

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

2018 AQUATIC VEGETATION CONTROL PLAN

SIBLEY LAKE

1. Waterbody type – Impoundment of Young’s Bayou.
2. Age and condition of control structure – Constructed in 1962. Condition – good.
3. Type of control structure – A drop inlet spillway with a maximum capacity of 3,500 cubic feet per second.
4. Water level range (MSL) – Pool stage 116.0 >MSL; High – 122 >MSL; Low – 98.5 >MSL.
5. Surface area range – Pool stage – 2,175 acres. High – Information not available. Low – Information not available.
6. Average depth – At pool stage – 7 feet.
7. Watershed ratio – 11.8:1.
8. Drawdown potential of structure – 17.5 feet below pool stage.
9. Waterbody Board or Lake Commission – Sibley Lake is jointly owned and jointly operated by the City of Natchitoches and Water Works District No. 1.
 - a. Creation / Nomination – The Natchitoches Parish Waterworks District No.1 was incorporated on December 1, 1959 by the Natchitoches Parish Police Jury, under the provisions of the Lawrason Act. The District operates under a Board of Commissioners form of government with 7 board members serving limitless terms. Board members are recommended by the Mayor of the City of Natchitoches and confirmed by the Natchitoches City Council
 - b. Primary contact information – Sibley Lake Custodian, Brian Wimberly. Telephone – 318-357-3850.
 - c. Procedure for spillway openings – The Louisiana Department of Wildlife and Fisheries (LDWF) contacts Sibley Lake custodian. Custodian contacts Mayor of Natchitoches. Mayor contacts Waterworks District No. 1 Board of Commissioners.

DRAWDOWN HISTORY				
Date Opened	Date Closed	Purpose	Results	Issues
October 31,1973	January 15,1974	<i>Vegetation Control</i>	Good	None
October 1974	January 1975	<i>Vegetation Control</i>	Good	None
October 1975	January 1976	<i>Vegetation Control</i>	Good	None
October 1976	January 1977	<i>Vegetation Control</i>	Good	None
October 1977	January 1978	<i>Vegetation Control</i>	Good	None
December 1992	January 1993	PCB Cleanup at Tennessee Gas Pumping Station	Good	No LDWF related issues.

10. What significant stakeholders use the lake?

The primary purpose of the lake is to serve as a water source for the City of Natchitoches and Natchitoches Parish Waterworks District Number One. The interests of all other stakeholders including shoreline property owners, anglers and boaters are considered secondary to that purpose.

11. What are their needs and concerns?

Maintenance of a reliable potable water source is paramount in the operation of Sibley Lake. Water level should remain at or above 108' MSL to ensure proper operation of potable water intake located at 106' MSL. Shoreline property owners as well as anglers and boaters desire sufficient water levels and control of nuisance aquatic vegetation to facilitate their access and usage of the lake.

12. What is the history of aquatic vegetation complaints?

Aquatic plant complaints at Sibley Lake have been minimal in recent years. The presence of giant salvinia (*Salvinia molesta*) and the typical growth pattern exhibited by this plant has resulted in sporadic complaints since 2008. Although hydrilla (*Hydrilla verticillata*) occurs in Sibley Lake, no treatments or control measures directed towards this plant species have been implemented by LDWF in recent years.

13. Have there been any controversial issues on the lake?

In 1988 polychlorinated biphenyls (PCBs) were found to be in concentrated amounts in soils near the drainage outlet of the Tennessee Gas Pumping Station and to a lesser extent in soils of the inlet leading from the plant to the open area of the lake. The chemical was found to be in fish tissue samples taken from the lake. A cleanup of a one acre "hotspot" at the Tennessee Gas Transmission drainage outlet began in November of 1992 and was completed in February of 1993. The lake was lowered to facilitate this cleanup.

Aquatic Vegetation Status:

On August 30, 2011 the total coverage of aquatic vegetation at Sibley Lake was as follows:

Giant salvinia (*Salvinia molesta*) - 3 acres
Common salvinia (*Salvinia minima*) - 1 acre
Water hyacinth (*Eichhornia crassipes*) - 1 acre
Alligator weed (*Alternanthera philoxeroides*) - 25 acres
American lotus (*Nelumbo lutea*) - 10 acres

On January 1, 2013 the total coverage of aquatic vegetation at Sibley Lake was as follows:

Giant salvinia - 2 acres
Common salvinia) - 1 acre
Water hyacinth - 1 acre
Alligator weed - 25 acres
American lotus - 8 acres

On September 4, 2013 the total coverage of aquatic vegetation at Sibley Lake was as follows:

