

On August 5, 2009, Gloria Eby (Seminole County [SC] Lake Management), Dean G Barber (SC Consultant), and Thomas Calhoun (SC Assistant Scientist) surveyed the aquatic plants in Prairie and Pearl Lakes. Hydrilla (*Hydrilla verticillata*) plant was observed throughout the entirety of both lakes. Native submersed aquatic vegetation (SAV) observed: coontail (*Ceratophyllum demersum*), bladderwort (*Utricularia inflata*), two bacopa's (*Bacopa caroliniana* & *monnieri*), southern naiad (*Najas guadalupensis*), red ludwigia (*Ludwigia repens*), stonewort (*Nitella spp*) and eelgrass (*vallisneria Americana*). Prairie Lake showed a good mix of native SAV, Nitella being the dominant species with a little Hydrilla up to 13 feet. On the deep side of 13 feet Hydrilla began to take over dominance and was found to 16 feet. On Pearl Lake Hydrilla was found to be the most dominant species from the shoreline out to the center of the lake (found in an earlier inspection). The Secchi (water clarity) was 9 feet in 21 feet water depth. Most of the June 20, 2009 recently planted resident waterfronts had good aquatic plant survival. The lake elevation read 85.52 on 7/30/2009. We observed 1 grass carp. The plant exclusion barrier was free of Hydrilla.

On July 2, 2009, Dean G Barber (SC Consultant), Thomas Calhoun (SC Assistant Scientist) and lake resident Bill Hemphill (President, Prairie Lake) surveyed the aquatic plants in Prairie and Pearl Lake.

In Prairie Lake, hydrilla (*Hydrilla verticillata*) was noted in shallow water (1-6 ft) in small clusters mostly near or adjacent to the shore or docks. It was also observed infrequently in depths of 10-12 ft. with strands up to 4 foot long. Native submersed aquatic vegetation (SAV) continues to be dominant from shallow water to 8-10 ft. This consisted of southern naiad (*Najas guadalupensis*), eelgrass (*Vallisneria americana*), bladderwort (*Utricularia radiata*), pondweed (*Potamogeton illinoensis*), and macro-algae's muskgrass (*Chara spp.*) and stonewort (*Nitella spp.*). Bladderwort, nitella and eelgrass were the most abundant SAV out to 10 feet. The hydrilla exclusion trap had no hydrilla with only torpedo grass (*Panicum repens*) present. The recent Prairie Lake plantings, June 20, 2009, had few uprooted plants, were healthy with good possibility of survivability.

Secchi (water quality) was 6.8 feet in 10.2 feet. The historic average from the county atlas (<http://www.seminole.wateratlas.usf.edu/>) is 8.33 feet.

In Pearl Lake, hydrilla was on or near the surface in 40% of the surface water, to a depth of 10-12 feet with strands 8 feet long. This is a significant expansion, recommended stocking Pearl Lake with 100 grass carp.

Prairie Lake and Pearl Lake 5/27/2008

Gloria Eby, Dean G. Barber and lake liaison, Bill Hemphill surveyed Prairie Lake and Pearl Lake, at 10 AM, Tuesday, 27 May 2008. Found little hydrilla in Pearl. Recent grass carp stocking (100 fish) has apparently controlled the hydrilla. In Prairie, hydrilla was sparse in the inshore area. But when observed, hydrilla was well established in dense clusters, less than 0.05 acres. Otherwise, native submersed aquatic plants were dominant to 7-8 feet, beyond that depth to 13-14 feet, hydrilla was a monoculture and significant. Prairie was recently stocked with 300 grass carp/acre. We will continue to monitor.

On January 13, 2009, Gloria Eby (Seminole County[SC] Lake Manager) & Dean G Barber (SC Consultant), Bill Hemphill (President, Prairie Lake) and Doug Charles (Charles Aquatics) surveyed the aquatic plants in Prairie Lake. As on previous surveys, hydrilla (*Hydrilla verticillata*) was noted in shallow water (1-6 ft) in small clusters mostly near the shore or adjacent to docks. The plant was stressed from winter impact, algae and possibly grass carp feeding. The constructed hydrilla enclosure on the southwest side of the lake had hydrilla that was longer than the hydrilla outside the cage. The objective of the enclosure is to show indication of triploid grass carp feeding through different hydrilla abundance inside and outside of the structure. There seemed to be a difference, but it was not abundantly apparent.

