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2013 Lower Sunk Lake Aquatic Vegetation Control Plan

LDWF, Inland Fisheries

Concordia Parish
Map in Appendix I

1. Waterbody type –Natural Lake
2. Age and condition of control structure – no drawdown capabilities
3. Type of control structure - Concrete weir
4. Water level range (MSL)- Pool stage 33.0'
5. Surface area range - 680 acres
6. Average depth - 3.5' at pool stage
7. Watershed ratio – 3:1
8. Drawdown potential of structure – No drawdown capabilities
9. Waterbody Board or Lake Commission – Lower Sunk Lake is under control of Louisiana Department of Wildlife and Fisheries (LDWF) and located on Three Rivers WMA. Management recommendations and decisions are presented to the Wildlife Division Biologist Manager for the WMA. Upon approval of the Wildlife Division of LDWF, management actions are implemented. In the past, many of the management decisions have been initiated by request for assistance from the local wildlife biologist.

No intentional drawdowns have been conducted.

What significant stakeholders use the lake?
Recreational and commercial fishermen and waterfowl hunters

What are their needs and concerns? What is the history of aquatic vegetation complaints?
Hydrilla was discovered in the lake in 2003 and by 2006 the lake was almost completely covered. During this time, hydrilla complaints became common. Currently, hydrilla complaints occur during times when conditions allow the hydrilla to proliferate. The complaints are generally initiated due to boating access issues. Numerous complaints about lotus are typically received during late summer.

Have there been any controversial issues on the lake?
No issues at this time.

Aquatic Vegetation Status:

As of 07-12-2012 there was less than 5 acres of submerged vegetation. It included trace amounts of coontail and hydrilla. The primary vegetation was American lotus which covered approximately 95% of the lake and encompassed nearly 600 acres. Duckweed and common salvinia were observed near the boat ramp, however coverage of both species combined was less than 1 acre.

Aquatic vegetation for 2013 will include an estimated 600 acres of submerged vegetation (primarily hydrilla) and 600 acres of lotus which will cover the lake in the late summer. If spring river levels rise such that backwaters enter the lake, submerged vegetation will likely be less than 100 acres.

Limitations:

Note factors that may limit the effectiveness of chemical, mechanical, or biological control methods for the aquatic plant problems found in the waterbody.

- Red River backwater enters the lake periodically**.**
- No drawdown capability.

Note regulatory or public factors or anything else that may limit the ability of LDWF to control aquatic plant problems in the water body.

- Restriction on use of 2, 4-D in cotton growing area from March 15-September 15.

Past Control Measures -

In 2007, there was 70% coverage of hydrilla which was treated with fluridone Seventy (70) gallons of Sonar AS were applied to the lake. The application eliminated the hydrilla in the entire lake. In the spring of 2008, 2400 triploid grass carp (TGC) between 8” and 12” were stocked. In 2009, a commercial fisherman caught and released 20 TGC in gill nets. Since the TGC stocking, several high water events have occurred, allowing opportunity for TGC escapement.

Hydrilla returned in 2010 and several herbicide treatments were conducted. In early spring, an in-water injected treatment of sixty six (66) gallons of Clearcast was applied to 73 acres and it resulted in very little reduction in hydrilla. In May, ninety-five (95) gallons of Aquathol K and 600 pounds of Aquathol Super K were applied to 158 acres of hydrilla and no reduction in plant coverage was observed. Following the treatments mentioned above, 200 acres of hydrilla were treated with fluridone. Three hundred pounds of granular Sonar PR and two (2) gallons of Sonar AS were applied to 200 acres of hydrilla located on the northeast and east sides of the lake. The results of the Sonar application were positive and an 80% reduction in hydrilla was observed in those areas of the lake.

No vegetation control measures were conducted in 2012.

Aquatic Vegetation Control

Year	Acres	Vegetation
2005	7	Water Hyacinth
	103	American Lotus
2007	680	Hydrilla
2008	162	American Lotus
	3	Common Salvinia
2009	3	Alligator Weed
	30	American Lotus
	22	Pennywort
	3	Common Salvinia
2010	42	Alligator Weed
	388	American Lotus
	430	Hydrilla
	11	Pennywort
	7	Water Hyacinth

Herbicides have been applied at the following rates:

Glyphosate (Aquamaster, Aquastar, etc.): Used at a rate of 0.75 gallons per acre to treat alligator weed, water hyacinth, and common salvinia during the active growing period.

