The lake assessments are created in partnership with Hillsborough County and the Florida Center for Community Design and Research

LAKE ASSESSMENT DOCUMENT

Lake Norbert 7/6/99 Watershed: Rocky/ Brushy Creek

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 your 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.

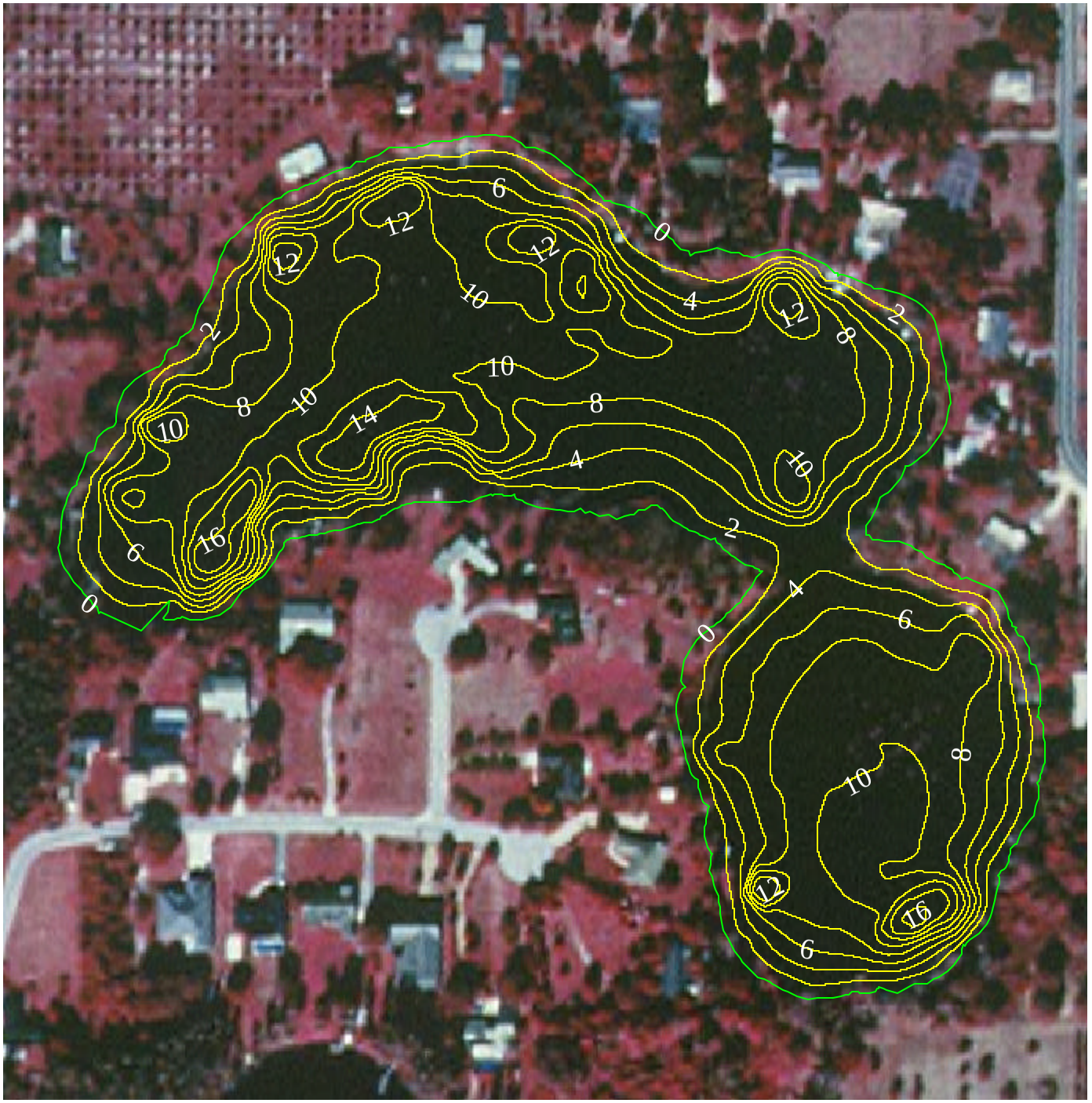
The intent of the assessment is to provide a starting point from which to track changes in your lake. These data can provide the information needed to determine changes and to monitor trends in physical condition and ecological health of the lake.

