

Greetings Lake of the Woods residents! Below please find the latest bioassessment for your lake below. Key highlights of this update include:

- Hydrilla update
- Surface algae bloom
- Increase in native Submersed Aquatic Vegetation (SAV)
- Bladderwort fact sheet attached
- Emergent vegetation
- Recommendations for you and your lake

Bioassessments:

3/1/2016

On **March 1st, 2016**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Lake of the Woods**.

A few sprigs of hydrilla were observed around the lake, to a maximum depth of 2 feet.

A surface algae bloom was present at the Northeast side of the lake. To prevent algae blooms such as this one, it is important to decrease the amount of nutrients entering the lake. Lake residents can participate in reducing nutrient levels by preventing yard clippings from entering the lake and only using phosphorus free, slow-release nitrogen fertilizer.

Native submersed aquatic vegetation (SAV) found during the inspection included: coontail to a depth of 9 feet, bladderwort to 3 feet, and eelgrass to 7 feet. Eelgrass was the dominant species. If SAV is impeding access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission at <http://www.myfwc.com/license/aquatic-plants> or contact FWC regional biologist Kristine Campbell at 321-246-0682 to obtain your free permit.

Photo: Eelgrass (native).



Native emergent vegetation observed during the survey included: bur-marigold, golden canna, water hemlock, flat sedge, pennywort, yellow cow lily, fragrant water lily, pickerelweed, duck potato, Carolina willow, bulrush, fire flag, cattail, and climbing aster. The pickerelweed had thinned out over the winter, but it was growing back at the time of this survey.

Photo: Duck potato and young pickerelweed.



Invasive emergent vegetation observed during the survey included: paragrass, wild taro, primrose willow, torpedograss, Brazilian pepper tree, burhead sedge, papyrus, and creeping oxeye. Minimal torpedograss was found. The Northeast canal will need to be treated for burhead sedge.

Photo: Burhead sedge in canal.



The fish community was very noticeable on the morning of the inspection. In particular, the bass population was active in shallow waters in response to warming waters and their approaching nesting season.

Photo: Largemouth Bass.



The Secchi disk value (measurement of water clarity) was 9.2 feet in a depth of 18.9 feet. The lake gauge level was 74.35 feet. above sea level. Four triploid (sterile) grass carp fish were observed. The water temperature was 67°F.

4/6/2016

On **April 6th, 2016**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Lake of the Woods**.

Only small amounts of hydrilla were found during the inspection. A few sprigs were seen by the southwest boat ramp. These areas will continue to be closely monitored for hydrilla.

Photo: Hyrdilla (coontail on left).



A large substrate algae bloom was present throughout the entire lake. To prevent algae blooms such as this one, it is important to decrease the amount of nutrients entering the lake. Lake residents can participate in reducing nutrient levels by preventing yard clippings from entering the lake and only using phosphorus free, slow-release fertilizer.

Native submersed aquatic vegetation (SAV) found during the inspection included: southern naiad, coontail to 3 feet and eelgrass to 8 feet. Coontail had been expanding but eelgrass was still the dominant species at the time of this survey. If SAV is impeding access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission at <http://www.myfwc.com/license/aquatic-plants> or contact FWC regional biologist Kristine Campbell at 321-246-0682 to obtain your free permit.

Photo: Coontail (hydrilla on right).



Native emergent vegetation observed during the survey included: golden canna, water hemlock, pennywort, hempvine, spatterdock, fragrant water lily, maidencane, pickerelweed, duck potato, arrow arum, Carolina willow, bulrush, fire flag, cattail, Elliott's aster, climbing aster, and blue flag iris.

Photo: Stands of pickerelweed.



Invasive emergent vegetation observed during the survey included: alligator weed, wild taro, primrose willow, torpedograss, salvinia, Chinese tallow, Cuban burhead sedge, Brazilian pepper tree, creeping oxeye, and papyrus. Very little alligatorweed and torpedograss were found.

Photo: North canal.



The Secchi disk value (measurement of water clarity) was 7.3 ft. in a depth of 11.6 feet. The lake gauge level was 74.78 feet. above sea level. No triploid (sterile) grass carp fish were observed.

6/2/2016

On **June 2nd, 2016**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, along with MSBU program coordinator Joe Saucer, surveyed the aquatic plants in **Lake of the Woods**.

Several residents had reported their observations of hydrilla in the lake. After an extensive search throughout the lake, one sprig of hydrilla was found during the inspection. However, an increase in coontail was noted again in the lake.

Photo: Native SAV eelgrass and coontail.



Native submersed aquatic vegetation (SAV) found during the inspection included: coontail to 6 feet, and eelgrass to 9 feet. Coontail had been expanding but eelgrass was still the dominant species. If SAV is impeding access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission at <http://www.myfwc.com/license/aquatic-plants> or contact FWC regional biologist Kristine Campbell at 321-246-0682 to obtain your free permit.

Photo: Native SAV coontail.



Native emergent vegetation observed during the survey included: golden canna, water hemlock, pennywort, spatterdock, fragrant water lily, maidencane, pickerelweed, duck potato, bulrush, fire flag, cattail, Elliott's aster, climbing aster, and blue flag iris.

Photo: Stand of native fire flag.



Invasive emergent vegetation observed during the survey included: alligator weed, wild taro, primrose willow, torpedograss, salvinia, Chinese tallow, Cuban burhead sedge, Brazilian pepper tree, creeping oxeye, and papyrus. Very little alligatorweed and torpedograss were found.

Photo: North canal.



The Secchi disk value (water clarity measurement) was 2.8 feet in a depth of 11.7 feet. The lake gauge level was 74.78 feet above sea level. No triploid (sterile) grass carp fish were observed.

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 would be glad to present findings from this and other surveys. Continue to increase native aquatic plantings along the shoreline (such as pickerelweed, duck potato, and canna).
2. 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.

3. Control of aquatic and wetland plants could require a Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit (such as eelgrass). Contact Kristine Campbell at Kristine.Campbell@MyFWC.com or 321-246-0682 for permit and recommendations.



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

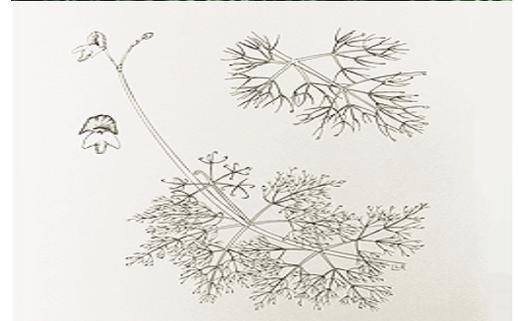
Common bladderwort is used by several insects, waterfowl, and mammals as a food source. The stems also provide shelter and a place for wildlife to lay eggs.

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 407-858-6170.



Sources:

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

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

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>