

## Lake Amory 2009-2010

On **29 October 2009**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 6 feet, previously noted to 5 feet, healthy and the dominant aquatic plant in the lake. However, hydrilla was followed closely by the native coontail. Although the hydrilla has increased, nine native SAV; fanwort, lemon bacopa, coontail, road grass, creeping primrose willow (*Ludwigia repens*), southern water grass, babytears, southern naiad, and stonewort are competing with hydrilla for space. With the additional triploid grass carp (40 added on 21 October 2009), the next several months should show a reduction of hydrilla. Two new aquatic plants were observed on this survey were: watersprite fern (*Ceratopteris thalictroides*) and crystalwort (*Riccia fluitans*). There were few of these species and it is not expected for them to expand.

The county contractor is managing the torpedo grass and cattails, but will be instructed to treat the lilies in the two access corridors near the main portion of the lake (cut-through & wetland area in front of Steve's).

Several grass carp were observed. Grass carp fence was installed on 20 October 2009 in the northern canal that contains 20 grass carp stocked 21 October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. The staff gauge reading was 40.29, continuing down from previous month of 40.62 and September reading of 41.00 feet. Secchi reading (water clarity) was 4.3 in 7.2 feet, down from 4.8 feet last month.. The historic Secchi readings from 2000 to present have been from 1 to 4.6 feet. All this information and much more is available on the Seminole County Water Atlas at: <http://www.seminole.wateratlas.usf.edu>

On **19 November 2009**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 6 feet, same as last month, healthy and the dominant aquatic plant in the lake. However, hydrilla was followed closely by the native coontail. Although the hydrilla has increased, nine native SAV; fanwort, lemon bacopa, coontail, road grass, creeping primrose willow (*Ludwigia repens*), southern water grass, babytears, southern naiad, and stonewort are competing with hydrilla for space. Grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. Small clearings of Hydrilla in open water were observed in the northern canal. This usually indicates grazing carp.

The county contractor is managing the torpedo grass and cattails in the accesses corridors out of the northern channel. As of the inspection the access corridors as well as the golf course and marsh area have been impacted from recent treatment. Also the plantings from the past summers planting events are all looking very good and are starting to look like natural vegetation.

The staff gauge reading was 40.16, continuing down from previous month of 40.29 and September reading of 41.00 feet.

On **17 December 2009**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 5 feet and is the dominant aquatic plant in the lake. Hydrilla was followed by the native coontail which is close to becoming co-dominant. Other native SAV found includes; fanwort, lemon bacopa, coontail, road grass, creeping primrose willow (*Ludwigia repens*), southern water grass, baby tears, southern naiad, and stonewort are competing with hydrilla for space. A grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. The cove area is seeing a continuing decrease in hydrilla through the combination of the grass carp and the plant going into a dormant winter state.

The county contractor is managing the torpedo grass and cattails in the accesses corridors out of the northern channel heading south. As of the inspection the access corridors, golf course and marsh area have been impacted from recent treatment. Seminole County will recommend for the lilies in accesses corridors to be treated upon next treatment. Plants from the past summers planting events are healthy and continuing to expand.

As a reminder, the months of January and February will not be serviced. Monthly services will resume with the regular cycle for Seminole County Lakes; mid to late March. Lake Management Program will continue to monitor Lake Amory on a monthly basis.

Currently a large filamentous algal bloom is occurring (photo attached). This algal bloom is result of excess of nutrients from submersed aquatic plant decomposition. Excessive plant material causes the plant to decompose at/near the surface due to winter die-back and sun exposure. At the surface, algae is taking up these nutrients and rapidly forms. Once completely decomposed with plant material off the surface, the algae should dissipate.

The staff gauge reading was 40.30, up from previous month of 40.16.

On **28 January 2010**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 5 feet and is the dominant aquatic plant in the lake. Hydrilla was followed by the native coontail which was found on the deep side of the Hydrilla to a depth of 7 feet. Other native SAV found includes; fanwort (*Cambomba caroliniana*), lemon bacopa (*Bacopa caroliniana*), coontail (*Ceratophyllum demersum*), road grass (*Eleocharis spp*), creeping primrose willow (*Ludwigia repens*), southern cut grass (*Leersia hexandra*) and southern naiad (*Najas guadalupensis*) are competing with hydrilla for space. A grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the

same day in the rest of Lake Amory. The cove area is seeing a continuing decrease in hydrilla through the combination of the grass carp and the plant going into a dormant winter state.

Also other shoreline plants such as pickerel weed and duck potato are also experiencing a winter die back due to the recent cold weather but are expected to recover and expand with warmer temperatures.

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Currently a large filamentous algal bloom is occurring (photo attached). This algal bloom is result of excess of nutrients from submersed aquatic plant decomposition. Excessive plant material causes the plant to decompose at/near the surface due to winter die-back and sun exposure. At the surface, algae is taking up these nutrients and rapidly forms. Once completely decomposed with plant material off the surface, the algae should dissipate.

The staff gauge reading was 40.32, up from previous month of 40.30.

**On 25 February 2010**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 4 feet and is the dominant aquatic plant in the lake. Hydrilla was followed by the native coontail (*Ceratophyllum demersum*), which was found on the deep side of the Hydrilla to a depth of 7 feet. Other native SAV found includes; fanwort (*Cambomba caroliniana*), lemon bacopa (*Bacopa caroliniana*), road grass (*Eleocharis spp*), creeping primrose willow (*Ludwigia repens*), southern cut grass (*Leersia hexandra*) and southern naiad (*Najas guadalupensis*) are competing with hydrilla for space. A grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. The cove area is seeing a continuing decrease in hydrilla through the combination of the grass carp and the plant going into a dormant winter state. While in other areas the hydrilla is expanding. Also other shoreline plants such as pickerel weed and duck potato are also experiencing a winter die back due to the recent cold weather but are expected to recover and expand with warmer temperatures.

