

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

LAKE MARTIN

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

DOCUMENT SCHEDULED TO BE UPDATED EVERY FOUR YEARS

April 2012 - Prepared by
Jody David, Biologist Manager, District 6

June 2016 - Updated by
Jody David, Biologist Manager, District 6

Table of Contents

LAKE HISTORY	5
GENERAL INFORMATION	5
<i>Impoundment.....</i>	<i>5</i>
<i>Size</i>	<i>5</i>
<i>Water shed.....</i>	<i>5</i>
<i>Pool stage.....</i>	<i>5</i>
<i>Parish/s located.....</i>	<i>5</i>
<i>Border waters.....</i>	<i>5</i>
<i>Drawdown description</i>	<i>6</i>
<i>Who controls</i>	<i>6</i>
LAKE AUTHORITY	6
ACCESS.....	7
<i>Boat docks</i>	<i>7</i>
<i>Piers</i>	<i>7</i>
SHORELINE DEVELOPMENT.....	7
<i>State/National Parks</i>	<i>7</i>
<i>Shoreline development by landowners.....</i>	<i>7</i>
PHYSICAL DESCRIPTION OF THE WATER BODY	7
<i>Shoreline length</i>	<i>8</i>
<i>Timber type.....</i>	<i>8</i>
<i>Average depth.....</i>	<i>8</i>
<i>Maximum depth.....</i>	<i>8</i>
EVENTS / PROBLEMS	8
<i>Type map.....</i>	<i>10</i>
<i>Biomass</i>	<i>10</i>
<i>Treatment history by year available.....</i>	<i>10</i>
HISTORY OF REGULATIONS	11
<i>Recreational</i>	<i>11</i>
<i>Commercial.....</i>	<i>11</i>
DRAWDOWN HISTORY.....	12
<i>Drawdown dates.....</i>	<i>12</i>
<i>Who operates structures.....</i>	<i>13</i>
FISH KILLS / DISEASE HISTORY	13
CONTAMINANTS / POLLUTION	14
<i>Water quality.....</i>	<i>14</i>
BIOLOGICAL	14
<i>Fish sampling history.....</i>	<i>14</i>
<i>Gear</i>	<i>14</i>
<i>Lake records.....</i>	<i>16</i>
<i>Stocking history.....</i>	<i>16</i>
<i>Genetics.....</i>	<i>18</i>
<i>Threatened/endangered/exotic species</i>	<i>19</i>
CREEL	19
HYDROLOGICAL CHANGES	20
WATER USE	20

APPENDIX I	21
APPENDIX II	22

LAKE HISTORY

GENERAL INFORMATION

Date reservoir formed

Lake Martin, also known as Lake La Pointe, is an 800 acre impoundment located five miles south of Breaux Bridge, Louisiana. Lake Martin was formed in 1952 by constructing a levee around an existing natural lake. Water enters the impoundment only by rainfall and when high water in the Ruth Canal overflows the levees. This shallow water-body encompasses approximately 800 acres with approximately 200 acres of open water area. The remaining area is composed of cypress-tupelo swamp with thick growths of black willow (*Salix nigra*) and buttonbush (*Cephalanthus occidentalis*).

Impoundment

Owners – Multiple owners:

- State of Louisiana - water bottom
- Nature Conservancy
- Approximately 25 private land owners

Purposes for creation – Recreational Activities (fishing, boating, site seeing). Act 337 of 1950 passed by the Louisiana Legislature created the St. Martin-Lafayette Game and Fish Commission.

Size

800 acres

Water shed

none

Pool stage

10.5' above mean sea level (MSL)

Parish/s located

Located in west-central St. Martin Parish approximately five miles east of Lafayette, La. and five miles south of Breaux Bridge, LA. Road access is by the Lake Martin road from Hwy 31 to the east and from La. Hwy. 353 (Cypress Island Road) to the west. Lake Martin is situated at: Latitude: 30° 12' 18" N; and Longitude: 91° 54' 18" W.

