

Calendar year 2014 Aquatic Plant Management Plan for Walter F. George and George W. Andrews Lakes

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

The Environmental Impact Statement (EIS) prepared in 1979 for the operation and maintenance of the Walter F. George Project addressed the myriad of operational activities required to maintain the project's various features. Among the activities addressed was the performance of the necessary operational measures to maintain boat ramps and docks, small boat channels, and other facilities to support recreation demands, including the "...implementation of programs pertaining to the conservation, development and utilization of the project resources for the safe and maximum enjoyment of the public." One of the programs addressed was the control of nuisance aquatic plants.

The 1979 EIS addressed the Walter F. George aquatic plant control program in only a conceptual fashion, due to the lack of significant invasive aquatic plant problems. At the time of the 1979 EIS there was no problems with submersed aquatic plants. The combination of chemicals and some biological control measures were effective in controlling the floating and emergent plants that did present localized problems around the lake. The use of the chemical herbicide 2, 4-D to control water hyacinth (*Eichhornia crassipes*) and biological agents such as alligatorweed flea beetle (*Agasicles hydrophila*) and alligatorweed stem borer moth (*Vogtia malloi*) to control alligator weed (*Alternanthera philoxeroides*) were the only specific aquatic plant control measures identified in the EIS.

As Walter F. George Lake has aged over the 50 years since it was initially impounded, the lake has experienced an increase in aquatic plants. This is a typical consequence of ecological succession in aquatic environments.

Aquatic plant communities in moderation provide many benefits to a lake ecosystem by stabilizing sediments; removing excess nutrients from the water; improving water clarity; and providing quality habitat for fish, waterfowl, and other organisms.

While a diverse native aquatic plant community is a desirable feature of an aquatic ecosystem, excessive growths of submersed aquatic plants can cause serious and costly management problems. At Walter F. George hydrilla (*Hydrilla verticillata*), Egeria (*Egeria densa*), water hyacinth (*Eichhornia crassipes*), giant cane (*Arundo donax*) and giant cutgrass (*Zizaniopsis miliacea*) are the most problematic. To date, triploid grass carp and chemical herbicides are the methods used for control hydrilla, with chemical herbicides used for treating the other problematic aquatic plants.

I. SUBMERSED

Two primary methods of control will continue to be used to manage the target submersed aquatic vegetation (chemical and biological). The main herbicides used will be endothall, diquat dibromide, fluridone, penoxsulam, flumioxazin and copper compounds. In the biological arena there will be continued vigilance on monitoring the past releases of triploid grass carp. Aquatic surveys conducted in September 2013 showed an increase in hydrilla acreage. Hydrilla south of

the causeway has dramatically increased over 2012. North of the causeway the hydrilla appears to be similar in coverage and density as 2012. This appears to be the results of grazing by the grass carp. Limited chemical treatments for hydrilla were conducted in 2013 south of the causeway. Herbicide treatments for submersed vegetation will occur on an as needed basis.

a. **CHEMICAL:**

1. **Fluridone:**

There are no plans to treat using fluridone alone during the calendar year. Due to the expansion of fluridone-resistant hydrilla, other avenues of treatment for these areas will be explored.

Avast SC®:	EPA Reg. No. 67690-30
Sonar PR®:	EPA Reg. No. 67690-12
Sonar Q®:	EPA Reg. No. 67690-3
Sonar SRP®:	EPA Reg. No. 67690-3

2. **Endothall:**

There are no plans to treat hydrilla with endothall alone.

Aquathol K®:	EPA Reg. No. 70506-176
Aquathol Super K®:	EPA Reg. No. 4581-388

3. **Endothall/Fluridone Combination:**

There are no plans are to treat hydrilla with a combination of endothall and fluridone.

4. **Diquat/Copper Combination:**

There are no plans are to treat hydrilla with a diquat / copper combination.

Symmetry®:	EPA Reg. No. 81943-2
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5. **Diquat:**

There are no plans to treat with diquat alone.

