

Springwood Waterway Municipal Service Benefit Unit (MSBU)
Report for Fiscal Year 2011-2012
October 1, 2011 through September 30, 2012
Waterway Review Meeting Held: July 13, 2012

County Staff: Gloria Eby, Thomas Calhoun, Carol Watral

Community Liaison(s): Brian Pelski, Sarafaith Pekor

Others in Attendance: Larry Hanks –Spring Wood Lake Liaison

Purpose: To review status of waterbody management and to discuss with the liaison group the recommendations and plans for the next fiscal year.

Routine updates of inspections/results are provided to the community liaison members via email. To be included in these updates, please notify Gloria Eby, Lake Management Program (LMP) Manager, at geby@seminolecountyfl.gov.

Annual Meeting Synopsis:

Aquatic weed control herbicide treatments continued on a monthly basis through FY 2011-2012. New chemical products available did not impact bladderwort resulting in the original method of control; by mechanical harvester. Water elevation is preventing use of harvester at this time.

To decrease nutrient loading, LMP discussed the potential of installing leaf baskets at the inlets at an estimated cost of \$1,200 each with ongoing cleaning/maintenance services also required. The liaison was in favor of the baskets; however, current funding levels of the contingency reserve are inadequate to consider installation of a leaf basket.

Stocking of 88 triploid grass carp fish (an additional 2 fish per acre) occurred at the end of the canal and in Spring Wood Lake on December 16, 2011. A request for cost share for the triploid grass carp with current MSBUs efforts was submitted to the associated municipalities (Maitland and Altamonte Springs). Both municipalities reviewed this request and declined to participate in the cost share.

Please note: there are placards affixed to the various storm-drains within Spring Lake Hills subdivision that lead to your waterways. They indicate “drains to lake/river” in efforts to reduce/prevent pollutants, such as leaf litter and grass clippings, from entering the drain, then ultimately into your waterways.

LMP will supply and install “aquatic hitchhiker” signs at the Lake Destiny Trail boat ramp to remind everyone how critical it is to inspect their boat and trailer to remove pieces of vegetation that may be “hitchhiking”. This will help to prevent the spread of invasive and aggressive vegetation such as hydrilla in/out of lake.

Budgeting and assessment rate were discussed. The annual assessment will be decreased from \$265.00 to \$250.00, which allows for the continuance of building reserve funds for future whole-canal hydrilla treatment, mechanical harvester usage, and additional grass carp fish if required.

The July 14, 2012, Springwood Waterway Restoration event, incorporating 22 planting sites and over 80 volunteers, was a huge success.

County Funding:

While the MSBU assessment includes a nominal charge for administering the MSBU, the amount charged does not cover all the expenses incurred by the County on behalf of the waterfront property owners. Springwood Waterway is monitored by LMP to assess the aquatic plant growth. LMP provides continued evaluation of the aquatic plant species, such as hydrilla, and provides community updates on the status of all treatments and waterbody assessments. In addition, LMP offers free aquatic plant material (as available) for sponsored restoration events and local community volunteers coordinated through the county's Seminole Education and Restoration Volunteer (SERV) Program. Many of the services provided by the LMP are made available to support community riparian stewardship without additional charges being assigned to the MSBU budget.

2011-2012 Lake Management Activities:

Important to Note:

Important to Note: *When herbicides are applied along the shoreline to invasive plants (such as torpedo grass), overspray onto adjacent desirable vegetation may occur. In order to avoid damage to desired vegetation, manual (by hand) removal (by property owner) of the undesirable species from among the desirable species is advised. If the invasive plants are removed by this method, spraying the area can be eliminated, thereby offering greater protection to the desirable species. The physical removal of /dead/decaying aquatic plant material will reduce the volume of decomposing vegetation on the lake bottom (muck layer) and will increase the success of the efforts to limit the re-growth of the invasive plants.*

Monthly maintenance treatments were conducted throughout FY 2011-2012. Torpedo grass continues to be treated by the Seminole County contractor via the MSBU. This, coupled with the shoreline restoration events, has resulted in torpedo grass no longer being the dominant shoreline plant for many parcels. A GREAT achievement! Plants from the restoration events continue to do well and show signs of expansion. To encourage the expansion of the planted native vegetation, it is suggested that any torpedo grass be removed from around native plants. The monthly herbicide treatments may not treat this torpedo grass due to impacting the new native plants. Areas that have been treated for torpedo grass are encouraged to re-plant with beneficial native plants by the homeowner.

