

Calendar year 2015 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 growth of submersed aquatic plants can cause serious and costly management problems. At Walter F. George hydrilla (*Hydrilla verticillata*), 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 controlling hydrilla, with chemical herbicides only 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 along with the restocking of 12,000 new triploid grass carp. Aquatic surveys conducted in September 2014 showed a slight decrease in overall hydrilla acreage from 2013. However, hydrilla density south of the causeway has dramatically increased over 2013. North of the causeway the hydrilla coverage appears to have collapsed. This appears to be the results of grazing by the grass carp, high spring flows, and the cold 2014 winter. 375 Acres of hydrilla were treated using chemical herbicide in 2014. Major chemical treatments for hydrilla were conducted in 2014 south of the causeway around Corps/State managed recreation areas, boat ramps, and campgrounds. Herbicide treatments for submersed vegetation will

occur on an as needed basis. The type of chemical treatment chosen will be based on the location of treatment, time of year, condition of water, and aquatic plant treated.

a. **CHEMICALS:**

1. **Fluridone:**

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|-------------|-----------------------|
| 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:**

| | |
|--------------------|------------------------|
| 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:**

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

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|--------------------|-----------------------|
| 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:**

7. **Flumioxazin:**

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|-----------|------------------------|
| Clipper®: | EPA Reg. No. 59639-161 |
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8. **Flumioxazin / Diquat Combination:**

There are plans to treat high priority qualifying areas with a combination of flumioxazin and diquat

9. **Penoxsulam:**

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|--------------|------------------------------|
| 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. Based on the 2014 aquatic plant survey and adequate funding there are plans to release 12,000 additional triploid grass carp in spring 2015, which will bring the number of triploid grass carp to approximately 10 fish per acre of hydrilla.

- c. **MECHANICAL:** At the present time, there are no plans by the Corps to utilize mechanical harvesters in Walter F. George Lake.
- d. **PHYSICAL:** There are no plans by the U.S. Army Corps of Engineers (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 100 acres of water hyacinths with glyphosate / 2, 4-D during 2014. 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*):

The Corps anticipates treating 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 1 acres of phragmites are scheduled for treatment. These areas will be treated with glyphosate.

4. **WATER PRIMROSE** (*Ludwigia repens*)

Water primrose, while not currently impairing navigation or recreation is beginning to grow to noticeable levels on the lake margins and around islands. It can out-compete native plants such as water willow which provide beneficial fish habitat.

5. **ALLIGATORWEED** (*Alternanthera philoxeroides*)

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

6. **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 can out-compete native plant such as water willow which provide beneficial fish habitat.

7. **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. Plants are collected from around the lake or from Lake Seminole. The transplants are checked for hydrilla and planted bare root into coir mats. Each coir mat covers 45 ft² for a total of 360 ft² of coverage. Once the plants are strong enough for transplanting, they will be planted in water 6 – 24 inches deep. Monitoring of plantings will continue in 2015 along with additional plantings of pondweed, eel grass, and southern naiad.

IV. PERMITS

Due to the expansion of hydrilla around private docks, the Corps may issue a Specified Acts Permit to obtain the services of a Certified Aquatic Pesticide Applicator to conduct herbicide treatments on Corps managed waters. Applications for the Specified Acts Permit may be found on the Walter F. George Lake website.

