

Greetings Lake of the Woods residents!

Please find the latest bioassessment for your lake below. The next lake inspection is scheduled for **October 7<sup>th</sup> 2014** (weather permitting). Key highlights of this update include:

- Hydrilla & other submersed aquatic vegetation (SAV)
- Role of native SAV
- Shoreline erosion
- Encouragement to plant native vegetation
- Recommendations for you and your lake
- Algae bloom information

On **August 7<sup>th</sup>, 2014**, Seminole County Lake Management Program (SCLMP) staff, Gloria Eby, Thomas Calhoun, Marianne Pluchino, Beth Stephens, and Joey Cordell, surveyed the aquatic plants in **Lake of the Woods** and conducted a Lake Vegetation Index (LVI).

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.

Lake of the Woods is 52 surface acres with a mean depth of 8.4 ft and a maximum depth of 19.6 ft located in the Howell Creek watershed. Scores for Lake of the Woods have ranged from 25 to 53. LVI score for 2014 was 47, in the Healthy range.

<b>LVI Range</b>	<b>Description</b>
78-100	Exceptional
43-77	Healthy
0-42	Impaired

A few Hydrilla sprigs were found up to a depth of 3 feet during the inspection. No grass carp fish were observed during the inspection. It is assumed that the current stocking rate is effectively managing hydrilla regrowth. At this time, no additional hydrilla treatments or grass carp fish stocking are needed.

Native SAV was very healthy and was found expanding around the lake. Native species observed during the inspection included: coontail to 4 ft, southern naiad to 4 ft, and eelgrass to 8.5 ft. Eelgrass has been the dominant SAV and is playing an important ecological role in Lake of the Woods. Eelgrass is competing against the highly invasive species hydrilla for space, providing habitat for wildlife, and reducing nutrients that cause algae blooms within the lake. The Eelgrass has expanded and thickened since the last inspection. As previously mentioned, if SAV is blocking access to your boat dock you can apply for an aquatic plant removal permit

through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

**Photo: Eelgrass and Coontail**



Native emergent vegetation is doing very well in Lake of the Woods. Canna, sedges, buttonbush, spotted water hemlock, flat sedges, pennywort, duckweed, yellow cow lily, fragrant waterlily, maidencane, pickerelweed, duck potato, Carolina willow, bulrush, fire flag, and climbing aster were all found to be very healthy and expanding. Invasive emergent vegetation has been reduced lake-wide, including alligatorweed, elephant ear, torpedo grass, water spinach, primrose willow, cattails, creeping oxeye, and burhead sedge. An MSBU funded herbicide contractor will be treating an expanding area of lilies on the Northeast corner of the lake by the creek. In areas previously occupied by torpedo grass, we are beginning to see some erosion. It is recommended that native vegetation such as pickerelweed or duck potato be planted in these areas; their roots help to anchor soil and reduce erosion.

A blue-green algae bloom was observed in the Northeast corner of the lake. Algae blooms are caused by high levels of phosphates and are more frequent in the light-intense months of summer. The most common sources for excess phosphates are fertilizer runoff and yard clippings. To help prevent algae blooms, residents can reduce overall fertilizer use, only use

phosphorus-free slow release nitrogen fertilizer brands when fertilizers are needed, and prevent yard clippings from falling in the lake.

**Photo: Algae Bloom**



The Secchi disk reading (measurement for water clarity) was 4.8 ft in a depth of 13.0 ft. This is a reduction from the prior inspection with a reading of 5.9 ft. The lake gauge level was 74.9 ft above sea level.

**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 Increase educational outreach programs, i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), and Lake Management Video mail-outs. Provide information about reduction of pointless personal pollution, reducing total fertilizer use, using only phosphorous-free and slow release nitrogen based fertilizers when fertilizers are

needed and prevent grass clippings from falling into the lake, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your stormdrains that lead to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 about available, free educational programs.

3 Control of aquatic and wetland plants may require a Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit (such as eelgrass). Contact Alicia Knecht at [Alicia.Knecht@myfwc.com](mailto:Alicia.Knecht@myfwc.com) or 321-246-0682 for permit and recommendations.

Greetings Lake of the Woods residents!