Border waters

The Ruth Canal north of the lake provides water access to the levee from the Vermilion River.

Drawdown description

There is a 45-foot spillway with one gate used to conduct drawdowns.

Spillway length – 45 ft.

Gate size – 4 ft. x 4 ft. opening

Number of gates - 1

Condition – Good

Flow rate – gate fully opened can drop the lake 1 inch per day.

Sluiceway location – N/A

Sluiceway opening - N/A

Condition – N/A

Flow rate – N/A

Who controls

Louisiana Department of Wildlife & Fisheries

LAKE AUTHORITY

General Authority and Purpose

St. Martin-Lafayette Game and Fish Commission was created by Act 337 of the Louisiana Legislature in 1950. It was abolished by Statute 36:610 and the responsibility for management of the preserve was transferred to the Department of Wildlife & Fisheries.

Louisiana Department of Wildlife & Fisheries - Opelousas, LA (337) 948-0255

Lake Martin Advisory Council:

Theresa Privat – Chairman

Bob Thibodeaux – Vice Chairman

Mary Lynn Chauffe – Secretary

Norris Herbert – Treasurer

Ronnie Ann Garritt

Hubert Herbert

Ted Spillers

* The Advisory Council was abolished in 2001

Nature Conservancy – Breaux Bridge, La.

Ms. Katherine Kobrin

Approximately 25 private land owners

ACCESS

Map with locations of boat ramp ([Appendix I](#)).

Boat docks

1 boat ramp

Piers

None

SHORELINE DEVELOPMENT

State/National Parks

Louisiana Nature conservancy – south end of lake where the bird rookery exists.

Shoreline development by landowners

The Lake Martin shoreline is 26,800 feet in length of which approximately 15,000 feet has a two lane gravel road on the crown and is maintained by the St. Martin Parish Police Jury as a Parish road. There are four homes along this portion of levee and there is a short intersecting road with several homes. A double-wide concrete boat ramp and dock are located on the east levee.

PHYSICAL DESCRIPTION OF THE WATER BODY

Lake Martin was impounded in 1952 with the construction of a 26,800 foot ring levee around a low lying cypress swamp. The levee structural height is approximately 15 feet while the hydraulic height is approximately 12 feet. A 45 foot spillway is set at 10.5 feet MSL. This allows for approximately 4.5 feet of freeboard, but variations in levee height result in some areas exhibiting more freeboard, while others less. The levee encircles an area of

approximately 800 acres. Most of this area, some 580 acres, is flooded timber which consists of bald cypress (*Taxodium distichum*), black willow (*Salix nigra*) and buttonbush (*Cephalanthus occidentalis*), with the remaining 200 acres being open water. The open water portion is about 5 feet deep along the tree line, then gradually deepening to about 8 feet toward the center. The flooded woods have water ranging in depth from a few inches to about 5 feet. There is a borrow canal around the inside periphery of the impoundment. This canal is very shallow in some areas, but up to 12 feet deep in others. There is a series of boat lanes through the flooded woods. These were cleared in the late 1970's and early 1980's. The boat lanes are about 4.5 feet deep. Also numerous stumps, logs and submerged vegetation make up the rest of the impoundments complex cover.

Shoreline length

5.1 miles of shoreline

Timber type

Bald Cypress (*Taxodium distichum*)/black willow (*Salix nigra*) /buttonbush (*Cephalanthus occidentalis*)

Average depth

4.5 feet

Maximum depth

12 feet

Natural seasonal water fluctuation

Water level fluctuation is typically about 1 foot.

EVENTS / PROBLEMS

Lake Martin was drawn down for extended periods of time beginning in the mid-1970's until 1981, due to the abundance of aquatic vegetation and flooding. A plan to renovate the impoundment was completed during this time. During these drawdown periods, boat lanes were cut through the timber on the northern and western portions of the impoundment and a central channel was dug to facilitate future drawdowns. The existing pump and drawdown structure were also refurbished during this time. In 1984, two culverts under the east and southeast levee were removed.