Diquat (Reward, Knockout): Used at a rate of 0.75 gallons per acre to treat alligator weed, water hyacinth, and and common salvinia during the slower growing period or winter months.

2,4- D (Platoon): Used at a rate of 0.50 gallons per acre to treat water hyacinth, American lotus, and pennywort.

Surfactant is added at a rate of 1:4 (surfactant: herbicide) for all herbicides.

A field investigation was conducted on 7/27/11. During the spring flood of 2011, high water in the Mississippi River prevented normal downstream flow in the Red River. This caused the Red River water to back flow into Lower Sunk Lake. The flooding occurred from March 10th through July 18th, 2011. Only a small amount of submerged vegetation was found after the flood event. The water level rose 7 feet above the normal pool level. (See type map).

Recommendations

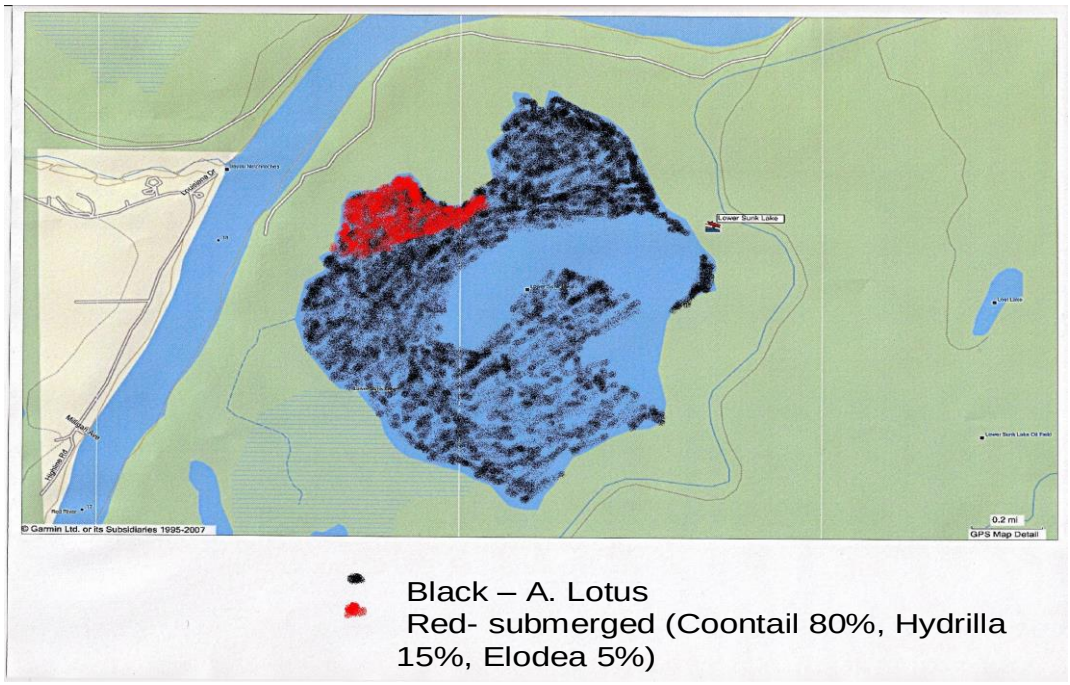
LDWF will continue to monitor the lake annually for the introduction of nuisance aquatic weeds.

Dynamic water fluctuation in association with the Red River is recognized as the dominant factor of influence for aquatic vegetation in Lower Sunk Lake. Future management efforts will be conducted with that consideration.

Appendix I (Map of Lower Sunk Lake)

Typemap

Lower Sunk Lake Type Map 7/27/11



A vegetation survey was conducted July 27, 2011. Due to high water levels in the spring submergent vegetation was minimal. An area less than 50 acres had coontail, hydrilla and elodea. The majority of the lake, approximately 500 acres was covered by American lotus.

Vegetation Survey

July 12, 2012

Conducted by: Ricky Moses, Lynn Mathews, and Rick McGuffee

A vegetation survey was conducted on Lower Sunk Lake on July 12, 2012. During this time the water level was lower than normal due to low rainfall conditions. The average depth was approximately three feet. American Lotus was the primary vegetation with 95% coverage. There were scattered fragments of hydrilla and coontail observed. No mats of either vegetation were observed and coverage was less than 5 acres. There were also small scattered patches of white water lily in several areas. Duckweed and common salvinia were present mainly in the channel leading from the boat ramp to the lake these encompassed less than 1 acre combined.