Please find the latest bioassessment for your lake below. The next lake inspection is scheduled for **August 7<sup>th</sup>, 2014** (weather permitting). Key highlights of this update include:

- Hydrilla & other submersed aquatic vegetation (SAV)
- Role of native SAV
- Shoreline erosion
- Encouragement to plant native vegetation
- Recommendations for you and your lake

On **July 1<sup>st</sup>, 2014**, Seminole County Lake Management Program (SCLMP) staff, Thomas Calhoun, Gloria Eby and Theresa Cruz surveyed the aquatic plants in **Lake of the Woods**.

No hydrilla was found during the inspection. Additionally, no grass carp fish were observed during the inspection. It is assumed that the current stocking rate is effectively managing hydrilla regrowth. At this time, no additional hydrilla treatments or grass carp fish stockings are needed.

Native SAV was very healthy and was found expanding around the lake. Native species found during the inspection included coontail to 7 ft and eelgrass to 8 ft. Eelgrass has been the dominant SAV and is playing an important role in Lake of the Woods. Eelgrass is competing against the highly invasive species hydrilla for space, providing habitat for wildlife, and reducing nutrients that cause algae blooms within the lake. As previously mentioned, if SAV is blocking access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

**Photo: Eelgrass topping out near shoreline.**



Native emergent vegetation is doing very well in Lake of the Woods. Fire flag, blue flag iris, duck potato, maidencane, canna, and pickerelweed were all found very healthy and expanding. Invasive emergent vegetation has been reduced lake-wide, including alligatorweed, elephant ear, torpedo grass, and burhead sedge. In areas previously occupied by torpedo grass, we are beginning to see some erosion. It is recommended that native vegetation such as pickerelweed or duck potato be planted in these areas.

**Photo: Fire flag expanding in Lake of the Woods.**



The Secchi disk reading (measurement for water clarity) was 5.9 ft in a depth of 9.8 ft. The lake gauge level was 74.7 ft above sea level. Three otters were observed during the 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 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 Increase educational outreach programs, i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), and Lake Management Video mail-outs. Provide information about reduction of pointless personal pollution, reducing total fertilizer use, using only phosphorous-free and slow release nitrogen based fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your storm drains that lead to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 about available, free educational programs.

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

- Current information about hydrilla & other submersed aquatic vegetation (SAV)
- Role of native SAV
- Shoreline erosion
- Encouragement to plant native vegetation
- Recommendations for you and your lake

On **March 4<sup>th</sup>, 2014**, Seminole County Lake Management Program (SCLMP) staff, Thomas Calhoun and Gloria Eby, surveyed the aquatic plants in **Lake of the Woods**.

Two sprigs of hydrilla were during the inspection. This is a decrease in hydrilla since the previous inspection. Nine grass carp were observed during the inspection. It is assumed that the current stocking rate is managing the hydrilla. At this time no treatment or grass carp stockings are needed.

**Photo: Eelgrass topping out near shoreline.**



Native SAV was very healthy and was expanding around the lake. Native species found during the inspection included coontail to 2 ft, roadgrass to 4 ft, and eelgrass to 8 ft. Eelgrass is the

dominant SAV and is playing an important role in Lake of the Woods. Eelgrass is competing against the highly invasive species hydrilla for space, providing habitat for wildlife and reducing nutrients that cause algae blooms within the lake. As previously mentioned, if SAV is blocking access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

Springtime weather has the native emergent expanding around the entire lake. These species included; blue flag iris, duck potato, maidencane, canna and pickerel weed. Invasive emergent vegetation observed included: alligator weed, elephant ear, torpedo grass, and burhead sedge have been reduced lake wide. In areas where torpedo grass previously occupied we are beginning to see some erosion. It is recommended that native vegetation such as; pickerel weed or duck potato are planted in these areas.

**Photo: Pickerel weed expanding in Lake of the Woods.**



Secchi disk (water clarity) reading was 9 ft in a depth of 10.8 ft. The lake gauge level was 74.7 ft above sea level. Nine triploid 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 Increase educational outreach programs, i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), and Lake Management Video mail-outs. Provide information about reduction of pointless personal pollution, reducing total fertilizer use, using only phosphorous-free fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your storm drains that lead to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 about available, free educational programs.

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 Alicia Knecht at [Alicia.Knecht@myfwc.com](mailto:Alicia.Knecht@myfwc.com) or 321-246-0682 for permit and recommendations.

Greetings Lake of the Woods Residents!

