

Greetings Horseshoe Lake North residents!

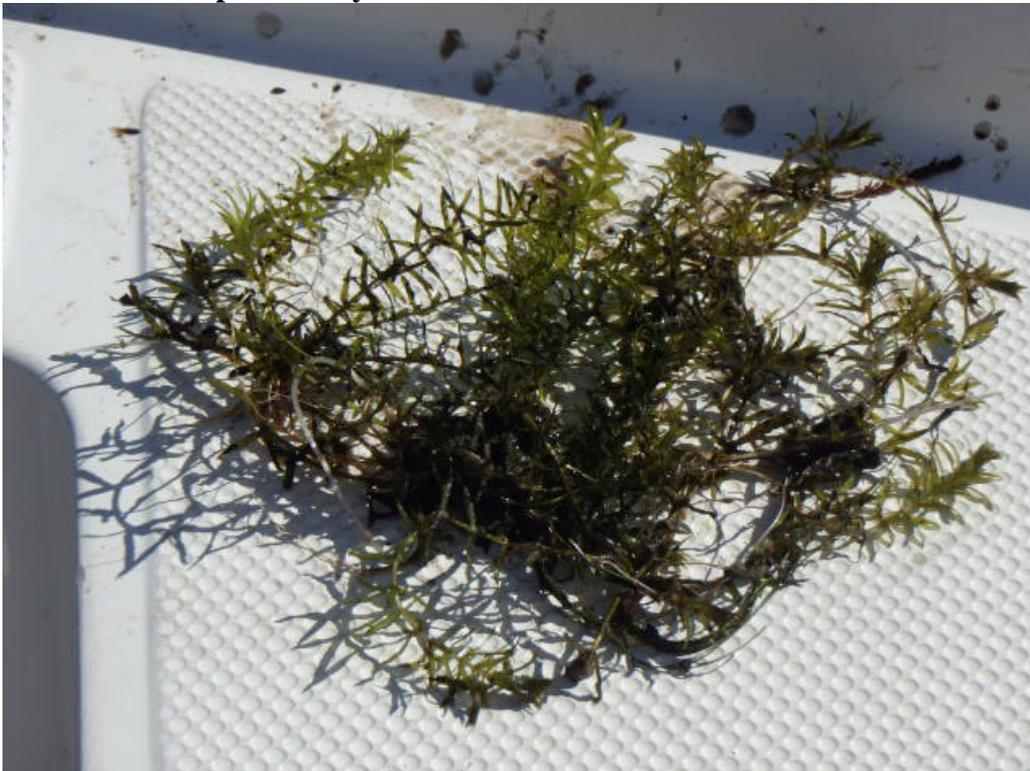
Below, please find the latest bioassessment for your lake. The next lake inspection will be conducted on December 22nd, 2014. Key highlights of this assessment include:

- Herbicide treatment for November rescheduled for the week of December 8th due to weather
- Hydrilla update
- Invasive vegetation observed
- Native emergent vegetation & submersed aquatic vegetation (SAV) found
- Update on restoration event results
- Recommendations for you and your lake

On **November 12th, 2014**, Seminole County Lake Management Program (SCLMP) personnel (Gloria Eby, Thomas Calhoun, Joey Cordell, and Sophia Pengra) surveyed the aquatic plants in Horseshoe Lake North.

Two small patches of the invasive SAV hydrilla were found in less than 1 foot of water along the northeast shoreline by the mouth of the 8th Street Canal. These patches were hand removed from the lake in its entirety by its roots. Hydrilla rapidly reproduces from stem fragments, buds, and tubers. Tubers can remain viable in the sediment of the lake for more than 4 years. There are many ways to manage hydrilla. These include; chemical treatment, grass carp fish, mechanical removal, water draw down, and hand removal. Currently the amount of hydrilla found only warrants hand removal. Hydrilla sprigs when found should be pulled out by hand ensuring you get the root crown. More information on hydrilla can be found at: <http://plants.ifas.ufl.edu/node/183>.

Photo: A small patch of hydrilla hand removed from Lake Horseshoe North.



Other invasive species observed included: alligatorweed, wild taro, water hyacinth, primrose willow, torpedo grass, bur-head sedge, and salvinia. The alligatorweed that was observed was impacted by past herbicide treatments and in poor health. The numbers of water hyacinth in the lake is very low with only a few plants observed. We encourage hand removal of water hyacinth from the lake. This practice will control the population of this invasive plant which has a reputation of spreading rapidly.

Photo: Water hyacinth.



