LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

LARTO-SALINE COMPLEX

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

June 2014 - Prepared by

Richard D Moses, Biologist Manager, District 3
Richard McGuffee, Biologist Supervisor, District 3
Shelby Richard, Biologist II, District 3

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LAKE HISTORY

General Information

The Larto-Saline Complex is a large natural backwater complex located in east-central Louisiana. Portions of the complex are located in Catahoula, LaSalle, Avoyelles and Rapides parishes. The Complex includes Larto Lake, Saline Lake, Shad Lake, and numerous interconnecting bayous and smaller lakes. The complex receives regular backwater flooding from Red River, Black River and Little River. In any given year, the dominant source of flooding as well as the extent and duration of flooding can influence fisheries production and aquatic weed growth.

Date reservoir formed
Historically, Larto-Saline Complex was a natural body of water. In 1959, the Larto Lake Dam was designed by the Louisiana Department of Public Works and constructed by J.A. Harper Construction Company. It was designed to maintain a water level of 36.0' Mean Sea Level (MSL). In 1969, the spillway crest height of the Larto structure was raised to 37.0' MSL.

Impoundment
This natural body of water was impounded in 1959 to maintain water levels during dry periods.

Size
Larto Lake, Saline Lake, Shad Lake, and numerous smaller lakes and bayous interconnect for a combined surface area of approximately 8,200 acres.

Water shed
Approximately 90,880 acres or 142 sq. miles (watershed ratio 11:1)

Pool stage
37.0 feet Mean Sea Level (MSL)

Parish/s located
Catahoula, LaSalle, Avoyelles, and Rapides

Drawdown description
The lake water level can be lowered approximately one inch per day. There is only one drawdown gate. The lake can be dewatered approximately 6 feet to a level of 31 feet MSL.

Spillway
The spillway is 257-feet wide and consists of four flapper gates that are approximately 4

feet high by 7 feet wide.

Description of the Dam

Larto Lake Dam consists of 2,930 feet of earthen embankment, including a 257 foot wide spillway on the south west end of Larto Lake. The paved surface of LA 3102 is located on top of the earthen embankment.

Dam height is 38 feet.
Structural height is 38 feet.
Hydraulic height is 35 feet.
Maximum discharge is 4,407 cubic feet per second
Maximum storage is 126,000 acre-feet.
Normal storage is 15,000 acre-feet.
Surface area is 8,200 acres.
Drainage area is 142 square miles.

Outlet Works (Drawdown Structure)

The outlet works (drawdown gate) consists of a single 9 ft. wide x 11 ft. high gate located in the vertical face of the concrete spillway wall. The gate is operated by turning a gear box with an electric drill to open or close the gate.

Who controls

Per the Louisiana Department of Transportation and Development (LADOTD) dam inspection and evaluation report dated August 10, 2010, the operation and maintenance are the responsibility of the owner, the State of Louisiana. Per personal communication with Louisiana Department of Wildlife and Fisheries (LDWF) employees past operation of the structure has been done by LDWF personnel. The Louisiana Department of Transportation and Development assisted LDWF with opening the gate of July 10, 2014.

Lake Authority

The Larto Lake Commission was abolished on September 13, 2004 by the Catahoula Parish Police Jury. The Catahoula Parish Police Jury (CPPJ) is considered to be the lake authority for Larto Lake.

Primary contact information- Catahoula Parish Police Jury
P.O. Box 258
Harrisonburg, LA. 71340
Tel: 318-744-5435

Access

Map with access locations in **Appendix I.**

Boat Launches

Table 1. Boat launches found on Larto-Saline Lake Complex, Louisiana.

Ramp Name	Coordinates		Ramp	Parking
Youngblood's	31.361909°	-91.949958°	Concrete	Dirt – 25 trailers
Saline Bayou Camp Area	31.347523°	-91.990739°	Concrete	Dirt – 25 trailers
Muddy Bayou Camp Area	31.390479°	-92.048831°	Concrete	Dirt – 25 trailers
Big Creek-HWY 115	31.302470°	-92.152303°	Concrete	Gravel – 10 trailers
Sanders	31.373413°	-91.905009°	Concrete	Gravel – 20 trailers
Wiley's	31.377657°	-91.912497°	Concrete	Gravel-- 20 trailers
Larto Lodge	31.377167°	-91.911167°	Concrete	Gravel – 20 trailers
Uncle Buds	31.378041°	-91.920924°	Concrete	Gravel - 20 trailers
Woodson's	31.305234°	-92.141075°	Concrete	Gravel – 25 trailers
Open Bayou	31.341057°	-92.096857°	Concrete	Gravel – 50 trailers
Phil's	31.391866°	-92.006900°	Concrete	Gravel – 25 trailers

Piers

There are no public fishing piers located in the Larto-Saline Complex; however, numerous private piers are located on the lakes. The majority of the private piers are located on the east side of Larto Lake.

