible to recreational users of the Greenway and to those using entering the Preserve from the Greenway via the CR484 access point. In recognition of the long-term public benefits of continuing to cultivate pine within the TMZ, and restoring natural land cover to the portion of the property adjoining the Greenway, habitat restoration efforts will be concentrated in the 1,700 acres of existing pasture. This will result in the dual benefit of enhancing the Preserve's value to both wildlife and recreators, while retaining the revenue-generating potential of the TMZ.

The pastureland targeted for restoration is dotted with numerous herbaceous and forested wetlands (Figure 3), which were interspersed among large expanses of pine flatwoods, sandhill, and oak scrub communities prior to conversion of the surrounding matrix to pasture.

The conversion resulted in loss of much of the flora and fauna that would otherwise be characteristic of the property, including many imperiled species. From a more regional perspective, this large-scale conversion to pasture degraded the habitat value and biodiversity of the entire network of adjoining public lands. The wetland systems that remain have experienced diminished function due to changes in fire regimes, altered influx of nutrients, changes in species composition, and interruptions to surface water drainage patterns. The small size of these isolated wetland systems results in a high edge-to-area ratio, allowing adverse edge effects to be magnified and extend far to the interior of the affected wetlands. Other disturbances to the wetlands include impacts to vegetation and soils from grazing of cattle and filling due to increased water and wind erosion. These add additional emphasis to the need for restoring the Preserve's pastures.

In 1996, the District and the Army Corps of Engineers issued final permits to the Florida Department of Transportation (FDOT), District 5, authorizing a restoration project on the Preserve as mitigation for 12.7 acres of off-site wetland impacts associated with the widening of State Road 44 (SR44). The project restored native vegetation to two separate sites covering a total land area of 458 acres.

Site 1, which is 215 acres, consisted of a series of herbaceous marshes interspersed within a matrix of bahia grass pasture. Wetland vegetation was installed in several of the marshes to restore vegetational components that had been lost due to grazing and clearing impacts. Forested wetlands were also restored in natural fire shadows. Transitional zones between marshes and uplands were re-established by installing appropriate vegetation, and the pine flatwoods matrix was restored by high density plantings of native grasses, herbs, shrubs and trees.

Site 2 is approximately 243 acres, and also consists of several depressional wetlands interspersed within a bahia grass matrix. The

pasture at this location had been heavily ditched and drained to maximize horse and cattle forage, thereby decreasing the sizes and hydroperiods of the affected marshes. Mitigation at this site consisted of backfilling the ditch network and removing three culverts that had allowed water from the wetlands to drain to the Withlacoochee River. Five acres of wetland were created as part of the mitigation in order to provide on-site soil substrate for backfilling of the ditches. The mitigation areas will continue to be monitored and maintained by the FDOT until success has been achieved, at which point the District will resume management responsibilities on this portion of the property.

In 1995, the District's Land Resources Department began a three-year project to assess all altered sites on District-owned and managed lands and establish restoration priorities. More than 85 sites were investigated, including six sites on the Preserve property. The Preserve sites included three areas of improved pasture; a clearcut; an abandoned agricultural field; and a road segment that had been constructed over a filled wetland. The large expanse of pasture that wraps around the northwestern corner of the property and adjoins the Greenway was distinguished as the second-highest priority for restoration among all altered sites on all District lands (Barnwell, 1997). At over 1,600 acres in total size, it accounts for nearly all the improved pasture on the Preserve. Restoration is scheduled to begin in fiscal year 2000 with commencement of planning and design; actual construction is slated to begin in 2002.

Observations in some of the property's isolated wetland systems suggest that hydroperiods have been affected through ditching and draining, similar to that described above in the discussion of the Site 2 FDOT mitigation project. This includes a large forested system in the northwest corner of the property, and a series of systems in the south-central portion of the property. The latter wetlands are located within the Preserve's Timber Management Zone and include a small cypress dome that was located within the Camp Izard archaeological site. A ditch links the wetlands and discharges

ties, even in their current degraded condition, still support such endemic species as the Florida scrub jays, gopher tortoise, gopher frog, and southeastern American kestrel.

Management techniques that will be used to maintain and promote recovery of rare and protected wildlife species on the property include prescribed fire, control of exotic plants and animals, and habitat restoration. Although the District generally practices an ecosystem approach to management of natural systems, species-specific management strategies will be employed as necessary to perpetuate imperiled species. Significant species known or suspected to occur on the property, along with general management requirements, are listed in Table 1.

Management of any federally protected species documented to occur on the property, and for which an official recovery plan has been prepared, will be consistent with USFWS guidelines and recommendations. Areas that provide critical habitat needs for listed species, such as rare vegetation communities, rookeries, and nesting sites, will be mapped using a Global Positioning Satellite (GPS) and will be monitored and managed as part of the District's Land Management geographic information system (GIS) database.