Native emergent vegetation found during the inspection included: canna, sawgrass, pennywort, water grass, yellow cow lily, fragrant water lily, maidencane, pickerelweed, duck potato, arrowhead, lizards tail, bulrush, and fireflag. There was a reduction in planted maidencane, but the maidencane that was present was in good health.

Native SAV found during the inspection included: lemon bacopa to 1 ft, roadgrass to 1 ft, baby's tears to 2 ft, and eelgrass to 1 ft.

Photo: Example of water grass.



Most of the restoration planting sites are in great condition. The plants that survived are well established. Expansion of these plants should be noticeable by next year. As mentioned, maidencane was found to be reduced along the southeast planting zone likely due to wind/wave action uprooting the plant.

Photos: Planted maidencane.



The Secchi measurement (for water clarity) was 3 feet in a total depth of 6.5 ft. The lake elevation was 36.74 ft above sea level at the time of inspection. The grass carp barrier was inspected and found to be clear of debris and in good condition. No grass carp fish were observed during the inspection.

Recommendations for you and your lake:

- 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 and lake management recommendations. SCLMP staff would be glad to present our findings from this and other surveys.
- 2 Continue to establish a beneficial native shoreline for Horseshoe Lake North, especially in locations that are devoid of emergent aquatic plants. Given that some plants are stressed, or did not survive from the previous planting session, the planting of native species should continue until successful establishment is achieved. SCLMP recommends planting in new locations that are shallower and have more sunlight.
- 3 Native and non-native invasive species sometimes grow very close together, making the non-native species difficult to treat. Non-native species can be hand-pulled from patches of native plants, or a directed herbicide treatment can be used to target the non-native species. Although directed treatments may impact adjacent native species, such herbicides may be necessary to prevent expansion of the non-native species. For overall success in lake management, everyone must become stewards of the lake. Residents should assist whenever possible in the removal of non-native plants in close proximity to native vegetation, and replant the area with beneficial native plants.

4 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.

5 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 Horseshoe Lake North residents!

Below, please find the latest bioassessment for your lake. The next inspection date is scheduled for **November 12th**; weather permitting. Key highlights of this assessment include:

- October treatment for Lake and Canal completed on October 22nd.
- Emergent invasive and native submersed aquatic vegetation (SAV) species present in your lake
- **Hydrilla Observed**
- Water hyacinth update
- **NEXT Shoreline Restoration Event: MARCH 28th 2015!!**
- Recommendations for you and your lake

On **October 14th, 2014**, Seminole County Lake Management Program and Water Quality Program personnel, Marianne Pluchino and Gloria Eby, surveyed the aquatic plants in Horseshoe Lake North.

One sprig of the invasive SAV **hydrilla** was found in less than 1 foot of water along the northeast shoreline during this inspection. Hydrilla reproduces from stem fragments, buds, and tubers (potato like seeds). Tubers and turions are deposited by the plant into the sediment and are used to perennialize the plant as a means of propagation (re-growth). Tubers and turions can remain viable for many years; one square meter of hydrilla can produce 5,000 tubers. We will continue to monitor the inshore areas of the lake to enable rapid response to new hydrilla growth.

There are many ways to manage hydrilla. These include: chemical treatment, grass carp fish, mechanical removal, water draw down, and hand removal. The current amount of hydrilla only warrants hand removal. Hydrilla sprigs, when found, should be pulled out by hand, ensuring you get the root crown and entire stalk without breakage. Currently we have carefully hand removed the sprigs we have personally observed. More information on hydrilla can be found at: <http://plants.ifas.ufl.edu/node/183>.

In addition to this discovery, hydrilla has been added to the Florida Fish and Wildlife Conservation Commission (FWC) - Aquatic Plant Management permit for Horseshoe Lake North. Please report any sighting of hydrilla to our team so we can swiftly take action against this **highly invasive, exotic plant**.

Photo: Hydrilla found along the north eastern shoreline; plant was hand removed from lake.



Baby's tears, a beneficial SAV species, was found to a depth of 2 feet. A small patch of eelgrass was observed in 1 foot of water. Native emergent vegetation observed during the inspection included: button bush, sawgrass, flat sedge, pickerelweed, canna, fire flag, duck potato, bulrush, lizard tail, and maidencane. The planted maidencane and pickerelweed from the August 16th restoration event is establishing well around the lake. A complete loss of plants has occurred at one site location, likely due to wind/wave action as these plants were planted in deeper water.

Photos: Planting locations performing well!



