

Greetings Lake Mills residents,

Please find the latest bioassessment for your lake below. Our next lake inspection is scheduled for **June 10th, 2014**, weather permitting. Key highlights of this update include:

- Hydrilla treatment update
- Native Submersed Aquatic Vegetation (SAV) presence
- Native vegetation expanding
- Canal SAV treatment completed
- Recommendations for you and your lake

On **May 15th, 2014**, Seminole County Lake Management Program staff, Thomas Calhoun and Gloria Eby, surveyed the aquatic plants in **Lake Mills**.

Hydrilla was present along the north shore of Lake Mills to a depth of 4 feet. This area will be targeted for treatment. Hydrilla was also present at the Mills Creek cove on the eastern side of the lake. At this time no grass carp fish will need to be stocked. These areas will be heavily monitored during the next several months to evaluate if further treatments will be necessary.

Nine species of native SAV were observed which have expanded since prior inspection. This is a great number of species for Lake Mills! Native SAV plays an important role in the lake ecosystem by absorbing nutrients coming in from the local watershed, by providing habitat for aquatic species, and by competing for space with hydrilla. These species included: lemon bacopa to a depth of 4 feet, coontail to a depth of 4 feet, road grass to a depth of 4 feet, eelgrass to a depth of 2 feet, bladderwort to a depth of 2 feet, baby's tears to a depth of 2 feet, southern naiad to 4 feet, stonewort to 4 feet, and pondweed to 4 feet.

Photo: Bladderwort on left compared to hydrilla on the right.



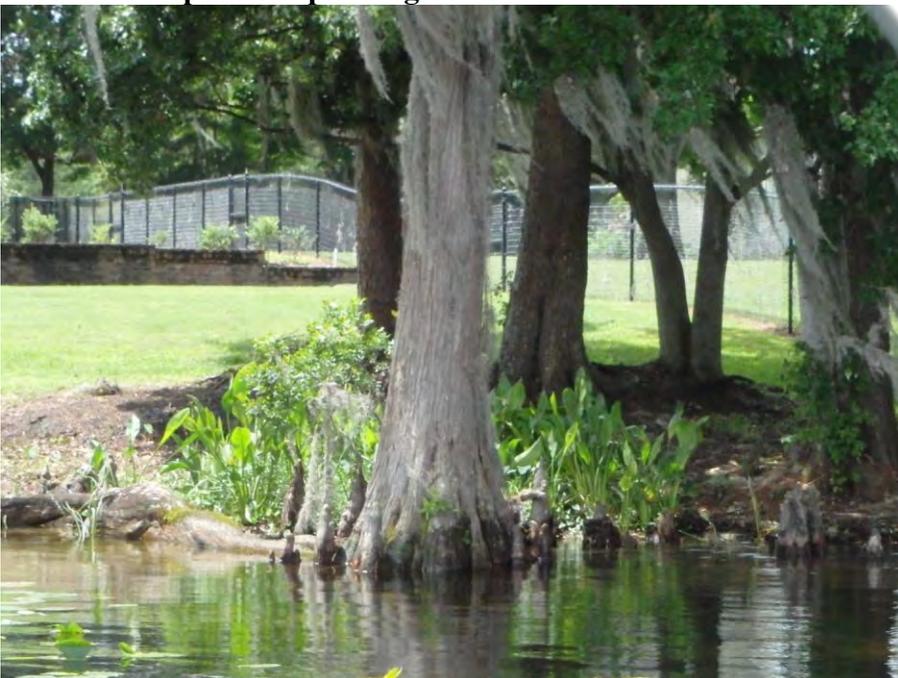
Photo: Native SAV stonewort.



The end of the north canal on the west side of Lake Mills was successfully treated for parrot feather (an invasive species) and bladderwort. Bladderwort is a native; however, its growth was impeding boat navigation within the canal which required herbicide treatment.

Native emergent vegetation observed during inspection included duck potato, pickerelweed, and canna. These beneficial natives are expanding nicely around the lake.

Photo: Duck potato expanding!



The Secchi (water clarity) value was 9.6 feet out of a total depth of 12.1 feet. The grass carp barrier was operational and free from debris. The water elevation at the time of inspection was 40.7 feet above sea level.

Photo: Carp barrier at Lake Mills Park.