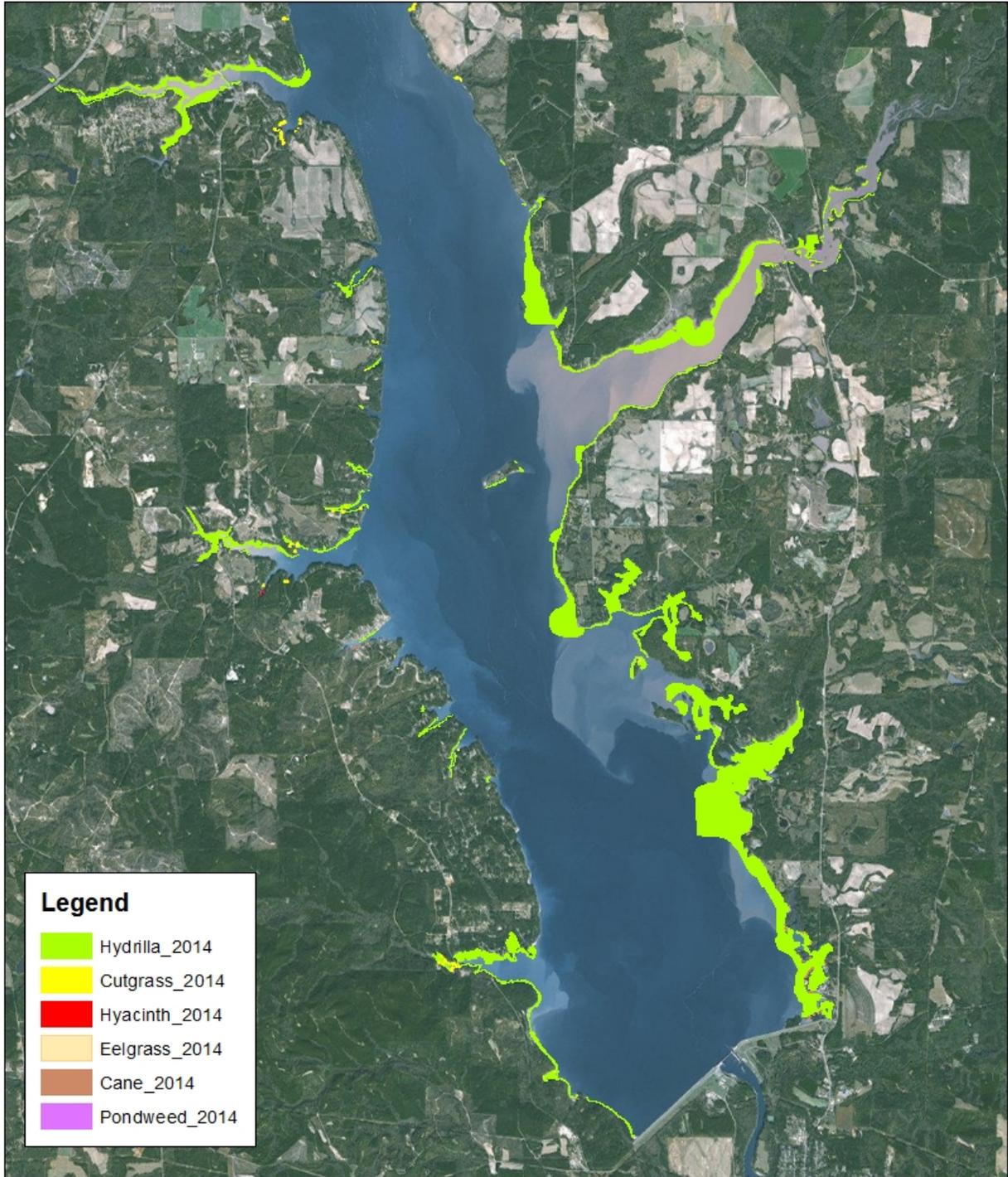
[WALTER F. GEORGE LAKE](#)

V. ADDITIONAL INFORMATION:

A survey map from the recent aquatic survey is attached.

