

2013 Lake Bartholomew Aquatic Vegetation Control Plan
LDWF, Inland Fisheries

Past Control Measures:

Recent herbicide applications have involved repeated treatments of hydrilla (*Hydrilla verticillata*) in the vicinity of the Hwy. 165 culvert with subsurface applications of diquat dibromide and maintenance spraying of floating and emergent vegetation. Alligator weed (*Alternanthera philoxeroides*) and water hyacinth (*Eichhornia crassipes*) have been the most abundant nuisance species other than hydrilla. Glyphosate (0.75 gal/acre) and 2,4-D (0.5 gal/acre) have mostly been used to control these species. Common salvinia (*Salvinia minima*) was first detected in Lake Bartholomew in December, 2012. A total of 2.5 acres were treated with diquat dibromide (0.75 gal/acre) on 12/17/12. An evaluation on 2/4/13 detected no salvinia. Table 1 shows total acres sprayed for the most common nuisance species for 2011 and 2012.

Table 1. Total acres of nuisance aquatic vegetation treated with herbicide on Lake Bartholomew, 2011 and 2012.

	<u>Alligatorweed</u>	<u>Hydrilla</u>	<u>Water hyacinth</u>	<u>Pennywort</u>	<u>Common salvinia</u>	<u>Misc.</u>
2011	124	25	123	12	0	11
2012	73	74	155	0	2.5	0

Aquatic Vegetation Status:

General: As of January 2013, there is currently very little vegetation south of the bridge at the mid-lake area. The reason for this is not known, but rough estimates of water clarity made on 5-19-11 showed the visibility near the south end of the lake to be approx. 20”, while on the north end, visibility was near 30”. Submerged vegetation is abundant in shallow areas north of the bridge. Possible factors associated with this variability include: pump used to fill lake from Bayou Bartholomew located at north end and agricultural runoff.

Coverage and Status of Problem Plant Species as of 12/31/12

- Hydrilla– nearly 70 acres
- Water Hyacinth - approximately 1 acre
- Alligator weed– moderate amounts along much of shoreline of northern half of lake
- Filamentous algae – moderate coverage on water surface in areas where coontail or hydrilla has reached the surface and is being held in place by these species and is nearly completely covering them in some areas.
- Common salvinia - approximately 2.5 acres were discovered on 12/18/12 in the vicinity of the dirt boat ramp off U.S. Hwy. 165.

Coverage and Status of Beneficial Plant Species as of 12/31/12

- Coontail *Ceratophyllum demersum* - abundant in depths up to 3 ft., mostly in northern half of lake, also found along outside edge of hydrilla in depths up to 8 ft.

Recommendations:

For hydrilla control, it has been recommended to stock triploid grass carp at a rate of 10 fish per acre of hydrilla. The last estimate of hydrilla coverage was near 70 acres. Grass carp should be a minimum of 12 inches in length and stocked in early 2013. A type map will be conducted in the summer of 2013 and for a period of at least five years following the carp introduction. Any grass carp collected during standardized fisheries sampling will be measured to estimate growth and health. Herbicide treatment will consist of surface and subsurface applications of a tank mixture of Cutrine[®]-Plus (chelated copper) and Tribune[™] (diquat dibromide) at a ratio of 3:2, respectively. The mixture will be applied at the rate of 5.5 gallons per surface acre of hydrilla. An alternative mixture will be to apply only diquat dibromide on the surface and by subsurface injection at a rate of 2.0 gallons/acre. Areas in the vicinity of the public boat launch and the culvert which connects with Bayou DeSiard will be treated at least monthly or as needed. If common salvinia persists, it will be treated with diquat dibromide during cooler months (0.75 gal./acre) and a 3:1 mixture of glyphosate:diquat at a rate of 1 gal./acre during warmer weather. Other nuisance floating and emergent vegetation will be treated on an as needed basis. The herbicide 2,4-D will be used for water hyacinth control at a rate of 0.5 gal./acre during the non-waiver period (outside of March 15 – Sept. 15) and glyphosate will be used at a rate of 0.75 gal./acre when the waiver period is in effect. Glyphosate or Imazapyr will be used for treatment of most other emergent vegetation with rates used as recommended on the label for particular species.