

**MIRROR LAKE**  
**LAKE BIOASSESSMENTS**

**JUNE 2015**

Greetings Mirror Lake Residents,

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

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

**Bioassessment**

On **June 10, 2015**, Seminole County Lake Management Program biologist, Thomas Calhoun, with student intern, Sophia Pengra, surveyed the aquatic plants in **Mirror Lake**.

Several sprigs of hydrilla were observed near the boat ramp, one sprig of hydrilla was observed in the south pool, one sprig was observed on the northwest side of the lake, and one sprig was found in the center of the lake. We will continue to monitor hydrilla for treatment needs.

Seven species of native submersed aquatic vegetation (SAV) were found during the inspection. These native species included: southern naiad to 4 feet, baby's tears to 1 foot, eelgrass to 3 feet, lemon bacopa to 2 feet, and three species of bladderwort to 7 feet. Bladderwort was the dominant species of SAV found. Native SAV plays an important part within Mirror Lake by providing wildlife habitat, reducing nutrients, and competing for space with hydrilla.

**Photo: Submersed bladderwort (native)**



Native emergent vegetation found during the survey included: canna, iris, spike rush, pennywort, climbing hempvine, yellow cow lily, fragrant water lily, banana lily, American lotus, pickerelweed, maidencane, Carolina willow, cordgrass, buttonbush, and duck potato. There was a notable increase in banana lilies from the previous inspection.

**Photo: Banana lily (native)**



Invasive emergent vegetation included: alligatorweed, wild taro, torpedo grass, wedelia, water primrose, and cattail. Additionally, an algae bloom was observed on the northwest end of the lake. A treatment is being worked on for bladderwort control in several access areas of the lake. However, at the time of inspection, the navigation corridors appeared clear.

**Photo: Wild taro along shoreline (invasive)**



**Photo: Clear access corridor**



The water elevation at the time of inspection was 58.24 feet above sea level, which was lower than the previous reading of 59.03 feet above sea level. The secchi reading (measurement for water clarity) was 7.87 feet in a depth of 10.2 feet. One grass carp fish was 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.

Have a great weekend,

**Thomas Calhoun**  
**Senior Environmental Scientist**  
**Lake Management Program**  
**Public Works Department**  
**Seminole County Watershed Management Division**  
**200 W. County Home Rd.**  
**Sanford Fl. 32773**

**407-665-2459 (Office)**

**407-665-5600 (Fax)**



## 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

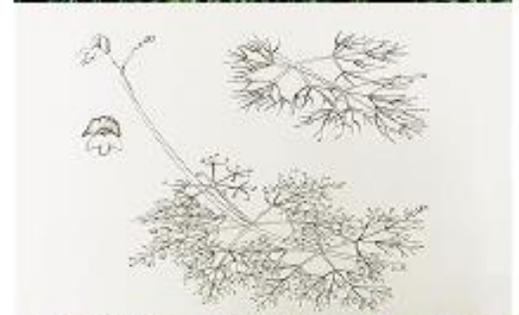
Common bladderwort is used by several insects, waterfowl, and mammals as a food source. The stems also provide shelter and a place for wildlife to lay eggs.

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.



#### Sources:

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

Strick, L. (n.d.). *Common Bladderwort*. U.S. Forest Service. Retrieved from [http://www.fs.fed.us/wildflowers/plant-of-the-week/utrularia\\_macrocha.shtml](http://www.fs.fed.us/wildflowers/plant-of-the-week/utrularia_macrocha.shtml)

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



## Eelgrass (*Vallisneria americana*): A Florida Native

Eelgrass, also known as tapegrass, is native to the state of Florida.

### Identification

Eelgrass is a submersed, perennial plant that can be found throughout the state in both still and flowing waters. Eelgrass leaves often resemble tape or ribbon. They are about an inch wide with raised veins and rounded tips. The leaves can grow several feet in length and their upper parts can often be found floating along the water surface. Eelgrass produces both male and female flowers, however, the small, white female flowers are most often seen, as their long, corkscrew-like flower stalks reach the surface of the water.

### Wildlife Value

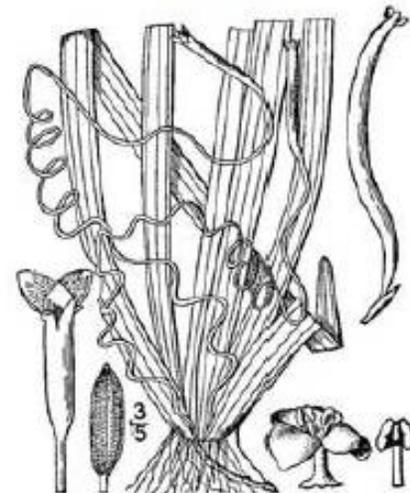
Eelgrass is an important food source for the endangered West Indian manatee (*Trichechus manatus*) and various species of waterfowl. Additionally, eelgrass provides important habitat, protection, and nursery grounds for fish.

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, eelgrass may impede recreational access. For questions concerning control of eelgrass 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 407-858-6170.



#### Sources

NOAA. (2012, October 22). *Eelgrass-Habitat of the Month*. Retrieved from <http://www.habitat.noaa.gov/about/habitat/eelgrass.html>

UF/IFAS. (2014). *Eel-grass; tape-grass*. Retrieved from <http://plants.ifas.ufl.edu/node/465>

UF/IFAS. (2014). *Algae*. Retrieved from <http://plants.ifas.ufl.edu/manage/why-manage-plants/algae>

Washington State Department of Ecology. (n.d.). *Vallisneria Americana*. Retrieved from <http://www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/vallam.html>