Recommendations for your lake:

- 1 Work together and establish a lake association with other lakefront owners to increase native aquatic plantings along the shoreline (such as pickerelweed, canna, and duck potato). Have at least one annual lake association meeting to discuss lake-specific issues.
- 2 Increase educational outreach programs, i.e. Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and encouraging others to reduce pointless personal pollution by reducing overall fertilizer use, using only phosphorous-free fertilizer, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your stormdrains leading to the lake. All of these activities aid in protecting your lake! Contact Seminole County Lake Management Program Gloria Eby (GEby@seminolecountyfl.gov; 407- 665-2439) for information about free educational programs.
- 3 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.

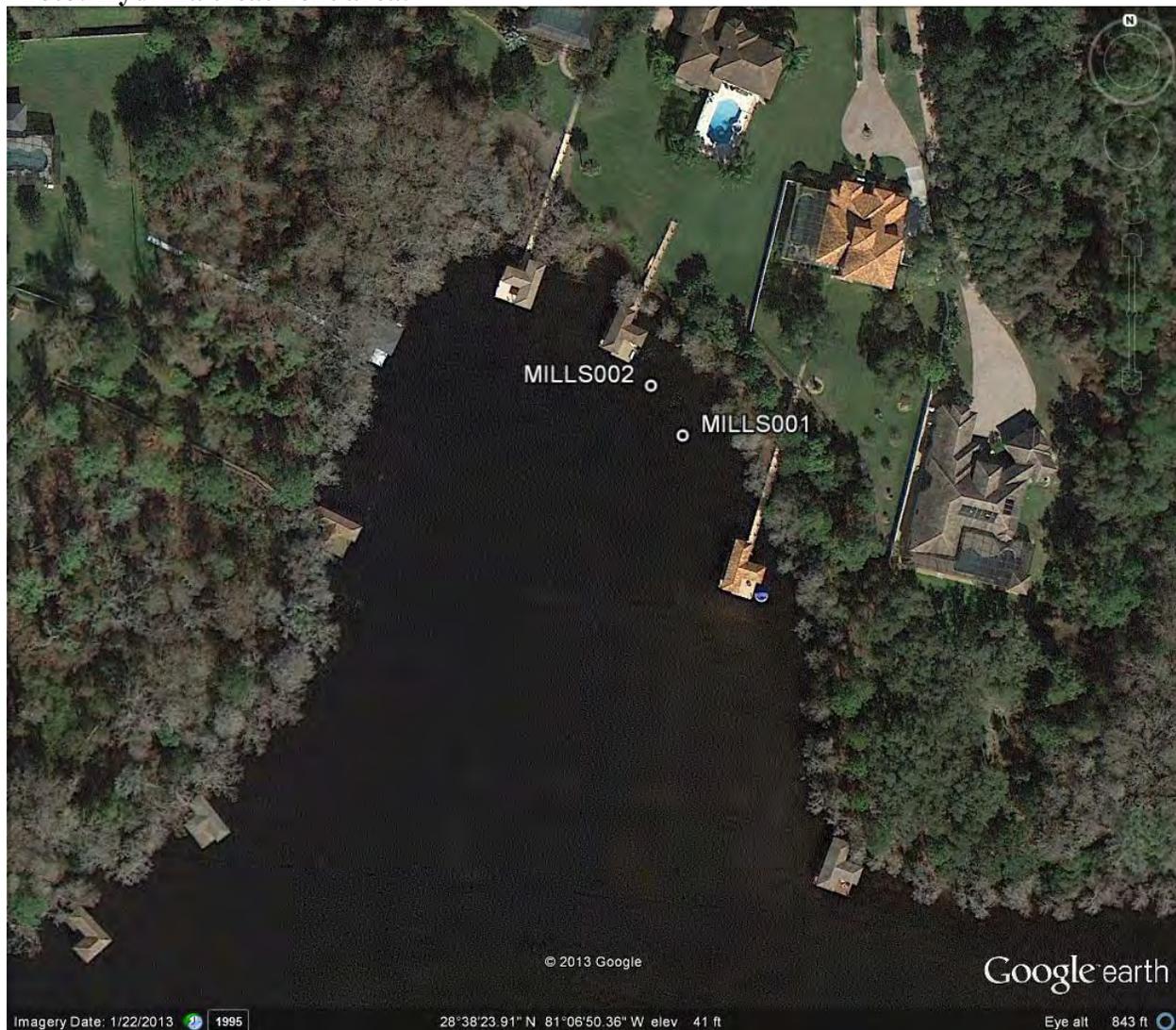
Below please find the latest bioassessment for your lake. Our next lake inspection is scheduled for **February** weather permitting.

