

**Lake Tuscawilla
Rapid Ecological Project Assessment
Alachua County Forever**

Draft Date: July 22, 2003
Matrix Score: 7.13 of 9.44
Size: 884 acres
Number of parcels: 18
Number of owners: 11
Number of buildings: 6

Location / Description:

The 884-acre Lake Tuscawilla (TUS) Project is located in unincorporated Alachua County south of Micanopy and immediately north of the Marion County Line (Map 1). It lies between I-75 and US 441. The main feature of the project is Lake Tuscawilla, a large basin marsh and prairie/marsh lake system surrounded by prairie hammock. It provides important wildlife value, particularly for wading birds. Much of the prairie has been utilized as pasture. Although pasture grasses are present throughout the prairie, native vegetation is also found, particularly in the wetter portions of the site.

In addition, the TUS Project is adjacent to the Town of Micanopy's Native American Heritage Preserve which is a 15.7 acre preserve purchased with a grant from the Florida Communities Trust.

A limited site assessment by Alachua County Forever staff revealed that the site consists of pasture, wet prairie, basin marsh, prairie/marsh lake and prairie hammock natural communities.

Approximately 606 of the 884 total acres of the TUS Project are currently being considered for acquisition by Florida Communities Trust (FCT) in an application submitted by Alachua Conservation Trust (ACT)-a private land trust.

Protecting Water Resources:

The entire TUS Project is located in the perforated aquifer zone of Alachua County. This is an area underlain by clays of the Hawthorn Group perforated by numerous karst features that allow direct access to the Floridan Aquifer, (personal communication with Robin Hallbourg, Professional Geologist, Water Quality Program, Alachua County Environmental Protection Department).

According to the St. Johns River Water Management District's (SJRWMD) Aquifer Recharge Map for Alachua County, approximately 54% of the Lake Tuscawilla project exists in a high aquifer recharge area where 12 inches or more of water is recharged to the aquifer on a yearly basis. The remainder is located in a moderately high recharge area where 8 to 12 inches of water is recharged to the aquifer.

According to the USGS Water Resources Investigation Report 88-4057, the TUS Project is located in an area where greater than ten inches of water is recharged to the Floridan Aquifer System per year (Aucott 1988).

Almost 99% of the TUS Project area is wetlands, has hydric soils, or falls within the FEMA 100 or 500 year flood hazard zone (Map 2).

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Hydrologic modifications to the project site include possible drainage wells, a berm of a long-abandoned railroad spur on the perimeter of the basin, as well as stormwater drainage from US 441 and the Town of Micanopy.

The TUS Project is located within the Orange Creek Basin, recently designated as a priority area for protection and restoration of water resources as part of the state's Surface Water Improvement and Management (SWIM) program.

Protecting Natural Communities and Landscapes:

Natural Communities

Prairie/Marsh Lake

Prairie Hammock

Wet Prairie

Basin Marsh

Hydric Hammock

Other

Low Impact Development

Rough Pasture

Improved Pasture

The above list of natural communities is from a limited site visit conducted by Alachua County staff and aerial photograph interpretation. The ecological quality of the natural communities ranges from fair to very good.

At the time of the site inspection (June 2004) water levels in the prairie basin were down and the project area was dominated by rough pasture vegetation that grades with wet prairie then into prairie/marsh lakes. The pasture is dominated by bahia grass, ragweed, dogfennel, thistle, sand spur, primrosewillow, globe sedge, foxtail, and capeweed. Wet prairie vegetation included those above plus the addition of species such as spadeleaf, maidencane, *Juncus* spp., and blackberry.

The wetter portions of the basin contains marsh/lake vegetation that included lizards tail, smartweed, arrow arum, pickerelweed, pokeweed, *Juncus* spp, lotus, cattail, frogbit, hydrocotyle, waterspider false reinorchid and duckweed.