Gopher tortoise — The gopher tortoise (*Gopherus polyphemus*) is a keystone species in xeric communities, meaning that the occurrence and viability of many other species of xeric communities is closely linked to, and dependent upon, the occurrence of gopher tortoises (Eisenberg 1983). Their burrows provide shelter for numerous other species, and the physical activity of burrowing by tortoises also serves as an important form of soil disturbance (Myers 1991). The burrows are used by an entire suite of species, including seven to eight invertebrates species that are entirely dependent on the shelter provided by tortoise burrows, and such species as gopher frogs, eastern diamondback rattlers (*Crotalus adamanteus*), eastern indigo snakes

(*Drymarchon corais couperi*), pine snakes, burrowing owls (*Speotyto cunicularia*), and Florida mice (*Podomys floridanus*) that use tortoise burrows on a regular basis (Cox et al. 1987). Tortoises consume a variety of fruits and seeds and their feeding activity helps to spread plant propagules. Along with pocket gophers (*Geomys pinetis*) and ground beetles (*Peltotrupes youngii*), the burrowing activities of tortoises may help to counteract leaching of important nutrients (Myers 1991).

To maintain a viable population of tortoises, a sufficient habitat base must be preserved. Suitable habitat for tortoises, as defined by Cox et al. (1987), includes well-drained, sandy soils; an abundance of herbaceous groundcover; and an open canopy and shrub layer. Since the species is long-lived, slow to reproduce, and experiences high juvenile mortality (Cox et al. 1987), the loss of mature females from the population or factors that consistently reduce the survival rate of juveniles survival rate could be disastrous to the population. Tortoises often deposit their eggs on jeep trails, fire lanes, and other human-produced clearings, increasing the susceptibility of eggs and hatchlings to predation by gray foxes (*Urocyon cinereoargenteus*), raccoons (*Procyon lotor*), opossums (*Didelphus virginianus*), armadillos (*Dasypus novemcinctus*), and fire ants (*Solenopsis invicta*), and also to crushing by vehicles (Cox et al. 1987, Auffenberg and Iverson 1979).

Upper Respiratory Tract Disease (URTD) has recently been identified as a significant threat to gopher tortoise populations statewide. This disease is caused by a mycoplasma bacterium that affects the upper respiratory tract of the tortoise (Jacobson et al., 1991; Brown et al., 1995). It is spread through contact with other infected tortoises and can be fatal. In order to assure the protection of tortoises that occur on District properties, the District has adopted a strict gopher tortoise translocation policy which requires stringent testing for all tortoises proposed to be translocated from off-site locations onto District lands.

Table 1. Significant Wildlife Species and Management Recommendations

Species	GFC	USFWS	Management Actions
Gopher frog (<i>Rana capito</i>)	SSC		Maintain and identify breeding ponds. Maintain tortoise habitat.
Short-tailed snake (<i>Stilosoma extenuatum</i>)	T		Minimize barriers in sandhill/scrub soils. Protect from collecting and persecution.
Gopher tortoise (<i>Gopherus polyphemus</i>)	SSC		Maintain habitat using prescribed fire.
Florida scrub-jay (<i>Aphelocoma coerulescens</i>)	T	T	Maintain and restore habitat by utilizing prescribed fire and mechanical treatment, if necessary.
Red-headed woodpecker (<i>Melanerpes erythrocephalus erythrocephalus</i>)			Create buffers and corridors in pine plantation to maintain habitat core in oak hammocks.
Southeastern American kestrel (<i>Falco sparverius paulus</i>)	T		Maintenance of cavity trees and open park-like habitat in recovering forests.
American bald eagle (<i>Haliaeetus leucocephalus</i>)	T		Protect nest sites by maintaining appropriate buffers and maintain feeding areas.
Florida sandhill crane (<i>Grus canadensis pratensis</i>)	T		Protect and restore nesting habitat.
Wood Stork (<i>Mycteria americana</i>)	E	E	Protect rookeries and foraging sites.
Little blue heron (<i>Egretta caerulea</i>)	SSC		Protect rookeries and foraging sites.
Great blue heron (<i>Ardea herodias</i>)			Protect rookeries and foraging sites.
Snowy egret (<i>Egretta thula</i>)	SSC		Protect rookeries and foraging sites.
Great Egret (<i>Casmerodius albus</i>)			Protect rookeries and foraging sites.
White ibis (<i>Eudocimus albus</i>)	SSC		Protect rookeries and foraging sites.

