Southwest Florida
Water Management District

Chito Branch Reserve
Land Use and Management Plan

May 16, 2008

Project Vision Statement

The Chito Branch Reserve is a unique natural sanctuary situated in the heart of rapidly developing southeastern Hillsborough County. As part of the greater Alafia River Corridor of public conservation lands, its natural habitats provide a haven for native Florida wildlife and plant life, many becoming increasingly rare in the region. Outdoor enthusiasts can observe fox squirrels, gopher tortoises, wading birds, and other Florida wildlife interact in their natural environment while observing the recovery of previously altered habitats and discovering restoration methods used to return these systems to health. Whether enjoyed on a winding foot path, a bike trail or bridle path, Chito Branch Reserve is a quiet oasis in a fast-paced world.

Preface

This Land Use and Management Plan (LUMP) guide the use and management of the Chito Branch Reserve (Reserve) through the ten-year period 2008 through 2017. The plan may be reviewed and updated at any time during that period should circumstances warrant.

District Mission

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

The Plan

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

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

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

Executive Summary

Project Name:	Chito Branch Reserve
Project size:	5,515 acres
Basin(s)/Watershed(s):	Alafia River
Acquisition date(s):	2001
Primary purpose for acquisition (AORs):	Water Supply
Former land uses:	Cow-calf operations, row crops, hunting
Hydrologic features:	Contains all or part of Long Flat Creek, Doe Branch, Carlton Branch, and Chito Branch
Land cover summary:	Contains 11 natural communities and numerous ruderal areas, with the dominant covers being improved pasture, pine flatwoods, freshwater marsh, and bottomland forests
Restoration/mitigation	1,048 acres of wetland restoration and enhancement including upland buffers, conducted as mitigation for reservoir impacts of future restoration planning to address long-term strategy for remaining disturbed uplands
Compatible uses	Hiking, birding, biking, nature appreciation, equestrian, and primitive camping
Strategic objectives summary	Protection of water resources, hydrologic restoration, restoration of native communities, exotic plant and animal control, public access and public use monitoring
External Coordination	Tampa Bay Water, Hillsborough County Environmental Lands Acquisition Program, Hillsborough County Fire, Hillsborough County Sheriff's Office, District Departments, Florida Natural Areas Inventory, Florida Division of Forestry, Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection-Regulatory, Florida Park Service – Alafia River State Park; and United States Fish and Wildlife Service.

Introduction

The Chito Branch Reserve (Reserve) encompasses 5,515 acres in southeastern Hillsborough County (see Figure 1). The Reserve was acquired in 2001, in cooperation with Tampa Bay Water (TBW), with the primary purpose of this acquisition being water supply. The 1,100 acre C. W. "Bill" Young Reservoir (Reservoir) was completed in 2005 and is designed to store water to help meet the region's drinking water needs in times of dry weather, while limiting excessive pumping in the region's well-field system. The Reservoir is solely managed by Tampa Bay Water and is not part of this Land Use and Management Plan.

Historically, the Reserve was used predominately for agriculture purposes. Most notable of these uses was cow-calf operations, which resulted in about 80% of the natural upland communities being converted to bahia pasture. The greater parts of the remaining upland communities are intact, though a majority was grazed as unimproved pasture. Several fallow vegetable fields are a vestige of past farming activities and these are heavily infested with invasive exotic plants. Many of the wetland systems, particularly the freshwater marshes, were severely altered by past land use practices and are the primary target of TBW restoration efforts.

Due to population and growth dynamics that are projected within Hillsborough County, the land use demands will need to be structured to account for ever increasing pressures on the managed natural areas of the state. The reservoir is located within a rapidly developing county but not within the county's focus of residential development. Hillsborough County has identified the Reserve and other large natural areas as important to the management of the county's Greenway System and the emerging Integrated Conservation Plan to be viewed as components of this growth management strategy.

Although the impetus for acquisition of the Reserve was water supply, the District will manage the remaining 4,100 acres for conservation. While a major percentage of this project has seen anthropogenic influences, many of the natural communities are functioning normally and naturally.

Since this tract was chiefly acquired as a water supply project there are several entities, in addition to the District, that hold stake in the Reserve and activities that occur within the Reserve's boundaries may be influenced by one or several of these parties. First and foremost is Tampa Bay Water, who holds an exclusive easement covering approximately 1,400 acres (Hillsborough County OR BK 11336 PG 0377). This easement encompasses the Reservoir and its associated infrastructure. Obviously in today's environment, security will play a role in activities that may be compatible on the Reserve, and potentially limit where otherwise compatible activities may occur. The second party that has an interest in activities occurring on the reserve is the Florida Department of Environmental Protection (FDEP). The FDEP holds a conservation easement on the Reserve totaling 1,162 acres. This easement is associated with mitigation of Reservoir construction and is intended to provide an additional level of protection to these sites, to assure mitigation activities are protected in perpetuity. Finally, Tampa Bay Water is currently acting manager on the portion of the Reserve associated with mitigation activities and will remain as such, until FDEP determines mitigation success criteria has been met. At that point, the District will take on full management responsibilities of the Reserve except for the portion directly associated with the Reservoir. It is estimated that mitigation success criteria will be met by the year 2012 (Figure 1. Chito Branch Reserve location map).