Stocking of 88 triploid grass carp fish (an additional 2 fish per acre) occurred at the end of the canal and in Spring Wood Lake on December 16, 2011. A request for cost share for the triploid grass carp with current MSBUs and associated municipalities (Maitland and Altamonte Springs) was submitted to the municipalities. Both municipalities reviewed this request and declined to participate in the cost share.

Herbicide treatment for bladderwort was completed February 15, 2012. Results from treatment demonstrated that removal via mechanical harvester remains as the best option for management as the herbicides had little effect.

Restoration projects, such as the July 14 event, help reduce pollution runoff into Springwood Waterway, provide habitat for wildlife, reduce shoreline erosion, and improve the overall water quality of Springwood Waterway.

Please note: there are placards affixed to the various storm-drains within Spring Lake Hills subdivision that lead to your waterways. They indicate "drains to lake/river" in efforts to reduce/prevent pollutants, such as leaf litter and grass clippings, from entering the drain, then ultimately into your waterways.

Lake Management Recommendations:

Lake Management Program recommendations for the upcoming fiscal year (FY1213) are:

- 1) Continued monitoring of hydrilla (re-growth from tuber production),**
- 2) Conduct spot treatments of hydrilla if required,**
- 3) Manage vegetation to keep residential boating access open (mechanical harvesting if necessary),**
- 4) Continued treatment of other invasive aquatic plants – herbicides,**
- 5) Future grass carp stockings as needed,**
- 6) Continue to increase shoreline re-vegetation with beneficial native aquatic plants such as duck potato and pickerelweed; hand removal of torpedo grass from around native plants,**
- 7) Consider increasing street sweeping services during times of peak leaf fall to ensure this debris does not wind up in your waterways. Leaf debris contains phosphorous and nitrogen that can impact your lakes,**
- 8) Establishing a Lake Association and having at least one annual meeting with topics relevant to Springwood waterway and watershed,**
- 9) Implement educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN) presentations, Lake Management Video mail-outs, and reduction of residential 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 Gloria Eby (407) 665-2439 or Marie Lackey (407) 665-2424 for more information and assistance, and**

LMP will continue to closely monitor and gauge hydrilla in Springwood Waterway. Hydrilla will deposit bulb-like seeds (tubers) into the sediment, which can remain viable for up to six years. Tubers are produced in each growing season and are used to perennialize the plant as a means of propagation (re-growth). Since Springwood Waterway was heavily infested with hydrilla, many tubers were deposited in the canal bed during this time. Currently, there is a viable seed bank of tubers in the sediments within the canal. The recommended aquatic plant management plan for Springwood Waterway is to integrate use of chemical (herbicides) with biological (grass carp fish) controls as necessary to effectively manage hydrilla re-growth from tubers.

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Springwood Waterway. The intention of such an event is to plant beneficial native aquatic plants to key areas in need along the bank. Residents should organize planting days creating a beneficial shoreline. It is especially important that as the aquatic invasive plants (such as torpedo grass) are being treated, native aquatic plants should be established within these areas. The presence of the recommended native plant species along the shoreline provides habitat for fish and wildlife, helps impede invasive exotics from re-establishing and reduces erosion of the shoreline. All of these best management practices are essential to providing the conditions that promote an environmentally stable habitat to be enjoyed by generations to come. The key to success is dependent on strong participation of the Springwood Waterway community.

