MIRROR LAKE

LAKE BIOASSESSMENTS

November & December 2014; March 2015

Greetings Mirror Lake Residents,

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

- Hydrilla status- no observation of hydrilla during March inspection!
- Submersed aquatic vegetation (SAV)
- Emergent vegetation
- Recommendations for you and your waterbody
- **Factsheet attached: Aquatic Plant of the Month- Bladderwort (may or may not exist in your waterbody)**

Bioassessment

On **March 11th, 2015**, SCLMP personnel, Thomas Calhoun and Sophia Pengra, surveyed the aquatic plants in **Mirror Lake.**

At the time of the inspection the water level was high. No hydrilla was observed. We will continue to monitor the hydrilla.

Seven species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: roadgrass, baby's tears, eelgrass to 4 feet, lemon bacopa to 3 feet, and three species of bladderwort to 7 feet. Bladderwort was the dominant species of SAV found in Mirror Lake, followed by eelgrass. Native SAV plays an important part within Mirror Lake by providing wildlife habitat, reducing nutrients, and competing for space with hydrilla.

Photo: Bladderwort (native)

Photo: Bladderwort in bloom (native)

Native emergent vegetation found during the survey included: canna, slender spike rush, pennywort, hemp vine, yellow cow lily, fragrant water lily, banana lily, pickerelweed, maidencane, Carolina willow, cordgrass, fire flag, and duck potato.

Photo: Slender spike rush (native)

Invasive emergent vegetation included: alligatorweed, wild taro, torpedo grass, wedelia, and cattail. No American lotus was present as in previous months. Cattail is coming back and will be targeted during the next herbicide treatment. Access corridors throughout the lake are open and navigable.

Photo: Wild taro (invasive)

Photo: Open access corridor

The water elevation at the time of inspection was 59.31 feet above sea level. The secchi reading (measurement for water clarity) was 7.9 feet in a depth of 11 feet. No grass carp fish were observed during this inspection.

December 15th, 2014

On **December 15th, 2014**, SCLMP personnel, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Mirror Lake.**

At the time of the inspection the water level was high. A few small sprigs of hydrilla were found by the boat ramp. This was an increase since last inspection when no hydrilla was observed. We will continue to monitor the hydrilla.

Eight species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: roadgrass, pondweed, southern naiad, baby's tears, eelgrass to 6 feet, lemon bacopa to 4 feet, and two species of bladderwort to 7 feet. Bladderwort was the dominant species of SAV found in Mirror Lake. It was noted that there was less bacopa and more eelgrass than was present in the previous month. Native SAV plays an important part within Mirror Lake by providing wildlife habitat, reducing nutrients, and competing for space with hydrilla.

Photo: Bladderwort (native)

Native emergent vegetation found during the survey included: bur-marigold, canna, slender spike rush, pennywort, duckweed, hemp vine, yellow cow lily, fragrant water lily, banana lily, pickerelweed, Carolina willow, iris, and duck potato.

Photo: Duck potato (native) mixed in with burhead sedge (invasive)

Photo: Hempvine (native)

Invasive emergent vegetation included: alligatorweed, wild taro, primrose, torpedo grass, burhead sedge, and cattail. No American lotus was present as in previous months. The burhead sedge and torpedo grass was slowly coming back after being hit hard by herbicide treatments. Access corridors throughout the lake are open and navigable.

The water elevation at the time of inspection was 59.34 feet above sea level, a decrease from the previous inspection reading of 59.55 feet. The secchi reading (measurement for water clarity) was 9.8 feet in a depth of 11.7 feet. No grass carp fish were observed during this inspection.

November 17th, **2014**

On **November 17th**, **2014**, SCLMP personnel, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Mirror Lake.**

No hydrilla was found was found during the inspection. This is a reduction from last inspection when hydrilla was found in a few areas mixed in with native vegetation. We will continue to monitor the hydrilla.

Seven species of submersed aquatic vegetation (SAV) were found during the inspection. These native species included: lemon bacopa to 3 feet, pondweed to 6 feet, baby's tears to 3 feet, eelgrass to 4 feet, and three species of bladderwort to 6. Bladderwort was the dominant species of SAV found in Mirror Lake. Native SAV plays an important part within Mirror Lake by providing wildlife habitat, reducing nutrients and competing for space with hydrilla.