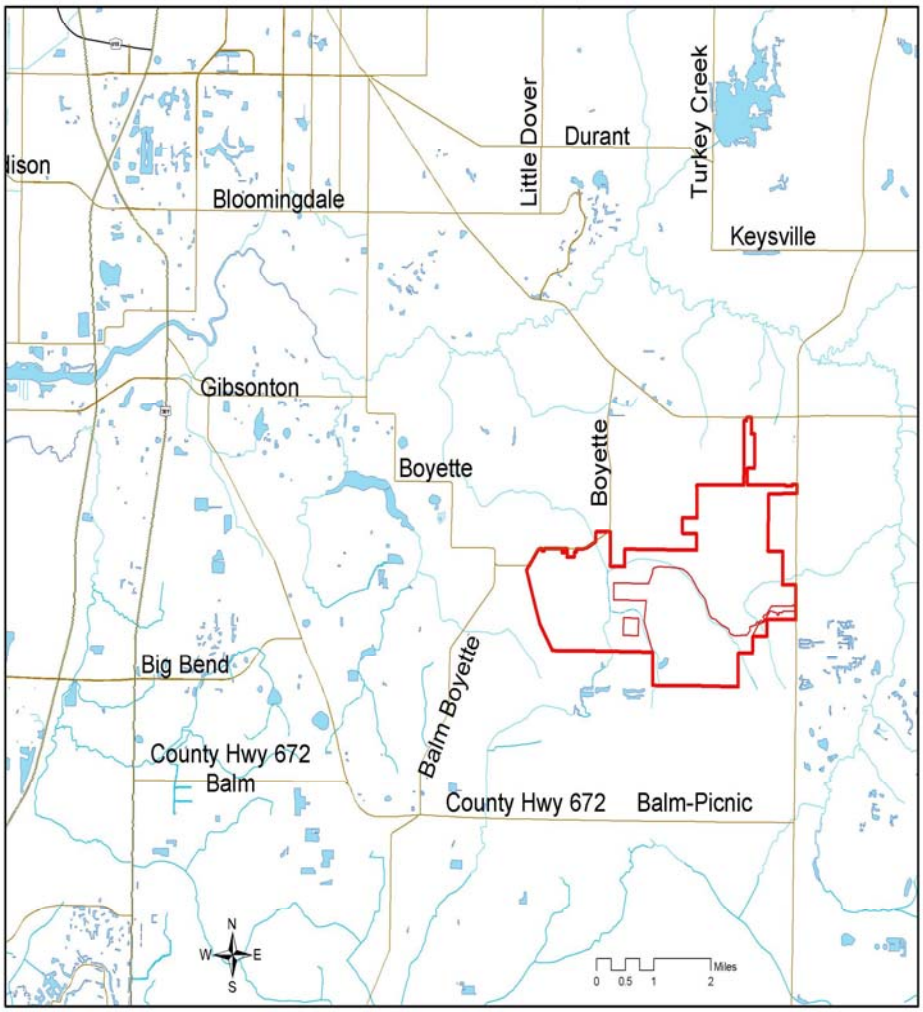


Figure 1. Chito Branch Reserve Location Map

Resource Description/Condition

Water Resources

Water supply was the primary purpose for acquisition of the project. Water resource functions important on the Reserve include surface and ground water quality, water supply, and storm-water attenuation. The water resource benefits derived from this property were achieved at acquisition. Land Stewardship practices will seek to maintain and protect these functions. Water resource functions important on the Reserve are as follows:

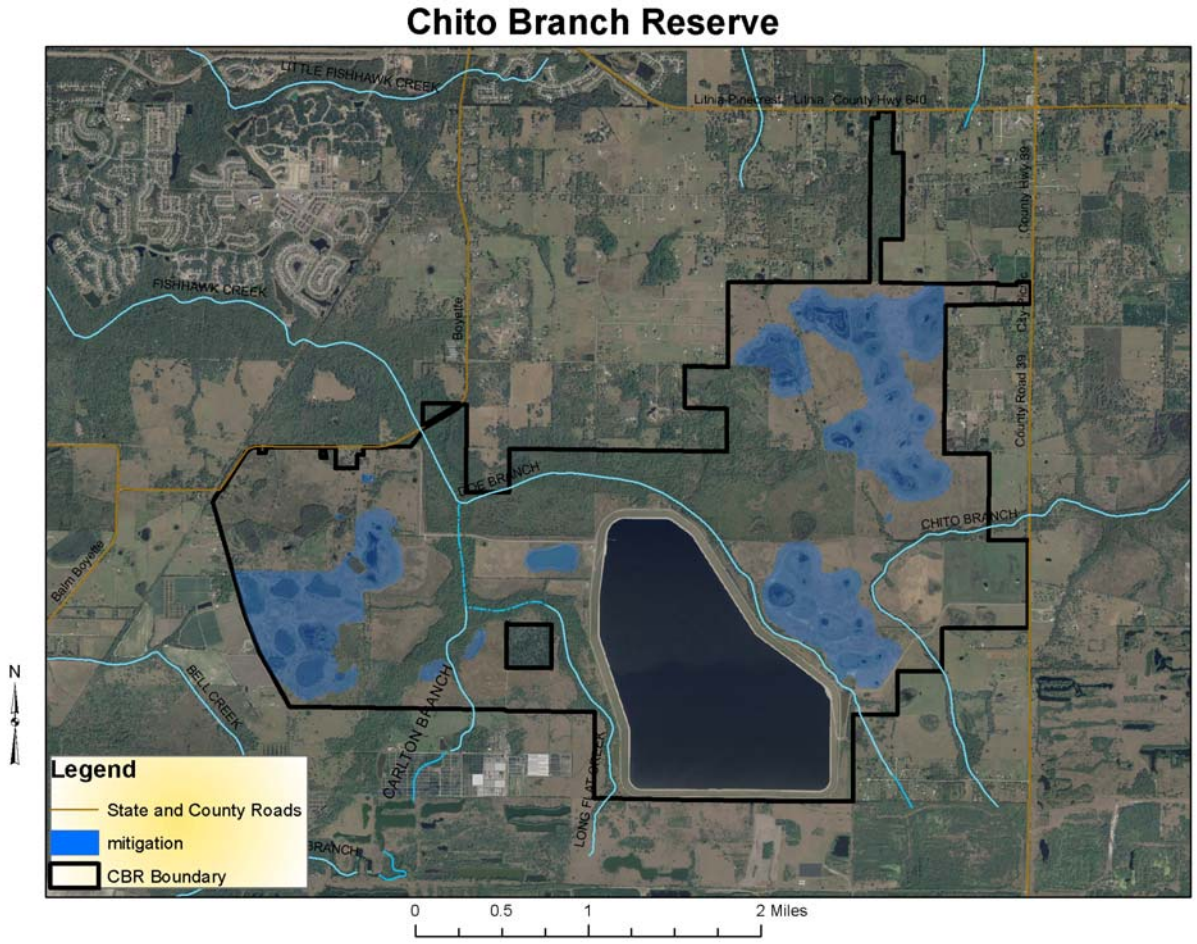


Figure 2. Chito Branch Reserve Aerial Map

Water Quality

The Reserve lies within the Alafia River Basin with four primary drainages directly and indirectly supplying the Alafia River: Chito Branch, Doe Branch, Long Flat Creek and Carlton Branch, with the former flowing into the South Prong of the Alafia River and the latter three creeks flowing into Fishhawk Creek, which feeds the Alafia. By maintaining the natural characteristics of these water bodies and their associated floodplains, the surface water quality attributes will be maintained. The Reserve's numerous freshwater marshes filter surface water sediments and nutrients. Land use and management strategies will restore and protect these systems and their water quality function.

Water Supply

The 15-billion gallon C. W. "Bill" Young Regional Reservoir is an integral part of Tampa Bay Water's Enhanced Surface Water System. When water levels are high on the Tampa Bypass Canal, Alafia and Hillsborough rivers, water is withdrawn for storage in the reservoir. Then, during dry times, water from the reservoir is used to augment Tampa Bay Water's regional water supply system. Construction on the reservoir was completed in early 2005. Filling began in March 2005, and the reservoir was at capacity in November 2005 (Tampa Bay Water, 2006).

Recharge

The Reserve is a source of aquifer recharge. Approximately 80 % of the surface area of the Reserve provides one to three inches per year of water recharge, while the remaining 20 % contributes three to ten inches per year (SWFWMD GIS 2007).

Natural Storm Water Attenuation

Approximately 23 % of the Reserve's land cover is composed of wetland habitats (FLUCCS, SWFWMD GIS). These wetland systems provide natural storm-water attenuation, aquifer recharge, water quality improvement, and nutrient recycling. Additionally, 840 acres of the land mass of the Reserve falls within the 100-year flood plain (FEMA, SWFWMD GIS) providing an important role in reducing impacts associated with storm waters by having the capacity to naturally store additional waters during storm events.