- Hydrilla update
- Native Submersed Aquatic Vegetation (SAV)
- Canal SAV treatment completed
- Native vegetation expanding

On March 11th, 2014, Seminole County Lake Management Program Staff Thomas Calhoun and Gloria Eby surveyed the aquatic **Lake Mills**.

Hydrilla was present in one area along the north shore of Lake Mills to a depth of 3 feet. This area will be targeted for a spot treatment. At this time no grass carp will need to be stocked. These areas will be heavily monitored during the next several months.

Photo: Hydrilla treatment area.



Six native SAV was found expanding during the inspection. This is a great diversity for Lake Mills. Native SAV plays an important role in the lake ecosystem by up taking nutrients coming in from the local watershed, providing habitat for aquatic species and competing for space with hydrilla. These species included; lemon bacopa to a depth of 4 feet, coontail to a depth of 5 feet, road grass to a depth of 3 feet, eelgrass to a depth of 3 feet, bladderwort to a depth of 5 feet and baby's tears to a depth of 5feet.

Photo: Coontail and bladderwort.



The end of the canal system on the west side of lake mills was successfully treated for parrot feather and bladderwort.

Photo: End of canal.



The native emergent vegetation was showing signs of coming back from “winter die back”. Duck potato and pickerel weed in particular are expanding in many locations.

Photo: Pickerelweed expanding.



The Secchi (water clarity) was 11.9feet out of a total depth of 13.1 feet. The grass carp barrier was free from debris and operational. The water elevation at the time of inspection was 40.65 feet above sea level.

Photo: Carp barrier at Lake Mills Rd.



Recommendations:

1 Work together or establish a lake association, with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna and duck potato). Have at least one annual lake association meeting to discuss lake specific issues.

2 Increase educational outreach programs i.e. Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of pointless personal pollution by using low fertilizer use; phosphorous free fertilizers; keeping a functional shoreline with beneficial native aquatic plants; keeping grass clippings out of your storm drains leading to the lake. All these activities aid in protecting your lake! Contact Seminole County Lake Management Program Gloria Eby, GEby@seminolecountyfl.gov or (407) 665-2439 for free educational programs available.

Below please find the latest bioassessment report for your lake. Our next lake inspection is scheduled for **March 11th**; weather permitting. Key highlights of this update include:

- Hydrilla update- reduction in biomass observed
- Native Submersed Aquatic Vegetation (SAV)
- Canal SAV scheduled for treatment
- “Winter dieback” observed in native vegetation