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

The bottom of the lake was mapped using a sophisticated 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 your lake's area, mean and maximum depths, and volume (Table 1) and the creation of a bottom contour map.

Table 1. Physical Characteristics of Your Lake.

Surface Area (acres):	16
Mean Depth (feet):	6.8
Maximum Depth (feet):	16.6
Volume (gallons):	34,980,270



Lake Norbert

Section - Township - Range
11-27-18

Contour Lines
Expressed in
2-Foot Intervals

Lake Perimeter
Ground Level

EXPLANATION:
Survey Date July 8, 1999.

Lake water level above sea level is pending. Contours are expressed in absolute depth below this level.

DATA SOURCES:

Digital orthophotos by United States Geological Survey. All contours generated by Florida Center for Community Design and Research based on survey data provided by the Hillsborough County Lake Management Program.

25 0 25 50 75 Meters

Hillsborough County

Southwest Florida Water Management District

University of South Florida
USF

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II. Ecological Data

Aquatic Plant Survey

Approximately equispaced sites are haphazardly 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 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 your lake and other assessed lakes located within your watershed.

	Lake Norbert	Rocky/ Brushy Creek (Average)
Number of Taxa:	38	35
Percent Exotic Plants:	21%	18%

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

Common Name	Plant Species	Frequency	Habit	Status	EPPC
Torpedo Grass	Panicum repens	100%	Emergent	Exotic	I
Southern Red Maple	Acer rubrum var. trilobum	80%	Emergent	Native	NL
Water Primroses, Primrosewillow	Ludwigia spp.	80%	Emergent	Unknown	NL
Manyflower Marshpennywort, Water Penny	Hydrocotyl umbellata	70%	Emergent	Native	NL
Cypress	Taxodium spp.	70%	Emergent	Native	NL
Cattails	Typha spp.	70%	Emergent	Native	NL
Alligator Weed	Alternanthera philoxeroides	60%	Emergent	Exotic	II
Swamp Fern	Blechnum serrulatum	50%	Emergent	Native	NL
Spatterdock, Yellow Pondlily	Nuphar lutea var. advena	50%	Floating	Native	NL
Water Spangles, Water Fern	Salvinia minima	50%	Floating	Native	NL
Camphor-tree	Cinnamomum camphora	40%	Emergent	Native	I
Wild Taro, Dasheen, Coco Yam	Colocasia esculenta	40%	Emergent	Exotic	I
Climbing Hempvine	Mikania scandens	40%	Emergent	Native	NL
Laurel Oak; Diamond Oak	Quercus laurifolia	40%	Emergent	Native	NL
Algal Mats, Floating	Algal spp.	30%	Floating	Unknown	Unknow
Buttonweed	Diodia virginiana	30%	Emergent	Native	NL