Prairie hammock is characterized by an overstory of live oak, sweetgum, pignut hickory, slash pine, sabal palm and an understory of regenerating oaks, elephants foot, ironweed, ragweed, pokeweed, wild petunia, bahia grass and scattered tropical soda apple. The prairie hammock seemed to be impacted by grazing.

Staff noted some invasive plants during the brief site inspection that included tropical soda apple and camphor in the upland area. Other occurrences of non-native, invasive plants on the project site include paper mulberry and alligator weed (FCT 2004). Additionally cogongrass occurs along the road right-of-ways in the uplands and would need to be treated before its spreads into the surrounding natural areas.

The TUS Project site is adjacent to the Alachua County Forever (ACF) Barr Hammock Project and to the Town of Micanopy's Native American Heritage Preserve which is a 15.7 acre preserve purchased with a grant from the Florida Communities Trust. The project has the potential to help form a connection between the Carr Farm/Price's Scrub Florida Forever project

and Payne’s Prairie, although fragmentation due to existing roads (US 441 and I-75) and the town of Micanopy limits the significance of this connection (Map 1).

A small portion of the project site is within the Florida Ecological Greenways Network (FEGN), in the priority 5 project area known as Paynes Prairie-Goethe. This FEGN project is one of three highest priority projects in Alachua County. The Florida Ecological Greenways Network is a decision support model to help identify the best opportunities to protect ecological connectivity statewide. It was developed by the University of Florida for the Florida Department of Environmental Protection. GIS data on land use and significant ecological areas were integrated in a process that identified a statewide Ecological Greenways Network containing all of the largest areas of ecological and natural resource significance and the landscape linkages necessary to link these areas together in one functional statewide network (Hoctor et al. 2002).

The Paynes Prairie-Goethe FEGN project is a part of the connection from Ocala National Forest to the Gulf Coast. Ocala National Forest is connected to Paynes Prairie through the Ocala NF-Lochloosa-Paynes Prairie-Newnans Lake FEGN project and then on to Goethe Forest via the Paynes Prairie-Goethe FEGN Project. The TUS Project has a limited role in making the connection between Paynes Prairie and Goethe State Forest due to existing roads and surrounding development. The remainder of the TUS Project site is within an unnamed priority six area within the Florida Ecological Greenways Network.

Approximately 97% of the site falls within the Florida Natural Areas Inventory (FNAI) priority two through five Habitat Conservation Priorities. FNAI’s Habitat Conservation Priorities prioritize places on the landscape that would protect both the greatest number of rare species and those species with the greatest conservation need (Florida Natural Areas Inventory, June 2001).

About 7% of the project area is delineated as Upland Hardwood Forest, an Under-represented Natural Community. Under-represented Natural Communities are those natural community types that were inadequately represented on conservation lands in Florida. A natural community is considered to be inadequately represented if less than 15% of the original extent of that community is on existing conservation lands. Under-represented natural communities include, seepage slope, upland hardwood forest, pine rockland, tropical hardwood hammock, sandhill, scrub, upland glades, and pine flatwoods. These data were developed by the Office of Environmental Services, Florida Department of Environmental Protection and FNAI (FNAI, December 2001).

Protecting Plant and Animal Species:

Common Name	Endemic/ Large Home-Range	Fed/State Status	FCREPA/FNAI Designation	Observed
Amphibians				
Eastern Tiger Salamander	-/-	-/-	SU/S3	SM
Gopher Frog	-/-	-/SSC	T/S3	SM
Striped Newt	-/-	-/-	R/S2S3	SM
Reptiles				
American Alligator	-/-	T/SSC	-/S4	SM
Eastern Diamondback Rattlesnake	-/-	-/-	-/S3	SM
Eastern Indigo Snake	-/-	T/T	SSC/S3	SM
Florida Pine Snake	-/-	-/SSC	SU/S3	SM
Gopher Tortoise	-/-	-/SSC	T/S3	F
Short-tailed Snake	X/-	-/T	T/S3	SM
Spotted Turtle	-/-	-/-	R/S3?	SM
Birds				