Management Actions:

- ◆ **Prescribed fires will be conducted primarily during the growing season to optimize maintenance of open habitat and growth of preferred forage plants. Return intervals for fire will be based on community-specific recommendations.**
- ◆ **District staff will coordinate with contractors performing thinning or harvest cuts in the Timber Management Zones to minimize impacts to tortoises. Burrows will be flagged as necessary and operators of logging trucks and other heavy equipment will be instructed to exercise caution in areas that support tortoises. Such requirements will be stated as logging contracts are put up for bid.**
- ◆ **Monitoring activities will consist, at a minimum, of burrow density surveys conducted following prescribed fire applications in appropriate habitat types.**

Florida scrub-jay — The Florida scrub jay (*Aphelocoma coerulescens*) has been designated a threatened species by both the State of Florida and the USFWS (Wood, 1996), due primarily to habitat loss and an associated decline in numbers. The USFWS estimates that the population has declined 25–50 percent since 1986 (Dawn Zattau, pers. comm.) As explained previously in the discussion of Special Protection Areas, this species is very habitat specific and is endemic to the Florida scrub community. On the basis of this extreme habitat specificity, and the threatened status of the species, a Scrub Jay Management Zone has been designated across much of the property and all occupied scrub jay habitat will be managed as a Special Protection Area (see page 21).

As scrub becomes overgrown due to the longtime absence of fire, pines begin to dominate the canopy and scrub jays are replaced by such avian species as the rufous-sided towhee (*Pipilo erythrophthalmus*) and blue

jay (*Cyanocitta cristata*). Scrub jays will use disturbed areas, including semi-improved pasture, but productivity at these sites can be low due to the territoriality of jays and increased susceptibility to predators, especially along such linear corridors as roads and utility rights-of-way. The presence of scrub jays is widely considered to be a good indicator of high quality scrub. As such, species-specific management actions directed toward maintaining good conditions for scrub jays ensure good quality habitat for amphibians, reptiles, mammals and several rare endemic plant species that are also characteristic of scrub.

District biologists have been conducting scrub jay surveys at the Preserve since 1997. Based on these surveys it is suspected there are at least seven family groups residing in recently timbered sandhill habitat located in the eastern portion of the property. During the 1999 surveys, District staff documented approximately 25 adults on the property and four active nests. Using a conservative estimate of 40 acres per territory (Fitzpatrick et al. 1991), the existing habitat should be able to support approximately 17 family groups.

Although District staff conduct annual surveys and counts through both occupied and unoccupied habitat, this information is not sufficient to assess the overall health of the population. In order to obtain data regarding population change, recruitment or productivity, mortality and survivorship, and immigration and emigration, it will be necessary to begin a banding program for all jays that are currently present and all individuals that are recruited into the population. As a federally protected species, the banding program will require a banding permit from the USFWS, in addition to a permit from the FFWCC, to authorize the required capture and handling. Leg banding, or an alternative marking technique, will also be required if scrub jays are to be relocated to the Preserve from off-site locations. Relocation may be an important factor in reestablishing diminished populations and preserving individual birds and genetic lines that will be displaced by future land development activities. For additional informa-

tion on the ecology of scrub jays and management strategies to be employed at the Preserve, please refer to the discussion of scrub jay habitat on page 19.

Management Actions:

- ◆ Use prescribed fire and/or mechanical methods to maintain 50–75 percent cover of scrubby oaks at a height of 2–10 feet (1–3 meters), a open canopy of trees with no more than 20 percent total canopy cover, and 10–30 percent cover consisting of bare sand. Other optimal habitat characteristics include a matrix of recently burned flatwoods and marshes, few or no patches unburned for >20 years, and few or no dense forests or dense stands of trees within or adjacent to the managed scrub (Fitzpatrick et al., 1991).
- ◆ Coordinate with other public and private land management entities, particularly the Division of Forestry and DEP's Office of Greenways and Trails, to manage the local scrub jay population in a cooperative fashion that will allow the scattered concentrations of jays to function as subpopulations of a larger metapopulation. This should include coordinated efforts to protect and restore scrub tracts to achieve stands large enough to support a sustainable population, and to enhance prospects for dispersal within and among tracts.
- ◆ Develop a Scrub Jay Management Plan for the property that includes an active monitoring program and implementation of a banding program to facilitate elucidation of demographic characteristics and changes within the population.
- ◆ Investigate the need for, and feasibility of, implementing a scrub jay relocation project that will translocate scrub jays to Hálpata Tastanaki Preserve from an appropriate, nearby population. A final

decision to implement such a program will be based on: the success of maintaining habitat suitability within the designated Scrub Jay Management Zone; the availability of jays from an appropriate donor site; and salient demographic characteristics of the resident population.