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Water Hyacinth	Eichhornia crassipes	30%	Floating	Exotic	I
Maidencane	Panicum hemitomon	30%	Emergent	Native	NL
Algae	Periphyton spp.	30%	Submersed	Native	NL
Willow	Salix spp.	30%	Emergent	Native	NL
Elderberry	Sambucus canadensis	30%	Emergent	Native	NL
Dayflower	Commelina diffusa	20%	Emergent	Exotic	NL
Sedge	Cyperus spp.	20%	Emergent	Unknown	NL
False Daisy, Yerba De Tajo	Eclipta alba (prostrata)	20%	Emergent	Native	NL
Punk Tree, Melaleuca	Melaleuca quinquenervia	20%	Emergent	Exotic	I
Wax Myrtle	Myrica cerifera	20%	Emergent	Native	NL
Smartweed, Knotweed	Polygonum spp.	20%	Emergent	Native	NL
Common Buttonbush	Cephalanthus occidentalis	10%	Emergent	Native	NL
Dayflower	Commelina spp.	10%	Emergent	Exotic	NL
Fragrant Flatsedge	Cyperus odoratus	10%	Emergent	Native	NL
Baldwin's Spikerush, Roadgrass	Eleocharis baldwinii	10%	Submersed	Native	NL
Swamp Rosemallow, Swamp Hibiscus	Hibiscus grandiflorus	10%	Emergent	Native	NL
Sweetgum	Liquidamber styraciflua	10%	Emergent	Native	NL
Sweetbay Magnolia	Magnolia virginiana	10%	Emergent	Native	NL
Pine Tree	Pinus spp.	10%	Emergent	Native	NL
Catbriar, Greenbriar	Smilax spp.	10%	Emergent	Native	NL
Creeping Oxeye	Sphagneticola (Wedelia) trilobata	10%	Emergent	Exotic	II
Poison sumac	Toxicoendron vernix	10%	Emergent	Native	NL

Standing Crop

In addition to an overall survey of the types of plants on a lake, an estimate of the standing crop (biomass) of the lake has been obtained for many lakes. This was done by calculating the average weight of the vegetation within a quarter-meter square quadrat tossed haphazardly into three zones (see Figure) at each sampling site around the lake: (1) the emergent zone, (2) the floating zone and (3) the submersed zone. The average weight of the plants (Table 4) from all sampling sites and the dominant type of vegetation (Table 5) are provided. If data tables are not shown, no standing crop estimates were obtained for this lake.

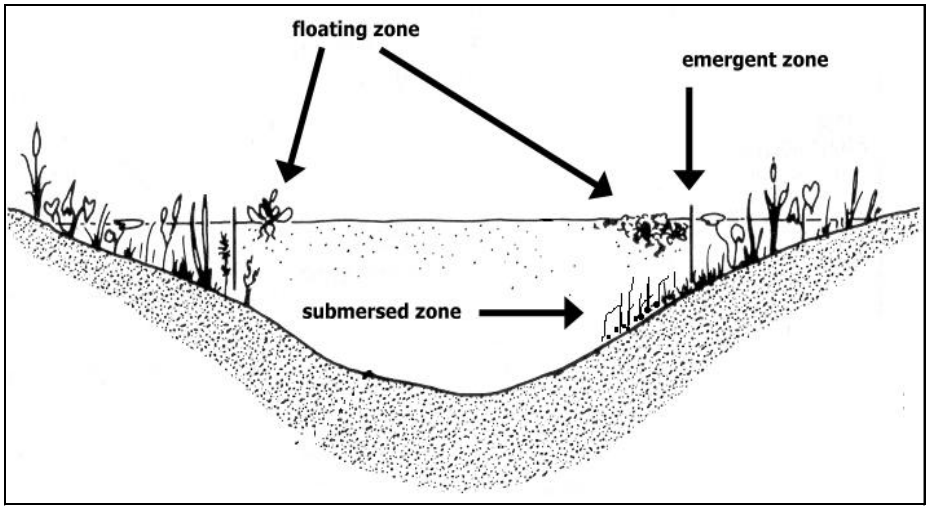

Table 4. Comparison between the average biomass from three zones within your lake and among all lakes assessed within your watershed.

	Lake Norbert	Rocky/ Brushy Creek (Average)
Emergent Zone:	12.98	4.74
Floating Zone:	0.04	0.69
Submersed Zone:	0.00	1.54

Number of lakes sampled in your watershed: 29

Note: All biomass measurements are shown in kilograms per square meter.

Table 5. Dominant taxa from three zones within your lake.

Zone	Dominant Plant	Status
Emergent Zone:	Torpedo Grass	Exotic
Floating Zone:	Spatterdock, Yellow Pondlily	Native
Submersed Zone:		