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Black-Crowned Night Heron	-/-	-/-	SSC/S3?	SM
Black Rail	-/-	-/-	R/S3	SM
Great Egret	-/-	-/-	SSC/S4	SM
Least Bittern	-/-	-/-	SSC/S4	SM
Little Blue Heron	-/-	-/SSC	SSC/S4	SM, S
Osprey	-/-	-/-	T/S3S4	SM
Mottled Duck	-/-	-/-	-/-	F
Snowy Egret	-/-	-/SSC	SSC/S3	SM
Southern Bald Eagle	-/L	T/T	T/S3	F
Tricolored Heron	-/-	-/SSC	SSC/S4	SM
White Ibis	-/-	-/SSC	SSC/S4	SM
Wild Turkey	-/L			F
Wood Stork	-/-	E/E	E/S2	SM
Mammals				
Bobcat	-/L	-/-	-/-	F
Florida Black Bear	X/L	-/T	T/S2	F
Northern Yellow Bat	-/-	-/-	SU/-	SM
River Otter	-/-	-/-	-/-	SM
Round-tailed Muskrat	X/-	-/-	SSC/S3	SM
Sherman's Fox Squirrel	-/-	-/SSC	T/S3	F

X= Endemic, L=species with large home ranges according to the Closing the Gaps in Florida's Wildlife Habitat System, S= observed by Alachua Co. EPD staff and/or an LCB subcommittee member, SM= documented on the Species Models maps created by the Florida Fish and Wildlife Conservation Commission, F= Focal species used for the most detailed analyses in the Closing the Gaps in Florida's Wildlife Habitat Conservation System, Florida Game and Fresh Water Fish Commission, 1994, N= Florida Natural Areas Inventory Element Occurrence, P= potential for species based on habitat types, K=documented in the Alachua County Ecological Inventory Project.

Approximately 62% of the TUS Project is within a Strategic Habitat Conservation Area for wading birds. Strategic Habitat Conservation Areas were developed by the Florida Fish and Wildlife Conservation Commission (FWC). They are private lands containing habitats critical to the continued survival of populations of inadequately protected plants and animals (Cox et al. 2000). These lands are essential to providing some of state's rarest animals, plants, and natural communities with the land base necessary to sustain populations into the future (Cox et al. 1994).

In addition, the Alachua Audubon Society has designated Lake Tuscawilla as a wildlife sanctuary, stating that it is a, "feeding area for wading birds, Sandhill Cranes, and waterfowl" (FCT 2004).

The Florida Natural Areas Inventory Element Occurrence data does not have any occurrences for the TUS property.

The Florida Fish and Wildlife Conservation Commission data shows one bald eagle nest on the project site, near the southern boundary. The TUS Project is located within an area that is unofficially dubbed the "Alachua County Eagle Reserve," and is said to have one of the greatest concentrations of bald eagle nests outside of Alaska (FCT 2004).

Approximately 56% of the site falls within the Regional Biodiversity Hotspots. The purpose of the Regional Biodiversity Hot Spots maps developed by FWC is to "convey more detailed information on the known locations of as many components of biological diversity as possible, regardless of whether or not they fall within proposed Strategic Habitat Conservation Areas, to help meet the need for conservation information at regional and local levels" (Cox et al. 1994).

Achieving Social and Human Values:

Approximately 27% of the TUS Project is within a priority two Natural Resource-based Recreation Area (Knight, et al. 2000). The Natural Resource-based Recreation map was developed by FNAI in collaboration with FWC, the Florida Department of Environmental Resources and the Florida Division of Forestry. The recreation potential of a site depends on available road access, presence of a water body or beach, proximity to urban areas, and size of the site. "These criteria were applied to Potential Natural Areas delineated by FNAI using aerial photography and revised using the 1995 Water Management District land cover data. Sites were ranked by recreation potential." (Knight, et al. 2000).

