

Calendar year 2008 Aquatic Plant Management Plan for Lake Seminole

This report will list the target plant and any planned activities associated with management operations.

I. SUBMERSED VEGETATION (*Hydrilla verticillata*)

The Record of Decision for the Lake Seminole Hydrilla Action Plan GA-FL dated June 1998 is the controlling document for management activities associated with hydrilla. This document and the associated Final Supplement to the Master Plan and Final Supplement to the Environmental Impact Statement define a general plan for hydrilla management activities on Lake Seminole. All hydrilla control activities for 2008 will be within the guidelines of this document. The Final Supplement to the Master Plan and Final Supplement to the Environmental Impact Statement (EIS) did not address other nuisance aquatic plant management activities, e.g., water hyacinths, giant cutgrass, limnophila, phragmites, American lotus etc, other than in general terms of acceptable percent coverage for the four management compartments on the lake. Management of these types of invasive aquatic plants was addressed in two earlier EISs – 1) Lake Seminole and Jim Woodruff Lock and Dam, AL-FL, and GA, Operation and Maintenance Final Environmental Impact Statement, 1976, and 2) Aquatic Plant Control Program, Mobile District, Final Environmental Impact Statement, 1978.

Two primary methods of control will continue to be used to manage the submersed vegetation levels (chemical, and biological). In the chemical arena, the main herbicides used will be Endothall, Diquat dibromide, Fluridone, and chelated copper compounds. In the biological arena there will be continued vigilance on monitoring the past releases of triploid grass carp, hydrilla flies, and hydrilla weevils. Alligator weed flea beetle continues to keep alligator weed under a maintenance level. No additional triploid grass carp will be released into the Fish Pond Drain or Cypress Pond confinement area in 2008. The hydrilla fly appeared to have sporadic impacts on the hydrilla population over the past few years. The use of mechanical harvesting of hydrilla as a control measure will be based on the availability of a harvester on Lake Seminole.

The following actions will be undertaken to help manage submersed aquatic vegetation levels on Lake Seminole. Maps of submersed vegetation treatment areas have been included. The maps indicate general areas for herbicide treatments; the specific areas may change based on conditions at the time of application.

A. CHEMICAL: A table with the areas listed including acreage, timing, herbicide to be used, and map plate number can be located at the end of this section and a complete set of maps including this year's treatment plans and past areas identified for treatment is located at the end of the report.

1. Fluridone: There are 475.50 gallons of liquid fluridone and 17,150 lbs of granular Fluridone in inventory. Plans are to treat a total of 158 acres using fluridone during calendar year with the target plants being *Cabomba caroliniana* and/or *Limnophila sessiliflora*. Both of these plants in the past couple of years have proven to be a challenge to manage with herbicide treatments. Both plants are expanding into new locations on Lake Seminole. These treatment areas consist primarily of boat ramp access areas, navigation channels, and around the confinement barriers for the triploid grass carp. Multiple treatments are included in the total acreage treated. In accordance with the Hydrilla Action Plan, Spring Creek was to be treated

three consecutive years followed by a year of no treatment, followed by a year of treatment, followed by a year of no treatment, and then the system would be monitored with a probable treatment every third year. Spring Creek was treated for three consecutive years (2000, 2001, 2002), followed with no treatment in 2003, a treatment was initiated in 2004. The 2004 treatment was not completed due to heavy rains and the resultant high CFS flow in the Spring Creek system. Due to the development/expansion of hydrilla tolerant to low doses of fluridone, other avenues of treatment for this area will be explored. The circumstances will be evaluated in late winter to determine if an Endothall treatment in 2005 would be feasible.

2. Endothall: There are 30,191 gallons of Endothall in inventory. Plans are to treat a total of 458 acres of hydrilla with 5,629 gallons of Aquathol-K®, utilizing traditional airboat applications. These primary treatment areas consist of public boat ramp access areas, boat channels, marinas, public recreation areas and around the confinement barriers for the triploid grass carp. Some of these areas will be treated two times; the acreage in the areas treated twice is counted double in the total acreage treatment.