Natural Systems Protection/Restoration

Picture 1. Pine Flatwoods

The protection and restoration of natural systems, and the species of wildlife they support will be a priority strategy on the Chito Branch Reserve. Of the 81 natural communities defined by the Florida Natural Areas Inventory, 11 occur on the Reserve (FLUCCS, SWFWMD GIS). The most extensive of these systems is improved pasture, which was primarily created on uplands that were formerly pine flatwoods, scrubby flatwoods, and scrub. Located within this mosaic of improved pasture are numerous freshwater marshes as well as several tributaries of the Alafia River and their associated flood-plain swamps. On the northern portions of the Reserve pine flatwoods exist in a natural state, with interspersed remnant scrub and scrubby flatwoods. The southwestern extents of this project house some of the more disturbed lands, which were former vegetable fields that are currently dominated by invasive exotic plant species. A description of these dominant communities is located in the following section and an acreage breakdown for each of the communities is included in Figure 5.

Habitats

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

Pine Flatwoods – Located in the northern portion of the Reserve, this habitat comprises just over eight-percent of the total land cover. Similar to a majority of the improved pasture, the soils found on this natural community consist primarily of Myakka fine sand. Due to fire exclusion these systems are lacking some of the desired herbaceous component and some of the more isolated flatwoods exhibit heavy fuel loads. Reintroduction of fire to this system should provide excellent results by the second burn cycle with the herbaceous component seeing much more species richness. This community features uneven aged stands of longleaf pine and slash pine and a midstory of saw palmetto, gallberry, and staggerbush. In the drier scrubby flatwoods, saw palmetto, sand live oak, runner oak, and rusty lyonia are more prevalent than gallberry. The dominant grass is wiregrass except in areas where dense palmetto occurs.

Scrub – Located in the north-central portion of the Reserve adjacent to Doe Branch, this community makes up less than one-percent of the total land coverage of the Reserve. Although this landscape component is small in size, it is one of the more significant systems to be found on the Reserve. According to the Florida Natural Areas inventory scrub is considered one of the world's most endangered communities (FNAI, 1990). This system is found on Tavares-Milhopper fine sand and hosts numerous gopher tortoises, which have been uplisted to state threatened species. Scrub hosts a diverse and adaptive suite of species, with the more common vegetative species being found on this property being sand live oak, scrub oak, rusty lyonia, hog plum, and lichens.

Picture 2. Scrub

Picture 3. Freshwater marshes and sloughs

Freshwater Marshes and Sloughs – The numerous freshwater marshes interspersed among the uplands comprise 10 % of the Reserve's habitats. These systems are predominately located on Basinger, Holopaw, and Samsula soils. A majority of these wetlands are undergoing enhancement or restoration as part of the reservoir construction mitigation requirements. Dominant vegetative species include maidencane, cordgrass, spike rush, and arrowhead, among others. Several of these herbaceous wetlands provide connectivity to the cypress ponds and creeks during periods of prolonged rainfall.

Forested Wetlands– Bottomland Forests make up ten-percent of the Reserve's landscape. These systems are the most dominant forested wetlands on the property and are associated with the creeks found on the Reserve (Chito Branch, Doe Branch, Long-Flat Branch, Carlton Branch and the unnamed tributaries to these systems). These systems are characterized as low-lying, closed-canopy forests with an open understory and ground cover of wax myrtle, saw palmetto, and soft rush. The overstory is composed of sweet bay, swamp bay, red maple, sweet gum, black gum, and various oak species. The underlying soils are composed of Winder Fine Sand

Picture 4. Forested Wetlands

Additional forested wetlands found onsite include several cypress ponds, which account for two-percent of the land cover. The dominant plant species found in these wetlands consist of bald-cypress,

sweet bay, red maple, laurel oak, and sawgrass. These isolated depressions are characterized by Basinger, Holopaw, and Samsula Soils.

Picture 5. Ruderal

Ruderal – Disturbed lands dominate the Reserve's landscape, making up 42 % of its landmass. Based on the Myakka Fine Soils present on this anthropogenic habitat, these expansive pastures were once pine flatwoods. Bahia grass dominates the vegetative landscape with various other species such as crab grass, limpo grass, cogon grass, tropical soda apple, and common weed species having a presence Remnant longleaf and slash pines are found in some of these pastures, though not to the extent they create a discernable canopy.

Several of the existing pastures, making up four-percent of the total land cover, have been converted to pine plantations. Longleaf pines were planted in 2004 and 2006 at a density of approximately 750 trees per acre.

Species

The habitat associations of the Reserve are important to numerous species of wildlife. To date approximately 70 species have been identified utilizing Reserve habitats (Tampa Bay Water 2006).

Pine Flatwoods and more specifically the scrubby flatwoods and small scrub island found on the Reserve provide valuable habitat for the gopher tortoise and its many commensals. This species, abundant in the scrubby flatwoods and scrub island, is critical to the numerous species that rely on the gopher tortoise for at least part of their life cycle. Another species worth noting, found within the flatwoods and scrubby flatwoods, is the Sherman's Fox Squirrel, a state species of special concern.

The freshwater marshes on the Reserve provide critical habitat for numerous wading bird species, many species of which have been documented onsite. These species include: great blue heron, wood

stork, white ibis, snowy egret, roseate spoonbill, and sandhill crane among others. In fact, a pair of sandhill cranes successfully nested in one of the enhanced marshes on the Reserve in the spring of 2006 (Tampa Bay Water 2006). Many amphibian species also benefit from these wetlands and adjacent uplands.

A variety of avian species, including some of the wading birds listed above, benefit from the abundant open areas. Of the more notable of these species is the southeastern American kestrel and Florida burrowing owl, both of which have been documented onsite. The kestrel has been identified by the Florida Fish and Wildlife Conservation Commission as being a focal species due to their specific habitat requirements characterized by large patch size and structural complexity. In fact, much of the land surrounding the Reserve has been identified as strategic habitat and conservation areas for the southeastern American kestrel (Cox et al, 1994)

Invasive exotic plant species have become established on the Reserve, primarily on the fallow pastures and agriculture fields. These include skunk vine, cogon grass, Chinese tallow, camphor tree, tropical soda apple, Caesar's weed, air potato, Japanese climbing fern, aquatic soda apple, and primrose willow. The most problematic plant at this time is cogon grass, which is one of the world's 10 most noxious weeds (Langeland and Burks 1998). It is well-established in many of the former agricultural row-crop areas, and occurs scattered throughout the previously disturbed areas.

Restoration/Mitigation

Approximately 1,048 acres of mitigation (Figure 3 &4), primarily involving restoration of fresh water marsh systems, was required to offset the impacts associated with construction of the C. W. "Bill" Young Reservoir. Tampa Bay Water (TBW) is responsible for maintaining and monitoring the mitigation areas until the permit success criteria is met. The Department of Environmental Protection entered into a perpetual easement with Tampa Bay Water to afford an additional level of protection to the mitigation sites.