In 1993, the impoundment was drawn down approximately two feet, during which time 3,600 feet of the levee on the north and northwest sides were raised to a level equivalent to the lowest point along the Rookery Road section of the levee (southeastern). Additionally, a 45-foot wide spillway (set at a height of 10.5 feet MSL) was installed on the north levee to reduce hydraulic pressure along the low sections. Traffic gates were installed on the levee crown to prevent vehicular movement onto the unimproved section of levee.

Hydrilla (*Hydrilla verticillata*) was discovered in Lake Martin in 1996. Before the end of the first growing season, hydrilla had encompassed approximately 80% (640 acres) of the lake. In 1997 and 1998, herbicide applications, along with the stocking of triploid grass carp (TGC) each year, was implemented to combat the growth of hydrilla. The herbicide application was made by fixed winged aircraft operated by Aerial Crop Care based in Port Barre, La. The herbicide Aquathol®, was applied in liquid and granular form. A total of approximately 200 acres of submerged vegetation was treated each year. Two stockings totaling 4, 000 TGC were made during this same time period. By 1999, hydrilla reduction was becoming apparent especially in the center of the lake where it was most abundant.

Water quality in Lake Martin has suffered due to nitrogen inputs from the extensive bird rookery located on the south end of impoundment. The high nutrient levels have encouraged excessive growth of aquatic vegetation, resulting in a depletion of oxygen during the decay process. In late 2001, a water control structure was put in place on the southeast end of the impoundment near the rookery. The idea behind the structure is to release the main pool of nutrients, into the adjacent 6,400 acre Bayou Tortue Swamp, largely owned by The Nature Conservancy. Here, the existing swamp vegetation will uptake and assimilate the nutrients.

With the new structure in place, partial drawdowns of 2 to 3 feet were implemented from 2002 to 2006 to improve water quality conditions. Each year the structure was opened near the middle of September with full replacement of the water to be achieved no later than January 31st of the following year. To accomplish this, water was pumped in from the Ruth Canal, which skirts the north end of the impoundment. The lake was also drawn down in the fall of 2008 and 2013 to build a new board walk and improve bird nesting habitat. The water level was lowered 2 to 3 feet and was refilled in January each time.

Due to the re-establishment of hydrilla, in November 2014, 500 TCG greater than 12 inches in length were stocked at a rate of 7 fish per vegetated acre to prevent the spread of hydrilla throughout the lake.

By November of 2015, submerged aquatic vegetation, mainly hydrilla, had spread throughout the lake at a rapid pace. Hydrilla now covers approximately 50% of the lake, with coontail and fanwort contributing 10% plant coverage. Giant and common salvinia has also spread throughout the lake covering approximately 150 acres on the southeast end of the lake. Other plants include American lotus, alligator weed, water hyacinth and duckweed which make up a small portion of plant coverage. An additional 2,680 TGC, 12 -14 inches in length were stocked in November 2015 to further reduce the coverage of hydrilla.

MANAGEMENT ISSUES

AQUATIC VEGETATION

Since impoundment, Lake Martin has had an overabundance of submerged aquatic vegetation. Predominant species include coontail (*Ceratophyllum demersum*), fanwort (*Cabomba caroliniana*), American lotus (*Nelumbo lutea*), and invasive species including water hyacinth (*Eichhornia crassipes*), hydrilla (*Hydrilla verticillata*), common salvinia (*Salvinia minima*) and giant salvinia (*Salvinia molesta*). Control efforts for water hyacinth include applications of the herbicide 2-4,D (dichlorophenoxy acetic acid). Aquathol (dipotassium salt of Endothall) was used for hydrilla control and glyphosate/diquat was used for salvinia. Drawdowns are also used to control vegetative growth.

Type map

Aquatic vegetative type mapping has been conducted since 1985. Years in which sampling occurred include: 1986 to 1996 and 2003, 2004, 2005, 2010, 2011 and 2015. ([APPENDIX II](#)).