Please find the latest bioassessment for your lake below. The next lake inspection is scheduled for **July 1st, 2014** (weather permitting). Key highlights of this update include:

- Current information about hydrilla & other submersed aquatic vegetation (SAV)
- Role of native SAV
- Submersed Aquatic Vegetation (SAV) mapping conducted
- Encouragement to plant native vegetation
- Recommendations for you and your lake

On **May 6<sup>th</sup>, 2014**, Seminole County Lake Management Program (SCLMP) staff (Thomas Calhoun and Gloria Eby), with Stephen Fussell (Seminole County's Office of Organizational Development), surveyed the aquatic plants in **Lake of the Woods**.

Only a few sprigs of hydrilla were found during the inspection. This is a continued decrease in hydrilla since prior inspections! Two grass carp fish were observed during the inspection. It is assumed that the current stocking rate is managing the hydrilla. At this time no additional hydrilla treatments or grass carp fish are needed.

Native SAV was very healthy and expanding around the lake. Native species found during the inspection included coontail to 6 ft, roadgrass to 3 ft, and eelgrass to 7 ft. The flowering portion (seeds) of eelgrass could be seen floating on the water's surface lake wide appearing like an algae bloom. The highest concentration of seeds was present along the eastern shore (wind driven).

Eelgrass has been the dominant SAV and is playing an important role in the overall health of Lake of the Woods. Eelgrass is competing against hydrilla for space, providing habitat for wildlife, and reducing nutrients that cause algae blooms within the lake. As previously mentioned, if SAV is blocking access to your boat dock you can apply for a free aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

**Photo: Eelgrass seeds on the surface. Bloom was found mainly on the eastern side of lake.**



**Photo: Close up of eelgrass seeds on the water's surface.**

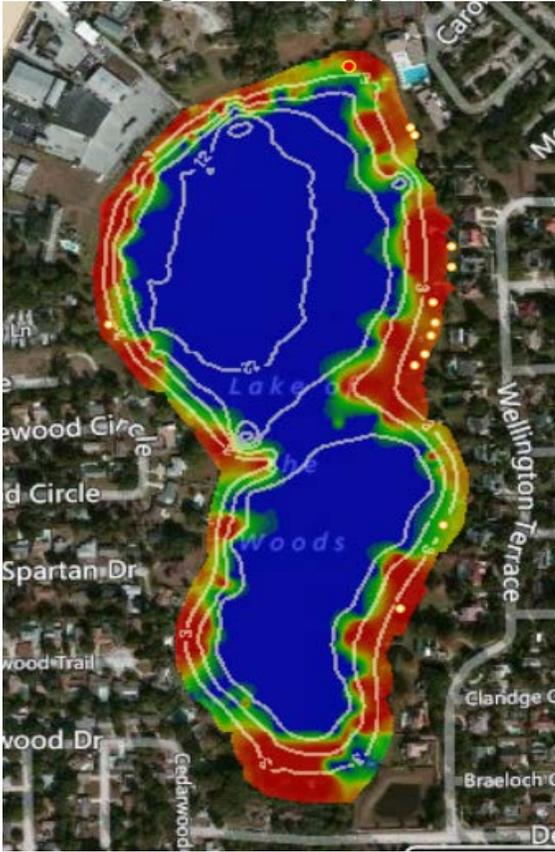


**Photo: Native eelgrass intermixed with native coontail.**



A baseline submersed aquatic vegetation (SAV) map was created utilizing sonar instrumentation mounted to our boat. The purpose of this tool is to establish "baseline" data to monitor changes and respond with recommendations to improve water quality and vegetation habitat over time. Upon completion, a report is generated giving biologists a detailed analysis of vegetation presence in your lake. This survey generated a SAV percent coverage of 43.3% (or 22.35 surface acres).

**Photo: Image of SAV map produced for Lake of the Woods.**



Springtime weather has stimulated the expansion of native emergent vegetation around the entire lake. During the inspection, these species included: blue flag iris, duck potato, maidencane, canna, and pickerelweed. Invasive emergent vegetation has been reduced lake-wide, including alligatorweed, elephant ear, torpedo grass, and burhead sedge. In areas previously occupied by torpedo grass, we are beginning to see some erosion. It is recommended that native vegetation such as pickerelweed or duck potato be planted in these areas. Additionally, we noted invasives trying to establish within the lilies on the northeast portion of the lake. If left untreated, these invasives could form a floating island of vegetation known as a tussock.

**Photo: Floating vegetation to be targeted in northeast portion of lake.**



The Secchi disk (water clarity) reading was 5.5 ft in a depth of 13.6 ft. The lake gauge level was 74.80 ft above sea level.

