

Greetings All!

Please find the latest assessment for the lakes below.

**Harney:**

On **June 8<sup>th</sup>, 2011**, Seminole County Lake Management Program (SCLMP) personnel Gloria Eby, Marianne Pluchino, Dean G Barber, Kelli Gladding (FWC), David Scharr and Kalina Warren (DEP) surveyed the aquatic plants of **Lake Harney** and conducted an LVI. The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool (bioassessment) for ecological condition; it determines how closely a lake's flora (aquatic plants) resembles that of an undisturbed lake. Lake Harney is 7,935 surface acres in size with a mean depth of 7.3 feet and is located in the St. Johns River watershed. Historical LVI scores for Lake Harney range from 37 to 77 with 77 being the most recent score that is within in the healthy category range.

LVI Range	Description
78-100	Exceptional
38-77	Healthy
0-37	Impaired

Six submersed aquatic vegetation (SAV) species were observed during this inspection that consisted of: coontail in shallow water less than 1 foot, chara to a depth of 1.5 feet, road grass in shallow water, filamentous algae to 1.5 feet, sago pondweed (*Potamogeton pectinatus*) to 3 feet, and eelgrass to 3 feet. Hydrilla was reported only in the boat ramp canal in Gopher Sough (0.1 acres), and was not observed elsewhere in Lake Harney. As previously reported, eelgrass was the dominant SAV. The eelgrass observed in and around 1 foot depth was mostly covered with periphytic algae; especially along areas of poor circulation. Again as previous noted on, February 15<sup>th</sup>, 2011, most eelgrass was observed along the western shore with populations on the southern, northern, and eastern shore still significantly less. Filamentous algae, the next most abundant SAV, were present on the bottom interspersed with other SAV. A cyanobloom (0.3 acres) was present along the southern shore near the entrance of the lake.

Emergent aquatic plants populations are still minimal, most likely reduced by low water levels. Although still decreased, three square (*Schoeneoplectus americanus/pungens*) continues to be the dominant emergent plant, followed by knot grass, spatterdock, and cord grass. The knot grass, usually more abundant offshore of the western side of the lake, is still reduced from previous survey populations. No yellow water lily (*Nymphaea mexicana*), which is usually abundant in the lake, was observed. No water hyacinth or water lettuce were observed. Several clusters of exotic island apple snails were observed on aquatic vegetation in the NW side of the lake; this was significantly reduced from some previous survey observations.

On **November 3<sup>rd</sup>, 2011**, SCLMP personnel Gloria Eby, Thomas Calhoun, and student intern Devin Whitney surveyed the aquatic plants in **Lake Harney**.

SAV included: eelgrass to 10 feet, coontail to 7 feet, southern naiad to 8 feet, eleocharis to 4 feet, bladderwort to 6 feet, and hydrilla to 6 feet. Eelgrass was the dominant SAV and was observed around the entire perimeter of the lake. Along the south side of the lake eelgrass blades were found in excess amounts washed up along the shoreline. Hydrilla was found sparse and intermixed within the eelgrass.

Photo: SAV collected inshore.



Photo: Eelgrass and leaf blades washed ashore observed during inspection.



Emergent aquatic plants that were found include: soft stem bulrush (*Schoeneoplectus validus*), knot grass (*Paspalidium geminatum*), pickerelweed (*Pontaderia spp*) and bulrush (*Schoeneoplectus californicus*). Invasive emergent plants found include: torpedo grass (*Panicum repens*), cattails (*Typha*) and common reed (*Phragmites australis*). Other invasive exotics included Brazilian pepper (*Schinus terebinthifolius*), water hyacinth (*Eichornia crassipes*), and water lettuce (*Pistia stratiotes*).

Several clusters of exotic island apple snails were observed on aquatic vegetation in the NW side of the lake and had wasps predating on the eggs. This occurrence was reported to Jennifer Bernatis with FWC, biologist coordinating island apple snail research projects.

Photo: Invasive island apple snail eggs with wasps predating on eggs.



Photo: Soft stem bulrush with invasive island apple snail eggs attached.



Secchi reading was 2.3 feet in 8 feet of water. Water elevation at the time of inspection was 7.48 feet at the USGS monitoring station; significantly higher than previous survey and as result of the October sub-tropical rain event affecting central Florida and the St. Johns River.

### **Jesup:**

On **June 7<sup>th</sup>, 2011**, SCLMP personnel Gloria Eby, Marianne Pluchino, Dean G Barber, Kelli Gladding (FWC), David Scharr and Kalina Warren (DEP) surveyed the aquatic plants of **Lake Jesup** and conducted an LVI. The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool (bioassessment) for ecological condition; it determines how closely a lake's flora (aquatic plants) resembles that of an undisturbed lake. Lake Jesup is 8,037 surface acres in size and is located in the St. Johns River watershed. Historical LVI scores range from 34 to 48 with 48 being the most current and within the healthy category.