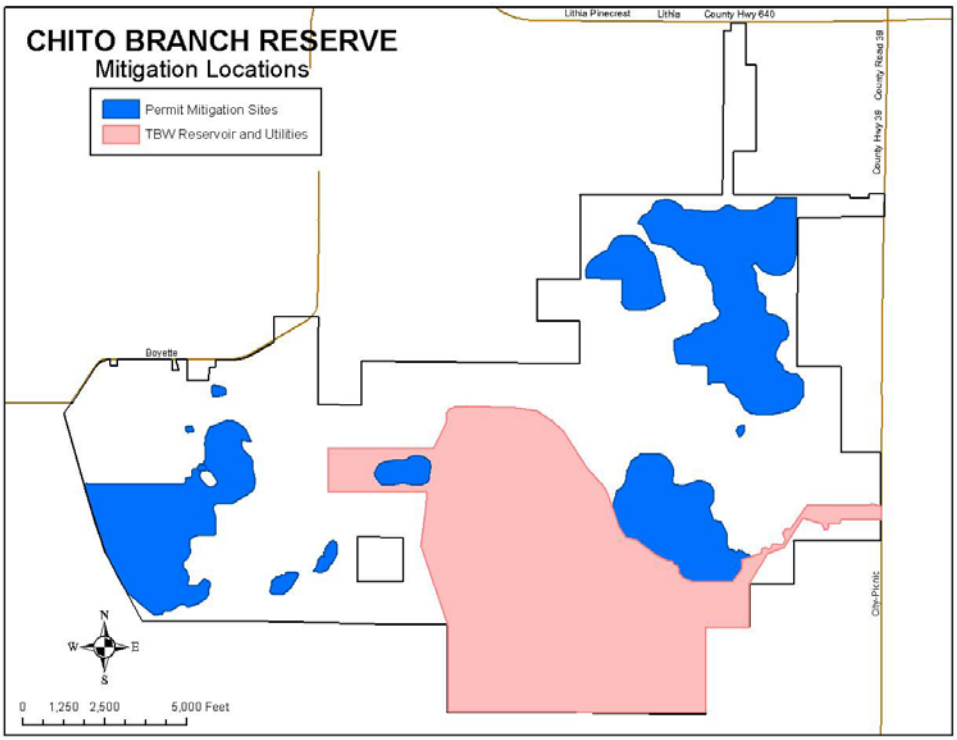


Figure 3. Mitigation Location Map

Permitted Mitigation	Acres
Forested Wetland Creation	62.81
Herbaceous Wetland Creation	150.82
Wetland Shrub Creation	7.60
Forested Wetland Enhancement	85.82
Herbaceous Wetland Enhancement	110.70
Open Water Creation	16.32
Open Water in Marsh	17.67
Upland Buffers	597.14
Grand Total	**1,048.24**

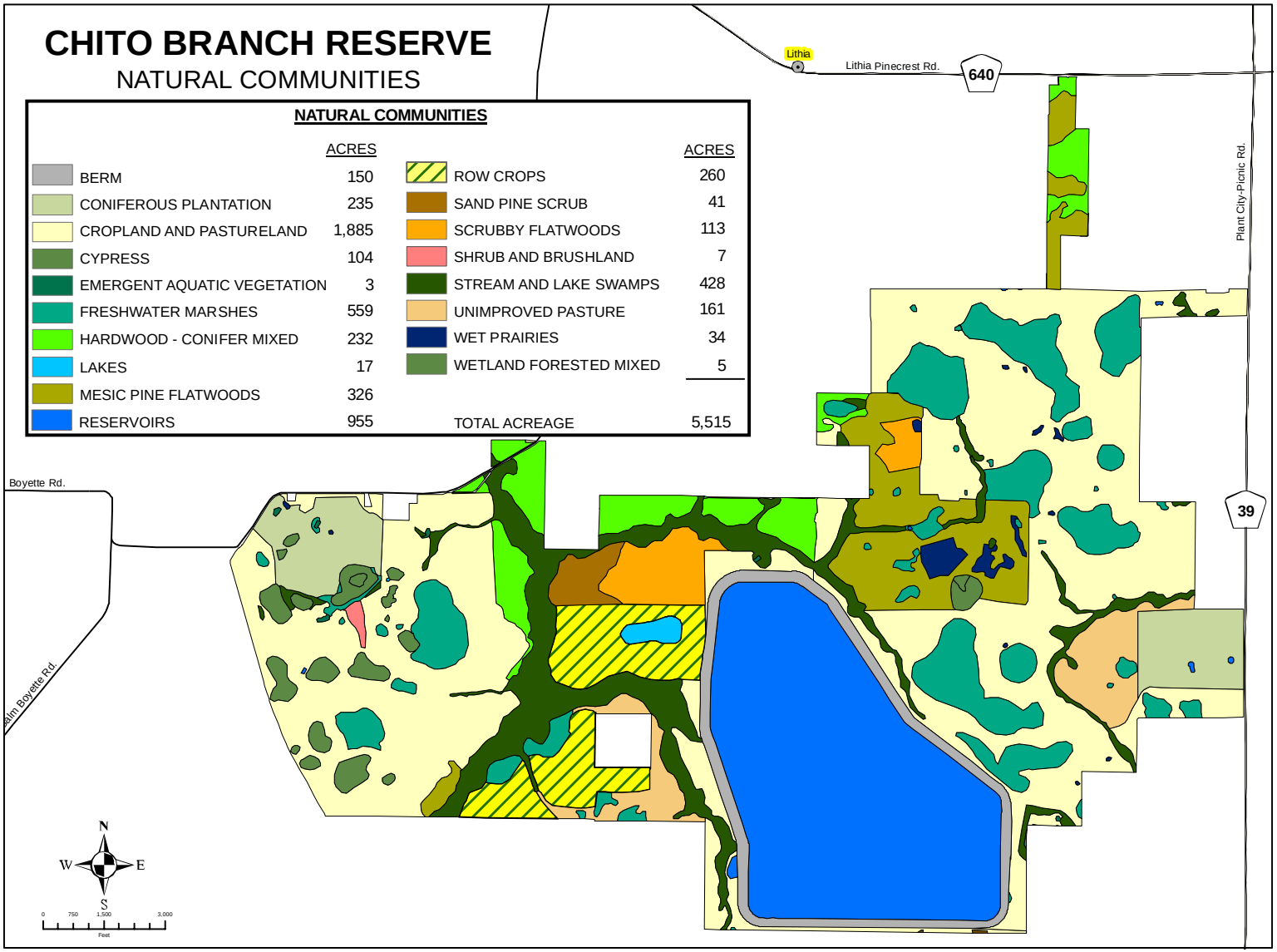
Figure 4. Types of Permitted Mitigation

Additional restoration will be considered by the District. This restoration will be addressed in a future resource restoration plan as discussed in the management goals and objectives section. One of this plan's focal points will be the monoculture of bahia grass that has replaced the groundcover vegetation typically associated with flatwoods and scrubby flatwoods within the pastures found throughout the property. This future plan will outline preferred measures for managing this pasture grass and other disturbed areas, as well as prioritize areas that would benefit most from restoration.

Archaeological Resources

The Reserve contains two archaeological sites listed in the Division of Historical Resources (DHR) site file. Neither was determined by DHR to be significant, and this will not require special protection. One of these sites fell within the footprint of the reservoir. Due care will be taken by Land Resources staff to assure the remaining site, as well as potentially existing sites not yet identified, are protected.

