

Greetings Lake Brantley residents!

Please find the latest bioassessment for your lake below. Key highlights of this update include:

- Submersed Aquatic Vegetation (SAV)
- Lake Vegetation Index (LVI) Results
- Hydrilla status: none present
- FWC permit for vegetation removal
- Grass carp exclusion fence
- Restoration event accomplishments
- Recommendations for you and your lake

On **September 25th, 2014**, Seminole County Lake Management personnel (Thomas Calhoun, Marianne Pluchino, and Beth Stephens) surveyed the aquatic plants in **Lake Brantley** and conducted a Lake Vegetation Index (LVI).

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 located in the Big Wekiva watershed. Scores for Lake Brantley have historically ranged from 30 to 55. LVI score for 2014 was 32 in the impaired range. The low scores are correlated with the lack of shoreline and submersed vegetation. Native shoreline vegetation is beneficial to a lake by; reducing nutrients from run-off, reducing erosion and providing habitat for wildlife species.

LVI Range	Description
78-100	Exceptional
43-77	Healthy
0-42	Impaired

Two species of native submersed aquatic vegetation (SAV) was observed during the inspection; road grass and bladderwort were found to a depth of 7 feet. Native SAV plays an important role within the ecosystem of Lake Brantley by providing habitat for wildlife, reducing nutrients from run-off, and competing for space with hydrilla. Detritus (decaying organic matter) still covers much of the bottom of the lake. Hydrilla was not observed during this inspection.

Photo: Road grass.



Exotic emergent plants observed included alligatorweed, elephant ear, primrose willow, and torpedo grass. The dominant species along many shorelines continues to be torpedo grass. Two water hyacinth plants were present in the canal along the south eastern shore.

Please remember that in order to alter your shoreline or treat exotic vegetation with an herbicide, you must apply for a free aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants> or contact FWC Regional Biologist Alicia Knecht at Alicia.Knecht@myfwc.com or 321-246-0682.

Photo: Torpedo grass along shoreline.



Much of the vegetation from the April 19th restoration event has been reduced by the grass carp fish; however, in areas where plants have remained protected (behind an installed grass carp fish exclusion barrier), the plants are establishing.

Photo: Native vegetation before and after barrier removal.



Photo: Native vegetation behind barrier.



The Secchi (water clarity) reading was 5.5 feet at a depth of 9.5 feet. Water elevation above sea level was 44.86 feet at the time of inspection. The Secchi range for 348 samples taken between 1973 and 2014 has been 0.5 to 17.1 feet. More information is available on the Seminole County Water Atlas. <http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7503>

Recommendations for your waterbody:

1. Continue to work 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, and duck potato). Support your Lake Association- **Lake Brantley Lake Management Association** (<http://mylakebrantley.org/>) by attending their highly informative meetings to discuss lake-specific issues, especially lake management recommendations.
2. Treat invasive torpedo grass, melaleuca, and other invasive aquatic plants along your waterfront. Either do it yourself by hand removal or obtain the necessary aquatic herbicide (we can provide some sources) or hire a contracted aquatic herbicide application company (we can provide a list of vendors from the state). Control of aquatic and wetland plants will in most cases requires a free Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit. Contact Alicia Knecht at (321-246-0682) or Alicia.Knecht@myFWC.com for a permit.

3. Utilize the valuable educational outreach programs that are available to you: Shoreline Restoration Workshops, Florida Yards and Neighborhoods (FYN) interactive presentations, and Lake Management Video mail-outs. Implement a media campaign within the community to promote the reduction of personal pollution; encourage residents to decrease their overall fertilizer usage, use only phosphorous-free and slow-release nitrogen fertilizers, keep a functional shoreline with beneficial native aquatic plants, and keep grass clippings out of your lake and the storm drains that lead to the lake. All of these activities aid in protecting your lake! Contact Seminole County Lake Management Program (407) 665-2439 for more information regarding the free educational programs available.
4. Help spread the word! Obtain email addresses from neighbors not currently on the distribution list in order to share these reports. Valuable information is contained within these assessments.

Greetings Lake Brantley residents!

Please find the latest bioassessment for your lake below. Key highlights of this update include:

- Submersed Aquatic Vegetation (SAV)
- Hydrilla status: none present
- FWC permit for vegetation removal
- Grass carp exclusion fence
- Restoration event accomplishments

On **March 27th, 2014**, Seminole County Lake Management personnel, Thomas Calhoun and Michelle Shelton, surveyed the aquatic plants in **Lake Brantley**.

One species of submersed aquatic vegetation (SAV) was observed during the inspection; road grass was found to a depth of 4 feet. Native SAV plays an important role within the ecosystem of Lake Brantley by providing habitat for wildlife, reducing nutrients from run-off, and competing for space with hydrilla. Detritus (decaying organic matter) still covers much of the bottom of the lake. Hydrilla was not observed during this inspection.

Photo: Road grass.



