Greetings Mirror Lake!

Below please find the latest lake assessments for your lake. Our next lake inspection is scheduled for October 18th (weather permitting). Key highlights of this update will include:

- **Next Restoration Event Saturday October 22nd** meeting at Barrington Apt at 9am
- Hydrilla/ status- Hydrilla continues to expand in shallow water throughout portions of the lake
- Small scale hydrilla treatment- south lobe
- Continued encouragement of planting native aquatic plants along your shoreline (photo examples of suggested plants attached)
- Grass carp fish- 50 fish to be stocked in lake
- Water fluctuations within a lake
- Recommendations for you and your lake

Please be sure to join us for the next restoration event on Saturday, October 22nd meeting at Barrington Apt at 9am. If you are interested in becoming a site location please contact me as soon as possible for sign-up.

On **28 June 2011,** Seminole County Lake Management Program (SCLMP) personnel Thomas Calhoun and Dean G Barber surveyed the aquatic plants of **Mirror Lake.**

Ten submersed aquatic vegetation (SAV) were observed, 9 native and one exotic: lemon bacopa to a depth of 3 feet, coontail to 4 feet, musk grass to 5 feet, road grass to 5 feet, filamentous algae to 6 feet, the invasive exotic hydrilla to 4 feet, southern naiad to 6 feet, stonewort to 3 feet, bladderwort (*Utricularia inflata*) to 4 feet and eelgrass to 3 feet. Populations of both musk grass and southern naiad were thick and healthy, effectively covering the bottom from 2-6 feet. Musk grass continues to be the most dominant SAV, most prevalent in the area separating the north and south pool.

Photo: Native emergent plants with SAV topping out in nearshore areas.

Hydrilla was significantly stressed, dominantly in the treated plots along the west shoreline. Most of the plant observed showed significant signs of herbicide impact, such that it will drop out soon. The treatment reduction of hydrilla will hopefully allow the native SAV to expand into the treatment sites. Eelgrass population continues to expand being observed at new sites in shallow water (3 feet or less). The plants are small, less than 1/3 of its potential size.

Photo: Impacted hydrilla

Overall the emergent native aquatic plants are doing well throughout the lake. However, torpedo grass continues to be a problem, especially in the cove in the NE corner of the lake. Torpedo grass, continues to be the dominant emergent aquatic plant, although, it has been treated throughout the lake. In the NE pool, because these torpedo grass plants have little leave surface above the water to absorb the aquatic herbicide, it is difficult to get enough product on the plant for effective control. Most of the residential sites that were planted during the Seminole Education, Restoration & Volunteer (SERV) event have the planted natives, mostly pickerelweed, duck potato and canna expanding into thick stands. Sites like this make it difficult for invasive aquatic plants, especially torpedo grass to return. This is our objective. Some other sites need maintenance as the torpedo grass is trying to establish dominance and take over the site.

Photo: Low water level with expanding native emergent vegetation.

On **23 August 2011,** Seminole County Lake Management Program (SCLMP) personnel Gloria Eby and Thomas Calhoun surveyed the aquatic plants of **Mirror Lake.**

Eleven submersed aquatic vegetation (SAV) were observed, 10 native and 1 exotic: lemon bacopa to a depth of 3 feet, musk grass to 3 feet, road grass to 3 feet, filamentous algae to 6 feet, the invasive exotic hydrilla to 7 feet, southern naiad to 7 feet, stonewort to 4 feet, bladderwort (*Utricularia inflata & foliosa*) to 7 feet, eelgrass to 4 feet and recently observed is pondweed (*Potamogeton illinoensis*) to 4 feet.

Populations of both musk grass and southern naiad were thick and healthy, effectively covering the bottom from 2-7 feet. Musk grass continues to be the most dominant SAV, most prevalent in the area separating the north and south pool with hydrilla increasing within the perimeter of the south lobe.

Photo: Pondweed, a beneficial native aquatic plant, found in Mirror Lake.

Based upon the recent hydrilla observations, 50 grass carp fish will be introduced into Mirror Lake. In addition, a portion within the south lobe will be treated for hydrilla found within the shallows. This area is located at the HOA access lot on Mirror Lake Drive heading west to the inflow canal.

The lake elevation during this inspection was 57.41 ft., up from last month's reading. Three triploid grass carp were seen during this inspection. Secchi disk reading (measurement for water clarity) was 5.3 feet in a depth of 16 feet.

Water fluctuations play an important role in the ecosystem. The rice and fall of the water can change the plant communities from non-native to native and vice versa. Exposing the lake bed to sunlight allows for the buildup of sediment/organics to bake, consolidate and improve the water quality of a lake. Often during drawdown, seeds from plants grow (germinate) mainly wetland type plants. This is a natural defense to impede non-natives from establishing; then becoming the dominant emergent plant. It is important during this time to personally maintain your waterfront.

Hope to see you soon at the lake restoration event.

Lake Recommendations:

1 Work together or establish a lake association with other lakefront owners. Have at least one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues, especially lake management recommendations. Seminole County Lake Management staff would be glad to present our findings from this and other surveys to the community. Contact Gloria Eby at (407) 665-2439.

2 Increase native aquatic plantings along shoreline (such as pickerelweed, duck potato, and canna). Native shoreline plants help absorb nutrients from rain-fall/run-off improving habitat and water quality and reduce shoreline erosion which imports sediments/organics into the lake. Over time, this

process will fill the lake creating a wetland type of environment. Planting natives now can assist in slowing this process down (which is formally known as eutrophication).

3 Increase educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of pointless personal pollution Contact Seminole County Lake Management Program, Gloria Eby, (407) 665-2439 for assistance.

4 Help spread the word; obtain email addresses from neighbors not currently on the distribution list. Valuable information is contained within these assessments.