Figure 5. Chito Branch Reserve Natural Communities



Land Use Plan

Consistent with District Policy 610-3, conceptual land use planning is composed of three fundamental components: Land Use Zoning, Land Use Matrix and Review of Regional Recreational Supply and Demand. Together with the facts gathered in the previous sections, these were used to determine the activities that are compatible on the Reserve and where they will fit within the water supply and natural systems management to be achieved. Additionally, public input and comment were solicited at a noticed public meeting during the drafting of this plan. Approximately 26 people attended the public meeting. Nine people from the public meeting completed the questionnaire form about there recreational interest for Chito Branch Reserve. The results of the questionnaire are as follows:

63% - Equestrian use
50% - Primitive camping
38% - Biking
25% - Nature Study
13% - Hiking
13% - Photography

Land Use Zone Map

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

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

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

3. **Resource Management Zones (RM)** – The function of resource management zones is to locate sustainable resource utilization so as to minimize the impacts of these uses on the water resource and natural systems function of the project. Areas that have been physically altered to a minimal or moderate degree by human actions fall into this category. Restoration of primary water resource and natural systems function and/or sustainable revenue-generating resource utilization through the establishment of Timber Management Areas, leasing of pasture areas for cattle grazing, and/or compatible multiple uses may share strategic importance.

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

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

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

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

1. **Preservation** – Zone established for high water quality and natural resource value related to streams and surrounding hardwoods and conifers.

2. **Special Protection Areas** – Zones established on sites that have mitigation requirements for the reservoir permit issued by Florida Department of Environmental Protection (FDEP).

3. **Resource Management** – Zones established to delineate existing stands of commercially planted timber that may be designated as permanent timber management zones, and areas dominated by cropland/pasture lands.

4. **Recreation** – Zones established include areas that are compatible with plan-designated resource-dependent uses and have historical anthropogenic impacts.

5. **Transportation** - Zones established at existing paved entrances for the purpose of managing the land and reservoir.

6. **Special Use** - Zones established in areas that have a high border effect from urban growth and development. Although the community map indicates the area is a combination of pine flatwoods and a hardwood/conifer mix it is not considered as pristine as the special protection zones.

The Reserve's land use and management zoning map Figure 6, depicts the land use and management zones established for the Reserve. This map illustrates where special protection is required and where recreation and other special uses may be compatible. Each zone contains unique qualities that may include current and anticipated resource conditions; presence of or importance to imperiled species need for restoration or mitigation and opportunities for a quality user experiences.

Figure 6. Chito Branch Reserve Land Use Zone Map

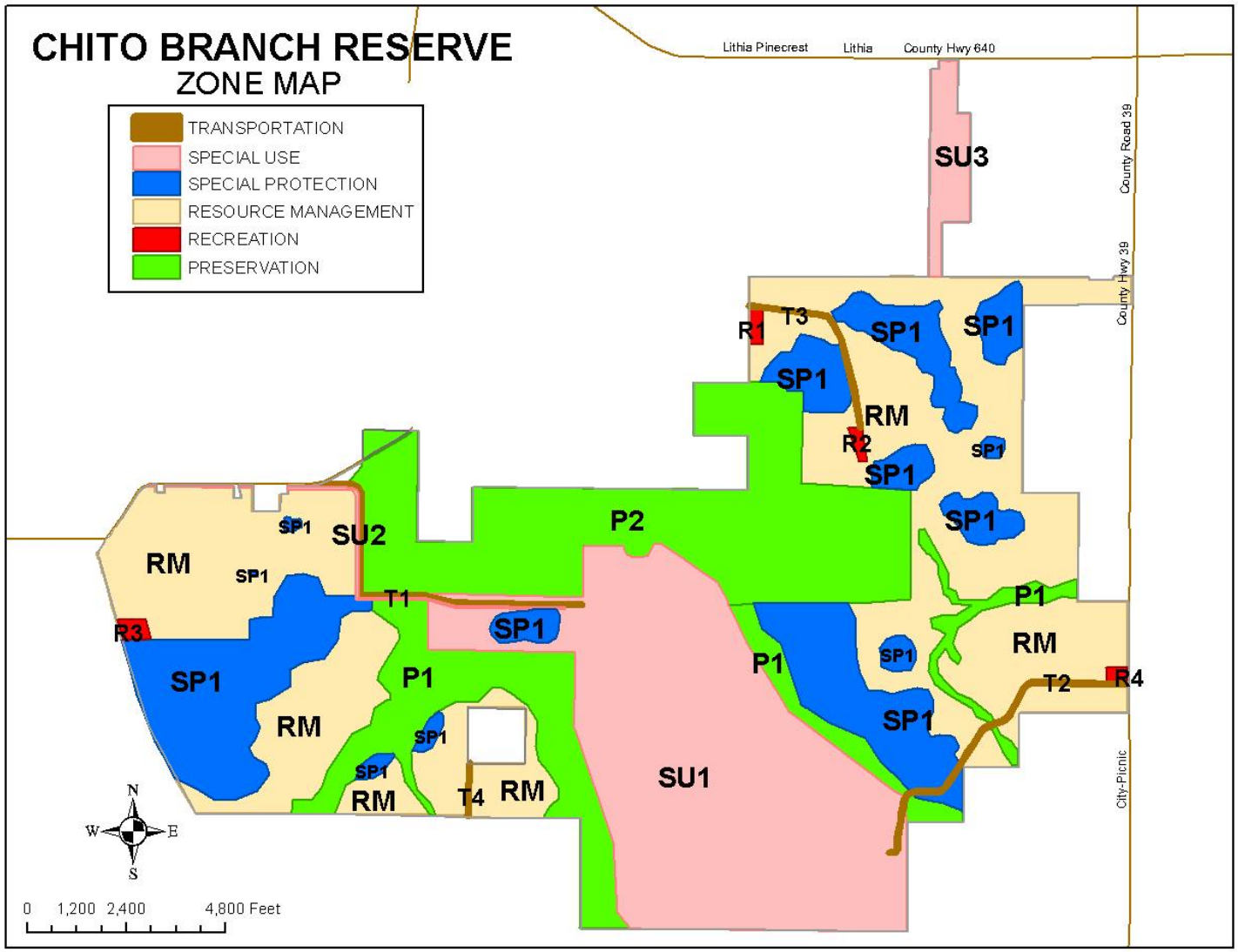


Figure 7. Land Use Matrix

Land Use Matrix

The initial matrix used in this step of the process contained a wide range of resource-dependant recreation activities and renewable resource land uses that were considered on the Reserve. The zoning designations specifically established for the Reserve were incorporated into the initial matrix and the entire range of resource-dependant recreation activities and renewable resource land uses listed on the matrix were considered for each zone. Only those activities considered compatible with the zoning designations established for the Reserve were selected and are depicted on the Reserve's final matrix shown in the table below.