Exotic emergent plants observed included alligator weed, elephant ear, primrose willow, and torpedo grass. The dominant species along many shorelines continues to be torpedo grass. No water hyacinths were observed during the inspection. Please remember that in order to alter your shoreline or treat exotic vegetation with an herbicide, you must apply for a free aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants> or contact FWC Regional Biologist Alicia Knecht at Alicia.Knecht@myfwc.com or 321-246-0682.

Photo: Example of torpedo grass along shoreline.



A grass carp fish exclusion cage was installed at the Sweetwater Beach. This is an experiment designed to determine if the grass carp fish are having an effect on the emergent vegetation in Lake Brantley. Emergent vegetation was planted inside and outside of the cage. As last of inspection, plants inside the cage were growing well, but plants outside the cage were greatly eaten by grass carp.

Photo: Grass carp fish exclusion cage.



The Lake Brantley restoration event took place on April 19th, 2014. Thirty six volunteers donated their time to plant 3,000 native plants and remove 36 bags of torpedo grass and alligator weed from the lake. Wave action barriers (hay bales) were installed at 2 sites to aid the new vegetation in establishment.

Photo: Native vegetation planted behind wave action barriers.



At the time of inspection, the lake elevation was 45.1 feet above sea level. The Secchi (water clarity) value was 8.1 feet at a depth of 19.5 feet. Water elevation above sea level was 44.7 at the time of inspection. The Secchi range for 348 samples taken between 1973 and 2013 has been 0.5 to 17.1 feet. More information is available on the Seminole County Water Atlas. <http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7503>

Recommendations for your waterbody:

1. Continue to 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, 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.
2. Treat invasive torpedo grass, melaleuca, and other invasive aquatic plants along your waterfront. Either do it yourself by hand removal or obtain the necessary aquatic herbicide (we can provide some sources) or hire a contracted aquatic herbicide application company (we can provide a list of vendors from the state). This recommendation could be managed by Seminole County by establishing an MSBU, Municipal Service Benefit Unit, for aquatic weed control services. For additional information contact Carol Watral at (407) 665-7164 or cwatral@seminolecountyfl.gov or <http://www.seminolecountyfl.gov/fs/msbu/>. Control of aquatic and wetland plants will in most cases requires a free Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit. Contact Alicia Knecht at (321-246-0682) or Alicia.Knecht@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), and Lake Management Video mail-outs. Provide information about reduction of pointless personal pollution, reducing total fertilizer use, using only phosphorous-free fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your storm drains that lead to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 about available, free educational programs.
5. Help spread the word! Obtain email addresses from neighbors not currently on the distribution list in order to share this information with others. Valuable information is contained within these reports.

Greetings Lake Brantley residents!

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

- LVI bioassessment results
- Submersed Aquatic Vegetation (SAV)
- No hydrilla found
- FWC Permit for vegetation removal

On **October 25th, 2013**, Seminole County Lake Management personnel Gloria Eby and Marianne Pluchino, surveyed the aquatic plants in **Lake Brantley** and also conducted a Lake Vegetation Index (LVI).

The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool for ecological condition; it determines how closely a lake's flora resembles that of an undisturbed lake. Lake Brantley is 288 surface acres and is located in the Big Wekiva watershed. Historical LVI scores range from 27 to 55 with the most recent score of 42. Three of the six scores were in the healthy range with the other three scores in the impaired range.

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

The most recent Trophic State Index (TSI, which assesses water quality) from 5/25/2013 was 38 ('good' quality). The water quality range for 290 samples taken from 1994 to 2013 has been 3 to 54 all within the "good" quality range. All this information is available on the Seminole County Water Atlas.

<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7519&wbodyatlas=lake>

Submersed aquatic vegetation (SAV) observed during the inspection included lemon bacopa, road grass, baby's tears, and stonewort. Road grass has expanded to a total depth of 13 feet and was observed to be the dominant SAV. Stonewort has also expanded to a total depth of 7 feet. Native SAV plays an important role within the ecosystem of Lake Brantley by providing habitat for wildlife, reducing nutrients from runoff, and competing for space with hydrilla. Detritus (decaying organic matter) still covers much of the bottom of the lake. Hydrilla was not observed during this inspection.

Photo: Lemon bacopa and road grass mixed in with detritus.



Exotic emergent plants observed included alligator weed, elephant ear, primrose willow, and torpedo grass. Only a few small water hyacinths were observed during the inspection. The dominant species along many shorelines continues to be torpedo grass. Please remember that in order to alter your shoreline or treat exotic vegetation with an herbicide, you must apply for a free aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants> or contact FWC Regional Biologist Alicia Knecht at Alicia.Knecht@myfwc.com or 321-246-0682.

Photo: Torpedo grass along shoreline.



The lake elevation was 45.05 feet above sea level. Secchi (water clarity) was 5 feet at a depth of 6.2 feet. The Secchi range for 348 samples taken from 1973 and 2013 has been 0.5 to 17.1 feet. More information is available on the Seminole County Water Atlas.

<http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7503>