State/Federal Facilities

Dewey Wills Wildlife Management Area (WMA), owned and managed by LDWF, is located along the majority of the shoreline. This WMA consists of 60,000 acres of bottomland hardwood forest. It is open to the public for hunting, fishing, camping, and outdoor recreation.

Reefs

There are no LDWF constructed artificial reefs in this lake. There are numerous man-made structures placed by fishing guides and anglers to attract fish.

Shoreline Development

State/National Parks

No state or federal parks are located on Larto-Saline.

Shoreline development by landowners

Overall, the majority of the shoreline is not developed. The portion of the shoreline within the Dewey Wills WMA is undeveloped bottomland hardwood forest. The areas of shoreline that are privately owned are developed extensively. The southeastern shoreline of Larto Lake is privately owned and developed extensively with houses, camps, and private piers. Approximately 60% of the shoreline is developed around Larto Lake. There are also some private land inholdings in the Cross Bayou, Muddy Bayou, and Big Saline Bayou areas that are developed with camps.

Physical Description of lake

Shoreline length
175 miles

Timber type
The majority of the lake is not timbered. Bald cypress, scattered button bush (*Cephalanthus occidentalis*) and swamp privet (*Forestiera acuminate)* occur along the lakes and bayous.

Average depth
8 Feet

Maximum depth
18 feet

Natural seasonal water fluctuation
The Larto-Saline Complex receives regular backwater flooding from Red River, Black River, and Little River. In any given year, the dominant source of flooding, as well as the extent and duration of flooding, can influence fisheries production and aquatic vegetation growth. During extreme flood years, annual water level fluctuation can exceed 10 feet. Fluctuations of 3-5 feet are more typical.

Events / Problems

Turbidity became a problem in the early 1970's following the U.S. Army Corp. of Engineers (USACE) Ouachita-Black Rivers Navigation Project. Due to the project design, additional construction of the Diversion Canal and Archie Structure on Little River was required in order to manage water levels on Catahoula Lake to mitigate impacts to waterfowl habitat. By 1970, the connection between Larto Lake and Black River via Island Bayou and Honey Brake was closed by levees created during the construction of the Catahoula Lake Diversion Canal.

In 1979, the USACE released a draft of the "Larto Lake, Saline Lake, Louisiana Reconnaissance Report". This report addressed water quality and fisheries problems in the Larto-Saline Complex and acknowledged that Red River backwater was the primary source

of sediments causing turbidity problems. Red River inflow had increased since the Diversion Canal was constructed and spoil bank blocked inflow of floodwater from other sources, primarily Black River and Little River.

This problem was resolved after the construction of a weir between Cross Bayou and the diversion canal. The Cross Bayou Weir (CBW) was completed and operational in 1987. Water quality and fisheries improved significantly. This structure allowed the less turbid waters of the Ouachita River to enter the lake complex over the Cross Bayou weir. The CBW elevation was set at 37.0 MSL, which allowed for higher clarity flood waters to enter the system before the turbid Red River water entered the system. The installation of the flap gates on the Larto Lake structure prevents water from entering the system until the Red River water level exceeds 42.0 MSL.

The construction of the Catahoula Lake diversion canal provided improved water quality; however, there were negative aspects to the project. It created an ideal situation for erosion. Erosion breaches between the lake complex and the diversion canal have been reoccurring and problematic. Breaches have occurred mainly in three areas: Denny's Drain, Open Mouth Bayou, and at the Cross Bayou Weir. This typically occurs after high water events as the water begins to recede. At this time, erosion continues to be an ongoing problem. The most recent event was a breach in the Cross Bayou Weir in January 2013. It has been temporarily repaired and LDWF is currently making plans to build a new weir in the summer of 2014.

A comprehensive history of the Larto-Saline Complex can be found in **Appendix II**.

MANAGEMENT ISSUES

Aquatic Vegetation

Aquatic vegetation species composition and coverage is dependent on the frequency and duration of backwater flooding in the system. Prior to the construction of the Cross Bayou Weir in 1987, turbidity limited the growth of submerged vegetation. Historically, if high water does not occur for several years, submerged vegetation, primarily hydrilla, can become problematic in the complex. American lotus and water hyacinth occur in shallow water areas of the complex and are sometimes problematic in late summer. Common salvinia is found in the complex, and can become problematic in backwater areas of the lakes. Giant salvinia was discovered in the complex in October 2012 at the Open Bayou boat ramp. An intense survey of the immediate area was conducted and no additional giant salvinia was located. Department spray crews treated the area repeatedly over the next few months to prevent the giant salvinia from spreading.