**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 Increase educational outreach programs, i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), and Lake Management Video mail-outs. Provide information about reduction of pointless personal pollution, reducing total fertilizer use, using only phosphorous-free fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your storm drains that lead to the lake. All these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program (407) 665-2439 about available, free educational programs.

3 Control of aquatic and wetland plants may require a Florida Fish and Wildlife Conservation Commission (FWC) aquatic plant control permit (such as eelgrass). Contact Alicia Knecht at [Alicia.Knecht@myfwc.com](mailto:Alicia.Knecht@myfwc.com) or 321-246-0682 for permit and recommendations.

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On **March 4<sup>th</sup>, 2014**, Seminole County Lake Management Program (SCLMP) staff, Thomas Calhoun and Gloria Eby, surveyed the aquatic plants in **Lake of the Woods**.

Two sprigs of hydrilla were during the inspection. This is a decrease in hydrilla since the previous inspection. Nine grass carp were observed during the inspection. It is assumed that the current stocking rate is managing the hydrilla. At this time no treatment or grass carp stockings are needed.

**Photo: Eelgrass topping out near shoreline.**



Native SAV was very healthy and was expanding around the lake. Native species found during the inspection included coontail to 2 ft, roadgrass to 4 ft, and eelgrass to 8 ft. Eelgrass is the

dominant SAV and is playing an important role in Lake of the Woods. Eelgrass is competing against the highly invasive species hydrilla for space, providing habitat for wildlife and reducing nutrients that cause algae blooms within the lake. As previously mentioned, if SAV is blocking access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

Springtime weather has the native emergent expanding around the entire lake. These species included; blue flag iris, duck potato, maidencane, canna and pickerel weed. Invasive emergent vegetation observed included: alligator weed, elephant ear, torpedo grass, and burhead sedge have been reduced lake wide. In areas where torpedo grass previously occupied we are beginning to see some erosion. It is recommended that native vegetation such as; pickerel weed or duck potato are planted in these areas.

**Photo: Pickerel weed expanding in Lake of the Woods.**



Secchi disk (water clarity) reading was 9 ft in a depth of 10.8 ft. The lake gauge level was 74.7 ft above sea level. Nine triploid 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).

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- Current information about hydrilla & other submersed aquatic vegetation (SAV)
- Role of native SAV
- Shoreline erosion
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- Recommendations for you and your lake

On **December 12<sup>th</sup>, 2013**, Seminole County Lake Management Program (SCLMP) staff, Thomas Calhoun Gloria Eby and Joey Cordell, surveyed the aquatic plants in **Lake of the Woods**.

Hydrilla sprigs and tubers were found along the east side of the lake. 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 up to four years. Eelgrass is playing an important role in competing for space with hydrilla. Hydrilla will continue to be closely monitored to see if any action is needed.

**Photo: Hydrilla tubers (indicated in yellow) found along the east side of Lake of the Woods.**



Native SAV was very healthy and expanding around the lake. Native species found during the inspection included coontail to 2 ft, roadgrass to 4 ft, and eelgrass to 7 ft. No SAV was found in water deeper than 8 feet. Eelgrass is the dominant SAV and is playing an important role in the health of Lake of the Woods. Eelgrass is competing against the highly invasive species hydrilla for space, providing habitat for wildlife, and reducing nutrients that cause algae blooms within the lake. As previously mentioned, if SAV is blocking access to your boat dock you can apply for an aquatic plant removal permit through the Florida Wildlife Conservation Commission <http://www.myfwc.com/license/aquatic-plants>. Some access points have been successfully treated already.

**Photo: Eelgrass topped out on the southern end of the lake.**



Native emergent vegetation (including maidencane, pickerelweed, duck potato, blue flag iris, and canna lily) was also expanding around the entire lake. Invasive emergent vegetation observed (alligator weed, elephant ear, torpedo grass, and burhead sedge) have been reduced lake wide. In areas where torpedo grass previously occupied we are beginning to see some erosion. It is recommended that native vegetation, such as pickerelweed or duck potato, are planted in these areas.

**Photo: Erosion along the shoreline.**



Secchi disc (water clarity) reading was 6.8 ft in a depth of 10.1 ft. The lake gauge level was 74.4 ft above sea level. Six triploid grass carp fish were observed during this survey.

**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).

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