Reward®:	EPA Reg. No. 100-1091
Diquat E Pro 2 L®:	EPA Reg. No. 79676-75
Diquash™:	EPA Reg. No. 83529-12
Helm® Diquat	EPA Reg. No. 74530-25

6. **Endothall / Diquat Combination:**

There are no plans are to treat submersed vegetation with combination of endothall and diquat.

7. Flumioxazin/Diquat:

There are plans to treat approximately 100 acres using a combination of flumioxazin and diquat.

Clipper®: EPA Reg. No. 59639-161

8. Penoxsulam / Endothall:

There are plans to treat 30 acres with Penoxsulam and endothall.

Galleon SC®: EPA Reg. No. 62719-546-67690

b. BIOLOGICAL:

Triploid Grass Carp (*Ctenopharyngodon idella*):

In accordance with the June 2007 *Final Environmental Assessment for Release of Triploid Grass Carp for Hydrilla Management Walter F. George Lake, Alabama and Georgia*; 13440 triploid grass carp were released unconfined in Walter F. George Lake in August 2007. In September 2009, 5200 additional triploid grass carp were stocked. The submersed vegetation within the lake will continue to be monitored to determine the impact of triploid grass carp on submersed aquatic vegetation. There are current plans to release additional triploid grass carp in 2014. Decision will be based on the 2013 aquatic survey and severity of the winter weather on the hydrilla.

c. MECHANICAL: At the present time, there are no plans to utilize mechanical harvesters in Walter F. George Lake.

d. PHYSICAL: There are no plans by the Corps to perform any physical removal of submersed aquatic plants however specified acts permits may be given to shoreline permit holders for physical removal.

II. FLOATING/EMERGENT:

a. CHEMICAL:

1. WATER HYACINTH (*Eichhornia crassipes*):

The Corps anticipates treating approximately 200 acres of water hyacinths with glyphosate / 2, 4-D during 2013. Water hyacinth treatments will start in late March/early April and continue until November. Areas of focus will be Cowikee Creek, Chattahoochee River and River Bend area.

Ecomazapyr 2 SL®:	EPA Reg. No. 81927-22
Aqua-Neat®:	EPA Reg. No. 228-365
DMA 4 IVM®:	EPA Reg. No. 62719-3
Weedar 64®:	EPA Reg. No. 71368-1
WEEDestroy® AM-40:	EPA Reg. No. 228-145

2. **GIANT CUTGRASS** (*Zizaniopsis miliacea*):

We expect to treat approximately 200 acres of giant cutgrass using glyphosate. A large portion of the treatments will be in the Chattahoochee River, north of the main arm of the lake. Areas of focus will be the Chattahoochee River sloughs and River Bend areas. 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. In an effort to reduce the biomass, prescribed fire may be used where appropriate.

3. **PHRAGMITES** (*Phragmites australis*)

Approximately 5 acres of phragmites are scheduled for treatment. These areas will be treated with glyphosate.

4. **TORPEDO GRASS** (*Panicum repens*)

Torpedo grass, while not currently impairing navigation or recreation is beginning to grow to noticeable levels on the lake margins and around islands. Torpedo grass out competes native plants such as water willow which provide beneficial fish habitat.

5. **GIANT CANE** (*Arundo donax*)

Approximately 5 acres of giant cane are scheduled for treatment. Giant cane was once planted as erosion control for shorelines, and once established creates monoculture stands crowding out native vegetation. In an effort to reduce the biomass, prescribed fire may be used where appropriate.

b. **BIOLOGICAL:**

There currently are no plans to treat floating or emergent vegetation with the release biological agents for 2014.

III. **NATIVE PLANT ESTABLISHMENT:**

Currently there are eight propagation tanks which are used for growing both submersed and emergent native vegetation. Once the plants are strong enough for transplanting, they will be planted in water 6 – 24 inches deep. Monitoring of

plantings will continue in 2014 along with additional plantings of pondweed and eel grass.

IV. ADDITIONAL INFORMATION:

A survey map from the recent aquatic survey is attached.