LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

2020 AQUATIC VEGETATION CONTROL PLAN

MILL CREEK RESERVOIR

Date Lake Formed - Impounded in 1971.

Waterbody Type – Upland reservoir, created from the impoundment of Mill Creek

Parish – Bienville Parish near the town of Saline

Age and condition of control structure – approximately 49 years old, good condition. Minor leaking inside box culverts, access ladder needs to be replaced.

Type of control structure – spillway constructed from two, eight feet by nine feet reinforced concrete box culverts that create a weir 50 feet in length set at an elevation of 200 MSL. The structure has one gate which facilitates drawdowns through a 48 inch diameter outflow conduit.

Water level (MSL) – 200 MSL at normal pool stage. Normal seasonal water level fluctuations from approximately 199 MSL to 201 MSL.

Surface area – 560 acres at normal pool stage, normal water level fluctuations do not greatly alter the surface acreage due to shoreline contour

Average depth – 10.6 feet at normal pool stage

Watershed ratio – 14.4:1

Drawdown Potential of structure – lake can be completely dewatered. Depth and timing of drawdowns may be impacted by the need for the dry hydrants in the lake by the local fire department.

Lake Commission – Mill Creek Recreation and Water Conservation District Commission

Creation / Nomination – The Mill Creek Recreation and Water Conservation District Commission created by state statute (Appendix I). Members are appointed by the Bienville Parish Police Jury (Appendix I).

Mill Creek Recreation and Water Conservation District Commission

Name	Address	Term Expires
Ann Garlington (President)	800 Sand Springs Rd. Saline, LA 71070	12/31/21
Scott Thrasher		12/31/23
Marian Morgan	240 Henry Mauthe Rd. Castor, LA 71016	12/31/23
Rusty Kaiser		12/31/21
Danny Carr		12/31/23

Rodney Warren – Secretary of the Bienville Parish Police Jury. 318-263-2019

Procedure for spillway openings – Lake Commission is responsible for operation and maintenance of the control structure, spillway and dam. DOTD performs annual safety inspections of the dam and associated structures. When management from the fisheries/vegetation aspect is required, LDWF will propose the drawdown to the Lake Commission for their input.

Drawdown history of Mill Creek Reservoir from 1980 to 2019.

Date Opened	**Date Closed**	**Depth Below Pool**	**Purpose**	**Results**	**Issues**
11/25/1980 (approx.)	1/1/1981 (approx.)	Unknown	Shoreline maintenance	Unknown	None known
Post Labor Day 1986	January 1987	6 Feet	Shoreline maintenance and aquatic vegetation control	Good	None known
9/8/1999	1/14/2000	5 Feet	Shoreline maintenance, erosion control, stump clearing	Unknown	No water for dry hydrant
9/24/2007	1/15/2008	7 Feet	Aquatic vegetation control and shoreline improvements	Good	None known
9/8/2014	1/31/2015	7 Feet	Shoreline maintenance and vegetation control	Good	None
9/4/2018	1/15/2019	7 Feet	Shoreline maintenance and vegetation control	Good	None

What significant stakeholders use the lake?

Mill Creek Reservoir is primarily used by lake residents, anglers, and recreational boaters.

What are their needs and concerns?

The primary concern of shoreline residents is access to the lake from their homes and camps, and aesthetics. Fishing access is generally a concern only in the upper end of the lake and the backs of coves.

What is the history of aquatic vegetation complaints?

There are occasional aquatic vegetation complaints in the upper end of the lake and the backs

of some coves near camps. Drawdowns generally provide several seasons of control for submersed vegetation.

Have there been any controversial issues on the lake?

There are generally few controversial issues on the lake. One instance which was easily resolved was the scheduling of a drawdown during a water shuttle test by the local fire department. The only dry hydrant in the area would not have been functional during this drawdown, so the drawdown was postponed until the following year.