<b>LVI Range</b>	<b>Description</b>
78-100	Exceptional
38-77	Healthy
0-37	Impaired

SAV observed during this survey consisted of: road grass in shallow water, hydrilla with less than 0.1 acres at the Sanford Avenue public boat ramp, southern naiad at Overlook Park, and eelgrass within a FWC enclosure and to a depth of 2 feet in isolated locations within the lake.

Coontail, which in the previous survey was the dominant SAV, was not observed. The dominant SAV was eelgrass showing up at new locations mostly along the northern shore both south and north of the 417 bridge. Eelgrass sites were numerous and hopefully will expand, but are not as frequent as the coontail was in previous survey.

Only 0.1 acres of water hyacinth were observed. However, there was over 20 acres of water lettuce which was present in small populations (less than 0.1 acres) throughout the lake and within the area adjacent to Soldiers Creek. Re-vegetated aquatic plants within Site 1, both in the water and adjacent to the bank, are doing extremely well. Throughout the site, the bulrush has done remarkably well expanding in all directions such that the population looks natural. Most species that are in the water, mainly pickerelweed and bulrush, are 3 to 4 times their planted size. The trees, rush, and cord grass are healthy and still not impacted by invasive species, like phragmites and paragrass. Thalia has continued to expand, especially in Site 1 west of the 417 Bridge. This area was previously under herbicide management by SCLMP however funds are no longer available for continued treatments within the area. SCLMP is actively seeking grants that can be applicable to Lake Jesup.

Photos: Site 1 plantings expanding and doing well.



Overlook Park emergent plants, especially pickerelweed and duck potato have been reduced to a few small populations. The cordgrass and wetland trees are doing well. The only torpedo grass seen in the lake continues to be present at the South Sanford Avenue boat ramp.

**On November 3<sup>rd</sup>, 2011**, Seminole County Lake Management Program (SCLMP) personnel Gloria Eby, Thomas Calhoun, and student intern Devon Whitney surveyed the aquatic plants in **Lake Jesup**.

SAV found during the inspection included: coontail, hydrilla, and eelgrass. Less than 1 acre of both hyacinth and lettuce were present in the lake. Hydrilla was found at the Sanford avenue boat ramp canal as well as parrot feather, water hyacinth, and water lettuce. Within Site 1,

phragmites has significantly increased in biomass and is migrating into the replanting zone. This area is in great risk of becoming engulfed by the encroaching phragmites.

Photo: Phragmites encroaching replanted vegetation.



The August 30<sup>th</sup>, 2011 planted eelgrass by FWC and assisted by Seminole County was not visually observed within the FWC enclosures due to high water. Since the eelgrass installed was rooted to coco-matting, the frotus was not used to rake and evaluate presence.

Photo: FWC eelgrass enclosures and planting of rooted eelgrass in coconut fiber mats.



Along the western shoreline, approximately 10 acres, dominantly water lettuce with some water hyacinth, were present in and around the Soldiers Creek entrance reducing access into Soldiers Creek. Once fragmented vegetation, this area has shifted to exist as one large mass of vegetation.

Photo: Water lettuce and hyacinth around Soldiers Creek.



FWC-AHRES and Seminole County Cooperative Restoration Project continues to thrive with natives planted at Overlook Park and is doing well with the spartina planted with some loss to the pickerelweed and duck potato. Additional spartina was planted with in the restoration site by SCLMP.

Photo: Overlook park plantings. Photo on left shows newly planted spartina.



Secchi reading was 2.6 feet in 4.2 feet of water. Water elevation at the time of inspection was 4.85 feet at the USGS monitoring station.

**Monroe:**

On **November 7<sup>th</sup>, 2011**, Seminole County Lake Management Program (SCLMP) personnel Thomas Calhoun and Marie Lackey surveyed the aquatic plants in **Lake Monroe**.

Native submerged aquatic vegetation (SAV) observed included: coontail (*Ceratophyllum demersum*), southern naiad (*Najas guadalupensis*), road grass (*Eleocharis spp*), eelgrass (*Valisneria americana*) to a depth of 6 feet, and bladderwort (*Utricularia foliosa*). One exotic SAV, hydrilla (*Hydrilla verticillata*) was found to a depth of 8 feet. Hydrilla was found in at deeper depths than the previous inspection due to higher water conditions. Eelgrass is the dominant SAV throughout the lake but hydrilla has expanded to almost the same abundance. Both plants are topping out in depths less than 5 feet around the perimeter of most of the lake.

Photo: Hydrilla topped out along eastern shore.



Water hyacinth and water lettuce were found around in small populations around the lake with majority existing on the east side of the lake near the river.

Photo: Topped out hydrilla and water hyacinth.



Secchi reading was 1.6 feet in 10 feet of water. Water elevation at the time of inspection was 4.2 feet at the USGS monitoring station.

Have a great week!