The TUS Project area is not within the Emerald Necklace Land Conservation Initiative – a publicly accessible, connected, and protected network of trails, greenways, open space, and waterfronts surrounding the Gainesville urban area.

Ten of the eighteen parcels (Map 2), forming the core of the Lake Tuscawilla basin, were submitted to the Florida Communities Trust (FCT) by Alachua Conservation Trust (ACT) for acquisition. They are proposing to establish a meandering nature trail of approximately ¼ mile in length and a boardwalk that ends in a wildlife observation platform overlooking the lake/prairie. Benches and educational signage will be placed along the trails. This infrastructure is proposed for the northern Thrasher parcel as it is the most accessible and is adjacent to the Town of Micanopy's Native American Heritage Preserve, providing a connected recreation trail system (FCT 2004).

The project area is also a potential destination for the "Timucuan Trail" a land based heritage trail designated by the Micanopy Historical Society and located along the state designated Scenic Highway 441.

Management:

The TUS Project is primarily a prairie/lake basin that like other similar habitats it requires active management to maintain the appropriate species composition and structure. Lake Tuscawilla has been impacted by over-grazing, modified hydrology, lack of fire and some invasive plants, particularly within the Prairie Hammock natural community. Management on the site will require a combination of prescribed burning, periodic mowing, low intensity cattle grazing and invasive plant control, in addition to working with neighbors to limit activities that are detrimental to wildlife. The development surrounding the actual prairie which includes residential areas and US 441 will make prescribed burning difficult and provide a constant source of invasive exotic plants.

Alachua Conservation Trust will manage the 606 acres submitted to FCT if they receive funding for their acquisition. Additionally they are seeking an endowment for this management.

Economic & Acquisition:

There are 18 parcels, 12 ownerships, and six buildings listed in the Alachua County Property Appraisers (ACPA) database for the 884 acre TUS Project (Map 3). The ACPA's 2004 Just value or land value for the entire project is \$ 1,164,100 or \$1,316/acre. The ACPA's total value (Just, Miscellaneous and Building) for the project area is \$1,654,600 or \$1,870/acre. These figures are for comparative purposes between nominated properties, and are not necessarily an accurate reflection of the true cost of the property if acquired by the Alachua County Forever Program.

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The project site falls within unincorporated Alachua County. It is zoned agriculture, and has a Future Land Use designation of Rural Agriculture. Several of the parcels (approximately 200 acres of the entire project) have large upland buildable areas, which increases the development pressure for the overall project. These parcels have some development potential for single-family detached (including manufactured or mobile home) residential use based on county zoning and land use designations. The majority of the project contains wetlands and lies within the 100-year flood plain (FEMA). The natural features (open water and associated flood prone area and wetlands) appear to significantly constrain development potential for the most project area.

Below is a table depicting the ownerships within the Lake Tuscawilla Project. The keystone parcels are those that were included in the FCT application and are considered to be Phase I of the project. They also comprise the majority of the prairie basin. ACT is currently looking to the County to provide documentation that they would be the backup manager of the site and are not looking for a funding match.

Parcel #	Owner	Acreage	Keystone
16863-001-000	BYERLY	43.19	K
16859-000-000	CONNELL & CONNELL & CONNELL &	98.85	K
16863-005-000	DENTON	7.73	
16863-006-001	DENTON	29.86	
16860-000-000	FRANKLIN CRATES INC	161.68	
16877-000-000	MCGURN	190.31	K
16877-020-023	MCGURN	69.02	K
16863-000-000	PATTERSON	33.69	
16865-004-000	PHOENIX	8.90	
16863-001-002	PHOENIX & PHOENIX & PHOENIX &	17.80	
16497-002-000	REDDICK	8.29	K
16883-000-000	REDDICK	12.29	K
16883-003-000	REDDICK	25.00	K
16883-002-000	REDDICK & REDDICK	37.29	K
16497-001-001	SCHMIDT	15.52	
16498-000-000	THRASHER & THRASHER III	43.00	K
16883-001-000	THRASHER & THRASHER III	74.00	K
16497-000-000	WHITTINGTON	8.45	

Other:

There are three archaeological sites within the TUS Project area listed on the Florida Master Site File maintained by the Division of Historical Resources.