Biomass

N/A

Treatment history by year available

Biological-

A total of 4,000 TGC have been stocked into Lake Martin to control the spread of hydrilla. In 1997 1,600 (2.5 fish/vegetated acre) were stocked, and in 1998 2,400 more carp (3.75 fish/vegetated acre) were stocked to reduce hydrilla proliferation. The TGC have reduced hydrilla growth throughout the complex and gill net samples taken in 2009 and 2012 have shown numerous TGC available in the lake weighing up to forty pounds. Due to a resurgence of hydrilla throughout the lake in 2014-2015, an additional 3,180 TGC were stocked to control hydrilla growth. Also a total of 92,958 salvinia weevils have been stocked from 2013 – 2016 to control the spread of giant salvinia.

Chemical-

Table 1 reports the herbicide applications that were used annually to control floating, emergent and submergent vegetation including water hyacinth (*Eichhornia crassipes*), alligator weed (*Alternanthera philoxeroides*), pennywort (*Hydrocotyle* spp.), common salvinia (*Salvinia minima*), giant salvinia (*Salvinia molesta*), duckweed (*Lemna minor*), American lotus (*Nelumbo lutea*) and other emergent plants. In 1997 and 1998 hydrilla was

treated by LDWF with Aquathol® and SONAR®. Salvinia was treated by LDWF with glyphosate/diquat mix starting in 2009-2015.

Table 1. Herbicide applications employed to control nuisance aquatic vegetation on Lake Martin, Louisiana, from 1997 – 2015.

Lake Martin Herbicide Applications				
Year	Gallons	Pounds	Acres	Vegetation
1997	1,725	25,120	200	Hydrilla[Aquathol (Aerial application)]
1998		1,240	200	Hydrilla (Sonar Treatment (open water area))
2005	72		144	Hyacinth/Alligator weed/American Lotus
2006	102		179	hyacinth/duckweed/alligator weed/pennywort/common salvinia
2007	119		188	hyacinth/American Lotus/Alligator weed/frog's bit/pennywort/primrose/common salvinia
2008	196		337	hyacinth/American Lotus/duckweed/common salvinia/alligator weed/frog's bit/pennywort
2009	68		123	Pennywort/primrose/common salvinia/hyacinth/alligator weed
2010	51		106	Hyacinth/Alligator weed/C. Salvinia/Frog's bit/Pennywort/Primrose
2011	103		160	Hyacinth/Alligator weed/C. Salvinia/American Lotus/Pennywort/Primrose
2012	55		98	American Lotus/Primrose/common salvinia/hyacinth
2013	67		117	Alligator weed/ pennywort/primrose/common salvinia/hyacinth
2014	30		45	Alligator weed/pennywort/primrose/common salvinia/giant salvinia/hyacinth
2015	100		133	Giant/common salvinia/water hyacinth/primrose/alligator weed

HISTORY OF REGULATIONS

Recreational

Louisiana statewide recreational fishing regulations have been in effect for Lake Martin for all freshwater game fish species since creation of the impoundment. Louisiana recreational fishing regulations may be viewed at the following link:

<http://www.wlf.louisiana.gov/fishing/regulations>

Commercial

Lake Martin has been open to commercial fishing except during drawdowns, since creation of the

impoundment. There has been very little commercial activity. Louisiana commercial fishing regulations may be viewed at the following link:
<http://www.wlf.louisiana.gov/fishing/regulations>

DRAWDOWN HISTORY

Lake Martin has historically had aquatic vegetation problems that have severely restricted boating and angler access. A drawdown was conducted in 1963 in an effort to combat the problem. This first drawdown was ineffective because water was unable to drain properly due to a poor drainage system. Other drawdowns were conducted, but with little success. In 1977, plans to alleviate these problems included construction of a drawdown structure, refurbishing the pump station and the dredging of a central drainage canal. These improvements were completed in 1981 with the refilling of the lake. However, vegetation problems developed once again reducing access and causing dissolved oxygen reductions and resultant fish die-offs. In 2001 another control structure was added on the southeast end of the lake near the bird rookery. The idea behind the structure was to release nutrients into the adjacent 6,400 acre Bayou Tortue Swamp. After construction, fall/winter drawdowns began in 2002 – 2006 to improve water quality conditions. In 2008 and 2013, drawdowns were recommended to build a board walk and improve nesting habitat.

