Buck Lake 5-16-2012

Greetings please find the latest assessment for your lake below. Key highlights of this update will include:

- Lake Vegetation Index assessment and results
- Submersed aquatic vegetation updates
- Water hyacinth updates
- Recommendations for you and your lake

On **May 16th, 2012**, Seminole County Lake Management Program (SCLMP) staff Gloria Eby, Marianne Pluchino, and Thomas Calhoun surveyed the aquatic plants in **Buck Lake** and conducted a Lake Vegetation Index (LVI).

LVI was created by the Florida Department of Environmental Protection as a rapid screening tool (bioassessment) for ecological condition; it determines how closely a lake's flora (aquatic plants) resembles that of an undisturbed lake. Historical LVI scores for Buck Lake range from 40 to 64 with the most current score (May 2012) being 64. These scores are all within the healthy category.

LVI Range	Description
78-100	Exceptional
38-77	Healthy
0-37	Impaired

Buck Lake is 160 surface acres in size with a mean depth of 4.5 feet, maximum depth of 15 feet, and is located in the Big Econlockhatchee watershed. The current Trophic State Index (TSI) is 36 (taken 9/8/2011) with scores ranging from 19-54; all within the good category.

Three native submersed aquatic vegetation (SAV) were observed during this inspection which included road grass (*Eleocharis baldwini*) to a depth 5 feet, stonewort (*Nitella spp*.) to 2 feet, and bladderwort (*Utricularia inflata*) to 2 feet.

Photo: Road-grass.

Water hyacinth, a floating invasive-exotic aquatic plant continues to expand in the northern portion of the lake, now consisting of over 5 acres (photo attached). In the lobe west of the park much of the water hyacinth has been removed. This is an excellent practice when the water levels are low which allows for easy hand removal.

Five invasive plants and trees were observed during this inspection which included: water hyacinth *(Eichornia crassipes*), bur-head sedge (*Scirpus cubensis*), torpedo grass (*Panicum repens*), Chinese tallow tree (*Sapium sebiferum*), and creeping oxeye (*Wedelia trilobata*). With a little effort, most of these invasives could be controlled, especially the water hyacinth.

Photo: Water hyacinth

The Secchi reading (a measurement for water clarity) was 4.1 feet in a depth of 7 feet compared to 5.8 feet on the previous survey. Historic readings have been 1.6 to 10.6 feet. The water elevation at the time of inspection was 23.16 feet above sea level. This information and much more is available on the Seminole County Wateratlas website at: <http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7520>

Lake Recommendations:

1 Work together or establish a lake association with other lakefront owners to control and if possible eliminate invasive plants observed during this survey and increase native aquatic plantings along shoreline (such as pickerelweed, maidencane grass, and duck potato). Have at least one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues, especially lake management recommendations. Seminole County Lake Management staff would be glad to present our findings from this and other surveys. Contact Gloria Eby at (407) 665-2439 for assistance.

2 Treat invasives (water hyacinth, torpedo grass, and bur-head sedge): Either do it yourself and establish a spray program or hire a contracted aquatic herbicide application company (we can provide a list of companies). Control of aquatic and wetland plants could require a free Florida

Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit. Contact CJ Greene at (407) 858-6170 or Carl.Greene@MyFWC.com for a permit.

3 These recommendations could be managed by Seminole County by establishing a Municipal Service Benefit Unit (MSBU); a funding format for aquatic weed control services via a special assessment. For additional information contact Carol Watral at (407) 665-7164 or cwatral@seminolecountyfl.gov

4 Increase educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of personal pollution by using low fertilizer use; phosphorous free fertilizers; keeping a functional shoreline with beneficial native aquatic plants; keeping grass clippings out of your storm drains leading to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 for free educational programs available.