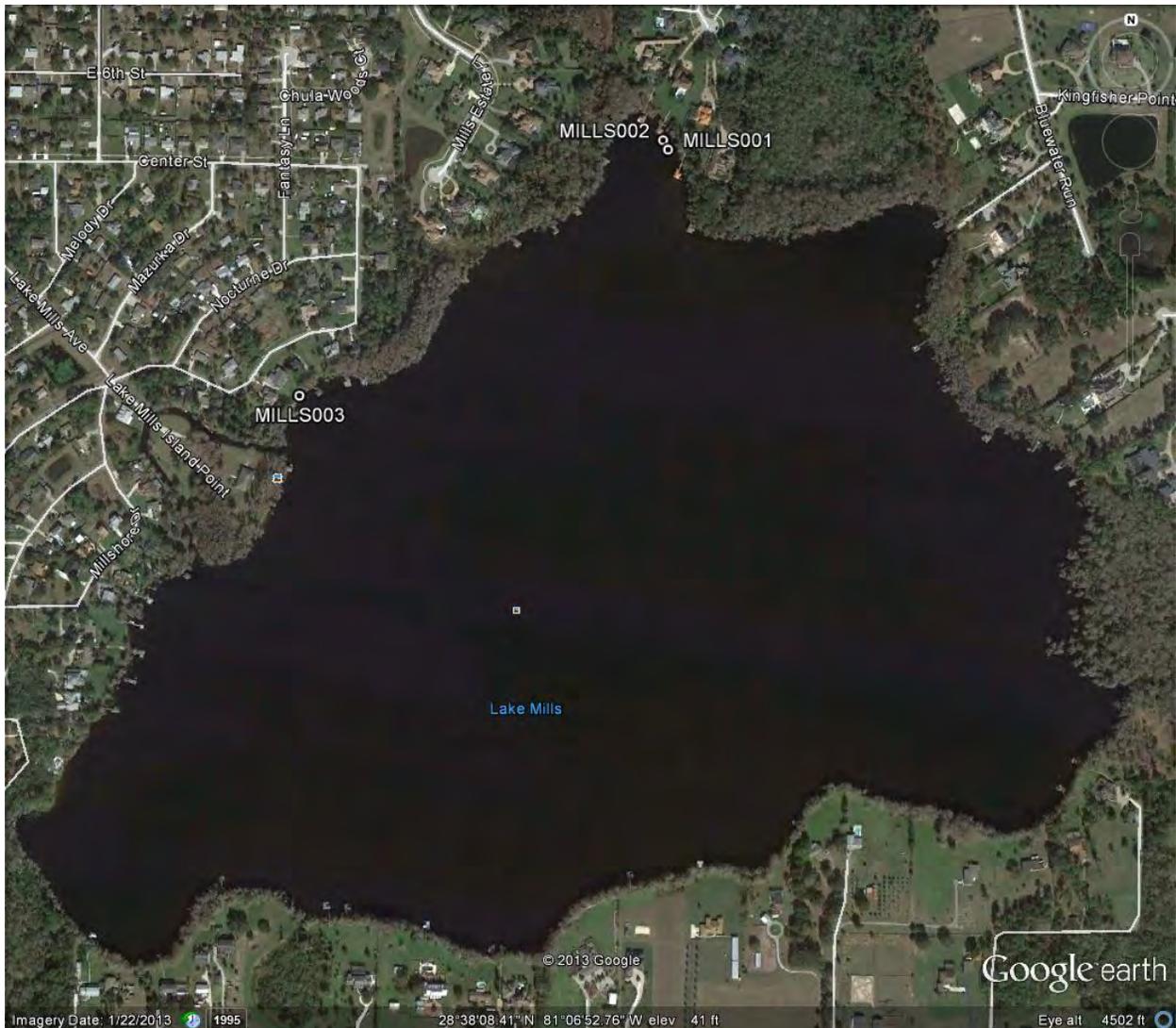
On **January 28th, 2014**, Seminole County Lake Management Program staff (Thomas Calhoun, Gloria Eby, and Marie Lackey) surveyed the aquatic plants in **Lake Mills**.

Hydrilla was present in areas along the north shore of Lake Mills to a depth of 4 feet. However there was an overall reduction since the previous month’s inspection. Three small areas will be targeted for spot treatment of hydrilla in February. At this time no grass carp will need to be stocked. These areas will be heavily monitored during the next several months.

Photo: Hydrilla found during inspection.



Photo: Hydrilla treatment areas.



The native SAV found in Lake Mills included: lemon bacopa to a depth of 4 feet, coontail to a depth of 6 feet, road grass to a depth of 4 feet, eelgrass to a depth of 4 feet, and baby’s tears to a depth of 3feet. Eelgrass has expanded in some areas but overall there was a decrease in native SAV from the previous inspection due to the winter conditions. The end of the north canal system on the west side of Lake Mills is topped out with exotic parrot feather and native bladderwort. This area is scheduled to be targeted during the February herbicide treatment and will be closely monitored for further action. Bladderwort can be unresponsive to chemical treatments.

Photo: Topped out vegetation at the end of the canal.



The native emergent vegetation was showing signs of “winter die back”. Cold weather is turning the leaves brown on many of the native vegetation including: pickerelweed, duck potato, fire flag and maidencane.

Photo: Example of “winter dieback” in pickerelweed.



The Secchi (water clarity) was 12.3 feet out of a total depth of 23 feet. The grass carp barrier was observed free from debris and operational. The water elevation at the time of inspection was 40.5 feet above sea level.