Land Use Categories				Resource-Dependant recreation												
	Mobility-Impaired	Access-Walkthrough	Authorized-Vehicles	Access-Equestrian	Hiking	Bicycling	Equestrian	Camping-Backcountry	Camping-Equestrian	Nature Study	Fishing- shore	Geocaching	Timber	Cattle / Haying	Permanent Structures	Mitigation Conservation Easement
Management Zones																
Special Protection - 1 (SP1)																✓
Transportation - 1 (T1)			✓												✓	
Transportation - 2 (T2)			✓												✓	
Transportation - 3 (T3)	✓		✓	✓	✓	✓	✓			✓						
Transportation - 4 (T4)			✓													
Resource Management (RM)					✓	✓	✓			✓	✓	✓	✓	✓		
Recreation - 1 (R1)		✓		✓	✓	✓	✓			✓		✓				
Recreation - 2 (R2)		✓			✓	✓	✓	✓	✓	✓		✓				
Recreation - 3 (R3)		✓		✓	✓	✓	✓			✓		✓				
Recreation - 4 (R4)		✓		✓	✓	✓	✓			✓		✓				
Special Use - 1 (SU1)			✓												✓	
Special Use - 2 (SU2) pipeline			✓												✓	
Special Use - 3 (SU3)					✓					✓						
Preservation - 1 (P1)					✓	✓	✓			✓	✓	✓			✓	
Preservation - 2 (P2)					✓	✓	✓			✓	✓	✓	✓		✓	

Review of Regional Recreational Supply and Demand

Before the land use zone map and matrix steps were finalized, a regional recreation assessment was conducted to identify nearby recreational opportunities offered by other recreation providers including state and local government. The assessment identified the existing regional and local resource-dependant recreation supply and demand and projected demand. The assessment was primarily conducted to identify the unmet demand for resource-dependant recreation activities near the Reserve that may be considered at the Reserve if compatible with resource management objectives. The area established for the assessment was a 15-mile radius around the Reserve as shown in Figure 8 and 9.

Through 2010, the Tampa Bay area is projected to continue to accommodate more than 15 percent of the state's population, while occupying approximately 5% of the state's land area. Hillsborough County is expected to experience more growth than other counties due to the ample amount of land available. Ninety-Seven percent (97%) of the County's population growth through 2020 will occur within the County's Urban Service Area. Chito Branch Reserve is located in the Southeast portion of Hillsborough County with less than 5% of the property inside the Urban Service Area. The location of the Urban Service Area in relation to the Reservoir is shown in Figure 9.

In order to determine which recreational activities are in demand based on public use, The National Survey on Recreation and the Environment Survey Results (NSRE, April 2006) were consulted. This survey is based on population dynamics and reveals that the most popular outdoor based recreation activities are walking, picnicking, bicycling, day hiking, and visiting a wilderness or primitive area.

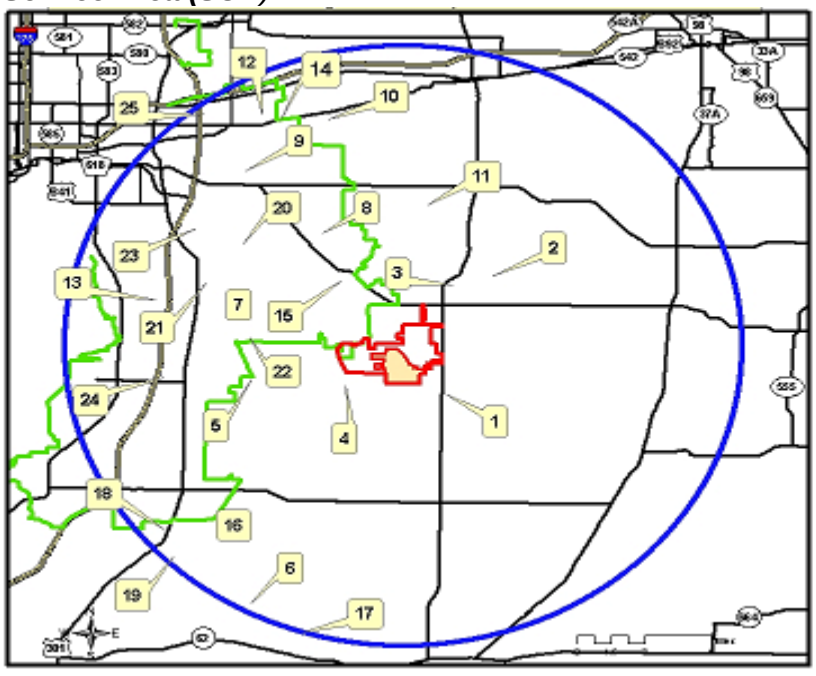
In response to this demand, the Florida Office of Greenways and Trails (OGT) 2004 Update Report has identified the need for a multi-use trail corridor north east of the Reserve. This corridor will propose to link trails in the County's Urban Service Area to the Reserve and the Reserve to other conservation lands in Manatee County. The Reserve is a part of a large network of conservation lands in the southeast portion of the County that are a part of Hillsborough County's 1999 Comprehensive Plan Open Space Element.

Recreation Supply Table – Figure 8 contains a list of resource-dependant recreation opportunities that are available to the general public within a 15-mile radius of the Reserve. The 15 mile radius was used in order to include significant population densities that may utilize the property as well as identify other recreation areas within a reasonable distance of those population densities. Within this 700 square-mile study area, many of the resource-based recreational opportunities available on District land such as hiking, biking, horseback riding, camping, and nature appreciation are currently being provided by other public entities. Many of the sites listed also have an extensive system of amenities including camping and permanent restrooms that may not be available on District property. Hillsborough County conducted public meetings and phone surveys in 2006 to determine the highest and lowest outdoor recreation interests for the region. The results of the survey indicated that the four highest interest where multi-use paved trails, nature parks, hiking nature trails and nature studies. Figure 10 illustrates a trail network that will include: hiking, nature studies, biking, and equestrian use.

Figure 8. Resource-Based Recreation within 15 miles

	Resource-Based Recreation within 15 miles									
		Picnic	Playground	Camping	Swimming	Fishing	Equestrian Trail	Hiking	Biking	Boat Ramp
1	Alafia River St. Park	X		X			X	X	X	
2	Alafia River Corridor	X		X		X	X	X		
3	Alderman Ford County Park	X						X	X	X
4	Balm-Boyette Scrub	X				X		X	X	
5	Balm Scrub							X		
6	Bekur	X								
7	Boyette Springs Park	X						X		
8	Buckhorn Park	X	X					X		
9	Davis Park	X	X							
10	Dover District Park	X				X				
11	Edward Medard Park	X	X	X	X	X	X			
12	Evans Park	X				X				
13	Gibson Park							X		
14	Lake Weeks Park									X
15	Lithia Springs Park	X	X	X	X	X		X		X
16	Little Manatee State Park						X	X		X
17	Masonic Park and Youth Camp							X		
18	Paul Sanders Park	X	X							
19	Little Manatee River	X	X		X					
20	Little Manatee River Corridor	X								
21	Riverview park					X	X	X	X	
22	Stephen J. Wortham Park	X	X			X	X	X		X
23	Sterling Ranch Park	X	X							
24	Vance Vogel Park	X	X							
24	William Tanner Road Park					X				

Figure 9. Resource-Based Recreation within 15 miles and Hillsborough County's Urban Service Area (SUA)



Legend	
	15 mile Radius
	Urban Service Area
	District Boundary
	C.W. "Bill" Young Reservoir