Literature Citations:

Aucott, W. 1988. Water Resources Investigation Report 88-4057. USGS.

Cox, J., R. Kautz, M. MacLaughlin, and T. Gilbert. 1994. Closing the Gaps in Florida's Wildlife Habitat Conservation System, Office of Environmental Services, Florida Game and Fresh Water Fish Commission, Tallahassee, Florida.

Cox, J. and R. Kautz. 2000. Habitat Conservation Needs of Rare and Imperiled Wildlife in Florida. Office of Environmental Services, Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida.

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Florida Communities Trust. 2004. Lake Tuscawilla Florida Communities Trust Application, submitted by Alachua Conservation Trust.

Florida Natural Areas Inventory. June 2001. Florida Forever Conservation Needs Assessment Technical Report

Hector, T.S., J. Teisinger, M.G. Carr., P.C, Zwick. 2002. Identification of Critical Linkages Within the Florida Ecological Greenways Network. Final Report. Office of Greenways and Trails, Florida Department of Environmental Protection. Tallahassee, FL.

Knight, G., A. Knight, and J. Oetting. 2000. Florida Forever Conservation Needs Assessment Summary Report to the Florida Forever Advisory council. Florida Natural Areas Inventory.

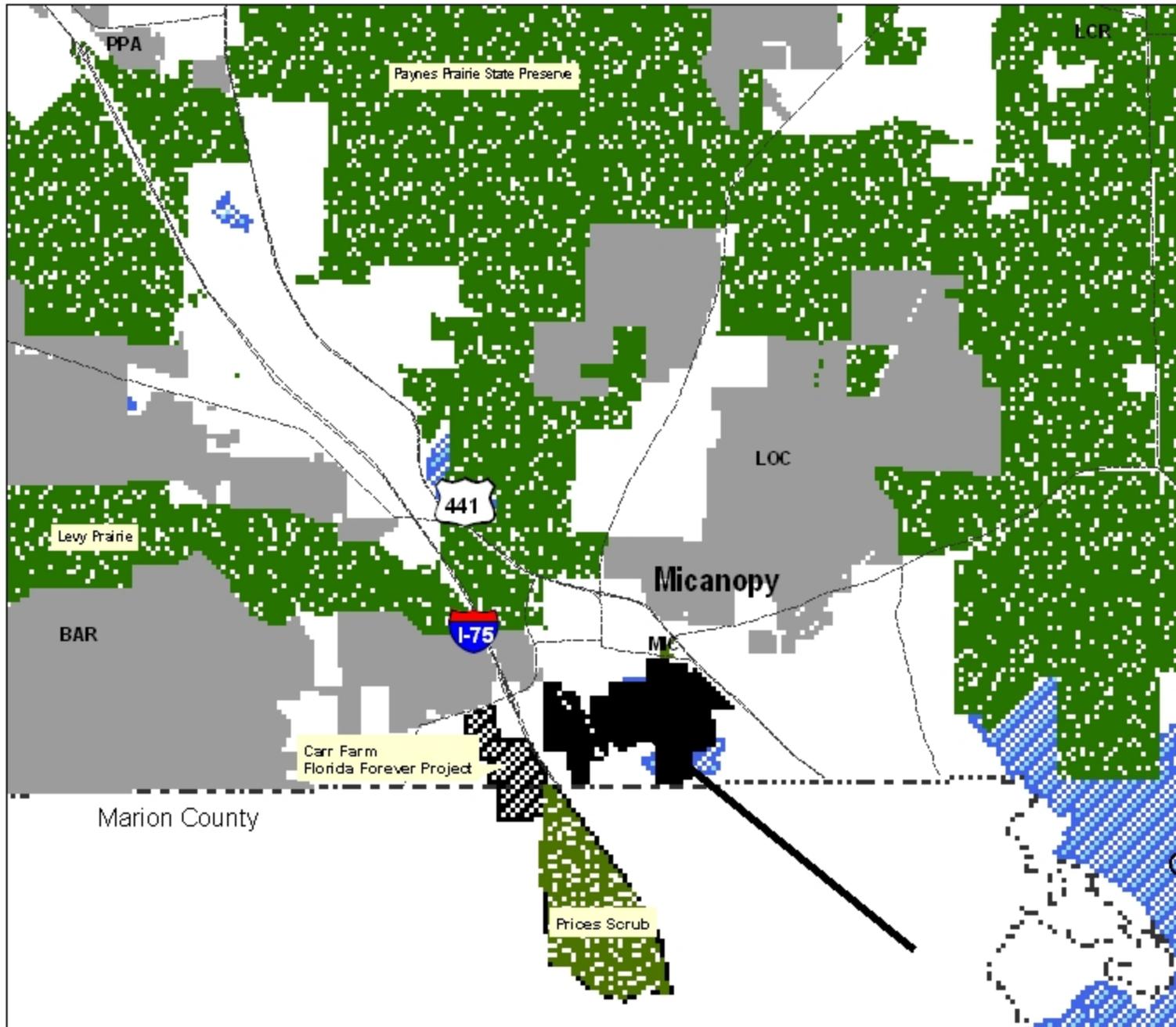
Macesich, M. 1988. Geologic Interpretation of the Aquifer Pollution Potential in Alachua County, Florida, Open File Report – 21. Florida Geologic Survey, Tallahassee, Florida.

