

# Lake Assessment Report

## WEST PEARL LAKE (ALTAMONTE SPRINGS)

### 8/2/2004

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Lake assessments are being conducted to contribute physical and ecological data to the Atlas as a collaborative effort between project partners. The goal is to rapidly assess many of the lakes in the county and thus provide stakeholders a better understanding of the character of the lake, its shore, and the aquatic plants present there. These data are intended to assist in the future management of the lake and its watershed.

The first section of the report provides the results of the bottom mapping effort: a contour (bathymetric) map of the lake, area, volume and depth statistics, and the water level at the time of assessment (if available).

The second section provides the results of the ecological (vegetation) assessment conducted on the lake. These results can be used to better manage vegetation in the lake. A list is provided with the different plant species found at various sites around the lake. Potentially invasive, exotic (non-native) species are identified in a plant list and the percent of exotics is presented in a summary table. The results of this study are compared with other lakes in the watershed.

The intent of the assessment is to provide a starting point from which to track changes in the lake. These data can provide the information needed to determine changes and to monitor trends in physical condition and ecological health of the lake.

### ***I. Physical Data – Area, Depth, Volume, & Bottom Contours***

The bottom of the lake was mapped using a Global Positioning System (GPS) to determine the boat's position, and a depth-finder to provide depth associated with that measured position. The result is an estimate of the lake's area, mean and maximum depths, and volume (Table 1) and the creation of a bottom contour map. *NOTE: This map is for recreational purposes only.*

**Table 1: Physical Characteristics of the Lake**

Surface Area (acres):	<u>11.30</u>
Mean Depth (feet):	<u>10.70</u>
Maximum Depth (feet):	<u>30.70</u>
Volume (gallons):	<u>39,324,351</u>



*The lake assessments are created in partnership with Seminole County and the Florida Center for Community Design and Research at USF. If you have any questions, please use the "Contact Us" form on the Seminole Atlas Website ([www.seminole.wateratlas.org](http://www.seminole.wateratlas.org))*

# West Pearl Lake

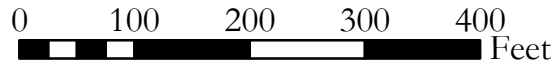
Section Township Range  
17-21-29

 Contour Lines Expressed  
in 2 Foot Intervals

 Estimated Lake  
Perimeter

**EXPLANATION:**  
Assessment Date: August 2, 2004  
Lake water level was 59.0 ft above sea level when the lake was assessed.  
Contours are expressed in absolute depth below this level and may not exclude the presence of submerged aquatic vegetation.

**DATA SOURCES**  
Seminole County 1999 Color aerials provided by Seminole County Public Works. All contours generated by Florida Center For Community Design and Research based on GPS/Sonar data provided by Seminole County Stormwater Division.



## II. Ecological Data - Aquatic Plant Survey

Approximately equispaced sites (typically ten or more) are mapped around the lake and the aquatic plants at each site are surveyed. The total number of species from all sites is used to approximate the total diversity of aquatic plants and the percent of invasive-exotic plants on the lake and in the watershed (Table 2). Many of these plants are considered ecologically harmful, as they tend to out-compete beneficial native species. Such “nuisance” plants can also make boating and other recreational activities difficult or impossible. The common and scientific names of plant species found on your lake are listed in Table 3.

**Table 2: Comparison of species diversity between the lake and other assessed lakes located within the same watershed**

	<u>Lake</u> WEST PEARL LAKE (ALTAMONTE SPRINGS)	<u>Watershed</u> Little Wekiva
	(Average)	
Number of Taxa:	28	35
Percent Exotic Plants:	21%	18%

**Table 3: Botanical and common names of the most commonly found plants on the lake. Percent frequency (of occurrence), habit (location where found), status (native or exotic), and EPPC status are provided**

Common Name	Scientific Name	Frequency	Habit	Status	EPPC
Torpedo Grass	<i>Panicum repens</i>	100%	Emergent	Exotic	I
Common Bacopa	<i>Bacopa monnieri</i>	86%	Submersed	Native	NL
Panic Grasses	<i>Panicum spp.</i>	86%	Emergent	Unknown	NL
Algal Mats, Floating	<i>Algal spp.</i>	71%	Floating	Unknown	Unknown
Water Primroses, Primrosewillow	<i>Ludwigia spp.</i>	71%	Emergent	Unknown	NL
Alligator Weed	<i>Alternanthera philoxeroides</i>	57%	Emergent	Exotic	II
Duck Potato	<i>Sagittaria lancifolia</i>	57%	Emergent	Native	NL
Brazilian Pepper	<i>Schinus terebinthifolius</i>	57%	Emergent	Exotic	I
Cattails	<i>Typha spp.</i>	57%	Emergent	Native	NL
Wild Taro	<i>Colocasia esculenta</i>	43%	Emergent	Exotic	I
Manyflower Marshpennywort, Water Pennywort	<i>Hydrocotyl umbellata</i>	43%	Emergent	Native	NL
Climbing Hempvine	<i>Mikania scandens</i>	43%	Emergent	Native	NL
Wax Myrtle	<i>Myrica cerifera</i>	43%	Emergent	Native	NL
Pickerel Weed	<i>Pontederia cordata</i>	43%	Emergent	Native	NL

<b>Common Name</b>	<b>Scientific Name</b>	<b>Frequency</b>	<b>Habit</b>	<b>Status</b>	<b>EPPC</b>
Southern Umbrellasedge	Fuirena scirpoidea	29%	Emergent	Native	NL
American White Water Lily, Fragrant Water Lily	Nymphaea odorata	29%	Floating	Native	NL
Carolina Willow	Salix caroliniana	29%	Emergent	Native	NL
Aster spp., Elliot's Aster	Aster spp.	14%	Unknown	Unknown	Unknown
Lemon Bacopa	Bacopa caroliniana	14%	Submersed	Native	NL
Buttonbush	Cephalanthus occidentalis	14%	Emergent	Native	NL
Muskgrass	Chara spp.	14%	Submersed	Native	NL
Camphor-tree	Cinnamomum camphora	14%	Emergent	Native	I
Umbrella Flat Sedge	Cyperus alternifolius	14%	Emergent	Exotic	II
Fragrant Flatsedge	Cyperus odoratus	14%	Emergent	Native	NL
Sweetbay Magnolia	Magnolia virginiana	14%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea	14%	Floating	Native	NL
Egyptian Paspalidium	Paspalidium geminatum	14%	Emergent	Exotic	NL
Unidentified Plant Species	UNKNOWN SPP	14%	Unknown	Unknown	Unknown