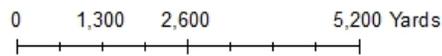


2014 Aquatic Survey



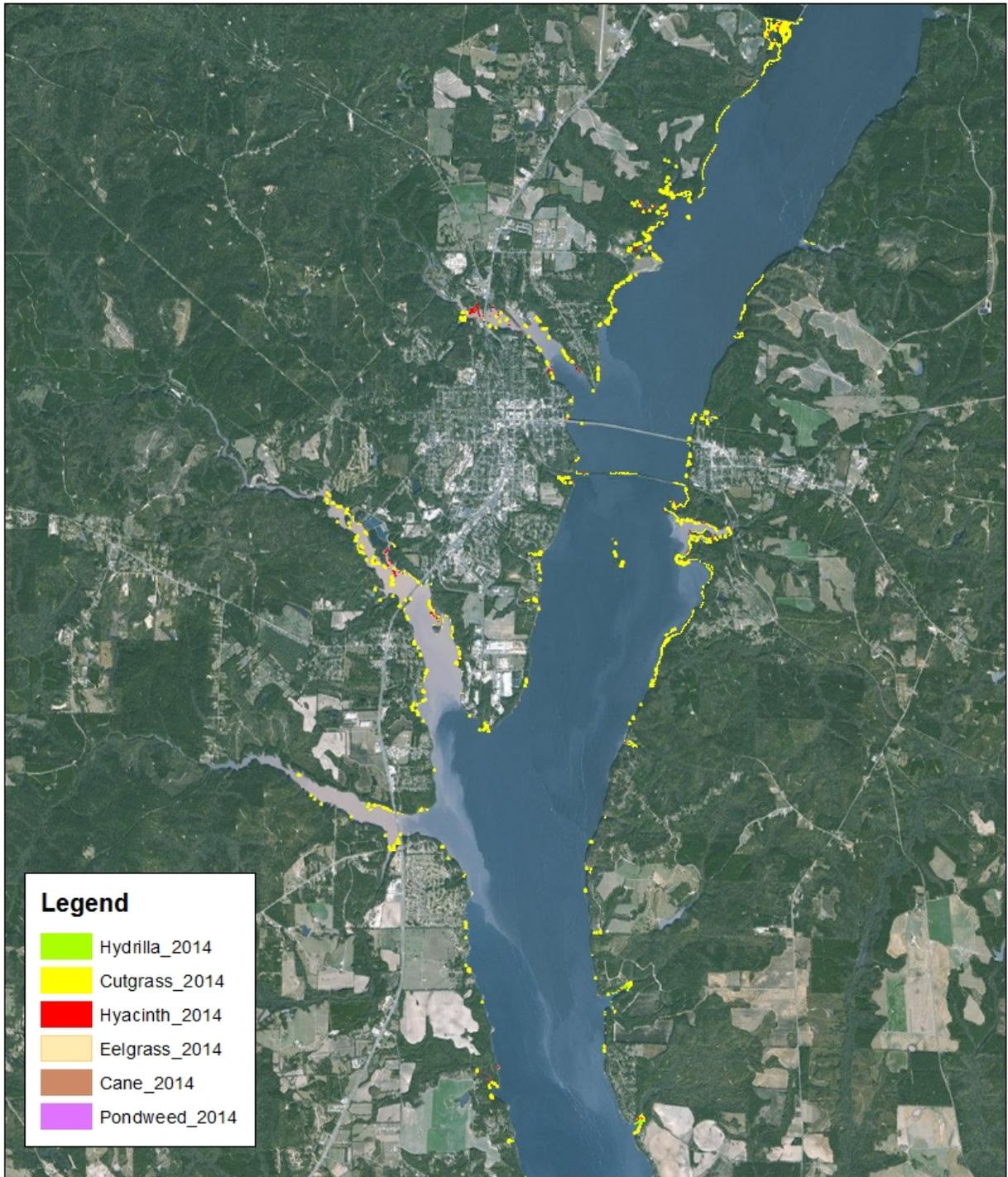
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- Cutgrass_2014
- Hyacinth_2014
- Eelgrass_2014
- Cane_2014
- Pondweed_2014