Florida Natural Areas Inventory. December 2001. Florida Forever Conservation Needs Assessment Version 1.1 Supplement to the technical Report June 2001. Tallahassee, Florida.

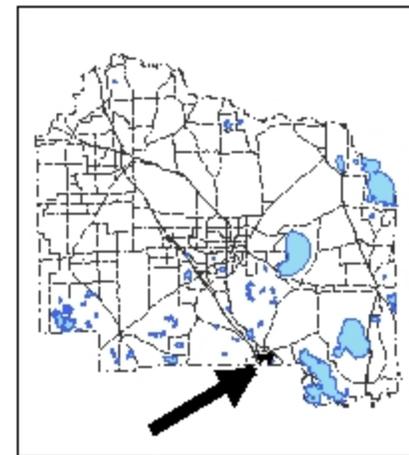
Lake Tusawilla Draft date: June 23, 2004

CATEGORY	Criterion	WEIGHTING	Enter Criteria Value Based on Site Inspection	Average Criteria Score	Average Criteria Score Multiplied by Relative Importance
(I-1) PROTECTION OF WATER RESOURCES	A. Whether the property has geologic/hydrologic conditions that would easily enable contamination of vulnerable aquifers that have value as drinking water sources;		4		
	B. Whether the property serves an important groundwater recharge function;		4		
	C. Whether the property contains or has direct connections to lakes, creeks, rivers, springs, sinkholes, or wetlands for which conservation of the property will protect or improve surface water quality;		5		
	D. Whether the property serves an important flood management function.		5		
(I-2) PROTECTION OF NATURAL COMMUNITIES AND LANDSCAPES	A. Whether the property contains a diversity of natural communities;		2		
	B. Whether the natural communities present on the property are rare;		3		
	C. Whether there is ecological quality in the communities present on the property;		3		
	D. Whether the property is functionally connected to other natural communities;		2		
	E. Whether the property is adjacent to properties that are in public ownership or have other environmental protections such as conservation easements;		3		
	F. Whether the property is large enough to contribute substantially to conservation efforts;		5		
	G. Whether the property contains important, Florida-specific geologic features such as caves or springs;		3		
	H. Whether the property is relatively free from internal fragmentation from roads, power lines, and other features that create barriers and edge effects.		2		
(I-3) PROTECTION OF PLANT AND ANIMAL SPECIES	A. Whether the property serves as documented or potential habitat for rare, threatened, or endangered species or species of special concern;		4		
	B. Whether the property serves as documented or potential habitat for species with large home ranges;		4		
	C. Whether the property contains plants or animals that are endemic or near-endemic to Florida or Alachua County;		3		
	D. Whether the property serves as a special wildlife migration or aggregation site for activities such as breeding, roosting, colonial nesting, or over-wintering;		4		
	E. Whether the property offers high vegetation quality and species diversity;		3		
	F. Whether the property has low incidence of non-native invasive species.		4		
(I-4) SOCIAL AND HUMAN VALUES	A. Whether the property offers opportunities for compatible resource-based recreation, if appropriate;		4		
	B. Whether the property contributes to urban green space, provides a municipal defining greenbelt, provides scenic vistas, or has other value from an urban and regional planning perspective.		5		
	AVERAGE FOR ENVIRONMENTAL AND HUMAN VALUES			3.60	
	RELATIVE IMPORTANCE OF THIS CRITERIA SET IN THE OVERALL SCORE	1.3333			4.80
(II-1) MANAGEMENT ISSUES	A. Whether it will be practical to manage the property to protect its environmental, social and other values (examples include controlled burning, exotics removal, maintaining hydro-period, and so on);		4		
	B. Whether this management can be completed in a cost-effective manner.		5		
(II-2) ECONOMIC AND ACQUISITION ISSUES	A. Whether there is potential for purchasing the property with matching funds from municipal, state, federal, or private contributions;		5		
	B. Whether the overall resource values justifies the potential cost of acquisition;		4		
	C. Whether there is imminent threat of losing the environmental, social or other values of the property through development and/or lack of sufficient legislative protections (this requires analysis of current land use, zoning, owner intent, location and		3		
	D. Whether there is an opportunity to protect the environmental, social or other values of the property through an economically attractive less-than-fee mechanism such as a conservation easement.				
	AVERAGE FOR ACQUISITION AND MANAGEMENT VALUES			3.50	
	RELATIVE IMPORTANCE OF THIS CRITERIA SET IN THE OVERALL SCORE	0.6667			2.33
	TOTAL SCORE				7.13

Lake Tuscawilla-Map 1



Section: 25, 35, 36
Township: 11
Range: 20



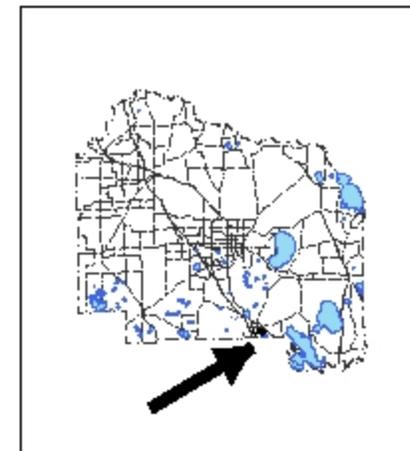
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Miles