Red-Headed Woodpecker — Red-headed woodpeckers (*Melanerpes erythrocephalus*) are not currently protected by state or federal law. Although this species is widely distributed and may be locally abundant, it is undergoing steep population declines throughout its range. At the Preserve, red-headed woodpeckers occur in abundance in oak hammocks surrounded by open pasture lands and in young five to eight year-old pine plantations. Suitable habitat for this species consists of open park-like conditions with acorn-producing oaks, longleaf pine trees, and snags for nesting and caching acorns. Pine plantations are not generally considered suitable habitat for this species, and the planted timber is off-site slash pine planted on mounded furrows. Buffers and corridors will be created in the Timber Management Zones once the timber achieves merchantable age (fencepost size) to accommodate red-headed woodpeckers. As the surrounding cutover sandhill matures, it is expected that red-headed woodpeckers will utilize this community more frequently.

Management Actions:

- ◆ Allow clusters of turkey oak stands to reach maturity rather than maintaining them at low stature.
- ◆ Except as absolutely necessary to protect the public's safety and property, snags will not be removed to accommodate human use areas; red-headed woodpeckers do not typically utilize nest boxes, increasing the importance of retaining natural nesting sites.

Southeastern American kestrel — The Southeastern American kestrel (*Falco sparverius paulus*) is listed as a threatened species by the State of Florida, due primarily to the loss of nesting habitat. Like red-headed woodpeckers, kestrels prefer open pine flatwoods and longleaf pine sandhill. They will also use edges of river floodplains, open pastures and fields. Kestrels are secondary cavity nesters, often favoring oak and pine snags along woodland edges. Management activities should focus on maintaining breeding and foraging habitat.

Management Actions:

- ◆ A regular census will be conducted between May 1 and August 1 to determine population trends.
- ◆ Maintain a buffer zone 100 feet in diameter around all active nests during the breeding season, which extends from January–August (Stys 1993).
- ◆ Maintain dead or dying trees at a density of at least 1 tree/20 acres (Stys 1993). It does not appear that snags are a limiting factor; therefore, at this time, there is no need to install nest boxes.
- ◆ Conduct prescribed burns every 2–3 years to maintain foraging areas with ground cover heights less than 10 inches (Stys 1993).

American bald eagle — The American bald eagle (*Haliaeetus leucocephalus*) is designated a threatened species by the State of Florida (Wood 1996). Due to successful recovery efforts, the bald eagle was recently removed from the Endangered Species List by the USFWS. Eagles nest generally from October 1 to May 15, and it is during nesting that they are most vulnerable to disturbance. At present, no eagle nests have documented on the property; however, conditions for bald eagle nesting on the property improve each year as the forest

canopy matures. Any future eagle nest sites occurring on the property will be designated as Special Protection Areas, and habitat management consistent with adopted guidelines of the USFWS (USFWS, 1987) will be implemented, as outlined below.

Management Actions:

- ◆ A primary zone extending 750–1,500 feet from any on-site eagle nest will be established. Within this zone, no chemicals toxic to wildlife will be used and no clearing or tree removal will occur. During nesting season, no human entry will be allowed and no District-employed aircraft will operate within 500 feet vertical distance or 1,000 feet horizontal distance of the nest.
- ◆ A secondary zone extending 750 feet to one mile beyond the primary zone will be established. Within this zone, no new trails or roads will be developed and chemicals toxic to wildlife will not be utilized at any time. Prescribed fire will not be conducted within this zone during the nesting season.
- ◆ Maintain an inventory of all nests on the property and map precisely where each is located using GPS equipment. Nests will be monitored and a cumulative history of nest use and fledgling success will be maintained.

Florida sandhill crane — Florida sandhill cranes (*Grus canadensis pratensis*) are listed as threatened by the State of Florida due to loss and alteration of wetland nesting habitat. Cranes nest in herbaceous marshes and ponds and forage in low pine flatwoods, open prairies and pastures, and along the marshy edges of rivers and lakes. Although cranes are tolerant of human presence and can live in close proximity to people, they will not tolerate human presence and disturbance when nesting. Preferred conditions at nesting sites include water levels

- ◆ **At significant roosting sites, human activity should not be allowed within 500 feet during seasons of the year and times of the day when storks may be present.**

Wading birds — Several wading bird species utilize the Preserve property to a high degree, including the great blue heron, great egret, little blue heron, snowy egret, white ibis, and wood stork. Wading birds have declined as much as 95 percent since the 1800s due to plumage hunting and habitat loss and alteration (Callopy and Jelks 1989). Wetlands are obligate habitats for these species, with different types of wetlands required to meet essential foraging and breeding needs. Researchers have found that wetlands less than five hectares in size had higher densities of foraging wading birds than larger wetlands (Callopy and Jelks 1989). The frequency and duration of flooding, depth of flooding, soil properties and characteristics, vegetation structure and composition, and frequency of fire all affect species utilization.