Native submersed aquatic vegetation (SAV) continues to be dominant from shallow water to 10 feet in depth. This consisted of southern naiad (*Najas guadalupensis*), eelgrass (*Vallisneria americana*), bladderwort (*Utricularia radiata*), pondweed (*Potamogeton illinoensis*) and the macro-algae's muskgrass (*Chara spp.*) and stonewort (*Nitella spp.*). Bladderwort and eelgrass were the most apparent out to 10 feet. Previously bladderwort was not observed to this depth.

Hydrilla, which on previous surveys was noted on the deep side of the native SAV was only obtained on one of over 12 bottom grabs. Hopefully the grass carp has significantly impacted this deep plant population.

Secchi (water quality) was 2.3m (7.5 feet), down from the previous reading of 11.5 feet. The historic average from the county atlas (<http://www.seminole.wateratlas.usf.edu/>) is 8.33 feet.

Prairie Lake was surveyed December 18, 2008. As during the previous survey, October 28, 2008, hydrilla (*Hydrilla verticillata*) was noted in shallow water as single or multiple strands, up to small clusters throughout the lake. This inshore hydrilla was covered with algae and stressed. In most cases the hydrilla was on or near the surface. In all these shallow sites of depths to 1-6 feet, native submersed aquatic vegetation (SAV) was dominant and consisted of southern naiad (*Najas guadalupensis*), eelgrass (*Vallisneria americana*), pondweed (*Potamogeton illinoensis*) and bladderwort (*Utricularia radiata*) and the macro-algae's muskgrass (*Chara spp.*) and stonewort (*Nitella spp.*). From 7-13 feet, hydrilla was the only SAV observed. At this depth, hydrilla was very healthy, dense, and consisted of strands 5-7 feet in length. None of these long strands of hydrilla was observed on or near the surface.

The native pondweed, that had previously been only in the cove adjacent to Robin Road, has now expanded into Prairie Lake along the western side and the north side of the lake, establishing over almost half of the lake. Although presently pondweed represents a small portion of the lake's aquatic plants, it is projected that it will continue to expand. This native will assist in competing with hydrilla for lake bottom and further assimilate nutrient within the lake.

The constructed plant enclosure on the south side of the lake had hydrilla and appeared longer than the hydrilla outside, surrounding the cage. This is an indicator that the triploid grass carp are at a density that they are impacting the hydrilla in the shallow water. However, the hydrilla in deep water seem to be growing unchecked. Further observation is necessary and an additional enclosure will be installed on the north side of the lake to ensure the drainage pipe is not interfering with plant growth. Secchi depth was 11.5 feet.

Surveyed Prairie Lake and Pearl Lake on October 28, 2008. Hydrilla was noted in shallow water as single or multiple strands, up to small clusters from the NW, through the north to the NE. Three larger hydrilla clusters, less than a 0.1 of an acre in size, were observed from the south side to the SW. All of this hydrilla was covered with algae and suspended sediment indicating a stressed plant. In most cases the hydrilla was to the surface. In all these shallow sites, 1-6 feet, native submersed aquatic vegetation (SAV) was dominant and consisted of southern naiad, chara, eelgrass, nitella and bladderwort (*Utricularia radiata*). From 7-12 feet, hydrilla was the only SAV observed. The plant was very healthy, dense, consisting of strands up to 7 feet in length. None of these long strands of hydrilla was observed on or near the surface.

The native SAV, pondweed (*Potamogeton illinoensis*), about a 0.1 acre, was noted in shallow water on the west side of the lake, adjacent to Prairie Lake Cove. From a distance it appeared to be a new species of SAV with a white flower breaking the surface. However, approaching the plant it was apparent that the leaves that had broke the surface had captured hundreds of white duck feathers.

The shallow water in Pearl Lake was the same as Prairie Lake, related to presents of hydrilla. In waters 7 feet or greater, hydrilla was the only plant, healthy, but not reaching the surface.

No grass carp was seen.