Lake Tuscawilla-Map 2



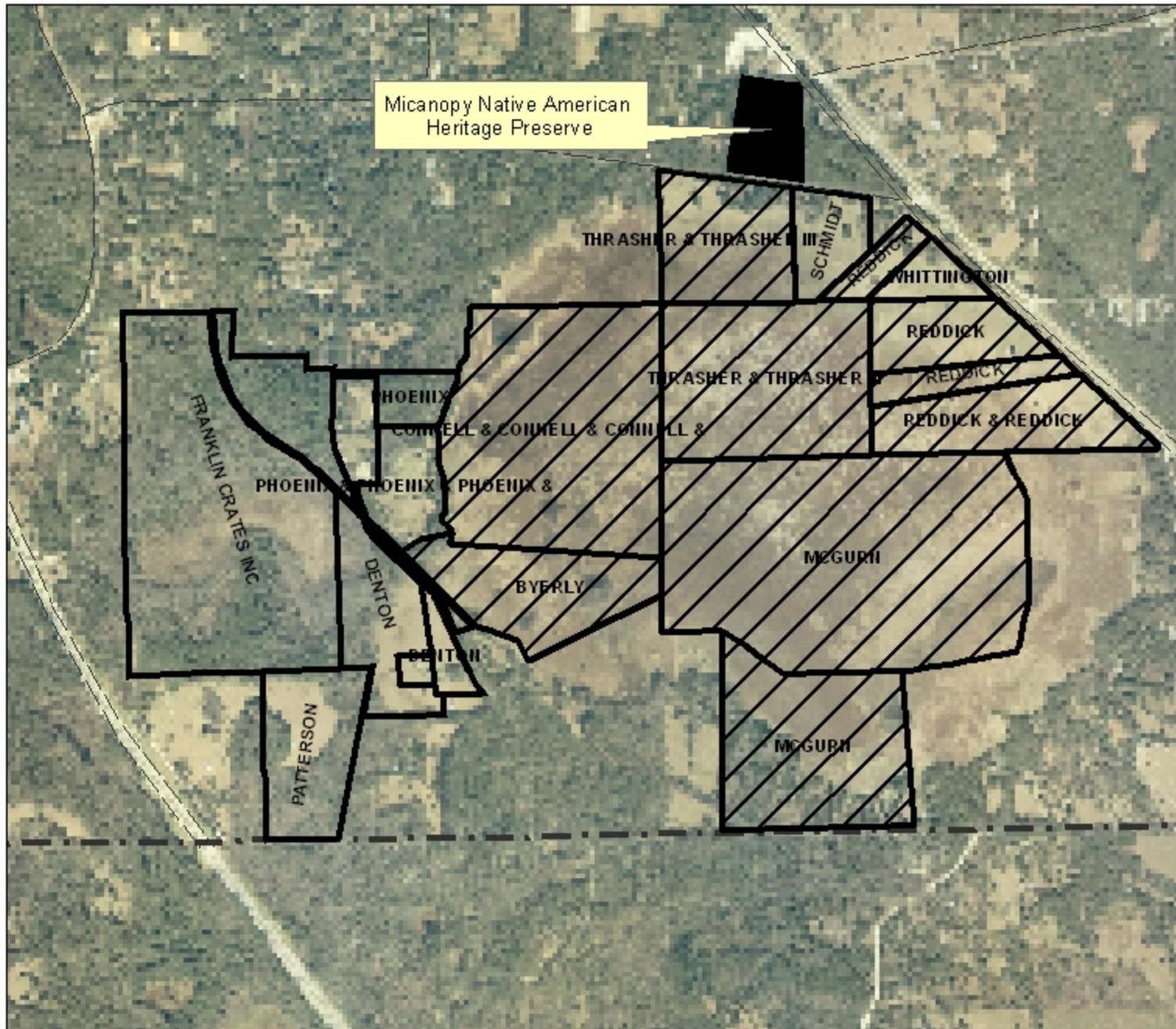
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Section: 25, 35, 36
Township: 11
Range: 20

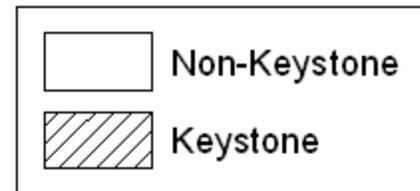


0 0.150.3 0.6 0.9 1.2
Miles

Lake Tuscawilla-Map 3



Micanopy Native American Heritage Preserve



Section: 25, 35, 36
Township: 11
Range: 20