Management Actions:

- ◆ **Application of prescribed fire will be conducted primarily in Summer/Fall around rookeries and important nesting areas. Fire should also be utilized to maintain cypress domes and emergent marshes.**
- ◆ **Management will be tailored to maintain a variety of wetland types to ensure the availability of breeding and foraging habitat for a diverse assemblage of wading bird species.**
- ◆ **Altered hydrology should be restored when it is demonstrated that there will be an overall benefit to natural system function and wildlife use, and should be conducted so as to restore and/or maintain significant breeding and foraging habitat. Hydrology should be maintained so as to benefit the entire**

assemblage of species that occurs in the region, especially protected species.

- ◆ **Monitor wading bird populations and rookeries using quantitative methods, particularly in response to man-induced changes to forested and herbaceous wetlands.**

Control of Exotic Species

Plants — The invasion of native communities and ecosystems by exotic, non-native species of plant life and wildlife is widely recognized as one of the primary threats to the integrity of Florida's remaining natural areas. Non-native species, growing in an environment that is free of the population controls typically imposed by their natural predators and pathogens, can often displace native species and greatly diminish the habitat value of affected natural areas. The District has adopted a formal procedure (Board Procedure 61-9) to address the control of exotic species in response to the severity of this threat. The ultimate goal of the land management program is eradication of the most invasive species. At a minimum, invasive exotics at the Preserve will be maintained below current densities and areal coverage. No encroachment into natural systems will be tolerated, and spot treatment of exotic species that have invaded the property will occur immediately upon observation.

Fortunately, exotics plants do not presently pose a serious problem on the Preserve. Control of exotic plants will focus primarily on the eradication or control of cogongrass (*Imperata cylindrica*), skunk vine (*Paederia foetida*), Chinese tallow (*Sapium sebiferum*), tropical soda apple (*Solanum viarum*), lantana (*Lantana camara*) and camphor tree (*Cinnamomum camphora*). All three have been designated as Category I exotic pest plants by the Florida Exotic Pest Plant Council (Florida Exotic Pest Plant Council, 1995). This designation is reserved for those plants that have demonstrated a propensity to invade and disrupt Florida's native plant communities. Although the

sandhills and scrub may reduce the value of these sites for native species, including the threatened Florida scrub jay.

Trapping methods are not usually effective as a sole means of controlling hog populations due to the high reproductive rate of the species, the tendency of individual animals to become trap-shy, and the ability with which they can move between neighboring properties. The District will consider the timely implementation of a trapping program to control hog numbers before the population increases to an extent that will require more aggressive measures. If surveys of the population or observations of hog damage indicate that trapping will be inadequate as a short-term control measure, then the District will implement a special hog hunt. Such hunts have been used on other District lands and have provided an effective means of controlling hogs while also providing a recreational benefit to the public. Revenue generated by the hunts can be sufficient to offset the administrative costs associated with the hunts, allowing this aspect of land management to be self-supporting. In the absence of a recreational hunting program on the property (see page 37), hog hunts will provide the most effective and efficient method of long-term control.

Management Actions:

- ◆ **Evaluate the level of hog damage on Hálpata Tastanaki Preserve and the size of the resident population to determine if a trapping program will serve as an adequate method of controlling the feral hog population.**
- ◆ **In the event that a trapping program is determined to be incapable of effectively controlling hog numbers, and in the absence of a sport hunting program, administer regular District-managed hog hunts.**

Preparation of Mosquito Control Plan

Chapter 388 of the Florida Statutes provides sweeping authority to local governments to form mosquito control districts and to implement mosquito control programs. This authority was granted in recognition of the potential health threat associated with major swarms of mosquitos, in addition to the annoyance they can pose in developed areas. A process has been established whereby the preparation of site-specific "arthropod control plans" can be required for publicly owned conservation lands. A tract must be officially declared to be "environmentally sensitive and biologically highly productive" by the managing agency to initiate the process. The mosquito (i.e. "arthropod") control district with jurisdiction over the site must then prepare a site-specific arthropod control plan. This process allows the protection of the natural resources within the site to be balanced with the need for protecting the public's health by outlining a well-considered, site-specific approach to mosquito control. The District will ensure that an appropriate arthropod control plan is developed for the Preserve.

