

Greetings Mirror Lake Residents,

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

- Hydrilla status
- Bladderwort treatment plots
- Submersed aquatic vegetation update (SAV)
- Emergent vegetation update
- Recommendations for you and your waterbody

Bioassessment

On **August 18th, 2015**, Seminole County Lake Management staff, Gloria Eby, Thomas Calhoun, Joey Cordell, surveyed the aquatic plants in **Mirror Lake** and conducted a Lake Vegetation Index (LVI) bioassessment.

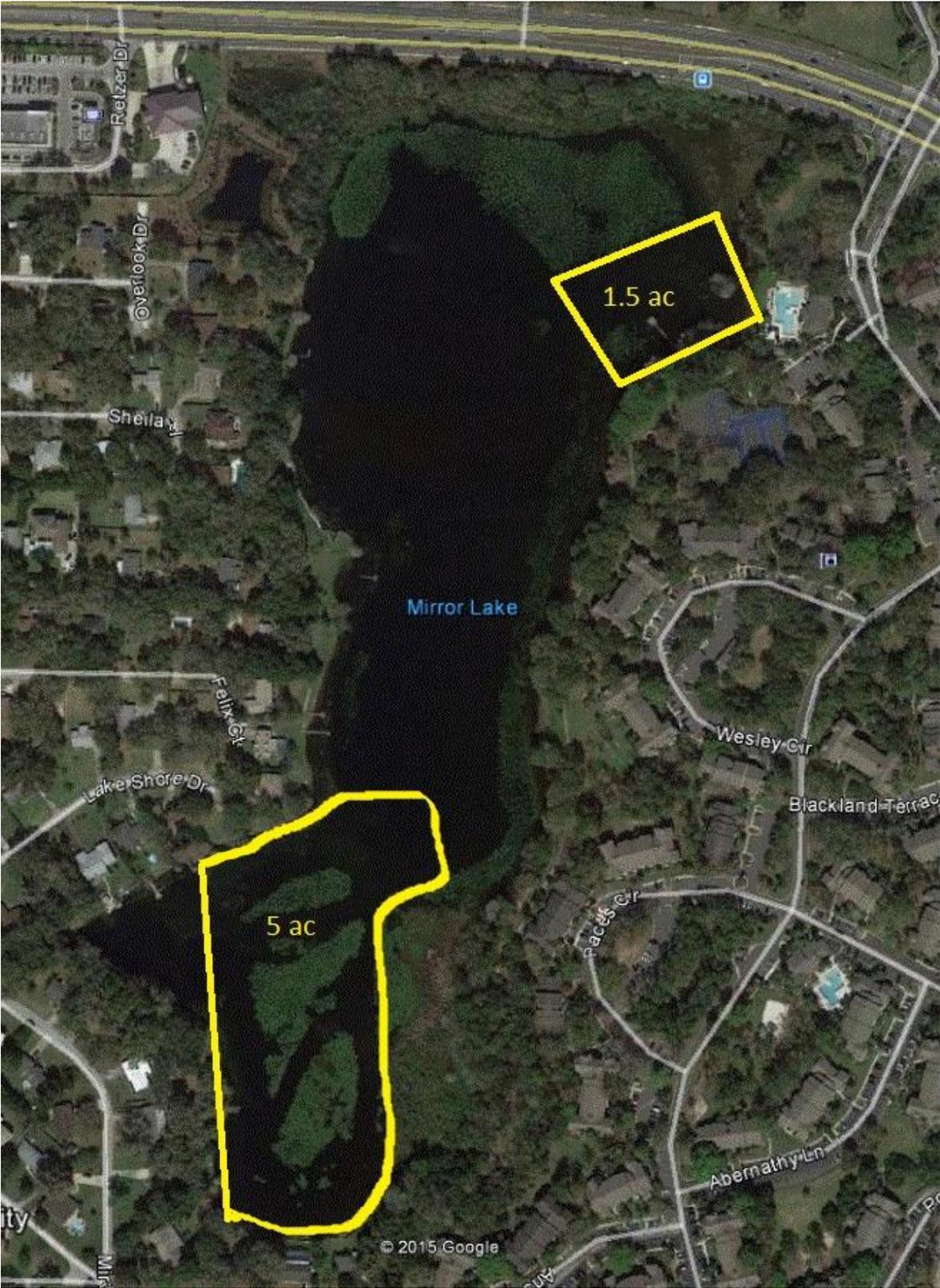
The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool (bioassessment) for ecological condition; it determines how closely a lake's flora (aquatic plants) resembles that of an undisturbed lake. LVI scores will be available once unknown species are identified and scores are approved.

Hydrilla was not present near the boat ramp, as it has been in previous months. However, hydrilla was seen in the canal. We will closely monitor this hydrilla.

Seven species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: lemon bacopa to 2 feet, roadgrass to 2 feet, southern naiad to 5 feet, eelgrass to 5 feet, and 3 species of bladderwort to 8 feet. Lemon bacopa has increased but bladderwort continues to be the dominant species of SAV found in Mirror Lake.

The southern end and the north east lobe were treated for bladderwort August 6th. These treatment plots will be monitored for effectiveness over the next several months.

Photo: Bladderwort treatment plots.



Native emergent vegetation found during the survey included: water hyssop, canna, buttonbush, flat sedge, spikerush, softrush, primrose willow, american lotus, yellow cow lily, fragrant water lily, banana lily, pickerelweed, duck potato, Carolina willow, and cattail. The abundance of lilies has increased, and American lotus is expanding on the north side of the lake.