The open water areas of Larto and Saline lakes and major bayous within the complex have never had significant coverage of aquatic vegetation. The majority of vegetation in the complex is found in shallow backwater areas during the late summer.

As of December 2013, no vegetation problems were observed. A number of emergent species were present including alligator weed, American lotus, pennywort, primrose, and water hyacinth. These species were sporadic and scattered throughout the complex. Total acreage for all species combined was less than 500 acres. Submergent vegetation was minimal. Common salvinia was scattered throughout Shad Lake but no mats were observed. Acreage was less than 100 acres. No giant salvinia was observed.

Emergent vegetation coverage in 2014 is expected to be similar to 2013. However, severe temperatures in January 2014 are expected to reduce the amount of common salvinia found in the lake. Common and giant salvinia acreage should be less than 100 acres. American lotus, pennywort, primrose and water hyacinth are found throughout the lake complex but are not usually problematic. Combined acreage for all these species will likely be less than 500 acres. Native submergent vegetation and hydrilla coverage are expected to be similar to previous years and should remain less than 300 acres.

Type map

Vegetation surveys (type maps) have been conducted periodically on the Larto-Saline Complex. Annual vegetation coverage is variable; following years of backwater flooding, vegetation is minimal. Vegetation surveys were conducted on the Larto/Saline Complex in 2006, 2007, and 2013. Vegetative survey maps can be viewed in **Appendix III**.

Biomass

No vegetation biomass sampling has been conducted.

Vegetation Treatment History

Biological
No biological treatments have been applied by LDWF.

Chemical
Foliar herbicide applications are conducted to maintain boating access. Since 2008, spray efforts to control common salvinia have increased. Spray efforts in 2010 were minimal and no spraying was conducted in 2011. However, in 2012, 1757 acres were sprayed and in 2013, 693 acres were sprayed. The majority of this spraying was to control common salvinia and water hyacinth. For a complete summary of herbicide applications see Table 2.

Table 2. Herbicide applications on Larto-Saline Complex Louisiana.

Year	Acres Treated	Vegetation
2005	70	Water Hyacinth
2006	80	American Lotus
	394	Water Hyacinth
2007	135	American Lotus
	28	Frog's Bit
	28	Pennywort
	131	Water Hyacinth
2008	97	American Lotus
	29	Common Salvinia
	68	Water Hyacinth
2009	47	Alligator Weed
	24	Primrose
	110	Common Salvinia
	61	Water Hyacinth
2010	192	Alligator Weed
	103	American Lotus
	96	Primrose
	67	Common Salvinia
	32	Water Hyacinth
	17	Water Shield
2011	133	Alligator Weed
	96	American Lotus
	29	Primrose
	83	Common Salvinia
	79	Water Hyacinth
2012	124	Alligator Weed
	173	American Lotus
	33	Pennywort

	57	Primrose
	527	Common Salvinia
	31	Giant Salvinia
	812	Water Hyacinth
2013	51	Alligator Weed
	51	American Lotus
	190	Common Salvinia
	38	Giant Salvinia
	363	Water Hyacinth

Herbicide applications in the past have been applied at the following rates:

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

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

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

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

Future herbicide applications for the treatment of giant and common salvinia will be in accordance with the Inland Fisheries' official recommendations effective March 18, 2013. Schedule and rates listed below:

April 1-October 31: glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Aqua King Plus (0.25 gal/acre) and Air Cover (12 oz. /acre) surfactants

November 1 – March 31: diquat (0.75 gal./acre) and a non-ionic surfactant (0.25 gal/acre)

History of Regulations

Recreational
The recreational fishing regulations may be viewed at the link below:
http://www.wlf.louisiana.gov/fishing/regulations

Commercial
The commercial fishing regulations may be viewed at the link below:
http://www.wlf.louisiana.gov/fishing/regulations

Drawdown history

Drawdowns have occurred on numerous occasions since 1982. Intentional drawdowns were conducted in 1982, 1983, 1984, 1985, and 1986 to dry and stabilize sediments and reduce turbidity. These drawdowns reduced turbidity and provided short-term benefits. However, spring-time high water periods would cause turbid Red River water to flow into the complex. Unintentional drawdowns have occurred numerous times throughout the history of this waterbody. The most recent occurred in 2008 and 2013 when the Cross Bayou Weir and other areas washed out during periods of extreme high water. This allowed the Larto-Saline Complex water level to fall below pool elevation. Complete drawdown history is included in Table 3.