Drawdown dates

There have been a total of 17 drawdowns (Table 2) for the control of submerged aquatic vegetation. Drawdowns were all conducted from September – December (Fall/Winter).

Table 2. Drawdown's conducted on Lake Martin, Louisiana by year from 1963 – 2013.

YEAR	PURPOSE	FISHING CLOSURE	DEPTH (ft)	% EXPOSED	FISH KILL
1963	Control of native submerged vegetation	No	2-3	25	No
1965	Control of native submerged vegetation	No	2-3	25	No
1968	Control of native submerged vegetation	No	2-3	25	No
1970	Control of native submerged vegetation	No	2-3	25	No
1972	Control of native submerged vegetation	No	2-3	25	No
1974	Control of native submerged vegetation	No	2	20	No
1977-1981	Spillway reconstruction	Yes	4-5	45	Yes
1984	Control of native submerged vegetation	No	3	30	No

1986	Control of native submerged vegetation	No	2-3	30	No
1993	Control of native submerged vegetation	No	2	20	No
2002	Improve water quality	No	2-3	30	No
2003	Improve water quality	No	2-3	30	No
2004	Improve water quality	No	2-3	30	No
2005	Improve water quality	No	2-3	30	No
2006	Improve water quality	No	2-3	30	No
2008	Build boardwalk in rookery	No	2-3	30	No
2013	Improve water quality/improve bird nesting habitat	No	2-3	30	No
2016	Improve water quality/improve bird nesting habitat	No	2-3	30	TBD

As shown in Table 2, drawdowns have been an important tool in managing aquatic vegetation in Lake Martin. From 1963 – 1986 native vegetation, such as coontail (*Ceratophyllum demersum*) and fanwort (*Cabomba caroliniana*), was the primary concern. In 1993, hydrilla was discovered in Lake Martin. In 1997 and 1998 herbicide applications and the stocking of TGC were used to control the spread of this invasive species. Lake Martin is an ideal location to implement TGC to remove/control submerged vegetation such as hydrilla. The lake has a very limited watershed with little or no influence from outside water sources, which keeps the fish in the system. Therefore, these fish have remained since the initial stockings and continue to control submerged vegetative growth.

Who operates structures

Louisiana Department of Wildlife & Fisheries

FISH KILLS / DISEASE HISTORY

Fish kills occurred during the 1977 -1981 period when the control structure was under construction. This was due to low water levels and warm temperatures which created low dissolved oxygen conditions. From 1994 – 1996 a few fish kills occurred due to the abundance and decay of hydrilla and other submersed aquatics. In 2000 – 2003, nutrients originating from the large bird rookery on the south side of the impoundment also caused some fish kills due to poor water quality.

Largemouth bass virus

Not tested

CONTAMINANTS / POLLUTION

Water quality

Water quality parameters measured at the surface and near the bottom during each standardized sample include temperature, dissolved oxygen, pH, and conductivity.

The Louisiana Department of Environmental Quality (LDEQ) collects fish samples in waters throughout the state, in order to determine mercury concentrations in fish tissues. Samples were taken on Lake Martin in 2002. At this time there are no mercury advisories for fish from Lake Martin.

<http://www.deq.louisiana.gov/portal/PROGRAMS/MercuryInitiative.aspx>

BIOLOGICAL

Fish sampling history

From the 1960's through the early 1980's, biomass sampling (rotenone) was the preferred fish population sampling tool. From the mid- 1980's until present, other techniques including electrofishing, creel surveys, entanglement gear, biomass (rotenone), haul seines, and water quality sampling have provided necessary data related to managing Lake Martin fisheries populations.

