

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

2018 AQUATIC VEGETATION CONTROL PLAN

BAYOU LACOMBE COMPLEX

1. Waterbody type – A complex including connecting bayous, canals, swamps and marshes that are also associated with the Big Branch Marsh National Wildlife Refuge (NWR) - terminating in the northeastern portion of Lake Pontchartrain. Bayou Lacombe, the major bayou in the complex, flows for 20 miles through St. Tammany Parish. It originates in Talisheek, LA near the junction of Louisiana Highway 41 and Louisiana Highway 435 and flows southward to Lake Pontchartrain. The Bayou Lacombe complex is bordered on the west by Bayou Cane, to the east by Bayou Liberty and Bayou Bonfouca, and to the south by Lake Pontchartrain.
2. Watershed - The Bayou Lacombe sub-basin drains approximately 41,600 acres of land area.
3. Waterbody Board or Lake Commission – The State of Louisiana has authority of the state owned water bottoms and regulates the fisheries of Bayou Lacombe. Bayou Lacombe is designated as a natural scenic stream by LA. RS 56:1856: known as “The Louisiana Scenic Rivers Act.” The laws governing Natural and Scenic River Systems regulate some land practices along the bayou and also protect it from hydrologic alterations. The National Wildlife Refuge System, within the U.S. Fish and Wildlife Service (USFWS), manages the Big Branch NWR within the Bayou Lacombe complex.

What significant stakeholders use the lake?

Residential developments, recreational fishermen, boaters and hunters.

What are their needs and concerns?

There are requests annually for nuisance plant control, primarily from waterfront residents. The newly established population of giant salvinia (*Salvinia molesta*) is becoming a greater concern to many stakeholders.

Aquatic Vegetation Status:

Water primrose (*Ludwigia spp.*), alligator weed (*Alternanthera philoxeroides*) and giant salvinia have been the primary focus of nuisance aquatic plant control in residential areas of the complex. Giant salvinia biomass has increased since 2016. Based on aquatic vegetation surveys conducted in the fall of 2016, giant salvinia continues to spread in Bayou Lacombe, now extending north of Hwy 190. Throughout the complex, there was approximately 400 acres of giant salvinia, 200 acres of alligator weed, and 150 acres of primrose at that time.

Limitations:

Some infestations of giant salvinia are in the shallow marsh within the Big Branch NWR. Access to these areas is limited to surface drives or air boats. The USFWS has additional regulations on herbicides and needs yearly approval to apply to aquatic vegetation.

Past Control Measures:

Herbicide applications have been made from boat-mounted sprayers when necessary. Since 2013, 2,297 acres of aquatic vegetation have been treated (Table 1). A total of 202 acres of giant salvinia were treated in the complex by the Louisiana Department of Wildlife and Fisheries (LDWF) in 2017. Herbicides were used in accordance with the approved Aquatic Herbicide Application Procedures:

April 1 - October 31: glyphosate (0.75 gal/acre) / diquat (0.25 gal/acre) / Turbulence (or approved equivalent, 0.25 gal/acre).

November 1 – March 31: diquat (0.75 gal/acre) / 90:10 non-ionic surfactant (0.25 gal/acre).

Table 1. Acres of vegetation treated annually from 2013-2017 in the Bayou Lacombe complex.

Year	Waterbody	Vegetation	Acres
2013	Bayou Lacombe	Salvinia, Giant	1
2013	Bayou Lacombe	Salvinia, Giant	3
Total 2013			4
2013	Bayou Cane	Alligator weed	6
Total 2013			6
2014	Bayou Lacombe	Alligator weed	1.14
2014	Bayou Lacombe	Primrose	0.49
2014	Bayou Lacombe	Salvinia, Giant	76.39
2014	Bayou Lacombe	Torpedograss (<i>Panicum repens</i>)	1.38
Total 2014			79.4
2014	Bayou Liberty	Alligator weed	69.12
2014	Bayou Liberty	Primrose	49.16
Total 2014			118.28
2014	Bayou Bonfouca	Alligator weed	12.43
2014	Bayou Bonfouca	Duckweed (<i>Lemna spp.</i>)	9.25
2014	Bayou Bonfouca	Para grass (<i>Urochloa mutica</i>)	9.6
2014	Bayou Bonfouca	Primrose	9.8
2014	Bayou Bonfouca	Torpedograss	1.19
Total 2014			42.27
2014	Bayou Cane	Alligator weed	1.25
2014	Bayou Cane	Primrose	0.13
2014	Bayou Cane	Torpedograss	0.38
Total 2014			1.76
2015	Bayou Lacombe	Alligator weed	37.32
2015	Bayou Lacombe	Duckweed	1.00
2015	Bayou Lacombe	Primrose	6.67

