

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

2018 AQUATIC VEGETATION CONTROL PLAN

VERNON LAKE

1. Waterbody type – Impoundment of Anacoco Creek
2. Age of structure - Vernon Lake was formed in 1963 as a result of Act 277 of the 1948 Legislature which established the Anacoco Prairie Game and Fish Preserve and setting aside some 5,379 acres for the construction of recreational waters and lands.
3. Type of Control Structure – Spillway/ lowhead dam and 1 drawdown gate
4. Water level - 245.0 MSL at spillway crest; Tailwater elevation 206.0 MSL
5. Surface area - 4,200 acres (56,700 acre feet storage)
6. Average depth – 23 feet
7. Watershed ratio - The watershed comprises 112 square miles (71,680 acres) of area. The watershed to lake/ratio is 17:1
8. Drawdown potential of Structure –
 - Under ideal conditions, the lake can be drawn down about 4” per day with the gates opened to maximum height.
 - Gate size – 6’ x 6’
 - Number of gates – 2; dual gates placed in line, one in front of the other
 - Construction – reinforced concrete control structure
 - Condition – Good – refurbished in 2009
 - Flow rate – draw down 4”/day under ideal conditions

 - Spillway:
 - Spillway location – the spillway is located on the eastern end of Vernon dam at the spillway park.
 - Spillway crest length – 300’ at 245.0’ MSL
 - Condition – Good to fair – refurbished joint compound in 2009
 - Flow rate – present spillway design flood – 29,100 cubic feet per second
9. Lake Authority –
 - Act 858 of the 1981 Legislature abolished some 19 special game and fish commissions including the Anacoco Prairie Game and Fish Commission which governed Vernon Lake. Authorities for lakes & structures were transferred to the Louisiana Department of Wildlife & Fisheries. However, parish government under state law can select/appoint a panel of interested/concerned citizens to

serve on committees in an advisory capacity to the jury. This process was utilized and the Vernon Parish Game & Fish Commission was created to fill that role with respect to fish & wildlife issues in the Parish.

Vernon Parish Game and Fish Commission

Vernon Parish Game and Fish Commission

Jason Nolde, Chairman

C/O Vernon Parish Police Jury

P.O. Box 1548

Leesville, LA 71446

Authorization – Seven members are selected by the Police Jury to serve at the leisure of the Police Jury in an advisory capacity only; current civilian members include Arno Arpke, Sam Fertitta, Mark Koury, Jason Nolde (Chairman), Jody Patterson (Secretary), Randy Bennett, Tim Goodwin, and Jury members David Brister, and Melvin Haymon.

10. What significant stakeholders use the lake?

Area fishermen and property holders around the lake

11. What are their needs and concerns?

Control of nuisance aquatic weeds that include common salvinia, alligator weed, and primrose and to continue to have a reliable fishery.

12. What is the history of aquatic vegetation complaints?

Aquatic vegetation complaints are not abundant in number and are mostly for areas located in the shallow coves on the lake.

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

Turbidity has been an issue in the past, but in the last few years has improved.

Past Control Measures:

Biological:

None

Chemical:

Vernon Lake does not have a history of problematic vegetation. Chemical treatments are concentrated in shallow coves, often associated with home sites. Primary target species are primrose and alligator weed (Table1). These two species have been treated with imazapyr (0.5 gal/acre), except in areas with shoreline development. Imazamox (0.5 gal/acre) is used near homes and camps. Both herbicides are applied with Turbulence (0.25 gal/acre) surfactant.

Table 1. Vernon Lake herbicide treatment history 2006-2017.

Year	Number of Treatments*	Acres Treated	Primary Vegetation Treated
2006	2	5.4	Common salvinia
2010	1	10	Primrose, Alligator weed, Knotweed
2011	1	22	Primrose, Water lily, Knotweed
2012	2	62	Primrose, Common salvinia, Alligator weed, Water lily, Knotweed
2013	3	41	Primrose, Water hyacinth, Alligator weed
2014	2	66	Primrose, Alligator weed, Common salvinia
2015	5	195	Primrose, Alligator weed, Common and Giant salvinia
2016	3	124	Alligator weed, Parrot's feather, Primrose, Water shield
2017	3	86.3	Common and Giant salvinia**

*For reporting purposes, a treatment is defined as one crew working for one day.

**Total for year. Drawdown started after Hurricane Harvey due to landslides on the dam.

Physical:

Vernon Lake is currently in a drawdown for construction and repair of private docks and bulkheads, repair of public ramps, and decomposition of organic material/bottom compaction. LDWF worked with the VPGFC on a drawdown schedule, which was finalized in early 2016, with a scheduled drawdown every 7 years.

Table 2. Vernon Lake drawdown history 1980 – 2017.

Date	Purpose	Success	Fishing Closure	Depth Below Pool	Who Operated Structure	Fish Kills
Sep 15, 1980 – Jan 15, 1981	Control nuisance aquatic vegetation	Good	No	8 – 10'	LDWF	No
Sep 15, 1985 – Jan 15, 1986	Replace spillway retainer wall – LDWF project to prevent erosion	Good	No	8 – 10'	LDWF	No
June 1 – Oct 31, 1991	Spillway apron and wall repairs	Good	No	8 – 10'	DOTD	No
Sep 15, 1995 – Jan 15, 1996	Wallop-Breaux Project – cutting & marking 7.5 miles of boat lanes	Good	No	8 – 10'	DOTD	No
Sep 15, 1998 – Jan 15, 1999	Re-mark boat lanes, property owner repairs	Good	No	8 – 10'	DOTD	No
Oct 1 – Nov 17, 2006	Inspect boat lanes and re-mark post hurricane Rita	Good	No	2 – 4'	DOTD	No
June 1 – Oct 31, 2009	DOTD repairs to structure, dam and spillway	Good	No	8 – 12'	DOTD	No
September 1, 2016 – January 3, 2017	Construction/repair of private and public docks, bulkheads, and ramps. Decomposition of	Great	No	8'	DOTD	No

	organic material and soil compaction.					
August 24, 2017-	The gates were opened in preparation for landfall of Hurricane Harvey. During the hurricane one landslide on the inside of the dam grew significantly and another formed on the backside reaching from just below the crown to the foot of the dam. The lake will remain down until repaired due to the danger of failure.	Still active	No	Currently 12.6	DOTD	No

Aquatic Vegetation Status:

Fall 2017

The lake was 12' below pool during the drawdown and no aquatic vegetation was observed where there was access to the lake.

Prediction for 2018

- Primrose (25 acres)
- Alligator weed (30 acres)
- Banana lily (200 acres)

Water shield (50 acres)

Limitations:

- Problem areas are concentrated in shallow coves. During dry summers and falls, evaporation can result in lower lake levels. The reduced water level promotes the growth of primrose and restricts access with boat mounted spray equipment.
- Due to the lack of complex cover for fish, existing vegetation is beneficial to the fishery. Occasional complaints are received regarding lily pads, but the spray technicians try to avoid spraying them when possible.

Recommendations:

Biological Control

None

Chemical Control

Treatments for control of primrose and alligator weed will be conducted as necessary with imazamox (0.5 gal/acre) and Turbulence (or approved equivalent, 0.25 gal/acre) surfactant in shallow flats and complaint areas near residences. Other problematic plants will be treated according to the approved LDWF Aquatic Herbicide Application Procedures.

Physical Control

None