

On **24 September 2009**, Dean G Barber (Seminole County [SC] Consultant), and Thomas Calhoun (SC Assistant Scientist) surveyed the aquatic plants in Lake Mobile. As indicated on the previous survey, 15 July 2009, the same 3 native submersed aquatic vegetation (SAV) were observed: muskgrass (*Chara spp.*), stonewort (*Nitella spp.*), and eelgrass (*Vallisneria americana*), muskgrass to a depth of 8.5 feet, stonewort to 10 feet and eelgrass to 7 feet. These depths are less than previous depths, but these plants represent a significant amount of the lake aquatic vegetation. Three invasive plants, 1 exotic torpedo grass (*Panicum repens*) and 2 natives' primrose willow (*Ludwigia peruviana*) and cattails (*Typha spp.*) are the dominant emergent aquatic plants on the western shore, the residential side of the lake. The 2 May 2009 Rosenwald School plantings are well established with few invasive plants. Those invasive species could be easily be removed with a few man-hours. All the planted species have survived with the exception of bulrush (*Scirpus validus*). Secchi reading (water clarity) was 7.8 feet in a depth of 17 feet. The historic Secchi readings, from February 1982 to present, including 20 samples, have been 1 to 13.2 feet. All this information and much more is available on the Seminole County Water Atlas at: <http://www.seminole.wateratlas.usf.edu>

On **15 July 2009**, Gloria Eby (Seminole County [SC] Senior Environmental Scientist), Marianne Pluchino (SC Senior Environmental Scientist), Dean G Barber (SC Consultant), Thomas Calhoun (SC Assistant Scientist), and Joe Faella (DMC Aquatic Biologist) surveyed the aquatic plants in Lake Mobile while conducting a Lake Vegetation Index (LVI). A LVI is used to assess a waterbody's health by documenting the aquatic and wetland plants in 4 of 12 randomly chosen lake sectors. During this assessment two boats were used with 2 sectors surveyed by each vessel. All 4 sectors are represented in this report. Thirty-eight species of aquatic and wetland plants were observed in the four sectors, 32 were native and 6 were exotic plant species. Exotic plants included: alligator weed (*Alternanthera philoxeroides*), para grass (*Brachiaria mutica*), camphor tree (*Cinnamomum camphor*), air potato (*Dioscorea bulbifera*), torpedo grass (*Panicum repens*) and Brazilian pepper tree (*Schinus terebinthifolius*). Alligator weed is controlled by the alligator weed beetle and is not an exotic of concern as the beetle manages the plant by itself. However, the others will continue to expand and if unchecked, will cover more of the waterbody and will reduce native plant diversity. Torpedo grass was observed in two of the four surveyed sectors. It was not present adjacent to the eastern shore as that site is dominated by the native grass, maidencane (*Panicum hemitomon*), while this species was the dominant aquatic/wetland plant in one sector. Two invasive native plants, water primrose (*Ludwigia peruviana*) and cattails (*Typha spp.*) were observed in 3 of the 4 sectors. Cattails were dominant in 1 sector. There were only 3 native submersed aquatic vegetation (SAV) including: muskgrass (*Chara spp.*), stonewort (*Nitella spp.*) and eelgrass (*Vallisneria americana*). Muskgrass was observed to a depth of 13 feet and stonewort to 10 feet.

The Secchi (water clarity) was 7.6 feet in a depth of 18 feet and 9 feet in 15.5 feet. The previous reading, on 28 April was 13.2 feet. The historic Secchi readings, from February 1982 to present, including 20 samples, has been 1 to 13.2 feet. All this information and much more is available on the Seminole County Water Atlas at: <http://www.seminole.wateratlas.usf.edu>

On **December 17, 2008**, Gloria Eby (Seminole County[SC] Lake Manager) & Dean G Barber (SC Consultant) surveyed Myrtle Lake from the shore. The BioSphere plantings on the

four wildlife island are doing very well. Over 90 percent of the re-vegetated species, mostly aquatic and wetland plants, are expanding. Jody, SC's herbicide contractor, Applied Aquatic was present. We reviewed aquatic plant spraying of the lake's vegetation with him, especially the BioSphere planted islands, which need particular attention of invasive plant species establishing within the vegetated areas, especially primrose willow (*Ludwigia octovalvis/peruviana*) and torpedo grass (*Panicum repens*).

One native submersed aquatic plant, hair grass (*eleocharis baldwinii*) has established independently and seems to be doing well throughout this area, especially adjacent to the lake's shoreline. Hopefully this and other native submersed aquatic vegetation (SAV) will establish naturally. We have been reviewing possible introduction of other native SAV, possibly eelgrass (*Vallisneria americana*), and/or pondweed (*Potamogeton illinoensis*). During the previous November survey, the invasive exotic submersed aquatic plant, hydrilla (*Hydrilla verticillata*) was observed in two locations of greater Myrtle Lake. One site only 100 yards from the managed lobe of the lake. Established native SAV would help restrict the expansion of hydrilla into new locations. Additionally, the present population of hydrilla in the lake needs to be addressed from a management point. Native SAV previously observed in greater Myrtle Lake include: bladderwort (*Utricularia inflata*), and southern naiad (*Najas quadalupensis*).

Some organic sediment is floating to the surface. The amount that is coming up from the bottom is low, especially because the cookie cutter work was done in the fall and with the water temperature dropping in the winter months, less organic substrate has filled with gas and come to the surface. If the work had been done in the spring/summer, there would have been more sediment coming up from the bottom. This will continue to be monitored for review in later months.