Recommendations:

- 1 Work together or establish a lake association, with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna and duck potato). Have at least one annual lake association meeting to discuss lake specific issues.
- 2 Increase educational outreach programs i.e. Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of pointless personal pollution by using low fertilizer use; phosphorous free fertilizers; keeping a functional shoreline with beneficial native aquatic plants; keeping grass clippings out of your storm drains leading to the lake. All these activities aid in protecting your lake! Contact Seminole County Lake Management Program Gloria Eby, GEby@seminolecountyfl.gov or (407) 665-2439 for free educational programs available.

Greetings Lake Mills Residents,

Below please find the latest bioassessment for your lake. Our next lake inspection is scheduled for January 22nd (weather permitting). Key highlights of this update will include:

- Hydrilla update
- Native Submersed Aquatic Vegetation (SAV)
- Brazilian Pepper observed- recommend to remove this highly invasive tree
- Recommendations for you and your lake

On December 12th, 2013, Seminole County Lake Management Program staff (Thomas Calhoun, Joey Cordell, and Gloria Eby) surveyed the aquatic plants in **Lake Mills**.

Hydrilla was found expanding in the north cove and northeast corner of the lake to a depth of 5 feet. Currently the hydrilla is competing for space with eelgrass, coontail, and southern naiad. It is expected that the grass carp fish and winter conditions will reduce these new plants. Hydrilla was also found in both the north and south canals along the west shore. We will continue to closely monitor hydrilla to see if any further action will need to be taken.

Photo: Hydrilla found mixed in with native species.



Photo: Hydrilla sprig found along northern shore of Lake Mills.



Native SAV in Lake Mills continues to expand lake wide since the previous month. These species play an important role within the lake by providing habitat, reducing nutrients, and competing for space with hydrilla. The native SAV found included: southern naiad to a depth of 4.5 feet, lemon bacopa to a depth of 3 feet, coontail to a depth of 4.5 feet, road grass to a depth of 2 feet, eelgrass to a depth of 3 feet, stonewort to a depth of 3 feet, bladderwort to a depth of 2 feet and baby's tears to a depth of 1foot. Several new shoots of eelgrass were found in shallow areas of the lake. Bladderwort has expanded within the canal system and is beginning to top out at the end of both the north and south sections.

Photo: Bladderwort found topped within the canal system.



Brazilian pepper was found at 3 sites on the southern shore of Lake Mills. This tree is one of the most aggressive invasive exotic pest plants of Florida. It is recommended that this tree is removed before it disrupts and dominates the native communities of the Lake Mills Shoreline.

Photo: Brazilian Pepper tree.



Photo: Brazilian Pepper sites on south side of the lake.