Management Actions:

- ◆ **Initiate development of a mosquito control plan for the Preserve, consistent with the provisions of Chapter 388, F.S., by officially designating the property as "environmentally sensitive and biologically highly productive."**

Existing Structures

The District inherited a number of pre-existing structures when the Preserve was acquired. These include a large silo that could pose a threat to public safety. The silo is an interesting structure with an historic connection to the property. In order to retain the structure while

protecting the public's safety in a responsible manner, the attached ladders, both internal and external, must be removed to prevent users of the property from climbing the structure. The prior use of the property for cattle grazing results in the presence of numerous cross-fences that made it possible to rotate cattle among a large series of pastures. These cross fences do not possess the historical and cultural interest of the silo and will be removed progressively to preclude any hindrance to movement across the property.

Management Actions:

- ◆ **Remove external and internal ladders from the silo structure to prevent users of the property from climbing the structure.**
- ◆ **Remove cross fencing from the former pastures.**

Preserve Design Considerations

The science of conservation biology has defined several guiding principles for designing preserve areas. One of the most important of these principles is the recognition that only large natural areas are likely, or able, to encompass a diverse range of natural communities and support genetically-viable populations of many native wildlife species. The current extent of habitat fragmentation and alteration in Florida dictates that many of our existing preserves are too small to support healthy populations of large mammals, and many other species, unless these areas are connected to one another by natural corridors that permit movement of wildlife between a linked network of preserves. Such linkages effectively increase the "size" of a preserve and allow for gene exchange between populations that would otherwise be isolated from one another, thereby reducing the likelihood or incidence of inbreeding.

The large size of the Preserve, and the great diversity of natural resources protected within its

boundaries, are sufficient to impart a regional significance to its long-term protection. Its true significance, however, is best appreciated when viewed in terms of its relationship to other publicly owned conservation lands and its role in maintaining connectivity among them. In combination with the Cross Florida Greenway (ca 6,600 acres), Ross Prairie State Forest (3,521 acres) and the Two-Mile Prairie Tract (2,900 acres) of the Withlacoochee State Forest, the Preserve serves as the central core of a contiguous land mass approximately 21,000 acres in size (Figure 1). This total is based on exclusion of the narrow, relatively distant, and more highly altered portion of the Greenway lying immediately east of Interstate 75 and the disjunct section to the west of the Preserve.

Hálpata Tastanaki Preserve serves as the linchpin of this regional network of conservation lands by maintaining linkage among the four tracts and by providing an essential "node" of habitat along the Cross Florida Greenway. The long-term importance of the Greenway is rooted in both its recreational value and its potential to serve as a wildlife dispersal corridor linking the Ocala National Forest complex of conservation lands with the expansive natural areas of the Big Bend coastline. Selective restoration of altered segments of the Greenway and careful coordination of recreational use will be a prerequisite to it serving as an effective wildlife corridor. Given the narrow width of the Greenway (one mile), relative to its long length (ca 60 miles), it will be extremely important that large "nodes" of habitat be maintained at intervals along its length in order to sustain wildlife as they disperse between Ocala National Forest and the Big Bend area. Hálpata Tastanaki Preserve, together with the Ross Prairie State Forest, constitute the most important habitat node along the central length of the Greenway and will be critical to its ability to function effectively as a wildlife movement corridor.

Viewing the Preserve in context of its position within the regional landscape, and recognizing its inevitable role in the maintenance of a linked and functional network of conservation lands,

suggests several courses of action that will be required to secure and enhance its landscape functions and long-term manageability. These issues revolve around maintaining connectivity with other publicly owned lands; consolidating ownership of the Preserve through the acquisition of inholdings; and offsetting fragmentation of the Greenway by SR200. These issues are discussed in greater detail below. It is important to note that most of the surrounding private lands that are recommended for acquisition in the following discussion are already part of the approved acquisition area for the Preserve project and are identified as such in the District's most current edition of the Save Our Rivers Preservation 2000 Five-Year Plan (SWFWMD, 1999).

Closing Existing Gaps in Public

Ownership — Although the Preserve is noteworthy for its role in maintaining connectivity among neighboring tracts of publicly owned conservation lands, there are valuable opportunities for expanding this role by closing narrow gaps between this and nearby conservation lands. Public investment in the protection of lands along the upstream reaches of the Withlacoochee River have resulted in the protection of a connected series of lands exceeding 21,000 acres in total land area. These lands include the state-owned Half Moon property (5,320 acres) and the District-owned Gum Slough (6,326 acres) and Potts Preserve (9,380 acres) tracts. A gap of approximately 3 miles separates the Preserve from the Gum Slough tract. This 3-mile gap consists of a mixture of natural riverine corridor, forested floodplain, and active ranchland. The lands comprising this gap have been approved for acquisition by the District as additions to the Hálpata Tastanaki Preserve and Gum Slough projects.

A large block of land along the western boundary of the property is currently being considered as an addition to the project area. Acquisition of these lands would protect several more miles of frontage along the Withlacoochee River, provide additional flood protection by precluding development within hundreds of

acres of floodplain, preserve a connection with the Rainbow River Aquatic Preserve and help to bridge the existing gap in the Greenway between the Preserve and the Big Bend area.