Photo: East shore



Invasive emergent vegetation included: alligator weed, wild taro, torpedo grass, and creeping oxeye.

Photo: alligator weed in a patch of lemon bacopa



The water elevation at the time of inspection was 58.81 feet above sea level. The secchi reading (measurement for water clarity) was 9.1 feet in a depth of 13.9 feet. Two grass carp fish were observed during this inspection.

10/20/2015

Bioassessment

On **October 20th, 2015**, Seminole County Lake Management staff, Gloria Eby and Thomas Calhoun, surveyed the aquatic plants in **Mirror Lake**.

Hydrilla was not present near the boat ramp or in the canal as it has been in previous months. We will closely monitor this hydrilla.

Six species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: lemon bacopa to 4 feet, roadgrass to 2 feet, eelgrass to 5 feet, and 3 species of bladderwort to 9 feet.

Both bladderwort treatment plots have seen a reduction in plant. The northern plot was clear of bladderwort and the treatment also resulted in a reduction of lily pads. The southern plot and access corridor area has seen a reduction of bladderwort.

Photo: Impacted bladderwort in the southern treatment plot.



Native emergent vegetation found during the survey included: water hyssop, canna, buttonbush, flat sedge, spikerush, softrush, primrose willow, american lotus, yellow cow lily, fragrant water lily, banana lily, pickerelweed, duck potato, Carolina willow, and cattail. The abundance of lilies has increased, and American lotus is continuing to expand on the north side of the lake. American lotus will be target for treatment.

Photo: American lotus.



Invasive emergent vegetation included: alligator weed, wild taro, torpedo grass, bur-head sedge and creeping oxeye. Torpedo grass was showing signs of impact from the previous treatment.

The water elevation at the time of inspection was 59.29 feet above sea level. The secchi reading (measurement for water clarity) was 9.2 feet in a depth of 12.9 feet. No grass carp fish were observed during this inspection.

11/24/2015

On **November 24th, 2015**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Mirror Lake**.

Hydrilla was present at the time of the inspection. Small amounts of hydrilla were found mixed in with native submersed aquatic vegetation.

Seven species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: lemon bacopa, southern naiad, eelgrass, and four species of bladderwort. Bladderwort was the dominant species and was seen topping out in a few areas of

the middle of the lake. Eelgrass has expanded since the previous inspection. The corridors at the south end of the lake are open and navigable.

Photo: Bladderwort



Native emergent vegetation found during the survey included: golden canna, spike rush, hempvine, American lotus, yellow cow lily, fragrant water lily, banana lily, maidencane, pickerelweed, duck potato, carolina willow, cattail, and climbing aster. American lotus continues to spread through the middle of the lake.

Photo: American lotus



Invasive emergent vegetation included: alligator weed, wild taro, primrose willow, torpedo grass, Brazilian pepper tree, and bur-head sedge. Bur-head sedge is expanding within the lilies and pickerelweed on the south side of the lake. This bur-head sedge will need to be treated to prevent further expansion.

Photo: Bur-head sedge





A large population of water fowl was seen on the lake.

The water elevation at the time of inspection was 59.25 feet above sea level. No grass carp fish were observed during this inspection.

12/14/2015

Bioassessment

On **December 14th, 2015**, Seminole County Lake Management staff, Joey Cordell and Thomas Calhoun, surveyed the aquatic plants in **Mirror Lake**.

A few sprigs of hydrilla were found around the shallow regions of the lake to a depth of 4 feet. Not enough hydrilla was found to warrant a treatment. We will closely monitor the hydrilla.

Seven species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: lemon bacopa to 4 feet, roadgrass to 4 feet, eelgrass to 6 feet, southern naiad to 4 feet and 3 species of bladderwort to 9 feet.

Both bladderwort treatment plots have seen a reduction in plant. The northern plot was clear of bladderwort and also resulted in a reduction of lily pads. The southern plot and access corridor area also now clear of bladderwort. We will monitor the regrowth of bladderwort to see if further treatments will be needed.

Native emergent vegetation found during the survey included: water hyssop, canna, buttonbush, flat sedge, spikerush, softrush, primrose willow, american lotus, yellow cow lily, fragrant water lily, banana lily, pickerelweed, duck potato, Carolina willow, and cattail.

Photo: Banana Lily.



Invasive emergent vegetation included: alligator weed, wild taro, torpedo grass, bur-head sedge and creeping oxeye. Bur-head sedge will be targeted during the next treatment.

Photo: Patch of bur-head sedge.



The water elevation at the time of inspection was 59.25 feet above sea level. The secchi reading (measurement for water clarity) was 12.4 feet in a depth of 14.9 feet. No grass carp fish were observed during this inspection.

Recommendations for your waterbody:

1 Work together with other lakefront owners. Have *at least* one annual lake association meeting, invite guest speakers (such as county or state biologists), and discuss lake specific issues, especially nutrients/lake management recommendations. SCLMP staff will be glad to present our findings from this and other surveys. Continue to increase native aquatic plantings along shorelines (such as pickerelweed, duck potato, and canna).

2 Consider increasing street sweeping services during times of peak leaf fall to ensure that this debris does not enter waterways. Leaf debris contains high levels of phosphorous that can negatively impact your lakes.

3 Increase educational outreach programs, i.e. Shoreline Restoration Workshops, Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of personal pollution by: decreasing fertilizer usage, using only phosphorous free and slow release nitrogen types of fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and by keeping grass clippings out of your lake and the stormdrains 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 so that these reports can be shared with everyone. Valuable information is contained within these assessments.

Thanks,

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