Note: All standardized sampling data collected by the Inland Fisheries Section from 1965 through present are computerized. Any data prior to 1965 that may exist in the form of paper documents or reports are filed in the LDWF District 6 Office in Opelousas.

Gear

Biomass (rotenone) samples consist of three to four, one-acre block-off net samples taken between the months of May through September. There were only two years, 1963 and 1974, in which biomass sampling was conducted on Lake Martin (Table 3). The average of two-one acre biomass samples in 1963 consisted of a total standing crop/acre of 195.0 lbs. The total standing crop/acre in 1974 was 142.2 lbs. In 1963 non-predatory species (buffalo and carp), made up the bulk of fish captured, but in 1974 game species (bass, crappie and bream), made up most of the total pounds sampled. Biomass sampling remains an important management tool, but is used less frequently. Since 1974, other sampling techniques, including electrofishing, creel surveys, gill nets and haul seines have been utilized to assess fish populations (Table 4).

Table 3. Lake Martin, LA biomass sampling (rotenone) results in total pounds of predatory and non-predatory fish per acre for 1963 and 1974.

Lake Martin Rotenone Sampling			
Year	Predatory Fish	Non-Predatory Fish	Total Lbs./Acre
1963	160	13	195
1974	56	85	142.2

- Predatory Fish consist of: Largemouth bass, Crappie and Bream
- Non-Predatory Fish consist of: Gar, Carp, Bowfin and Buffalo

Table 4. Historical and current schedule employed to sample fish populations in Lake Martin, Louisiana from 1963 – 2019.

Lake Martin Fisheries Sampling	
Year	Sampling Method
1963	Rotenone
1966	Gill Nets
1974	Rotenone
1976	Gill Nets
1982	Gill Nets
1984	Gill Nets
1990	Electrofishing, seine, gill nets
1997	Electrofishing
1998	Electrofishing
1999	Electrofishing, gill nets
2000	Electrofishing
2001	Electrofishing, seine
2002	Electrofishing, gill nets
2003	Electrofishing, hoop nets
2004	Electrofishing
2006	Electrofishing
2007	Seine, creel survey, gill nets
2009	Electrofishing, gill nets
2010	Seine, type map
2011	Electrofishing, type map
2012	No samples
2013	Electrofishing, lead nets, water quality, type map, LMB Genetic sampling
2014	Gill nets, LMB Genetic sampling
2015	Type map
2016	Electrofishing, gill nets, type map
2017	Water quality
2018	Electrofishing, type map
2019	Lead nets, gill nets

Electrofishing equipment along with other sampling gear such as seines and gill nets, allow biologists to understand and evaluate fish populations and return many fish to the water alive. Rotenone sampling, does not allow the return of live fish to the water.

Lake records

Based on informal records maintained by LDWF fisheries biologists, the largest bass caught in Lake Martin was in 2004 and weighed 9.1 pounds.

Stocking history

The total number by species of fish stocked into Lake Martin, Louisiana from 1983 – 2015 is presented in Table 5.

Table 5. Fish stocking history of Lake Martin, LA, from 1983-2015.

YEAR	FLORIDA BASS	CHANNEL CATFISH	BLUE CATFISH	NATIVE LARGEMOUTH BASS	BLACK CRAPPIE	TRIPLOID GRASS CARP
1983		5,300	400	60,000	20,000	
1990		18,750		14,400		
*1995	20,000					
1997						1,600
1998						2,400
2000	14,607					
2001	8,016					
2002		7,995				
2004		4,506				
2007	8,234	8,769				
2010	3,898					
2013	8,000					
2014	8,235					500
2015						2,680
Totals	70,990	45,320	400	74,400	20,000	7,180

All largemouth bass were stocked as fingerlings, ranging from 1- 2 inches in total length. Fingerlings were released by boat throughout the lake into suitable habitat, such as thick vegetation, button bush, fallen timber, etc. Other species stocked included channel and blue cat, black crappie and triploid grass carp. Also, in 1995 the JP Oil Company purchased Florida largemouth bass fingerlings for mitigation as per requirements of the Department of Environmental Quality. The Louisiana Department of Wildlife & Fisheries stocked these fish.