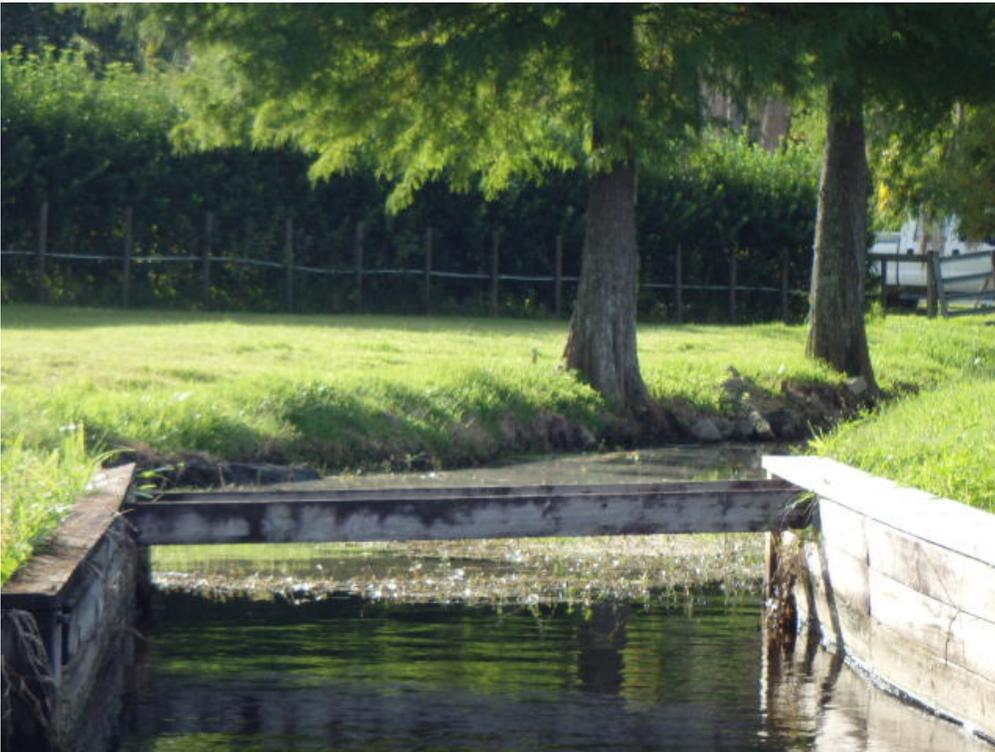
Water hyacinth, now coined one of the worst floating weeds in Florida, was noted mainly along the west shoreline of the lake of which was targeted the October treatment. A new publication on this plant can be found at: <http://edis.ifas.ufl.edu/pdffiles/AG/AG38500.pdf>.

Photo: Water Hyacinth (with daughter plants).



The 8th Street Canal continues to be routinely treated for alligatorweed, torpedo grass, and salvinia.

Photo: 8th Street Canal.



The next **North Horseshoe Lake Shoreline Restoration Event** is scheduled for **Saturday, March 28th, 2014 from 9am-1pm**. On this date, the Seminole County Lake Management and SERV Programs will bring in community volunteers to plant **beautiful FREE aquatic plants** along designated shorelines with lake residents to help improve the habitat and water quality of your lake. We are always looking for volunteer sites, so if you are interested in becoming a designated site, please contact me for further details.

The Secchi measurement (for water clarity) was 2.6 feet in a total depth of 9.8 feet. The lake elevation was 37.00 ft above sea level at the time of inspection. The grass carp barrier was inspected and found in good condition and free from debris.

Recommendations for you and your lake:

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 and lake management recommendations. SCLMP staff would be glad to present our findings from this and other surveys.

2 Continue to establish a beneficial native shoreline for Horseshoe Lake North, especially in locations that are devoid of emergent aquatic plants. Given that some plants are stressed, or did not survive from the previous planting session, the planting of native species should continue until successful establishment is achieved. SCLMP recommends planting in new locations that are shallower and have more sunlight.

3 Native and non-native invasive species sometimes grow very close together, making the non-native species difficult to treat. Non-native species can be hand-pulled from patches of native plants, or a directed herbicide treatment can be used to target the non-native species. Although directed treatments may impact adjacent native species, such herbicides may be necessary to prevent expansion of the non-native species. For overall success in lake management, everyone must become stewards of the lake. Residents should assist whenever possible in the removal of non-native plants in close proximity to native vegetation, and replant the area with beneficial native plants.

4 Be sure to take advantage of 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 are all great options. 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 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.

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