Upon favorable conditions an Endothall injection system is planned for installation and operation at the old powerhouse on Spring Creek in the April timeframe. The system will inject approximately 7200 gallons of Aquathol-K® at a rate of 2.0 ppm over a 72 hour period to provide Hydrilla control for approximately 2100 acres from the old powerhouse to Rattlesnake Point.

3. Diquat/Copper Combination: There are 2,673.50 gallons of Diquat and 262.50 gallons of copper in inventory. Plans are to treat approximately 27 acres with a combination of Diquat and Copper with the target plants being *Cabomba caroliniana* and/or *Limnophila sessiliflora*. Both of these plants in the past couple of years have proven to be a challenge to manage with herbicide treatments. Both plants are expanding into new locations on Lake Seminole.

4. Diquat: Plans are to treat a total of .5 acres of submersed vegetation using Diquat only during calendar year. This area consists of Eastbank Campground canal.

5. Endothall / Diquat Combination: Plans are to treat approximately 407 acres of submersed vegetation with mix of 4,088 gallons of Endothall and 406 gallons of Diquat. These treatment areas consist primarily of boat ramp access areas, channels, and around the confinement barriers for the triploid grass carp. Some of these areas will be treated two times; the areas treated twice are counted double in the total acreage treatment.

6. Table containing list of areas scheduled for treatment in 2008. The map plate number refers to the attached set of map plates.

Area Name	Acreage	Map Plate	Timing of Treatments	Herbicide	Comments
Brockett's Slough	12	23&24	Jan	Endothall/Diquat	Recreation, channel access
Buena Vista Upper	25	46&55	Jan/Aug	Endothall/Diquat	Recreation, fisheries habitat
Buena Vista West	16	46	Jan/Aug	Endothall/Diquat	Recreation, fishery habitat

Area Name	Acreage	Map Plate	Timing of Treatment	Herbicide	Comments
Bully Arnold North Lower	11	29	Jan/Jun	Endothall	Recreation, boat ramp access to river
Bully Arnold North Upper	9	29	Jan/Jun	Endothall	Recreation, boat ramp access to river
Bully Arnold Ramp	3	29	Jan/Jun	Endothall/Diquat	Recreation, boat ramp
Cairo Slough	6	24	Jan/Feb	Endothall/Diquat	Recreation,
Chattahoochee Park Basin	3	12	Feb/Jun	Diquat/Copper	Recreation, bank fishing
Corps Boat Basin	3	3	Jan	Endothall/Diquat	Operations, Corps boat house
Corps Boat Basin Channel	2	3	Jan	Endothall	Operations, Boat Basin access
Cummings Landing	3	21	Mar	Diquat/Copper	Recreation, ramp
Cypress Pond Barrier	4	21	Feb/Jun	Endothall/Diquat	Operations, electric barrier
Desser	2	47		Diquat/Copper	
Desser Lower Westside	24	47	Feb/Sep	Endothall/Diquat	Fisheries, habitat
Desser Upper	20	47	Feb/Sep	Endothall/Diquat	
Eastbank Campground	6	3	Mar	Endothall/Diquat	Recreation, access to Eastbank Campground
EastBank Canal	0	3	Mar/Jun	Diquat	Recreation, Eastbank Campground
EastBank Ramp	10	3	Aug	Endothall/Diquat	Recreation, Ramp, Campground
Fairchild's Ramp	13	29	Feb/Jul	Endothall/Diquat	Recreation, fisheries habitat, boat ramp
Fairchild's Slough	41	29	Jan	Endothall/Diquat	Recreation, fisheries habitat
Fireman's Cut	26	22&23	Mar/Sep	Endothall	Recreation, channel access from Flint river to Spring Creek
FPD Barrier	5	30	Jan/Feb/Mar	Fluridone	Operations, electric barrier, Limmophila
FPD Lower Section 1	11	21	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body
FPD Lower Section 2	11	21	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body