2015	Bayou Lacombe	Salvinia, Common	4.00
2015	Bayou Lacombe	Salvinia, Giant	351.36
2015	Bayou Lacombe	Torpedograss	2.0
Total 2015			402.33
2015	Bayou Liberty	Alligator weed	22.92
2015	Bayou Liberty	Duckweed	11.62
2015	Bayou Liberty	Primrose	17.53
2015	Bayou Liberty	Salvinia, Common	8.30
2015	Bayou Liberty	Water Hyacinth	0.83
Total 2015			61.20
2015	Bayou Bonfouca	Alligator weed	50.04
2015	Bayou Bonfouca	Duckweed	57.5
2015	Bayou Bonfouca	Primrose	22
2015	Bayou Bonfouca	Water Lettuce (<i>Pistia stratiotes</i>)	2.4
2015	Bayou Bonfouca	Southern Naiad (<i>Najas guadalupensis</i>)	2.8
Total 2015			134.74
2015	Bayou Cane	Alligator weed	0.75
2015	Bayou Cane	Primrose	0.75
2015	Bayou Cane	Salvinia, Common	0.6
2015	Bayou Cane	Torpedograss	0.9
Total 2015			3.00
2016	Bayou Lacombe	Southern Naid	2
2016	Bayou Lacombe	Alligator weed	8.5
2016	Bayou Lacombe	Duckweed	0.25
2016	Bayou Lacombe	Primrose	3.25
2016	Bayou Lacombe	Salvinia, Giant	205
2016	Bayou Lacombe	Torpedograss	0.5
2016	Bayou Lacombe	Water Hyacinth	8
Total 2016			227.5
2016	Bayou Cane	Alligator weed	6
2016	Bayou Cane	Salvinia,Giant	14
Total 2016			20
2016	Bayou Liberty	Alligator weed	26.5
2016	Bayou Liberty	Duckweed	2
2016	Bayou Liberty	Primrose	42
2016	Bayou Liberty	Salvinia, Common	13
2016	Bayou Liberty	Salvinia, Giant	1
2016	Bayou Liberty	Torpedograss	1.5
2016	Bayou Liberty	Water Hyacinth	13
Total 2016			99

2016	Bayou Liberty	Alligator weed	25.5
2016	Bayou Liberty	Duckweed	2
2016	Bayou Liberty	Primrose	57
2016	Bayou Liberty	Salvinia, Common	31
2016	Bayou Liberty	Torpedograss	13
2016	Bayou Liberty	Water Hyacinth	84
2016	Bayou Liberty	Water Lettuce	12
Total 2016			224.5
2017	Bayou Lacombe	Alligator weed	19.75
2017	Bayou Lacombe	Filamentous Algae	5
2017	Bayou Lacombe	Duckweed	0.75
2017	Bayou Lacombe	Primrose	29.5
2017	Bayou Lacombe	Salvinia, Common	16
2017	Bayou Lacombe	Salvinia, Giant	142
2017	Bayou Lacombe	Torpedograss	8
Total 2017			221
2017	Bayou Liberty	Alligator weed	21.03
2017	Bayou Liberty	Duckweed	1.7
2017	Bayou Liberty	Primrose	65.03
2017	Bayou Liberty	Salvinia, Common	72.3
2017	Bayou Liberty	Salvinia, Giant	34.1
2017	Bayou Liberty	Torpedograss	13.7
2017	Bayou Liberty	Water Hyacinth	83.45
2017	Bayou Liberty	Mosquito Fern (<i>Azolla caroliniana</i>)	0.7
Total 2017			292.01
2017	Bayou Bonfouca	Alligator weed	47
2017	Bayou Bonfouca	Duckweed	9
2017	Bayou Bonfouca	Primrose	64
2017	Bayou Bonfouca	Salvinia, Common	176.5
2017	Bayou Bonfouca	Salvinia, Giant	22
2017	Bayou Bonfouca	Torpedograss	22
2017	Bayou Bonfouca	Water Hyacinth	4.5
2017	Bayou Bonfouca	Mosquito Fern	5
Total 2017			350
2017	Bayou Cane	Alligator weed	3
2017	Bayou Cane	Primrose	3
2017	Bayou Cane	Salvinia, Giant	4
Total 2017			10

Recommendations:

Regular vegetation assessments and necessary herbicide applications will be made to ensure that all major waterways in the complex remain open and accessible. Requests for nuisance plant treatments primarily come from waterfront residents. LDWF will continue to prioritize and make treatments as necessary in this area. Additional assessments and herbicide applications will be made in areas containing large concentrations of giant salvinia. Giant salvinia will be treated as specified in the current LDWF Aquatic Herbicide Application Procedures:

April 1 - October 31: glyphosate (0.75 gal/acre)/diquat (0.25 gal/acre)/Turbulence (or approved equivalent, 0.25 gal/acre)

November 1 – March 31: diquat (0.75 gal/acre)/90:10 non-ionic surfactant (0.25 gal/acre).

Alligator weed will be treated with imazamox (0.5 gal/acre) in developed areas or imazapyr (0.5 gal/acre) in undeveloped areas with no restrictions. A methylated seed oil surfactant (0.25 gal/acre) will be added to either of the two alligator weed treatments to improve efficacy.

Water hyacinth will be treated with 2,4-D (0.5 gal/acre) and a 90:10 nonionic surfactant (1 pint/acre).

Giant salvinia weevils (*Cyrtobagous salviniae*) will continue to be stocked in areas containing dense populations of the plant. The goal is to establish a self-sustaining population that could potentially provide long-term control.

Containment boom will be strategically placed throughout the complex in an effort to keep giant salvinia from infesting previously unaffected areas. Specifically, infestations of giant salvinia in the shallow marshes within Big Branch NWR will be boomed off to keep giant salvinia from moving into the bayou, as these areas are very difficult to treat by boat.