The District will aggressively pursue the protection of these lands in order to maintain connectivity and produce a larger and more viable network of conservation lands. This landscape-scale approach to the identification and acquisition of conservation lands will be essential if Florida's land protection efforts are to successfully counter the high rate of habitat destruction and fragmentation that characterizes the state's explosive growth and development.

Acquisition of Inholdings and Adjoining

Parcels — There are several small, privately owned inholdings that may compromise the District's ability to manage and secure the Preserve. One of these is a 40-acre parcel located near the northern property line, proximate to the Greenway and to a site slated for construction of facilities that will accommodate public access and use of both the Preserve and the Greenway. The size of the inholding and its proximity to proposed public use facilities suggest the District should pursue its acquisition. Early recognition of this prompted the District to secure a right-of-first-refusal agreement from the landowner to ensure the public has an opportunity to purchase the land if, and when, it is placed on the market. Other inholdings include: an inactive fish farm located on an irregularly shaped parcel of approximately 40 acres; two parcels, totaling 50 acres, that lie sandwiched between the boundaries of the Preserve and the Greenway; and a parcel of approximately two acres which serves as the site of a church and associated cemetery. The District will pursue acquisition of all the aforementioned inholdings, with the exception of the church and cemetery site given its small size and the role it plays in serving the local community.

Although not technically inholdings, a series of connected parcels that extend from the eastern boundary of the property to the SR200 right-of-

The District will coordinate with FDOT and the other affected agencies to ensure that the SR200 expansion incorporates the proposed bridge. If funding for the bridge cannot be secured, then the District will emphasize the need for larger culverts to better accommodate wildlife movement and stress that culverts must also be sited in upland or transitional areas.

Sale of Surplus Lands

The legislation governing Florida's conservation land acquisition programs provides for the sale, or "surplusing," of those lands that are not considered necessary for conservation purposes. Although the Preserve includes a rather large proportion of altered lands, these areas have either been targeted for habitat restoration or have been set aside to serve as Timber Management Zones. None of the current project area is considered suitable for surplusing and it will be managed, in its entirety, for conservation and resource protection purposes.

ADMINISTRATION

External Coordination

The District coordinates with many outside public agencies and private interest groups to effectively manage its properties. This section identifies those management and land use activities which cross, or potentially cross, the limits of jurisdictional authority and interest and will require outside coordination.

United States Fish and Wildlife Service (USFWS)

The USFWS is the agency with primary responsibility for protecting the nation's wildlife resources. This responsibility includes the administration of the Endangered Species Act (ESA). The USFWS will be consulted regarding special management needs of any species protected under the provisions of the ESA and known to occur on Preserve lands. Management and protection guidelines contained in the USFWS Wood Stork Recovery Plan, USFWS Bald Eagle Recovery Plan, and USFWS Florida Scrub Jay Recovery Plan are noted within the Plan and will be implemented as necessary to improve the suitability of Preserve lands for these species. A scrub jay banding program to be implemented on the Preserve will require a special permit from USFWS.

Florida Fish and Wildlife Conservation Commission (FFWCC)

The FFWCC, formerly the Florida Game and Freshwater Fish Commission, is the agency with primary responsibility for protecting and managing the Florida's wildlife resources. As such, the District will coordinate closely with the FFWCC in the management and monitoring of state listed wildlife and critical habitat areas occurring at the Preserve. If a hunting program is instituted on the property, the District may work in partnership with FFWCC in matters related to its implementation and/or management. The scrub jay banding program to be implemented on the Preserve will require a capture and handling permit from FFWCC.

Florida Department of Environmental Protection (DEP)

DEP's Office of Greenways and Trails is responsible for management of the Marjorie Carr Cross Florida Greenway State Recreation Area. That section of the Greenway abutting the property along its northern boundary is part of the Preserve and is currently leased to DEP to fill a gap in state ownership of the Greenway. Additionally, DEP is responsible for management of a 40-acre, state-owned inholding located in the northwestern corner of the property (Figure 6). Access to the Preserve via SR484 will be coordinated with DEP so the trailhead and access facilities can be designed to service users of both properties. Any restoration activities or other projects that may affect on-site wetlands will require a permit from DEP.

Florida Division of Forestry (DOF)

The Florida Division of Forestry (DOF) manages the two tracts that neighbor the Preserve. The proximity of these sites presents opportunities for cooperation in conducting prescribed fires, controlling wildfires, managing wildlife, and accommodating, managing and enhancing recreational uses. District fire management schedules and practices (both prescribed burns and wildfire control) will be coordinated with DOF in order to maximize efficiency and environmental benefits. The District will coordinate closely with DOF to integrate recreational use of the adjoining sites, including development of a joint visitor center with Ross Prairie State Forest on SR200 and establishment of a riverfront campsite on the Two-Mile Prairie Tract. Coordination with DOF will also be important in management of the resident scrub jay population, including enhancement of dispersal potential within and between the neighboring publicly owned tracts.