Aquatic Vegetation Status:

Vegetation coverage on Mill Creek Reservoir was generally reduced from most years following the drawdown of 2018/2019. Currently there are no areas on the lake where vegetation is problematic, and emergent vegetation is difficult to find except in the back ends of some of the coves and the extreme upper end of the lake. Submersed aquatic vegetation is present out to the eight ft. contour, but coverage is sparse in most areas and it is not problematic. Currently, only about 7% of the lake can be described as having moderate or severe coverage of aquatic vegetation.

Giant salvinia (*Salvinia molesta*) was discovered on Mill Creek Reservoir in 2013. The lake has been monitored for the presence of giant salvinia and additional herbicide applications have been made as necessary since 2013. To date, salvinia has remained at low levels, usually only mixed with other species of shoreline vegetation. No large mats have been formed, and salvinia has not impacted recreational use of the lake.

See Appendix I for 2019 Vegetation Survey.

Limitations:

Depth and timing of drawdowns may be limited by the need for the dry hydrants utilized by the local fire department.

Shallow areas and dense stands of hardwood stumps make herbicide applications difficult on the upper end of the lake.

Past Control Measures:

Historic aquatic plant control efforts have included drawdowns which generally have provided several seasons of relief from submersed aquatic vegetation. Foliar herbicide applications to emergent aquatic vegetation along the inhabited shoreline areas have provided some relief to shoreline property owners trying to access the lake from their homes or camps. Historically, glyphosate or 2,4-D have been used for control of shoreline species at a rate of 0.5 gallons per acre with 0.25 gallons per acre of a 90:10 nonionic surfactant.

Three herbicide treatments were made on Mill Creek in 2019. Approximately 13 acres of watershield (*Brasenia schreberi*) and 2.6 acres of giant salvinia were treated using

glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Turbulence (0.25 gal/acre) surfactant.

Recommendations:

Foliar herbicide treatments will be made in accordance with the approved LDWF Aquatic Herbicide Application Procedures on an as-needed basis to control watershield in problem areas near inhabited shorelines. Watershield will be controlled with foliar applications of imazamox (Clearcast) at 0.5 gallons per acre with Turbulence surfactant at 0.25 gallons per acre.

Surveys to check for giant salvinia regrowth on Mill Creek Reservoir will be performed periodically (approximately every 6 weeks). Subsequent applications will be conducted as necessary following the approved LDWF Aquatic Herbicide Application Procedures below:

Plant Species	Herbicide	Surfactant
Common/Giant Salvinia (April 1 to October 31)	Glyphosate (0.75 gal/acre) + Diquat (0.25 gal/acre) or Clipper SC (2 oz./acre)	Turbulence (or approved equivalent, 0.25 gal/acre)
Common/Giant Salvinia (November 1 to March 31)	Diquat (0.75 gal/acre)	Nonionic surfactant (0.25 gal/acre)
Water Hyacinth (*Pontederia crassipes*)	2, 4-D (0.5 gal/acre)	Nonionic surfactant (1 pint/acre)
Water Hyacinth in waiver areas (March 15 to September 15)	Glyphosate (0.75 gal/acre)	Nonionic surfactant (0.25 gal/acre)
Alligator Weed (*Alternanthera philoxeroides*, undeveloped areas)	Imazapyr (0.5 gal/acre)	Turbulence (or approved equivalent, 0.25 gal/acre)
Alligator Weed (developed areas)	Imazamox (0.5 gal/acre)	Turbulence (or approved equivalent, 0.25 gal/acre)
American Lotus (*Nelumbo lutea*)	2, 4-D (0.5 gal/acre)	Nonionic surfactant (1 pint/acre)
American Lotus in waiver areas (March 15 to September 15)	Glyphosate (0.5 gal/acre)	Nonionic surfactant (0.25 gal/acre)
American Lotus in waiver areas with potable water intakes (March 15 to September 15)	Triclopyr (0.5gal/acre)	Turbulence (or approved equivalent, 0.25 gal/acre)
Duckweed (*Lemna spp*.)	Diquat (1.0 gal/acre)	Nonionic surfactant (0.25 gal/acre)
Cuban Bulrush (*Oxycaryum cubense*, sedge)	2, 4-D (0.5 gal/acre)	Nonionic surfactant (1 pint/acre)
Cuban Bulrush (sedge) in waiver areas (March 15 to September 15)	Glyphosate (0.75 gal/acre)	Nonionic surfactant (0.25 gal/acre)
Water Lettuce (*Pistia stratiotes*)	Diquat (1.0 gal/acre)	Nonionic surfactant (0.25 gal/acre)

The Mill Creek Aquatic Vegetation Control Plan will be updated and presented to the Mill

Creek Recreation and Water Conservation District Commission on an annual basis.