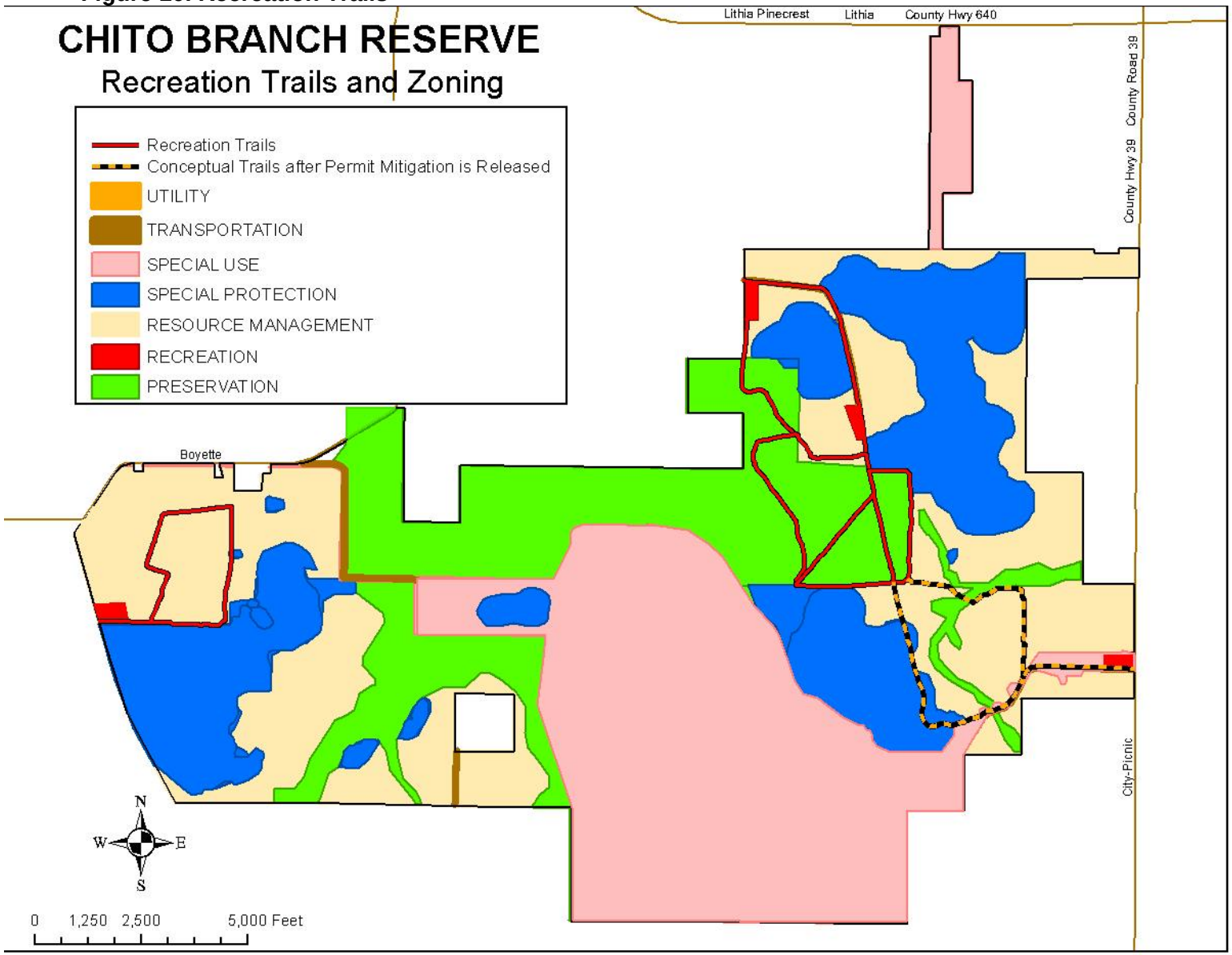
Limitations on Reserve - The land use zones established at the Reserve are to protect and preserve documented sensitive habitat and wildlife and ensure compliance with the Tampa Bay Water mitigation permit conditions that require ecological improvement across much of the property. These permit conditions have limited the amount of acreage and trail networks available for resource-dependant recreation activities. Only those opportunities that require minimal amenities should be considered for the Reserve.

The regions potable drinking water source on 1,100 acre C. W. "Bill" Young Reservoir is solely managed by Tampa Bay Water and is not part of this Land Use and Management Plan. Tampa Bay Water has a perpetual exclusive easement for the Reservoir footprint, and a perpetual non-exclusive agreement for access and utility easements. These agreement areas have security coverage managed by Tampa Bay Water. For the safety of the regions portable drinking water and the public, recreational opportunities are limited on the Chito Branch Reserve.

The small tributary streams located on the Reserve are not significant enough to support boatramps or fishing piers as identified in the survey of Hillsborough County's public recreation interest 2006. Fishing will be permitted along trail water crossing, and is consistent with the sites limitations and management.

Conclusion - Based on the intrinsic character of the Reserve, current and projected recreational opportunities afforded on public lands within the planning region, current and projected public recreation need, and site opportunities and limitations, the Reserve will feature passive, resource-dependent recreational uses. The location and type of uses are depicted in Figure 10.

Figure 10. Recreation Trails



Picture 6 Entrance Area around Recreation Area 1

Management Goals and Objectives

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

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

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

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

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

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

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

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

Resource Protection & Security

Short-term -- Assess potential erosion areas and if deemed necessary, develop an erosion control plan to rectify problem areas.

Complete an assessment of the reserve to locate and identify any remaining abandoned septic tanks, wells, cattle dipping vats, or other potential water resource contamination features.

Complete inventory and remove remaining interior fencing.

Identify security issues on the Reserve and generate a tiered plan that includes encouragement of voluntary compliance utilizing signage; installation of physical impediments and deterrents; and enforcement of rules and regulations through utilization of the District's contract security firm and off duty law enforcement officers.

Mid-term -- Gates, fences, and signage will be evaluated to assure appropriate infrastructure is in place, especially within the wildland urban interface; damaged or inappropriate materials will be budgeted and replaced.

Evaluate level of service being provided through security contract; adjust as necessary.

Coordinate with Hillsborough County Mosquito Control to develop an Arthropod Control plan for the Reserve.

Long-term -- Replace/install fencing as deemed necessary.

Public Use

Short-term -- Establish preliminary public access: walk through(s), parking, and rules.

Assess roads, firelines, and appropriately zoned areas to identify potential trail routes; map and ground-truth.

Develop a stacked-loop system of multi-use trail opportunities.

Publish public use map through update of recreation guide to formally advertise the Reserve is open for public recreation.

Establish recreational access points and amenities in accordance with the Recreational Amenities Plan (RAP). Develop preliminary public use maps for incorporation into recreation guide.

Initiate volunteer recruitment.

Mid-term -- Implement Recreational Amenities Plan.

Establish multi-use trail system and assure it is appropriately and clearly marked using public feedback from users and volunteers.

Publish public use map through update of recreation guide to formally advertise the Reserve is open for public recreation.

Host structured volunteer events bi-annually and provide independent volunteer opportunities.

Coordinate with local schools to host environmental education opportunities.

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

Long-term -- Evaluate recreational access points, trails, and amenities to assure they are in accordance with policy.