Giant salvinia – 35.5 acres
Water primrose (*Ludwigia spp.*) – 48 acres
Chara (*Chara spp.*) – 253 acres
Giant cutgrass (*Zizaniopsis miliacea*) – 35.5 acres
Smartweed (*Polygonum hydropiperoides*) – 31.5 acres
American lotus – 57.5 acres
Illinois pondweed (*Potamogeton illinoensis*) – 36 acres

On November 24, 2014 the total coverage of aquatic vegetation at Sibley Lake was as follows:

Giant salvinia – 17 acres
Giant cutgrass – 60 acres
American lotus – 35 acres
Illinois pondweed – 42 acres

On December 19, 2017 the total coverage of aquatic vegetation at Sibley Lake was as follows:

Giant salvinia – 19 acres
Giant cutgrass – 35 acres
American lotus – 6 acres
Illinois pondweed – 22 acres
Chara – 130 acres

No plants designated as beneficial species are found in Sibley Lake. No plans exist to introduce any vegetation into Sibley Lake.

Limitations:

- No physical factors exist which would significantly limit the effectiveness of control measures at Sibley Lake.
- Natchitoches Parish is located within the Louisiana Department of Agriculture and Forestry's 2,4-D waiver area. A waiver is needed to apply 2,4-D between March 15 and September 15 of each year.
- As previously stated, the primary purpose of this lake is to serve as a potable water source. Therefore, any plan for chemical treatments must include consideration of potable water quality. Additionally, the drawdown capability of the control structure exceeds the water level range required for successful operation of the potable water intake. Drawdowns should be limited to 8 feet in most cases. Shoreline development is significant and should be considered when planning foliar applications of herbicides near the shoreline.

Past Control Measures:

A five-consecutive-year drawdown schedule was completed in January 1978. The drawdowns were intended to control hydrilla (*Hydrilla verticillata*) and were deemed

successful.

In recent years, LDWF has participated in a joint effort with City of Natchitoches and Natchitoches Parish Waterworks District Number One to make foliar applications of herbicides primarily for the control of salvinia and lotus species. A table containing acreages of recent foliar herbicide applications made by LDWF personnel is given below.

YEAR	Giant Salvinia (Acres)	Common Salvinia (Acres)	American Lotus (Acres)	Alligator Weed (Acres)	Water Lily (Acres)	Water Hyacinth (Acres)	Cutgrass (Acres)
2007			24				
2008	75	2					
2009	142	3	5	17	1		
2010	16						
2011	6	0.27				1	
2012	1						
2013	402		23				1
2014	1						
2015	7		2				
2016	51						
2017	170			2.40			

The City of Natchitoches and Natchitoches Parish Waterworks District Number One conducts an aggressive control effort toward control of aquatic vegetation at Sibley Lake. The District has purchased and maintains spray equipment including a boat-based sprayer. The District purchases herbicides, as they deem necessary, to conduct their spray operations. The District occasionally contacts LDWF for assistance when they feel it is needed. LDWF responds by providing staff, equipment and chemicals to make herbicide applications as requested.

Past foliar applications of herbicide applied by both the Waterworks District and LDWF staff have consisted of diquat at a rate of 0.75 gallons per surface acre for control of giant salvinia and common salvinia. American lotus and water hyacinth have been treated with 2,4-D at a rate of 0.5 gallons per acre. Alligator weed has been treated with glyphosate at a rate of 0.75 gallons per acre.

Recommendations:

It is recommended to continue a cooperative effort with the Natchitoches Parish Waterworks District for the control of aquatic vegetation at Sibley Lake. LDWF will continue to serve in an advisory role for the District, and assist with herbicide applications as needed.

Salvinia species and hyacinth will be treated with foliar applications of a mixture of glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Turbulence (or approved

equivalent, 0.25 gal/acre) surfactant from April 1 to October 31. Outside of that period, diquat at a rate of 0.75 gallons per acre will be used with 0.25 gallons per acre of a non-ionic surfactant. American lotus, water lily and water hyacinth should be controlled by foliar applications of glyphosate at a rate of 0.75 gallons per acre. Alligator weed should be controlled with imazapyr (0.5 gal/acre) in undeveloped areas or imazamox (0.5 gal/acre) near homes and developed shorelines with Turbulence surfactant (or approved equivalent, 0.25 gal/acre). A non-ionic surfactant will be added to all standard foliar herbicide treatments at a rate of 0.25 gallons per acre.

Typemap

No typemap is currently available for Sibley Lake. A map of the lake is given below.