As a reminder, the months of January and February will not be serviced. Monthly services will resume with the regular cycle for Seminole County Lakes; mid to late March. Lake Management Program will continue to monitor Lake Amory on a monthly basis.

Currently a large filamentous algal bloom is occurring. The algal bloom is result of excess of nutrients from submersed aquatic plant decomposition. Excessive plant material causes the plant to decompose at/near the surface due to winter die-back and sun exposure. At the surface, algae is taking up these nutrients and rapidly forms. Once completely decomposed with plant material off the surface, the algae should dissipate.

The staff gauge reading was 40.35, up from previous month of 40.32.

**On 24 March 2010**, Seminole County Lake Management Program staff, Dean G Barber and Thomas Calhoun surveyed the aquatic plants in Lake Amory. Hydrilla was observed to a depth of 4 feet and is the dominant aquatic plant in the lake. Hydrilla was followed by the native coontail (*Ceratophyllum demersum*), which was found on the deep side of the Hydrilla to a depth of 8 feet. Other native SAV found includes; fanwort (*Cambomba caroliniana*), lemon bacopa (*Bacopa caroliniana*), road grass (*Eleocharis spp*), creeping primrose willow (*Ludwigia repens*), southern cut grass (*Leersia hexandra*) and southern naiad (*Najas guadalupensis*) are competing with hydrilla for space. A grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. We witnessed 3 grass carp during our inspection. The cove area is seeing a continuing decrease in hydrilla. While in other areas the hydrilla is expanding.

Currently a large filamentous algal bloom is occurring and expanding around the lake. The algal bloom is result of excess of nutrients from submersed aquatic plant decomposition and runoff from recent rain events. Excessive plant material causes the plant to decompose at/near the surface due to winter die-back and sun exposure. At the surface, algae is taking up these nutrients and rapidly forms. Once completely decomposed with plant material off the surface, the algae should dissipate.

A secchi reading of 5.6 ft out of 9 ft total was recorded during the inspection. The staff gauge reading was 40.76, up from previous month of 40.35.

**On 24 June 2010**, Seminole County Lake Management Program staff Gloria Eby (Seminole County [SC] Senior Environmental Scientist), Marianne Pluchino (SC Senior Environmental Scientist), Dean G Barber (SC Consultant) and Thomas Calhoun (Assistant Scientist) surveyed the aquatic plants and conducted a Lake Vegetation Index (LVI) of Lake Amory. 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 10 surface acres located in the Lake Monroe watershed. The Secchi (water clarity) was 5.5 ft in a depth of 11.8 ft. The range of this reading from 2000-2010, 34 samples, has been 1.0 to 6.6 ft. The Water Quality Index (Trophic State) was 46 (Good) taken 2/23/2010. The water quality range for 108 samples taken from 2000 to 2010 has been 30 (Good) to 86 (Poor). All this information is available on the Seminole County Water Atlas.

<http://www.seminole.wateratlas.usf.edu>.

During the inspection coontail (*Ceratophyllum demersum*) was observed to a depth of 4 feet and is the dominant aquatic plant in the lake. Coontail was followed by the invasive, hydrilla which was also found to a depth of 4 feet. Other native SAV found includes; fanwort (*Cambomba caroliniana*), lemon bacopa (*Bacopa caroliniana*), road grass (*Eleocharis spp*), creeping primrose willow (*Ludwigia repens*), stonewort (*Nitella Spp.*) and southern naiad (*Najas guadalupensis*) are competing with hydrilla for space. A grass carp fence was installed on 20 October 2009 in the northern canal to contain 20 grass carp stocked October 2009. Another 20 fish were stocked the same day in the rest of Lake Amory. The cove area is seeing a continuing decrease in hydrilla and the barrier was removed June 16<sup>th</sup>. Also a treatment of hydrilla took place on June 21<sup>st</sup> in the area adjacent to the bird island.

The staff gauge reading was 40.37, down from previous month of 40.76.

On **22 July 2010**, Seminole County Lake Management Program staff Dean G Barber (SC Consultant) and Thomas Calhoun (Assistant Scientist) surveyed the aquatic plants of Lake Amory. During the inspection coontail (*Ceratophyllum demersum*) was observed to a depth of 8 feet and continues to be the dominant aquatic plant in the lake. Coontail was followed by the invasive, hydrilla which was also found to a depth of 2 feet. Other native SAV found includes; fanwort (*Cambomba caroliniana*), lemon bacopa (*Bacopa caroliniana*), road grass (*Eleocharis spp*), creeping primrose willow (*Ludwigia repens*), stonewort (*Nitella Spp.*) and southern naiad (*Najas guadalupensis*) are competing with hydrilla for space. A treatment of hydrilla took place on June 21<sup>st</sup> in the area adjacent to the bird island. Around the bird island hydrilla and coontail has decreased and nitella is expanding. On the eastern lobe of the lake hydrilla has expanded and is beginning to compete with the coontail in open water. The seechi reading at the time of inspection (water clarity) was 5.2 feet in 12.5 feet of water. The staff gauge reading was 40.30, down from previous month of 40.37.