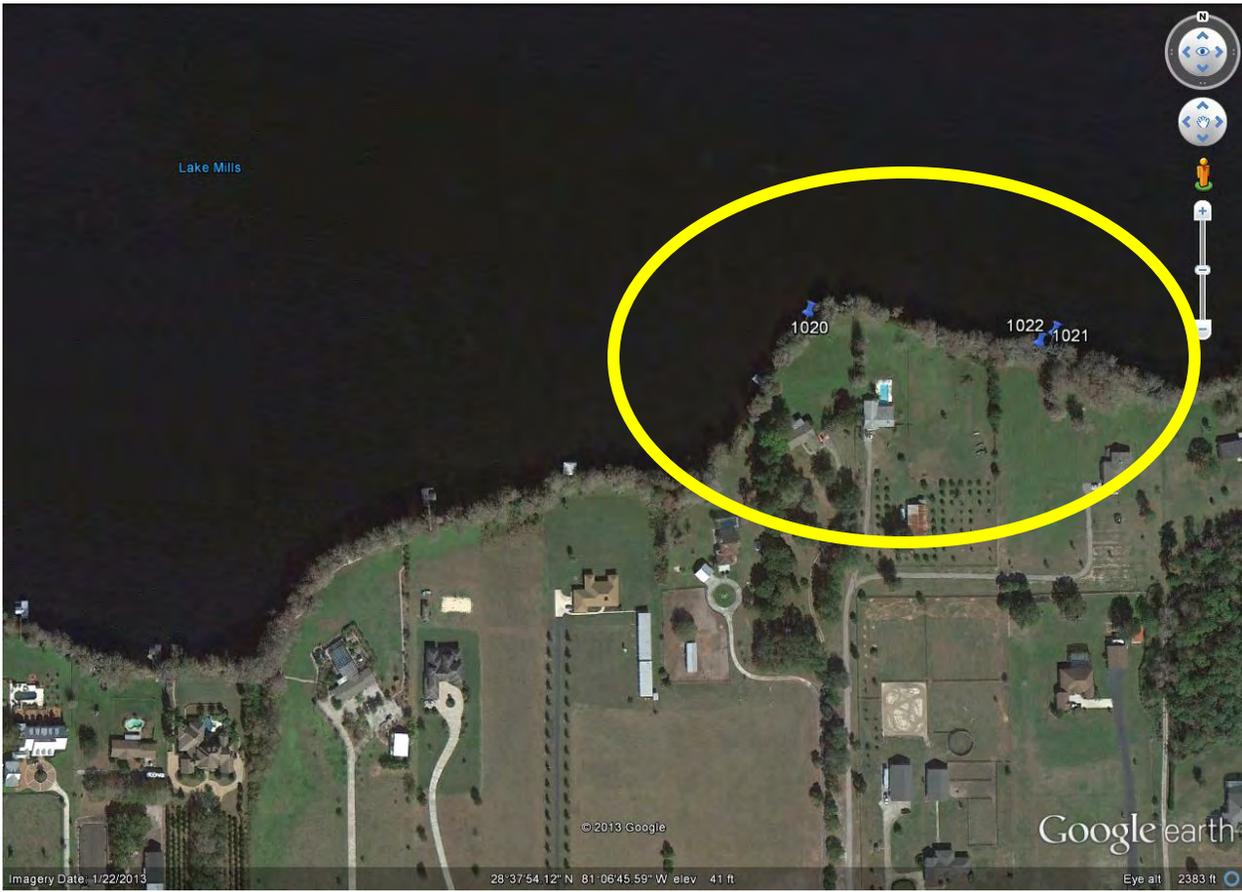


Photo: Carp barrier at Lake Mills Park.



The Secchi (water clarity) was 8.5 feet compared to the previous inspections reading of 8.8 feet. The grass carp barriers were free from debris and operational. The water elevation at the time of inspection was 40.57 feet above sea level.

Recommendations:

- 1 Work together or establish a lake association, with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna and duck potato). Have at least one annual lake association meeting to discuss lake specific issues.

- 2 Take advantage of free educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and presentations on decreasing “pointless personal pollution” by reducing fertilizer use and only using phosphorous-free fertilizers. Contact Seminole County Lake Management Program (407) 665-2439 to inquire about the availability of these programs. You can also visit the Water Atlas (<http://www.seminole.wateratlas.usf.edu/>) to read interesting information about your specific waterway, and our website (http://www.seminolecountyfl.gov/pw/roadstorm/wq_lakemgt.aspx) to watch educational videos and download lake management pamphlets.

- 3 Share what YOU know with your neighbors! Encourage fellow residents to keep a functional shoreline with beneficial native aquatic plants, and to keep grass clippings out of the stormdrains that lead to the lake. All of these activities aid in protecting your waterbody! Please share this newsletter with any new residents or those not currently on our email list. These assessments contain valuable information!

Greetings Lake Mills Residents!

Below please find the latest bioassessment for your lake. Our next lake inspection is scheduled for **December 12th** (weather permitting). Key highlights of this update will include:

- Hydrilla update- present only in limited areas
- Native Submersed Aquatic Vegetation (SAV) presence- expanding!
- Emergent vegetation update
- Lake Vegetation Index (LVI) results

On **October 29th, 2013**, Seminole County Lake Management Program staff, Gloria Eby and Thomas Calhoun, surveyed the aquatic plants in **Lake Mills**.

A small amount of hydrilla was found at a private boat ramp along the north western shoreline and in the northwest canal. The invasive species parrot's feather was also found in the northwest canal. Both areas and species will be scheduled for treatment upon next service date.

