2013 Bayou DeSiard Aquatic Vegetation Control Plan

LDWF, Inland Fisheries

Past Control Measures:

Nuisance floating and emergent vegetation has been commonly treated with herbicides on Bayou DeSiard. Herbicide applications are commonly made for control of duckweed *Lemna sp.*, which forms large mats in the upper end. Other floating and emergent species such as mosquito fern *Azolla sp.*, alligator weed *Alternanthera philoxeroides*, parrot's feather *Myriophyllum aquaticum*, and water pennywort *Hydrocotyle sp.* are also managed with herbicides. The contact herbicide diquat dibromide is primarily used for duckweed control, while glyphosate, 2,4-D, and imazapyr have mostly been used to control other species. A waiver is required for the use of 2,4-D in Ouachita Parish between March 15th and September 1st. Coontail *Ceratophyllum demersum* became problematic in the section of Bayou DeSiard near the University of Louisiana at Monroe during the spring of 2012. Herbicide treatment was necessary to facilitate use of the ULM water ski course. Surface and subsurface applications of diquat dibromide were made in an attempt to keep this area clear. The infestation turned out to be temporary. By early June, the coontail had returned to non-problematic levels. A small amount of hydrilla had been found in the extreme upper end near Hwy. 165 and was treated with diquat dibromide. Table 1 shows total acres sprayed for the most common nuisance species on Bayou DeSiard in 2012.

Table 1. Total acres of nuisance aquatic vegetation treated with herbicide on Bayou DeSiard in 2012.

Species	Alligator weed	Coontail	Duckweed	Parrots Feather	Pennywort	Water hyacinth
Acres	236	37	434	22	35	55

Aquatic Vegetation Status:

General: The upper end of Bayou DeSiard (north of L-11 canal) continues to have significant coverage of nuisance vegetation. Duckweed thrives in the upper reaches, where it is protected by dense cypress *Taxodium distichum* thickets and shallow water. LDWF spray crews are not able to effectively treat it and other vegetation in these areas. Winds and current allow the duckweed to move into residential areas downstream, where navigation and recreation become hindered. Watermeal *Wolffia sp.* and mosquito fern often contribute to the large surface mats. Submerged vegetation also remains dense in areas north of the LDWF Monroe office. Fanwort *Cabomba caroliniana*, coontail, bladderwort *Utricularia sp.*, and slender pondweed *Potamogeton pusillus* have all been identified as contributing to dense subsurface mats which impair navigation. The infestation near ULM in the spring of 2012 turned out to be short lived, lasting only three months until June, when coverage returned to a normal and desirable amount. Amounts of vegetation south of the L-11 canal are generally considered to be low to moderate.

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

-Alligator weed– moderate amounts, mostly on upper end and associated with cypress thickets
-Duckweed – problematic on northern half, forming dense surface mats, where it impedes navigation and recreation
-Parrot's feather - widespread, forming surface mats in protected areas
-Water pennywort – widespread, forming surface mats in protected areas
-Water hyacinth – forms small mats on occasion, though normally poses no serious threats
-SAV (coontail, fanwort, bladderwort) – an estimated 460 acres is found in the northern half of Bayou DeSiard. These species reach the surface in the shallows north of the LDWF office and impede navigation. They also hold floating vegetation in place in the cypress thickets.

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

-Coontail - common in depths up to 5 ft., found throughout, though more dense in the upper end
-Fanwort – found mostly in the upper reaches, in depths up to 5 ft.

Recommendations:

For control of nuisance submerged vegetation (potentially including hydrilla), it has been recommended to stock triploid grass carp at a rate of 10 fish per acre of vegetation. There were 460 acres estimated north of the L-11 canal during a survey in 2012. 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.

If hydrilla is discovered, a herbicide treatment consisting 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, will be made. 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. 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.

A floating boom should be installed across Bayou DeSiard at the pipeline crossing north of Shorty Payne Rd. The boom should prevent duckweed and other floating vegetation from flowing south into residential areas. The accumulated vegetation will be treated with the appropriate herbicide on a weekly basis. Large mats of duckweed will be treated with diquat dibromide (1.0 gal/acre) when they are impacting fish and wildlife, boating, or other

recreational activities. Efforts will be made to eliminate or at least greatly reduce the coverage of duckweed south of the proposed boom.