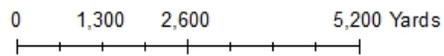


2014 Aquatic Survey



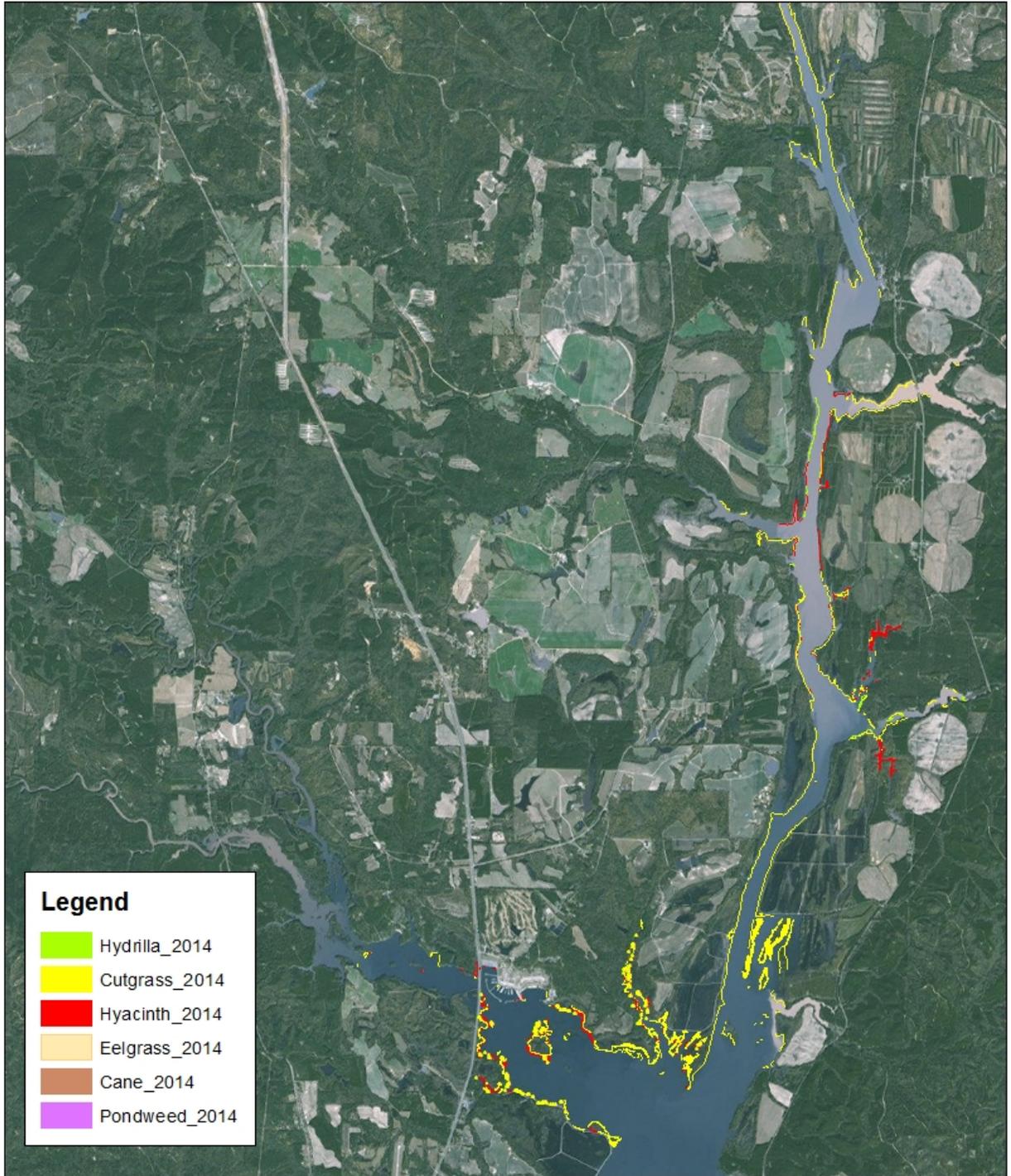
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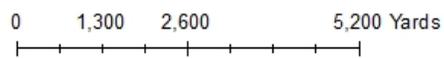