Type map

Vegetation type map surveys were conducted annually by the Aquatic Plant Control Section from 1980-1985, then 1988-1995, 1997-2001, and 2017-2019 by the Inland Fisheries Division.

Appendix I.

Mill Creek Reservoir
Aquatic Vegetation Assessment
July 17, 2019

An aquatic vegetation assessment was performed on Mill Creek Reservoir in Bienville Parish on July 17, 2019. The survey was conducted by Inland Fisheries Biologists James Seales and Holden Poole. The lake was approximately one inch above pool stage at the time of the survey. The water was moderately stained and had a very light algal bloom.

The majority of Mill Creek Reservoir is not adversely affected by aquatic vegetation. Approximately 7% of the lake has vegetation coverage that could be described as moderate or severe. Only the extreme upper end of the lake and the backs of some coves had significant coverage.

The fall / winter drawdown conducted in 2018 – 2019 reduced overall vegetation coverage and density compared to that observed during the 2018 survey. No access issues from aquatic vegetation around residences were noted during the survey.

Water shield was the predominant emerged plant found on the lake. Other emergent vegetation included: creeping water primrose (*Ludwigia peploides*), alligator weed, water pennywort (*Hydrocotyle spp*.), and fragrant water lily (*Nymphaea odorata*). Most of these plants were in water less than three ft. deep; but, water shield and a few patches of fragrant water lilies were found in five to six ft. of water.

Marginal aquatic vegetation was widely scattered along the shoreline of the lake. Clumps of wild taro (*Colocasia esculenta*), torpedo grass (*Panicum repens*), bulrush (*Scirpus spp*.) and cattails (*Typha spp*.) were found at very low densities.

Submersed vegetation was found in most areas out to six to eight ft. deep. The submersed vegetation was topped out only in the extremely shallow areas and was found to be only growing two to three ft. up from the lakebed in most areas. The primary species were slender spikerush (*Eleocharis tenuis*), bladderwort (*Utricularia spp.*), fanwort (*Cabomba caroliniana*) and variable-leaf watermilfoil (*Myriophyllum heterophyllum*). Filamentous algae (various species) and southern watergrass (*Luziola fluitans*) were also present in a couple of locations. Approximately 35% of the lake contained varying levels of this mixture of submerged vegetation.

Giant salvinia was only found in one location on the lake, and was estimated to be less than 1 acre in total. Very few primary and secondary stage plants were observed mixed in with some watershield in a protected cove.

RS 38:3087.51

PART XVIII. MILL CREEK RECREATION AND WATER CONSERVATION DISTRICT

§3087.51. Creation

There is hereby created a recreation and water conservation district to be known as the "Mill Creek Recreation and Water Conservation District".

Acts 1995, No. 443, §2, eff. June 17, 1995.

RS 38:3087.57

§3087.57. Powers of the board

A. In order to accomplish the purposes for which the district is created, the board of commissioners may:

(1) Purchase, acquire by donation, hold, sell, and convey immovable and movable property and execute such contracts as it may deem necessary or convenient to enable it to properly carry out the purposes for which it is created.

(2) Acquire servitudes and rights of use by purchase, by donation, and by assignment for the district or otherwise.

(3) Assist in conserving soil and water and in developing the water resources of the district, provided nothing shall be done to interfere with districts or municipalities previously organized under Louisiana law.

(4) Cooperate with the state Department of Transportation and Development and other state agencies in the maintenance or improvement and the construction of any works or improvements for the control, retention, diversion, or utilization of water; retard runoff of water and soil erosion; construct any ditch, channel improvement, dike, dam, or levee, and repair, improve, and maintain any of said improvements or structures.