Native SAV in Lake Mills continues to expand lake-wide since the previous month. These species play an important role within the lake by providing habitat, reducing nutrients, and competing with hydrilla for space. The native SAV found included: southern naiad to a depth of 7 feet, lemon bacopa to a depth of 5 feet, coontail to a depth of 7 feet, road grass to a depth of 7 feet, eelgrass to a depth of 2 feet, stonewort to a depth of 4 feet, bladderwort to a depth of 4 feet, and baby's tears to a depth of 2 feet.

Photo: Native submersed plant, coontail, expanding in Lake Mills.



Photo: Parrot's feather found within west canal.



Emergent vegetation around Lake Mills continues to be treated by the MSBU funded herbicide contractor. Very few stands of torpedo grass remain in Lake Mills. This is allowing native vegetation (such as maidencane, pickerelweed and duck potato) to continue to expand along many of the shorelines.

Photo: Pickerelweed expanding at a previous restoration site.



Photo: Grass carp barrier at Lake Mills Rd.



The Secchi (water clarity) was 8.8 feet compared to the previous inspections reading of 8.6 feet. The grass carp barriers were observed free from debris and operational. The water elevation at the time of inspection was 40.91 feet above sea level.

8-13-2013

On August 13th, 2013, Seminole County Lake Management Program and Watershed Management staff (Gloria Eby, Thomas Calhoun, and Marianne Pluchino) surveyed the aquatic **Lake Mills** and conducted a Lake Vegetation Index (LVI).

The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool for ecological condition; it determines how closely a lake’s flora resembles that of an undisturbed lake. Lake Amory is 9.81 surface acres and is located in the Lake Monroe watershed. Historical LVI scores range from 30-73 with the most recent score of 66. Six of the seven scores were in the healthy range with only one score in the impaired range.

LVI Range	Description
78-100	Exceptional

38-77	Healthy
0-37	Impaired

The Secchi disk (water clarity) value was 8.6 feet in a depth of 9.8 feet at the time of inspection. The Secchi range for 98 samples taken from 1972 and 2013 has been 1.3 to 9.8 feet. The most recent Trophic State Index (TSI, which assesses water quality) from 5/2/2011 was 44 ('good' quality). The water quality range for 77 samples taken from 1993 to 2012 has been 22 to 56 all within the "good" quality range. All this information is available on the Seminole County Water Atlas. <http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7503>

Hydrilla was found around the Mill's Creek inflow to a depth of 2 feet. No hydrilla was found within the canals.

The native SAV found included: lemon bacopa to a depth of 5 feet, coontail to a depth of 5 feet, road grass to a depth of 5 feet, eelgrass to a depth of 2 feet, stonewort to a depth of 6 feet, bladderwort to a depth of 3 feet, and baby's tears to a depth of 3 feet. Again coontail continues to expand throughout the lake.

Photo: Coontail with an additional catch!



Photo: Native lemon bacopa found in depths up to 4 feet.



Emergent vegetation around Lake Mills continues to be treated by the MSBU funded herbicide contractor. Native vegetation such as maidencane, pickerelweed, and duck potato continues to expand along many of the shorelines. The invasive exotic tree Brazilian Pepper was found along the southern shoreline of the lake. It is recommended that these trees be removed due to its ability to rapidly expand and shade out native plant communities. More information on Brazilian Pepper can be found on-line at: <http://plants.ifas.ufl.edu/node/405>.

Photo: Example of Brazilian Pepper.



The Secchi (water clarity) was 8.6 feet compared to the previous inspections reading of 8.2 feet. The grass carp barriers were observed free from debris and operational. The water elevation at the time of inspection was 41.05 feet above sea level.

Photo: Condition of grass carp barrier at Lake Mills Park.



Photo: Condition of grass carp barrier at Lake Mills Rd.



Recommendations:

- 1 Work together or establish a lake association, with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna and duck potato). Have at least one annual lake association meeting to discuss lake specific issues.
- 2 Take advantage of free educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and presentations on decreasing “pointless personal pollution” by reducing fertilizer use and only using phosphorous-free fertilizers. Contact Seminole County Lake Management Program (407) 665-2439 to inquire about the availability of these programs. You can also visit the Water Atlas (<http://www.seminole.wateratlas.usf.edu/>) to read interesting information about your specific waterway, and our website (http://www.seminolecountyfl.gov/pw/roadstorm/wq_lakemgt.aspx) to watch educational videos and download lake management pamphlets.
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