Florida Department of Transportation (FDOT)

FDOT is responsible for monitoring and maintaining the habitat restoration sites that served as mitigation of for environmental

impacts resulting from SR44 road work. They are currently planning for the widening of SR200. The District is negotiating in partnership with DEP, DOF and FFWCC for the construction of a bridge that would span the wetlands of Ross Prairie, and a narrow band of adjoining uplands, to maintain a safe dispersal corridor for wildlife. Development of a visitor center along SR200 that could serve as a trailhead and recreational staging area for recreational users of all three publicly owned tracts will require a tunnel or other structure that would allow recreationists to move freely between the Preserve and the Greenway south of Ross Prairie. The District will continue negotiating with FDOT to ensure the construction of such a facility. Future mitigation related to this and/or other FDOT projects may be required that, if selected to occur at the Preserve, would be coordinated with the District.

Florida Department of State (DOS)

The Division of Historical Resources of the DOS maintains the Florida Master Site File and oversees the management and protection of listed archaeological sites. Proposals to conduct research at Camp Icard or any other archaeological site at the Preserve will be reviewed by the District on a case-by-case basis and will be required to satisfy requirements and protocols dictated by the Division of Historical Resources for the investigation of sites on state-owned lands. DOS will also be consulted regarding an appropriate approach to interpretation of the Camp Icard site.

Marion County

The county has accepted responsibility for managing the trailheads and other recreational facilities of the Cross Florida Greenway. In order to ensure a coordinated approach to the management of recreation among the contiguous publicly owned tracts, the District will work closely with the Marion County Parks and Recreation Department. The Marion County School Board is a possible partner for future development of an environmental education program that would use the Preserve as an

outdoor classroom. Additionally, Marion County has jurisdiction over land use on privately owned lands surrounding the property. The District will work in partnership with the county to prevent incompatible uses on these adjoining lands.

Dunnellon Municipal Airport

Flight paths to and from Dunnellon Municipal Airport pass over a possible wading bird rookery at the Preserve. Information regarding flight paths and altitudes of operation were received from airport management and are related elsewhere in the plan. Continued communication with airport officials may be necessary as conditions warrant. The District will seek coordination with Dunnellon Municipal Airport in the active implementation of wood stork management guidelines as they relate to aircraft disturbance in the event that rookery activity is observed.

Other Private Interests

There are a number of private interests which may be involved in the future management and use of the Preserve. An easement owned by Florida Power Corporation for an electrical transmission line right-of-way comprises approximately 1.25 miles of the eastern property boundary and totals approximately 47 acres. The District will coordinate with Florida Power Corporation to find a mutually agreeable approach to improving habitat values within the right-of-way. The District has worked with Florida Trail Association, Inc. and equestrian clubs on numerous properties and will be prepared to work with these and other stakeholder groups in the development and enhancement of recreational trails at the Preserve. The investigation of the Camp Icard archaeological site has been coordinated with the Seminole Wars Historical Foundation, and the Foundation may eventually implement Phase II and Phase III studies. These studies, and future interpretive exhibits and management actions at Camp Icard, will be conducted in partnership with the Foundation.

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04061

REPORT NAME:
PLAN FOR THE USE & MANAGEMENT

AUTHOR & REPORT DATE:
KELLY, GENE 12/14/99

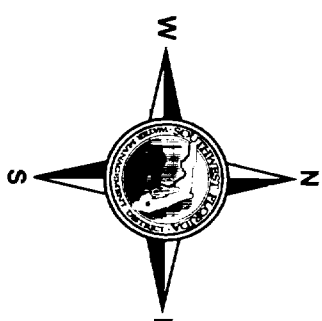
KEY WORD:
HALPATA TASTANAKI PRESERVE

CART #/PG #:
75PGS.

215.1/REPORTS AND PUBLICATIONS



- SWFWMD Property Boundary
- Scrub Jay Management Zone
- Other Public Land
- Proposed Acquisition
- Greenway Lease Area



- Freshwater Marsh
- Floodplain Swamp
- Scrub
- Mesic Hammock
- Pine Flatwoods
- Cypress Swamp
- Pine Plantation
- Sandhill
- Open Water
- Improved Pasture
- Tropical Fish Farm
- Airport
- Residential
- Disturbed
- Utilities
- Property Boundary
- Improved Roads
- Unimproved Roads



Scale 1:35,000