2014 Aquatic Survey



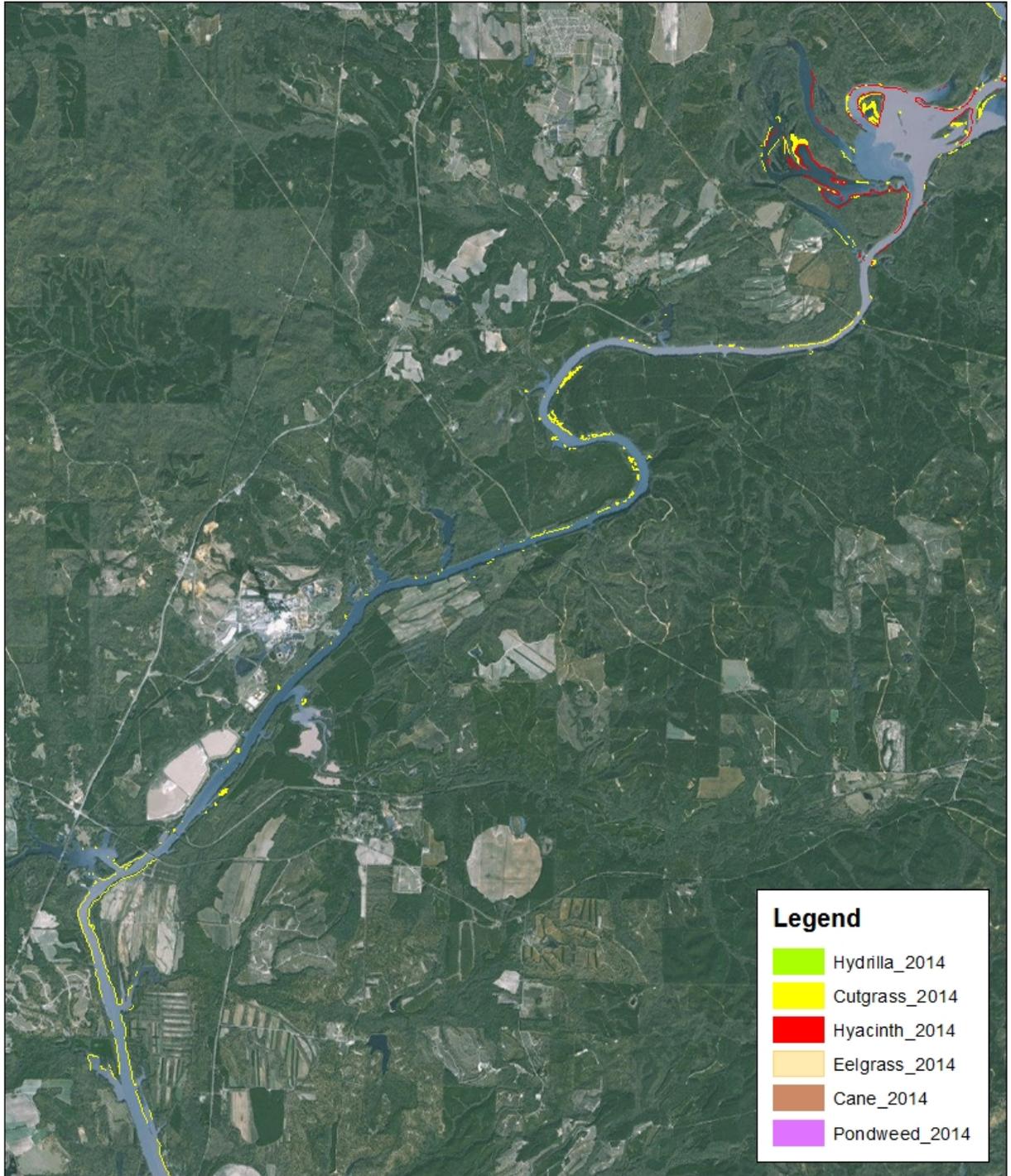
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- Eelgrass_2014
- Cane_2014
- Pondweed_2014





2014 Aquatic Survey



Legend

- Hydrilla_2014
- Cutgrass_2014
- Hyacinth_2014
- Eelgrass_2014
- Cane_2014
- Pondweed_2014