Table 3. Drawdown history of the Larto-Saline Complex, Louisiana from 1982 - 2013.

DRAWDOWN HISTORY				
Date Opened	Date Closed	Purpose	Results	Issues
1982		Turbidity	Temporary	Water clear until Red River water returned
1983		Turbidity	Temporary	Water clear until Red River water returned
1984		Turbidity	Temporary	Water clear until Red River water returned
1985		Turbidity/Weir failure	Temporary	Water clear until Red River water returned
1986		Turbidity	Temporary	Water clear until Red River water returned
2008		Weir failure		
2013		Weir failure		

Purpose

The 1982-1986 drawdowns were conducted to stabilize sediments on the lake bottom and to reduce high turbidity levels in the lake.

Success

The drawdowns temporarily improved turbidity until the Red River backwater entered the lake causing the turbidity problem to return.

Fishing closure

The lake has not been closed to fishing during drawdowns.

Depth below pool

The maximum depth below pool is approximately 6 feet.

Estimated % exposed

Approximately 35% of the lake bottom is exposed during a 6' drawdown.

Who operated structure?
Drawdown structure gate was operated by LDWF personnel.

Fish kills
No documented fish kills have occurred during drawdowns.

Fish kills / disease history, LMBV
Fish kills have occurred in association with extended periods of spring flooding. Backwaters with elevated water temperature have increased biological oxygen demand. Receding backwater with low dissolved oxygen can cause fish kills in the Larto-Saline Complex.
A die-off of silver carp (*Hypophthalmichthys molitrix*) occurred in the summer/fall of 2013. Several thousand of the carp died over a period of two months. The majority of the dead carp were observed in the Larto Lake area of the complex. Due to the nature of the die-off, no suitable fish were collected for necropsy. The cause of the kill was not determined.

Contaminants / Pollution

Currently there are fish consumption advisories for Larto-Saline. Annual updates can be found at the DEQ and LDWF links below.
http://www.deq.louisiana.gov/portal/tabid/2201/Default.aspx
http://www.wlf.louisiana.gov/fishing/fish-consumption-advisories

Water level
No constant recorder information is available. Normal pool elevation for Larto-Saline Complex is 37.0 MSL. At this time, there is a leakage at the Cross Bayou weir that prevents maintaining the water level at pool stage. The lake water is also utilized for irrigation purposes. Water fluctuations of 1' to 2' below pool elevation are common during summer and fall months.

Biological

Fish samples
Table 4. Historical and scheduled fisheries sampling on Larto-Saline Complex, Louisiana 1980 - 2017.

YEAR	SAMPLING GEAR
1980	Rotenone (6 Stations)
1981	Rotenone (6 Stations)

1982	Rotenone (6 Stations)
1983	Rotenone (6 Stations)
1984	Rotenone (7 Stations); Wire Trap (2 Stations)
1985	Rotenone (7 Stations); Wire Trap (3 Stations)
1986	Rotenone (7 Stations); Wire Trap (3 Stations)
1987	Rotenone (6 Stations)
1989	Electrofishing (Fall – 3 Stations); Rotenone (6 Stations)
1990	Seine Net (7 Stations); Electrofishing (Fall – 5 Stations); Rotenone (8 Stations)
1991	Electrofishing (Fall – 11 Stations)
1992	Electrofishing (Spring – 6 Stations; Fall – 6 Stations)
1998	Rotenone (8 Stations)
1999	Frame Net (16 Stations)
2000	Seine Net (4 Stations); Electrofishing (Spring – 7 Stations; Fall – 7 Stations); Frame Net (16 Stations)
2001	Seine Net (7 Stations); Electrofishing (Spring – 6 Stations; Fall – 6 Stations)
2003	Electrofishing (Fall – 6 Stations); Forage (Fall – 1 Station)
2006	Seine Net (4 Stations); Electrofishing (Spring – 6 Stations; Fall – 6 Stations); Forage (Fall – 1 Station)
2009	Seine Net (4 Stations); Electrofishing (Spring – 6 Stations); Lead Net (5 Stations)
2010	Lead Nets (?? Stations) Electrofishing (Fall – 6 Stations)
2011	Lead Net (19 Stations)
2012	Lead Net (18 Stations)
2015	Electrofishing (Spring and Fall - 6 stations) Forage (Fall – 1 station)
2016	No sampling scheduled
2017	No sampling scheduled

Lake records

No official records are kept for the Larto-Saline Complex.