Area Name	Acreage	Map Plate	Timing of Treatment	Herbicide	Comments
FPD Lower Section 3	13	21	Feb	Endothall	Recreation, Fish Pond Drain channel access to main lake body
FPD Lower Section 4	11	21	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body
FPD Lower Section 5	11	21	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body
FPD Lower Section 6	21	21	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body
FPD Upper Section 1	6	30	Jan/Feb/Mar	Fluridone	Recreation, channel access from Rays Lake to State Park
FPD Upper Section 2	27	21&30	Jan/Feb/Mar	Fluridone	Recreation, channel access from Rays Lake to State Park
FPD Channel	18	27	Feb	Endothall	Recreation, Fish Pond Drain channel Access to main lake body
Hickory Pond Barrier	6	22	Jan/Aug	Endothall/Diquat	Operations, electric barrier
Holly Isles Canal	10	21	Feb/Mar	Fluridone	Limnophila, channel access
Howells Ramp	7	11	Jun/Sep	Endothall	Recreation, boat ramp
Hwy 271	5	11	Feb/Jul	Endothall	Recreation, bank fishing
Kelly's Slough	12	23	Jan/May	Endothall	Subdivision, fisheries
Little Dothan	3	38	Jan/Mar	Endothall	Channel, access to subdivision
Parramore Run	9	38	Jun	Endothall	Recreation, boat ramp access
Parramore's Landing	9	38	Feb/Sep	Endothall/Diquat	Recreation, boat ramp access
Pear Orchard Head	14	10	Jan/Feb	Fluridone	Recreation, fisheries habitat
Pear Orchard Lower	11	11	Jan/Feb	Endothall	Recreation, fisheries habitat, subdivision access

Area Name	Acreage	Map Plate	Timing of Treatment	Herbicide	Comments
Pear Orchard Middle	10	11	Jan/Feb	Fluridone	Recreation, fisheries habitat, subdivision access
Pear Orchard Upper	8	11	Jan/Feb	Fluridone	Recreation, fisheries habitat, subdivision access
Ranger Station Inner	4	20	Jan/Sep	Endothall/Diquat	Operations, access to Ranger Station
Ranger Station Outer	5	20	Jan/Sep	Endothall/Diquat	Operations, access to Ranger Station
River Junction Ramp	5	12	May	Endothall	Recreation, ramp
Sealy Ramp	2	21	Mar/Sep	Endothall	Recreation, channel to boat ramp
Sealy Run	8	12&21	Feb/Sep	Endothall/Diquat	Recreation, channel for River to Sealy Ramp
Seminole Lodge Channel	9	11	May	Endothall	Recreation, marina, boat ramp, channel
Seminole State Park	25	21&30	Jan	Endothall	Seminole State Park
Sneads Park	22	11	May/Sep	Endothall	Recreation, swimming, bank fishing
Spring Creek Park Channel	6	22&31	Jan/Jun	Endothall	Recreation, marina
Spring Creek Park East	6	31	Jan	Endothall	Recreation, marina
Spring Creek Park Marina	4	31	Jan	Endothall	Recreation, marina
Spring Creek Park West	8	31	Jan	Endothall	Recreation, marina
Spring Creek Run 02	45	22	Feb	Endothall	Channel
Ten Mile Still	6	23	Jan/Sep	Diquat	Recreation, ramp, Ga DNR shed
Three River Campground	7	11	Feb/Jun	Endothall	Recreation, campground, state furnished herbicide
Three Rivers 01	17	11	Feb/Jun	Endothall	Recreation, campground, state furnished herbicide, COE provides manpower
Three Rivers 03	8	11	Feb/Jun	Endothall	Recreation, campground, state furnished herbicide, COE provides manpower