Evaluate recreational opportunities to see if demand is being met; develop additional access points and amenities as needed within the zones previously defined compatible

Coordinate with Hillsborough County and the Department of Environmental Protection's Office of Greenways and Trails to assess possible connections to the Reserve to other nearby parks and conservation lands.

Using results of mid-term monitoring program determine level of secondary impacts that result form public use of the Reserve and implement steps to reverse impacts.

Land Maintenance

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

Inventory and map all roads present onsite.

Identify transportation routes that will be needed to achieve long-term management goals, while abandoning those which are redundant or pose a threat to the resources

Identify primary routes needed for year-round access – budget to improve impaired segments as necessary.

Establish annual (perimeter) firelines and individual burn unit firelines utilizing natural breaks and existing disturbances where feasible; budget and coordinate with Field Operations to install and maintain hard lines.

Mid-term -- Road and trail network will be evaluated and a road and trail network improvement plan will be developed as needed

Fire lines will be evaluated and an improvement plan will be developed as needed

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

Long-term --Implementation of major road and fireline improvements

Fire Management

Short-term -- Burn units will be established, burn plans written and prescribed burning efforts initiated, with 75% of burn units found within a natural community type undergoing at least an initial prescribed burn.

Natural habitats exhibiting a heavy fuel-load, especially those in the wildland urban interface will be targeted for fuel reduction through winter hazard-reduction burning or mechanical fuel reduction under extreme cases.

Press releases and outreach will be initiated to educate neighbors of the critical role fire plays in Florida's ecosystems and how it will be utilized in the management of the Reserve.

Mid-term -- 85% of all burn units in natural pyric communities will have undergone at least one burn cycle.

At least 60% of the prescribed burning taking place within natural pyric communities will be conducted during the growing-season on an interval consistent with historic regimes.

All priority wild land urban interface burn units in natural communities will have undergone at least one fuel reduction burn.

Road and trail network will be evaluated and a road and trail network improvement plan will be developed as needed.

Fire lines will be evaluated and an improvement plan will be developed as needed.

Long-term --Staff to conduct an assessment of the prescribed burn program in an effort to identify areas that could be improved upon i.e. areas being issued, burned in inappropriate season or regime, not enough variability, etc.

Transition project to predominately ecological maintenance burning regime

Exotic Species Control

Short-term -- Invasive exotic plant species infestations will be identified, mapped, and prioritized for treatment, with initial control efforts focusing on the most noxious species with the greatest potential of spreading.

Staff will perform biannual cursory surveys for the presence of large omnivorous lizards (*Tegus*), introduced from South America, and currently found on nearby conservation lands.

Feral hog infestations will be periodically monitored with trapping efforts ramped up as necessary to sustain populations at a maintenance level

Mid-term -- All FLEPPC category I and II invasive-exotic floral species identified as posing a threat to natural systems on the Reserve will be contained and considered under operations and maintenance.

Staff will stay abreast to potential new exotic animal introductions and take action as needed.

Long-term -- Staff to coordinate with Aquatics to conduct an assessment of the exotics program on the Reserve

Natural Systems Restoration

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

Mid-term -- A site restoration plan will be developed concentrating on altered natural systems not being restored or enhanced in the mitigation process being performed by TBW.

Mechanical vegetation enhancements and/or restoration will be pursued in habitats that prescribed fire was unable to achieve desired results.

Long-term -- Areas identified within the site restoration plan as being priority sites will undergo the steps necessary to carry out this restoration effort; non priority disturbed sites will be managed as is until funds are available or may be left in a pasture state for wildlife or resource utilization.

Identify and evaluate the Reserve to determine if there is a need and opportunity to actively place wildlife species on the Reserve that were historically present or would thrive in one of the altered communities.

Resource Utilization

Mid-term -- In conjunction with the site restoration plan, a resource utilization plan will be developed identifying renewable resources compatible on the Reserve that could be employed to offset management costs.

An evaluation will take place of the feasibility of allowing hunting opportunities on this project.

Long-term -- Resource utilization plan will be carried out; timber planted or harvested in identified areas, lessees sought, or other appropriate revenue generation sources.

Implementation of hunting plan through the FWC if deemed suitable on this project.

Resource Monitoring

Short-term -- Permanent photo-monitoring stations will be placed on representative habitats following District guidelines for photo-plots.

Contract with the Florida Natural Areas Inventory to conduct a comprehensive natural communities mapping effort.

Coordinate with Tampa Bay Water no less than annually to assure their mitigation efforts remain on schedule.

Coordinate with Tampa Bay Water to assure that the conservation easements associated with reservoir construction remain in good standing with the Department of Environmental Protection.

Mid-term -- Mitigation areas associated with reservoir construction will likely meet success criteria resulting in management of the mitigation areas to be handed over to the District annual monitoring needs to occur to assure management activities are not negatively affecting mitigation areas.

A monitoring effort will take place focusing on potential impacts to water resources, flora, and fauna associated with increased public use, prescribed fire regimes, and exotics species presence and control.

Long-term -- An assessment will be undertaken employing latest technology to identify holes in the Reserve's monitoring program.

Key External Factors

Challenges to Achieving Goals

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

- Natural disasters such as hurricanes, floods, climate change, and disease that potentially cause unrecoverable resource losses in the Reserve and affect the long-term balance and viability of populations and functionality.
- Exponential proliferation of existing exotic flora and fauna or introduction of new invasive species.
- Development adjacent to or in proximity to the Reserve may degrade resources and ecosystem processes within the Reserve.
- Legal impediments to fire management, such as increasing air quality standards, and exotic plant and animal treatments, such as herbicide restrictions and public resistance.
- Competing State of Florida priorities that divert funds away from land conservation and management.
- Security Issues relating to water supply security could alter public access and allowable activities.
- Road and utilities expansions and widening have the potential to impact District managed property.

- Inadequate management practices of adjacent landowners engaged in timber harvesting, mining, cattle grazing, water withdrawal or water pollution may adversely affect the Reserve resources.
- Public recreation requests that are not compatible with resources on site.
- Multiple jurisdictional issues that affect protection of the Reserve's resources and enforcement of unauthorized activities.
- Increased demand and market values for natural resources that are present in the Reserve, such as saw palmetto berry, pine heartwood and timber.
- Lack of partners that share stated management priorities and goals for the Preserve.

Local Government, Stakeholders and Coordination Entities

Coordination between The District, Tampa Bay Water, local governments, neighboring residents and the public will demonstrate the benefit that can be achieved by securing a public water supply for the future growth of the area, while maintaining the remaining natural ecosystems for compatible multiple uses consistent with District Policies and Procedures.

The District will continue to work with Hillsborough County and TBW to have planned development that considers water constants and pressures on the use of public lands.

Future Uses

The December 1, 2006 Regional Water Supply Plan states that TBW is expected to construct a second reservoir with an estimated 15 billion gallon storage capacity to meet future public water supply demands. "For planning purposes, it is assumed the reservoir would be constructed on District property adjacent to the existing reservoir and that Tampa Bay Water would be granted an easement for the land." (Regional Water Supply Plan Dec. 1, 2006, Page 129). If this site were chosen the management goals, objectives, and zoning maps would need to be reevaluated and modified accordingly.

APPENDIX 1

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

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

Appendix 2

Land Use and Management Programs

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

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

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

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

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

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

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

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

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