

Cub Lake Survey 2009-2010

On **8 December 2009**, Seminole County Lake Management Program staff Gloria Eby & Dean G Barber, surveyed the aquatic plants in **Cub Lake**. Nine native submersed aquatic vegetation (SAV) were observed: coontail (*Ceratophyllum demersum*), muskgrass (*Chara* spp.), eelgrass (*Vallisneria americana*), 2 bladderworts (*Utricularia radiata* and *U. gibba*), water hyssop (*Bacopa caroliniana*), southern naiad (*Najas guadalupensis*), road grass (*Eleocharis baldwinii*) and stonewort (*Nitella* spp.). Stonewort continues to be the dominant SAV observed to a depth of 7 ft., closely followed by the native eelgrass, also seen to 7 ft. The invasive emergent aquatic plants included torpedo grass (*Panicum repens*), wild taro, also called elephant ear (*Colocasia esculenta*) and papyrus grass (*Cyperus papyrus*) all were present throughout the lake. Two invasive trees; Chinese tallow (*Sapium sebiferum*) and Brazilian pepper (*Schinus terebinthifolius*) were observed. The secchi reading (water clarity) was 11.5 ft in 12.7 ft. an improvement from 23 September 2009 reading of 8.6 ft.

On **21 January 2010**, Seminole County Lake Management Program staff Gloria Eby, Thomas Calhoun & Dean G Barber, surveyed the aquatic plants in **Cub Lake**. Native submersed aquatic vegetation (SAV) observed was: water hyssop, coontail, muskgrass, roadgrass, southern naiad, stonewort, bladderwort, and eelgrass. Stonewort continues to be the dominant SAV observed to a depth of 9 ft., closely followed by the native eelgrass, also observed to 9 ft. Additionally, muskgrass and bladderwort (*Utricularia radiata*) were observed to 9 ft. It is estimated, including both emergent and SAV, that the lake has over 50% coverage with aquatic plants or 7 acres.

The most abundant exotic emergent aquatic plant is torpedo grass, which is present on most resident's waterfront. This invasive will continue to spread, out competing native emergent aquatic plants, like the native grass, maidencane. Other invasive plants/trees observed included: wild taro, also called elephant ear, papyrus grass (*Cyperus papyrus*), Chinese tallow and Brazilian pepper. The secchi reading (water clarity) was 14.5 ft. in a depth of 15 ft., a significant improvement from the previous reading of 11.5 ft. Water elevation was 100.7 ft.

On **1 May 2010**, Seminole County Lake Management Program staff, Thomas Calhoun and Dean G Barber, surveyed the aquatic plants in **Cub Lake**. Although bladderwort (*Utricularia radiata*) and some (*U. inflata*) were both flowering, thereby, appearing quite abundant (to a depth of 8 feet), however, the most abundant submersed aquatic vegetation (SAV) continues to be eelgrass, which was observed to a depth of 11 feet. This native was present both as a mono-culture in deeper water and mixed with other aquatic plants in the shallower water. Other SAV noted included musk grass, southern naiad and stonewort, all native aquatic vegetation. With the spring expansion of these native SAV and the emergent aquatic plant populations, little filamentous algae was observed.

The most abundant exotic emergent aquatic plant continues to be torpedo grass, followed by the invasive native, cattails. Both are expanding with the warmer spring weather. The secchi reading (water clarity) was 9.6 feet in a depth of 14.7 feet, reduced from the 23 February 2010 reading of 14.9 feet.

On **June 24, 2010**, 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 **Cub Lake**. 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. Cub Lake is 14 surface acres with a mean depth of 7 feet, maximum depth of 17 feet, located in the Little Wekiva watershed. The Secchi (water clarity) was 12.5 ft in a depth of 15 ft. The range of this reading from 1982-2010, 82 samples, has been 3.0 to 15.5 ft. The Water Quality Index (Trophic State) was 16 (Good) taken 4/22/2010. The water quality range for 91 samples taken from 1999 to 2010 has been 16 (Good) to 51 (Good). All this information is available on the Seminole County Water Atlas. <http://www.seminole.wateratlas.usf.edu>.

Native submersed aquatic vegetation (SAV) observed during inspection was: muskgrass (*Chara spp*), roadgrass (*Eleocharis spp*), southern naiad (*Najas guadalupensis*), stonewort (*Nitella spp*), bladderwort (*Utricularia radiata*), and eelgrass (*Vallisneria americana*). Eelgrass was found to be the dominant SAV observed to a depth of 8 ft., closely followed by the native nitella, also observed to 8 ft. The Fragrant water (*Nymphaea odorata*) lily and the yellow cow lily (*Nuphar lutea*) are expanding out to a depth of 10 ft.

The most abundant exotic emergent aquatic plant is torpedo grass (*Panicum repens*), which is present on most resident's waterfront. This invasive will continue to spread, out competing native emergent aquatic plants, like the native grass, maidencane (*Panicum hemitomon*). Other invasive plants/trees observed included: wild taro (*Colcasia esculenta*), also called elephant ear, Dwarf papyrus (*Cyperus prolifer*), Chinese tallow (*Sapium sebiferum*) and Brazilian pepper (*Schinus terebinthifolius*). Water elevation at time of inspection was 100.08 ft down from the previous inspection reading of 100.56.

On **15 July 2010**, Seminole County Lake Management Program (SCLMP) staff Dean G Barber and Thomas Calhoun surveyed the aquatic plants in **Cub Lake**. Native submersed aquatic vegetation (SAV) observed included: musk grass to a depth of 6 feet, southern naiad to 7 feet, stonewort to 7 feet, 2 bladderworts (*Utricularia radiata* and *U. gibba*) and eelgrass to 10 feet. Stonewort was the dominant SAV, followed closely by eelgrass. Eelgrass had filamentous algae attached, but not as significant as observed in Bear Lake. The bladderwort (*U. radiata*) is off the surface, therefore, the small yellow flowers are almost gone; a seasonal condition of the plant. The Secchi (water clarity) was 12.2 feet in a depth of 14 feet compared 12.5 ft last month.