Cost of Aquatic Weed Control

Funding: FY October 2011– September 2012

- 1) \$13,247 Assessment Revenue [per early payment discount] + Interest
- 2) \$ 5,372 Reserve and Contingency (beginning fund balance)
- 3) \$18,619 Total Revenue

Expenditures were as follows:

- 1) \$ 3,180 Contracted Services
- 2) \$ 720 Hydrilla Treatment (December)
- 3) \$ 90 Carp
- 4) \$ 875 County Administrative Fee
- 5) \$13,754 Contingency Reserve (carried forward to next year)
- \$ 18,619 Total Expenditures

Projected: FY October 2012 – September 2013

Budgeted Revenue:

- 1) \$12,480 Assessment Revenue [per early payment discount]
- 2) \$13,754 Reserve and Contingency (beginning fund balance)
- \$26,234 Total Revenue

Budgeted Expenditures:

- 1) \$ 3,180 Contracted Services
- 2) \$ 200 Triploid Grass Carp (~20 fish if required)
- 3) \$ 5,000 Harvester (Equipment and Labor)
- 4) \$ 1,500 Hydrilla Treatment
- 5) \$ 550 Additional Labor
- 6) \$ 875 County Administrative Fee
- 7) \$14,929 Contingency Reserve (carried forward to next year if not required)
- \$26,234 Total Expenditures

Any financial activity from prior years, if applicable, is available upon request.

MSBU Background

At the request of the community of Springwood Waterway, the Springwood Waterway Aquatic Weed Control MSBU was created in July 2009 by Ordinance 09-23.

Aquatic plant management, water quality, and waterbody conditions are reviewed in-depth with the community liaisons at an annual meeting. Working together, the community liaison members representing Springwood Waterway and County staff from both the Lake Management [LM] Program and the MSBU Program select

several essential aquatic weed control activities for consideration during the forthcoming year. At this year's meeting, the following activities were identified and prioritized:

- 1) Continued monitoring of hydrilla (re-growth from tuber production),
- 2) Spot treatments of hydrilla,
- 3) Expand treatment of torpedo grass - herbicides,
- 4) Mechanical control (harvesting) as necessary,
- 5) Future grass carp stockings as necessary,
- 6) Shoreline re-vegetation workshops (canalfront community), and
- 7) Increase educational outreach programs to include Florida Yards and Neighborhoods (FYN), Lake Management video, and reduce pointless personal pollution.

Springwood Waterway Inspections FY 2011-2012

Summary of the July 3, 2012 inspection/report: On July 3, 2012, Seminole County Lake Management Program (SCLMP) staff Thomas Calhoun, Marie Lackey, and FWC regional biologist C.J. Greene surveyed the aquatic plants of Springwood Waterway. The Springwood Waterway Restoration Event was held on Saturday, July 14. Approximately 80 volunteers turned out to plant 4,000 pickerelweed, 2,000 duck potato, 100 canna lily, 200 fire flag (thalia) as well as soft rush, bur-marigold, iris, and bulrush. A fantastic time was had by all and a hot dog lunch was enjoyed afterwards. To help ensure these plants survive, *please* replant any plants that have “popped up” or uprooted. Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 ft, road grass to 2 ft, stonewort to 3 ft and purple bladderwort to 3 ft. Stonewort and bladderwort are found in 2 to 3 ft mats along the bottom at the entrance of the water way. The invasive exotic hydrilla was not observed for the second month in a row. The water elevation is currently too low to bring in the mechanical harvester to remove the SAV at the entrance of the canal.

Summary of the June 12, 2012 inspection/report: On June 12, 2012, Seminole County Lake Management Program (SCLMP) staff Gloria Eby and Thomas Calhoun surveyed the aquatic plants of Spring Wood Waterway. Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, road grass to 2 feet, stonewort to 3 feet, and purple bladderwort to 3 feet. These plants, coupled with the low water elevation, have the entrance to the canal almost impassable. The water elevation, at time of inspection, remains too low for the mechanical harvester to operate and remove the SAV at the entrance of the canal. The invasive exotic hydrilla was not observed in the canal during this inspection.