Photo: Bladderwort

Native emergent vegetation found during the survey include: bur-marigold, canna, spike rush, yellow cow lily, fragrant water lily, pickerelweed, and duck potato.

Photo: Bur-marigold

Invasive emergent vegetation includes: alligatorweed, wild taro, primrose, torpedo grass, burhead sedge, and cattail. Since the last inspection, there is a reduction in burhead sedge, American lotus, and torpedo grass. Access corridors throughout the lake are open and navigable.

Photo: Before and after treatment of American lotus.

Photo: Treated burhead sedge.

The water elevation at the time of inspection was 59.55 feet above sea level, an increase from the previous inspection reading of 58.49 feet. The secchi reading (measurement for water clarity) was 9.8 feet in a depth of 11 feet. One grass carp fish was seen 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 Utilize the valuable educational outreach programs that are available, i.e. Shoreline Restoration Workshops, Florida Yards and Neighborhoods (FYN) interactive presentations, and Lake Management Video mail-outs. Implement a media campaign within the community to reduce personal pollution by: decreasing overall fertilizer usage, **using only phosphorous free and slow-release nitrogen fertilizers**, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your lake and the storm drains that lead to the lakes. 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.

Have a great day!

Gloria Eby
Lake Management & Mosquito Control Program Manager
Seminole County Watershed Management Division
200 W. County Home Road, Sanford, FL 32773
407-665-2439
407-665-5600 (fax)

Lake Management website: http://www.seminole.wateratlas.usf.edu/LakeManagement

Mosquito Control website: http://www.seminolecountyfl.gov/pw/mosquito

Seminole Education, Restoration & Volunteer (SERV) Program

SEMINOLE COUNTY WATERSHED MANAGEMENT DIVISION

Aquatic Plant of the Month

Bladderwort (*Utricularia* species) : A Florida Native

14 Species of Bladderwort exist in Florida, all of which are native.

Identification

Bladderworts are annual or perennial plants which lack roots and are free floating. The entire free-floating plant is typically 8 inches tall with yellow, purple, or white flowers that rise above the water's surface. Underwater, the plant has fleshy, inflated stems that are filled with air and allow it to float. The leaves are forked and often have a very fine capillary appearance.

This unique carnivorous plant utilizes small oval "bladders" on its underwater leaves to trap and digest small aquatic organisms. Hairs at the edge of the bladder act as a trigger, causing the trap to spring open and draw in water (and organisms) when contacted.

Wildlife Value

Common bladderwort is used by several insects, waterfowl, and mammals as a food source. The stems also provide shelter and a place for wildlife to lay eggs.

Native submersed aquatic plants provide habitat for several micro- and macroinvertebrate species, which in turn provide a source of food for fish and other aquatic wildlife species including reptiles, amphibians, and waterfowl. Once aquatic plants die, their decomposing parts provide food (referred to as "detritus") for several aquatic invertebrates.

Additionally, native submersed plants play an important role in the aquatic ecosystem by reducing nutrients within the waterbody and by competing with invasive species for space.

Control

Although native, bladderwort may impede recreational access. For questions concerning control of bladderwort or to apply for a free aquatic plant removal permit, please contact your state agency, the Florida Fish and Wildlife Conservation Commission, online at: http://myfwc.com/license/aquatic-plants or by calling 863-534-7074.

SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Sources:

Texas A&M AgriLife Extension. (2015). *Bladderwort*. Retrieved from http://aquaplant.tamu.edu/plant-identification/alphabetical-index/bladderwort/

Stritch, L. (n.d.). *Common Bladderwort*. U.S. Forest Service. Retrieved from http://www.fs.fed.us/wildflowers/plant-of-the-week/utricularia_macrorhiza.shtml

Wellendorf, N. (2011, April 27). *How to Distinguish the Aquatic Bladderworts* [PDF]. Retrieved from http://www.dep.state.fl.us/water/bioassess/docs/plants/field-id-utricularia-species.pdf