Species profile

Table 6. List of fish species collected by LDWF or are known to occur in Lake Martin, Louisiana.

Lamprey Family, PETROMYZONTIDAE

Southern brook lamprey, *Ichthyomyzon gagei* Hubbs and Trautman

Garfish Family, LEPISOSTEIDAE

Spotted gar, *Lepisosteus oculatus* (Winchell)

Bowfin Family, AMIIDAE

Bowfin, *Amia calva* Linnaeus

Freshwater Eel Family, ANGUILLIDAE

American eel, *Anguilla rostrata* (Lesueur)

Herring Family, CLUPEIDAE

Gizzard shad, *Dorosoma cepedianum* (Lesueur)

Threadfin shad, *Dorosoma petenense* (Günther)

Minnow Family, CYPRINIDAE

Common Carp, *Cyprinus carpio* Linnaeus

Cypress minnow, *Hybognathus hayi* Jordan

Weed shiner, *Notropis texanus* (Girard)

Pugnose minnow, *Opsopoeodus emiliae* Hay

Bullhead minnow, *Pimephales vigilax* (Baird and Girard)

Triploid Grass carp, *Ctenopharyngodon idella* (Valenciennes)

Sucker Family, CATOSTOMIDAE

Smallmouth buffalo, *Ictiobus bubalus* (Rafinesque)

Freshwater Catfish Family, ICTALURIDAE

Black bullhead, *Ameiurus melas* (Rafinesque)

Yellow bullhead, *Ameiurus natalis* (Lesueur)

Channel catfish, *Ictalurus punctatus* (Rafinesque)

Blue catfish, *Ictalurus furcatus*, (Lesueur)

Black madtom, *Noturus funebris* (Gilbert and Swain)

Tadpole madtom, *Noturus gyrinus* (Mitchill)

Pirate Perch Family, APHREDODERIDAE

Pirate perch, *Aphredoderus sayanus* (Gilliams)

Killifish Family, CYPRINODONTIDAE

Golden topminnow, *Fundulus chrysotus* (Günther)
Blackstripe topminnow, *Fundulus notatus* (Rafinesque)
Blackspotted topminnow, *Fundulus olivaceus* (Storer)

Livebearer Family, POECILIIDAE

Western mosquitofish, *Gambusia affinis* (Baird and Girard)
Least killifish, *Heterandria formosa* Agassiz
Sailfin molly, *Poecilia latipinna* (Lesueur)

Silverside Family, ATHERINIDAE

Brook silverside, *Labidesthes sicculus* (Cope)

Sunfish Family, CENTRARCHIDAE

Banded pygmy sunfish, *Elassoma zonatum* Jordan
Green sunfish, *Lepomis cyanellus* Rafinesque
Warmouth, *Lepomis gulosus* (Cuvier)
Orangespotted sunfish, *Lepomis humilis* (Girard)
Bluegill, *Lepomis macrochirus* (Rafinesque)
Dollar sunfish, *Lepomis marginatus* (Holbrook)
Longear sunfish, *Lepomis megalotis* (Rafinesque)
Redear sunfish, *Lepomis microlophus* (Günther)
Spotted sunfish, *Lepomis miniatus* (Valenciennes)
Bantam sunfish, *Lepomis symmetricus* Forbes
Florida largemouth bass, *Micropterus floridanus*
Northern largemouth bass, *Micropterus salmoides* (Lacépède)
White crappie, *Pomoxis annularis* Rafinesque
Black crappie, *Pomoxis nigromaculatus* (Lesueur)

Perch Family, PERCIDAE

Creole darter, *Etheostoma collettei* Birdsong and Knapp
Swamp darter, *Etheostoma fusiforme* (Girard)
Slough darter, *Etheostoma gracile* (Girard)
Cypress darter, *Etheostoma proeliare* (Hay)
Logperch, *Percina caprodes* (Rafinesque)

Drum Family, SCIAENIDAE

Freshwater drum, *Aplodinotus grunniens* Rafinesque

Nomenclature and phylogenetic order follows Nelson, *et al.* 2004. Common and Scientific Names of Fishes from the United States, Canada, and Mexico, 6th Edition. American Fisheries Society Special Publication 29. 386 pp. Exceptions are noted.