Summary of the May 3, 2012 inspection/report: On May 3rd, 2012, Seminole County Lake Management Program (SCLMP) staff Thomas Calhoun, Devin Whitney, and Stan McCreary surveyed the aquatic plants of Spring Wood Waterway. Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, road grass to 2 feet, stonewort to 3 feet, purple bladderwort to 4 feet, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 foot mats along the bottom at the entrance of the waterway. These plants, coupled with very low water levels, have the entrance to the canal almost impassable. Water elevation will need to return to normal conditions in order for the mechanical harvester to operate in to reduce these plants. We will continue to monitor this segment for mechanical harvesting. The invasive exotic hydrilla was not observed during this inspection. A treatment took place for the bladderwort on February 15, 2012, at the mouth extending into the waterway for several hundred yards. At the time of inspection in March, bladderwort was showing signs of impact, however, upon this inspection, it has fully recovered from the series of treatments conducted. This indicates mechanical removal is still the best option for bladderwort control in this area.

Summary of the April 3, 2012 inspection/report: On April 3rd, 2012, Seminole County Lake Management Program (SCLMP) staff Gloria Eby, Thomas Calhoun, Marianne Pluchino, Devin Whitney and FWC Regional Biologist CJ Greene surveyed the aquatic plants of Spring Wood Waterway. Native SAV observed included: lemon bacopa to a depth of 2 ft, road grass to 2 ft, stonewort to 3 ft, purple bladderwort to 4 ft, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 to 3 ft mats along the bottom at the entrance of the waterway. The invasive exotic hydrilla was not observed during this inspection. In addition, the boat ramp for Lake Destiny at the end of Lake Destiny Trail contains hydrilla that encompasses the entire dock area which will be treated. A treatment took place for the bladderwort on February 15th, 2012, at the mouth of the waterway and extending into the waterway for several hundred yards. At the time of inspection, bladderwort was showing some signs of impact from this treatment but overall not considered to be an effective control method for this plant. The lilies that were impacted from this treatment are beginning to rebound. An additional treatment is scheduled for end April using a different herbicide to test the effects/performance it may

have on bladderwort. This treatment is not funded via the MSBU assessments. The Lake Management Program is testing this product on bladderwort control therefore funding the treatment.

Summary of the March 6, 2012 inspection/report: On March 6th, 2012, Seminole County Lake Management Program (SCLMP) staff Gloria Eby, Thomas Calhoun, with student intern Devin Whitney and FWC Regional Biologist CJ Greene, surveyed the aquatic plants of Springwood Waterway. Many sites that were planted during the July 9th restoration event are doing great and plants are expanding however some sites have lost plants. Please take extra care when doing lawn maintenance in these areas. If you have a lawn maintenance company, please flag the vegetation or tell your contractor to proceed with caution in these areas. Native SAV observed included: lemon bacopa to a depth of 2 ft, road grass to 2 ft, stonewort to 5 ft, purple bladderwort to 5 ft, and eelgrass in shallow water. Stonewort and bladderwort were found in 2 to 3 ft mats along the bottom at the entrance of the waterway. A treatment took place for the bladderwort on February 15th, 2012 at the mouth of the waterway and extended into the waterway for several hundred yards. During our inspection, bladderwort showed minor signs of impact however a greater impact to the lily pads was observed. Full effects and performance of the herbicide used will be determined upon next inspection. This treatment is not funded via the MSBU assessments. The Lake Management Program is testing this product on bladderwort control therefore funding the treatment.