Area Name	Acreage	Map Plate	Timing of Treatment	Herbicide	Comments
Trails End Marina	8	20	Feb/May	Diquat/Copper	Recreation, marina
Van Zandt		23	Feb	Endothall	Fisheries, subdivision
Wind Mill Cut	20	21	Feb	Endothall/Diquat	Channel, access from Spring Creek to Cypress Pond and Fish Pond Drain
Wingate's	3	23	Feb/Aug	Endothall/Diquat	Recreation, Marina, channel

B. BIOLOGICAL:

1. **Triploid Grass Carp** (*Ctenopharyngodon idella*): The triploid grass carp are confined within two areas known as Fish Pond Drain and Cypress Pond Drain with low voltage electric barriers. Monitoring of the submersed vegetation within the confinement areas will continue. Hydrilla within the Fish Pond Drain area has been reduced dramatically; *Limnophila sessiliflora* has expanded and a Fluridone treatment will occur inside both barriers for this plant. Native vegetation within the Cypress Pond area has not been reduced as significantly as in the Fish Pond Drain area. The electronics for the low voltage electric barriers are inspected once a year by Smith-Root Inc., usually during February. Personnel at the resource manager's office telephonically check the barriers each morning to ensure normal operations. In addition, if there is a problem during any off time, the barriers will call a list of individuals to alert them of the problem. There are no current plans to release triploid grass carp this year.

2. **Indian Hydrilla Fly** (*Hydreillia pakistanae*): There will be no new releases or proposed movement of the Indian hydrilla fly within the confines of Lake Seminole. We do expect the existing hydrilla fly population to have some impact on the hydrilla. The flies have overwintered in the past few years; however, there have been no visible effects from the fly populations on the hydrilla in calendar year 2007.

C. MECHANICAL: At the present time, there are no mechanical harvesters working around the Lake Seminole area. There have been several operators inquire about the possibility, but currently the economics of the proposal have not justified a harvester operating in or near Lake Seminole. If the vegetation level around Sneads Park or the Sportsman's Lodge increase to problematic conditions and a mechanical harvester operation can justify the relocation expenses, a harvester could be employed.

II. WATER HYACINTH (*Eichhornia crassipes*):

The Corps anticipates treating approximately 3,000 acres of water hyacinths during 2008. Water hyacinth treatments started in early April. This early treatment should reduce the amount of herbicide needed for control in late summer. In previous years when the American lotus “dropped out” in October, the water hyacinths would float free and pack behind the dam. Early season treatments of American lotus reduce this phenomenon. American lotus will again be targeted early in the year for treatment to help manage the water hyacinth population.

III. GIANT CUTGRASS (*Zizaniopsis miliacea*):

We expect to treat approximately 800 acres of giant cutgrass using a glyphosate compound. A large portion of the treatments will be in the Chattahoochee River arm of the lake. The treatments will consist of treating the outer edges of the cutgrass beds; this will be a continuing program attempting to reduce the surface acreage of giant cutgrass to the shoreline.

IV. PHRAGMITES (*Phragmites australis*)

Approximately 100 acres of phragmites are scheduled for treatment. These areas will be treated twice, once in the spring and again in mid-summer using a glyphosate compound. Phragmites continues to expand with small isolated pockets becoming established in the Chattahoochee arm of Lake Seminole from Fairchild’s to Three Rivers.

V. AMERICAN LOTUS (*Nelumbo lutea*)

The American lotus populations have steadily expanded and are causing recreational navigation problems in parts of the lake. The Chattahoochee River arm of the lake has the highest infestation. Early summer treatments of American lotus have been successful. If the American lotus is prevalent again this year, treatments will start in early summer, probably during June. Treatments will start near Parramores and extend down the Chattahoochee River to include the Howells Landing area. The anticipated treatment area will be approximately 300 to 400 acres with a glyphosate-based herbicide.

VI. GENERAL:

A lake-wide vegetation survey is planned for this year. An index map for Lake Seminole aerial photography and the associate plate maps with general treatment areas are attached.