Genetics

Largemouth bass are collected during fall standardized electrofishing samples. Otoliths and

livers are removed for age/growth and genetic analysis. Otoliths are sent to the age and growth laboratory at LDWF Baton Rouge headquarters and livers are sent to LSU for electrophoresis analysis.

Table 7. Observed Florida genome influence on Lake Martin, LA, largemouth bass populations during 2006 and 2009.

Year	N	Northern	Florida	Hybrid	Florida Influence
2006	28	82%	7%	11%	18%
2009	32	84%	3%	13%	16%

Values expressed as percent of sample by number

Threatened/endangered/exotic species

No T&E or endangered species documented in Lake Martin to date.

Creel

Historic information:

Only one creel survey has been conducted on Lake Martin. The survey method used was a dockside (access point) survey of completed fishing trips. Fishermen targeted and harvested bluegill (66%) and bream (13%) species in good numbers during 2007. Other species targeted were largemouth bass and black crappie (Table 8).

Table 8. Creel survey estimates in percent by number of total fish species harvested from Lake Martin, LA by fishermen in 2007.

Species	% of Estimated Fish Harvested	Estimate of Total Fish Harvested
LMB	6%	140
Black Crappie	8%	202
White Crappie	0.5%	13
White Bass	0.1%	2
Yellow Bass	0.1%	4
Bluegill	66%	1,655
Redear Sunfish	3%	66
Longear sunfish	0.1%	2
Orangespotted sunfish	0.2%	5
Warmouth	3%	83
Bream spp.	13%	323
Totals	100%	2,495

HYDROLOGICAL CHANGES

Lake Martin was formed in 1952 by constructing a levee around a natural existing lake. Water enters the lake naturally only by rainfall and when high water in the Ruth Canal overflows the levees. In 1977, a new drawdown structure was installed, the pump station refurbished, and a central drainage canal dredged to improved drawdown capability to combat aquatic vegetation. These improvements were completed in 1981 and the lake refilled. However, vegetation problems developed a year later again reducing access and causing low dissolved oxygen conditions and resultant fish die-offs. In 2001, another control structure was constructed on the southeast end of the lake where the rookery exists.

Water use

Fishing and duck hunting

APPENDIX I

[\(return to access\)](#)

Map of Lake Martin depicting water control structures, pumping station, spillway and Boat Ramp.



APPENDIX II

[\(return to typemap\)](#)

AQUATIC VEGETATION TYPEMAPS AND NARRATIVES

Lake Martin Vegetation Survey July 8, 2015

A survey of the present aquatic vegetation was conducted on Lake Martin on 7/8/2015.

At that time, a moderate to severe infestation of submerged vegetation was observed. Severe amounts of hydrilla were observed in the North/Northwest wooded areas of the lake. Moderate amounts of hydrilla, along with fanwort, bladderwort, and coontail were also observed in the wooded area adjacent to the Bird Rookery. Moderate amounts of common and giant salvinia, along with slight amounts of water hyacinth were observed within the wooded area just north of the Bird Rookery. Slight amounts of American Lotus were observed in the open water in the center of the lake. All in all, aquatic vegetation amounts were low throughout the open water area of the lake. The area known as the Bird Rookery is shallow with an average depth of 2 to 2.5 feet and is thickly vegetated with buttonbush and bald cypress. Mats of sedge, alligator weed, pennywort, and water *primrose* are thriving within the bird rookery area of the lake. Also found in the rookery area, were moderate to severe amounts of hydrilla, fanwort, bladderwort, coontail, pennywort, common/giant salvinia, and water hyacinth.

