

## **Calendar year 2010 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 47 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*), and giant cutgrass (*Zizaniopsis miliacea*) are posing to be the most problematic. To date, triploid grass carp and chemical herbicides are the methods used to 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). In the chemical arena, the main herbicides used will be endothall, diquat dibromide, fluridone, penoxsulam and chelated copper compounds. In the biological arena there will be continued vigilance on monitoring the past releases of triploid grass carp. Alligatorweed flea beetle and chemical herbicides continue to keep alligator weed

under a maintenance level. In September 2009, 5200 additional triploid grass carp were released into Walter F. George Lake. The additional grass carp were released to maintain the population at the 12 fish per vegetative acre which was detailed in the June 2007 Final EA for Release of Triploid Grass Carp for Hydrilla Management.

a. **CHEMICAL:**

1. **Fluridone:**

There are no plans to treat using fluridone alone during the calendar year. Due to the expansion of hydrilla-tolerant to low doses of fluridone, 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:**

Plans are to treat a total of 471 acres of hydrilla with endothall, utilizing traditional airboat applications. These primary treatment areas consist of public boat ramp access areas, boat channels, marinas, and public recreation areas. Some of these areas will be treated two times; the acreage in the areas treated twice is counted double in the total acreage treatment.

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

3. **Endothall/Fluridone Combination:**

Plans are to treat a total of 253 acres of hydrilla using a combination of endothall and fluridone, utilizing traditional airboat applications. These primary treatment areas consist of public recreation areas, fisheries habitat areas, and Corps of Engineers operation areas.

4. **Diquat/Copper Combination:**

Plans are to treat a total of 202 acres of hydrilla / Egeria with a diquat / copper combination, utilizing traditional airboat applications. These primary treatment areas consist of public recreation areas, fisheries habitat areas, and Corps of Engineers operation areas.

Symmetry®:	EPA Reg. No. 81943-2
------------	----------------------

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:**

Plans are to treat approximately 300 acres of submersed vegetation with combination of endothall and diquat. These treatment areas consist primarily of boat ramp access areas, and channels. Some of these areas will be treated two times; the areas treated twice are counted double in the total acreage treatment.

**7. Penoxsulam/Aquathol K:**

There are no plans are to treat with Penoxsulam and endothall.

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

**Table 1.**

**Planned Treatment Areas**

Area	Acres	Month	Herbicide	Plate Number	Comments
AL Rood Ck 1	4.3	Apr/May	endothall/diquat	146	Fisheries
GWA Creek by Spillway	0.95	May/Jun	endothall/diquat	26	Operations
GWA Omussee Ck Mouth	4.24	May/Jun	diquat/copper	32	Recreation
GWA S Omussee Ck	6.41	May/Jun	diquat/copper	32	Operations
Columbia Bridge	4.46	May/Jun	diquat/copper	32	Recreation
Cool Branch	4.19	Mar/Apr	diquat/copper	115	Recreation
Cooper Prop. 4	14.36	Mar/Apr	endothall/diquat	134	Fisheries
East Bank 3	1.3	Mar/Apr	endothall/diquat	87	Fisheries
East Bank 5	19.61	Mar/Apr	endothall/diquat	87	Fisheries
Hardridge CG 2	3.11	Apr/May	diquat/copper	87	Recreation
Hardridge CG 4	7.96	Apr/May	diquat/copper	87	Recreation
Hardridge Creek 1	2.53	Apr/May	diquat/copper	86	Recreation
Hardridge Creek 3	3.15	Apr/May	diquat/copper	86	Recreation
Hardridge Creek 4a	4.65	Apr/May	diquat/copper	87	Recreation
Highland Park	21.72	Apr/May	diquat/copper	87	Recreation

Highland Park 2	6.22	Apr/May	diquat/copper	87	Recreation
Holiday Shores	7.1	Mar/Apr	endothall/diquat	93	Channel Access
Kennedy BP 3	36.47	Mar/Apr	endothall/diquat	135	Fisheries
Kennedy BP 4	28.84	Mar/Apr	endothall/diquat	135	Fisheries
Lakepoint Boat Ramp	5.63	Apr/May	endothall/diquat	141	Recreation
LP Marina Ramp	2.37	Apr/May	endothall/diquat	140	Recreation
N Cowikee/refuge	103.14	May/Jun	endothall/diquat	141	Fisheries
N of Grass Creek	2.37	May/Jun	endothall/diquat	154	Fisheries
N of Omussee AL	2.33	May/Jun	diquat/copper	32	Fisheries
Pataula Creek 2	7.85	Mar/Apr	diquat/copper	105	Fisheries
Pataula Creek E 4	5.75	Mar/Apr	endothall/diquat	106	Fisheries
Riverview Forest	1.86	Apr/May	endothall/diquat	93	Channel Access
RMO	46.96	Mar/Apr	diquat/copper	88	Operations
RMO 2	12.33	Mar/Apr	diquat/copper	88	Operations
RMO 3	4.47	Mar/Apr	diquat/copper	88	Operations
RMO 4	1.94	Mar/Apr	diquat/copper	87	Operations
RMO 5	3.28	Mar/Apr	diquat/copper	87	Operations
Sandy Creek 1	19.32	May/Jun	diquat/copper	93	Recreation
Sandy Creek 2	22.97	May/Jun	diquat/copper	93	Recreation
Sandy Creek 3	10.69	May/Jun	diquat/copper	93	Recreation
Stoneridge	3.08	Mar/Apr	endothall/diquat	92	Fisheries
Wylaunee 2b	29.14	Apr/May	diquat/copper	141	Fisheries

**b. BIOLOGICAL:**

**Triploid Grass Carp** (*Ctenopharyngodon idella*):

In August 2007, 13440 triploid grass carp were released unconfined in Walter F. George Lake. The stocking rate of the triploid grass carp was 12 fish per vegetative acre based on the 2006 aquatic vegetation survey (as recommended by the 2007 EA). Based on the results of the aquatic vegetation survey conducted in September 2007 and estimated annual mortality, the stocking rate was calculated to be 8 fish per vegetative acre due to the increase in hydrilla coverage from 2006 to 2007. In September 2009, 5200 triploid grass carp were stocked to bring the number of fish per vegetative acre up to the 12 fish per vegetative acre prescribed in the 2007 EA. 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 no current plans to release triploid grass carp in 2010.

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

**II. FLOATING/EMERGENT:**

**a. CHEMICAL:**

**1. WATER HYACINTH (*Eichhornia crassipes*):**

The Corps anticipates treating approximately 500 acres of water hyacinths with a combination of glyphosate and 2, 4-D during 2010. Water hyacinth treatments will start in late March / early April. This early treatment should reduce the amount of herbicide needed for control in late summer. Due to an increase in river flows during the fall of 2009 water hyacinth has possibly spread into areas not previously infested. Areas of focus will be sloughs off the Chattahoochee River and the River Bend area.

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 500 acres of giant cutgrass using a combination of glyphosate and 2, 4-D. 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 Witch's Ditch 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.

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

Approximately 20 acres of phragmites are scheduled for treatment. These areas will be treated with glyphosate.

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

There are currently no plans to treat giant cane. However, we will continue to monitor the spread of this plant. Giant cane was once planted as erosion control for shorelines, and once established creates monoculture stands crowding out native vegetation.

**b. BIOLOGICAL:**

There currently are no plans to treat floating or emergent vegetation with biological agents for 2010.