(5) Manage and control the water level and growth of aquatic plants in the creek.

(6) Employ and hire secretarial, clerical, and other such personnel as may be necessary in the operation of the business of the district and fix their compensation; employ engineers, attorneys, and other professional personnel as necessary and fix their compensation.

(7) Levy taxes, issue bonds, and incur indebtedness within the limitations prescribed by the constitution and laws of Louisiana, and in the manner prescribed thereby.

(8) Cooperate and contract with persons, firms, associations, partnerships, private corporations, cities of this state, or other public corporations, and with any other local, state, and governmental agencies for the sale or use of any waters impounded by the district.

(9) Grant franchises to telephone, telegraph, cable, and electric power companies and grant franchises for the purposes of laying gas, sewer, electricity, or other utilities to supply the inhabitants or any person or corporation with gas, water, sewerage, and electricity, when such construction is within the district. Nothing contained in this Part shall affect the vested rights of any corporation which pursuant to R.S. 45:781(A), has constructed, and maintains

and operates telegraph, telephone, and other lines for the transmission of intelligence prior to June 17, 1995.
(10) Appoint, hire, designate, and empower wardens, rangers, patrols, and such other personnel as may be deemed necessary by the commission for the enforcement of such regulations as may be promulgated and adopted by said commission.
(11) Do and perform any and all things necessary or incidental to the fulfillment of the purposes for which the district is created.
B. The Mill Creek Recreation and Water Conservation District shall have, with respect to the improvements and maintenance of the district, the advice of the Department of Transportation and Development, and it shall request from time to time the assistance of the department to make such surveys, inspections, and investigations, render such reports, estimates, and recommendations, and furnish such plans and specifications as the board of commissioners of said district may request.
C. The district is hereby authorized to incur debt for any one or more of its lawful purposes, to issue in its name negotiable bonds or certificates of indebtedness evidencing such debt, and to provide for the security and payment thereof as follows:
(1) To issue certificates of indebtedness maturing within one year from date of issuance to evidence money borrowed in anticipation of current revenues for the administration, operation, construction, and maintenance costs and expenses of the district, which certificates shall be payable in principal and interest from any available income, revenues, fees, or taxes pledged to their payment by the district.
(2) To issue bonds substantially in the manner set forth in Article VI of the Constitution of Louisiana, and other authority supplemental thereto, particularly Part III of Chapter 4 of Subtitle II of Title 39 of the Louisiana Revised Statutes of 1950. Such bonds shall be payable from an ad valorem tax on all taxable property in the district sufficient to pay such bonds in principal and interest, when approved by vote of a majority in number of the qualified electors voting on the proposition at an election held for that purpose. Such bonds shall be issued in the manner provided by the law pursuant to which they are being issued and the maximum interest rate for the bonds shall be that prescribed by such law. The bonds shall be issued in such amount or amounts as the board of commissioners shall determine. However, the principal amount of all such bonds outstanding as of the date of the issuance of any new bonds shall never exceed ten percent of the assessed valuation of the taxable property within the district, to be ascertained by the last assessment roll of record in Bienville Parish.
(3) The district shall have additional authority to levy taxes under the provisions of Article VI, Section 32 of the Constitution of Louisiana, for the purpose of improving, operating, and maintaining its facilities, providing any such tax shall first be approved at an election held for said purpose in accordance with the Louisiana Election Code.
(4) The copy of any resolution levying a tax, certified by the secretary of the board of commissioners of said district, shall be transmitted to the tax assessor of Bienville Parish on or before the first of the year in which the tax is to be assessed and collected, and it shall be the duty of the assessor to assess the tax and extend the same upon the tax rolls of the parish. The tax shall be collected by the sheriff and ex officio tax collector of Bienville

Parish in the same manner as taxes levied by the parish. Taxes assessed shall constitute the same liens upon the property assessed, shall bear the same penalties, and collection thereof shall be enforced in the same manner and at the same time as parish taxes.
Acts 1995, No. 443, §2, eff. June 17, 1995.