

Greetings Lake Brantley!

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

- Lake Vegetation Index (LVI) results
- Submersed Aquatic Vegetation (SAV) observations
- Melaleuca and other invasive vegetation
- Water hyacinth update
- Results from May's restoration event
- Recommendations for you and your lake

On **September 2, 2011**, Seminole County Water Quality personnel Gloria Eby, Shannon Wetzel, and Marianne Pluchino surveyed the aquatic plants of **Lake Brantley** and conducted a Lake Vegetation Index (LVI) bioassessment. Overall observations indicates Lake Brantley's submersed aquatic vegetation (SAV) has declined in both quantity and diversity.

The 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.

Lake Brantley is 288 surface acres in size with a mean depth of 12 feet, maximum depth of 27 feet, and is located in the Big Wekiva watershed. Historical LVI scores range from 27 (impaired) to 55 (healthy) where 3 out of the 4 scores are in the **Impaired** category.

Historical data:

7/16/2008 Impaired: 37
6/24/2009 Impaired: 27
6/23/2010 Healthy: 55
9/2/2011 Impaired: 32

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

In 2010, the LVI score was 55-Healthy with native eelgrass and baby tears being the dominant aquatic plants. In 2011, the dominant aquatic plant observed was the invasive/exotic torpedo grass. The significant reduction in beneficial native SAV (such as eelgrass and baby tears) likely as result of the introduced grass carp fish has significantly reduced the LVI score from 55-Healthy to 32-Impaired. In prior years (2008-2009) LVI scores were low due to invasive/exotic hydrilla being the dominant aquatic plant.

SAV found during this inspection included: lemon bacopa to 5 feet, road grass to 4 feet, Nitella to 6 feet, and bladderwort to 3.5 feet. Water milfoil was the only invasive exotic found during the inspection. No hydrilla was found during the inspection and *for the first time* no eelgrass was found; only algae covering the bottom where there was once vegetation. Additionally, no aquatic plant was observed blocking access or navigation.

Photo: Nitella found during inspection.



Few water hyacinth plants were observed in the lake, with only a few plants found the canal east of Hickory Drive. Torpedo grass continues to be the most abundant emergent aquatic plant present on the shores. Many invasive trees were found expanding around the perimeter of the lake including: Melaleuca, Chinese Tallow and Brazilian Pepper.

Photo: Exotic torpedo grass extending into lake.



Photo: Exotic Melaleuca or Paper-Bark Tree.



The May 14th Restoration Event was a great success! 128 volunteers from various groups contributed a total of 512 volunteer hours to this restoration project. They planted 2,450 beneficial native plants (1,000 pickerel weed, 1,050 duck potato, 400 canna lily) and removed approximately 300 linear feet of invasive vegetation (torpedo grass, cattail, alligator weed) along with thousands of invasive island apple snail eggs and several dozen adult island apples snails along the shoreline of Lake Brantley.

The efforts will help reduce pollution runoff into Lake, aid in the reduction of algal blooms (caused by the pollution runoff), provide habitat for wildlife, reduce shoreline erosion, and improve the overall water quality of Lake Brantley. You should be extremely proud of your work on this restoration project!

Many of the plants from the restoration event continue to look good and are expanding with only a few sites losing plants. The torpedo grass removed during the event was very successful with little grass returning.

Photo: Duck potato and pickerelweed planted during the event.



The lake elevation was 43.95 feet above sea level. The secchi reading (measurement for water clarity) was 8.3 feet at a depth of 19.5 feet. The most recent Trophic State Index (TSI) score for Lake Brantley was 32 (Good) which was collected on April 19, 2011.

Recommendations:

- 1 Continue to work together 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 and duck potato). Have at least one annual lake association meeting to discuss lake specific issues and schedule community planting events.
- 2 Increase educational outreach programs i.e. Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of pointless personal pollution. Contact Seminole County Lake Management Program, Gloria Eby, at (407) 665-2439 for assistance.
- 3 These recommendations could be managed by Seminole County by establishing an MSBU, Municipal Service Benefit Unit, for aquatic weed control/enhancement. For additional information contact Carol Watral at (407) 665-7164 or cwatral@seminolecountyfl.gov Or <http://www.seminolecountyfl.gov/fs/msbu/>.
- 4 Control of aquatic and wetland plants could require a Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit (such as torpedo grass). Contact CJ Greene at (407) 858-6170 or Carl.Greene@myfwc.com for a permit and recommendations.