Summary of the February 7, 2012 inspection/report: On February 7, 2012, Seminole County Lake Management Program (SCLMP) staff Gloria Eby, Thomas Calhoun, Dean Barber, and FWC Regional Biologist CJ Greene surveyed the aquatic plants of Springwood Waterway. Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, road grass to 2 feet, stonewort to 5 feet, purple bladderwort to 5 feet, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 to 3 foot mats along the bottom at the entrance of the waterway. The invasive exotic hydrilla that was observed during prior inspections (occupying 40% coverage) was successfully treated on December 8, 2011. New hydrilla was observed during this inspection at the entrance to the waterway and at the boat ramp for Lake Destiny at the end of Lake Destiny Trail that encompasses the entire dock area. These areas are scheduled to be spot treated next service date. Mechanical harvesting for the stonewort and bladderwort is scheduled for this fiscal year and includes the entrance of the waterway to the first bend (approximately 800 ft). As in prior updates, those that have an irrigation pipe/intake are advised to create a detachable pipe so that when the harvester is in the area, more of the biomass will be harvested. As is, due to the confined space and potential damage it may cause, the intakes are avoided leaving plant material behind. Additionally, on February 8th, we looked into a new herbicide for control of bladderwort (only) and we have determined test plots for treatment and will observe performance of the product on bladderwort within these test plots for future consideration

Summary of the December 8, 2011 inspection/report: On December 8th, 2011, Gloria Eby (Seminole County Lake Management Program), CJ Greene (FWC), and Keith Mangus (Applied Aquatic Management) surveyed the aquatic plants in Springwood Waterway. Native plants from past restoration events are expanding throughout the waterway in some areas. In other areas, the plants are completely gone and appear to have been mowed (see photo below). Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, stonewort (Nitella) to 4 feet, purple bladderwort to 5 feet, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 to 3 feet mats along the bottom at the entrance of the waterway. We anticipate the harvester will be utilized to reduce this biomass this year. As in prior update, those that have an irrigation pipe/intake are advised to create a detachable pipe so that when the harvester is in the area, more of the biomass will be harvested. As is due to the confined space and potential damage it may cause, the intakes are avoided leaving plant material behind. On February 8th, we plan to look into a new herbicide for control of bladderwort (only). We will be determining test plots and will observe performance of the product on bladderwort. The invasive exotic hydrilla that was observed during the last inspection has expanded into a

single biomass occupying 40% of the canal despite several large spot-treatment conducted. With this great expansion in hydrilla, treatment within the canal was conducted December 8, 2011.

Summary of the November 8, 2011 inspection/report: On November 8th, 2011, Thomas Calhoun (Seminole County Contracted Scientist) and Gloria Eby (Seminole County Lake Management Program) surveyed the aquatic plants in Springwood Waterway. Native plants from the past restoration events are expanding throughout the waterway in some areas. In other areas, the plants are completely gone and appear to have been mowed (see photo below). Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, stonewort (Nitella) to 4 feet, purple bladderwort to 5 feet, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 to 3 feet mats along the bottom at the entrance of the waterway. Currently there is not enough plant material to warrant removing via mechanical harvester although a budgeted item for this fiscal year. The invasive exotic hydrilla that was observed during the last inspection has expanded along the shore in larger areas of the canal. Several areas have been spot-treated with Aquathol however there are new larger areas of hydrilla that was not present during last month's inspection. With this great expansion in hydrilla, treatment within the canal is under evaluation for larger herbicide block treatments. Mid-canal and at end-canal, carp barriers were inspected and found to contain leaf debris impeding flow. It is recommended to clear barriers from such debris on a frequent basis especially after large rain events.

Summary of the October 4, 2011 inspection/report: On October 4th, 2011, Thomas Calhoun (Seminole County Contracted Scientist) and Gloria Eby (Seminole County Lake Management Program) surveyed the aquatic plants in Spring Wood Waterway. Native plants from the past restoration events are expanding throughout the waterway in some areas. In other areas the plants are completely gone and appear to have been mowed. These plants included: duck potato, pickerelweed, canna, and fire flag. Native submersed aquatic vegetation (SAV) observed included: lemon bacopa to a depth of 2 feet, stonewort (Nitella) to 4 feet, purple bladderwort to 5 feet, and eelgrass in shallow water. Stonewort and bladderwort are found in 2 to 3 feet mats along the bottom at the entrance of the waterway. Currently there is not enough plant material to warrant removing via mechanical harvester. The invasive exotic hydrilla that was observed during the last inspection has expanded along the shore in larger areas of the canal. Several areas will be spot-treated with Aquathol upon next service date.