Stocking History

Fish stocking is not conducted due to frequent backwater flooding of the Larto-Saline Complex. There is one record of fish stocking in Table 5.

Table 5. Historical fish stocking records for the Larto-Saline Complex, Louisiana.

Year	Channel Catfish
2000	20,124

Genetics

Electrophoretic analysis of largemouth bass was conducted in 2006 for the Larto-Saline Complex. The complete record of genetic testing is found in Table 6.

Table 6. Genetic analysis of the LMB in Larto-Saline Lake, Louisiana.

Year	Sample Size	% Northern	% Florida	% Hybrid	% Florida Influence
2006	99	88	0	12	12

Species profile

As per Freshwater Fishes of Louisiana by Dr. Neil H. Douglas, fish species listed below have been collected or are likely to occur in the Larto-Saline Complex.

Lamprey Family, PETROMYZONTIDAE
- Southern brook lamprey, *Ichthyomyzon gagei* Hubbs and Trautman
- Chestnut lamprey, *Ichthyomyzon castaneus* Girard

Gar Family, LEPISOSTEIDAE
- Spotted gar, *Lepisosteus oculatus* (Winchell)
- Longnose gar, *Lepisosteus osseus* (Linnaeus)
- Shortnose gar, *Lepisosteus platostomus* Rafinesque
- Alligator gar, *Lepisosteus spatula* Lacépède

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
- Blacktail shiner, *Cyprinella venusta* (Girard)
- Common Carp, *Cyprinus carpio* Linnaeus
- Cypress minnow, *Hybognathus hayi* Jordan
- Striped shiner, *Luxilus chrysocephalus* Rafinesque
- Golden shiner, *Notemigonus crysoleucas* (Mitchill)
- Emerald shiner, *Notropis atherinoides* Rafinesque
- Taillight shiner, *Notropis maculatus* (Hay)
- Weed shiner, *Notropis texanus* (Girard)
- Mimic shiner, *Notropis volucellus* (Cope)
- Bullhead minnow, *Pimephales vigilax* (Baird and Girard)
- Creek chub, *Semotilus atromaculatus* (Mitchill)

Sucker Family, CATOSTOMIDAE
- Lake chubsucker, *Erimyzon sucetta* (Lacépède)
- Smallmouth buffalo, *Ictiobus bubalus* (Rafinesque)
- Bigmouth buffalo, *Ictiobus cyprinellus* (Valenciennes)
- Black buffalo, *Ictiobus niger* (Rafinesque)
- Spotted sucker, *Minytrema melanops* (Rafinesque)

Freshwater Catfish Family, ICTALURIDAE
- Black bullhead, *Ameiurus melas* (Rafinesque)
- Yellow bullhead, *Ameiurus natalis* (Lesueur)
- Tadpole madtom, *Noturus gyrinus* (Mitchill)
- Blue Catfish, *Ictalurus furcatus* (Lesueur)
- Channel Catfish, *Ictalurus punctatus* (Rafinesque)
- Flathead Catfish, *Pylodictis olivaris* (Rafinesque)

Pike Family, ESOCIDAE
- Grass pickerel, *Esox americanus vermiculatus* (Lesueur)
- Chain pickerel, *Esox niger* (Lesueur)

Pirate Perch Family, APHREDODERIDAE
- Pirate perch, *Aphredoderus sayanus* (Gilliams)

Killifish Family, CYPRINODONTIDAE
- Golden topminnow, *Fundulus chrysotus* (Günther)
- Starhead topminnow, *Fundulus nottii* (Agassiz)
- Blackstripe topminnow, *Fundulus notatus* (Rafinesque)
- Blackspotted topminnow, *Fundulus olivaceus* (Storer)

Livebearer Family, POECILIIDAE
- Western mosquitofish, *Gambusia affinis* (Baird and Girard)

Silverside Family, ATHERINIDAE
Brook silverside, *Labidesthes sicculus* (Cope)

Temperate Bass Family, PERCICHTHYIDAE
White bass, *Morone chrysops* (Rafinesque)
Yellow bass, *Morone mississippiensis* (Jordan and Eigenmann)
Striped bass, *Morone saxatilis* (Walbaum)

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 punctatus* (Valenciennes)
Bantam sunfish, *Lepomis symmetricus* (Forbes)
Florida largemouth bass, *Micropterus floridanus* (Kassler et al)
Northern largemouth bass, *Micropterus salmoides salmoides* (Lacépède)
White crappie, *Pomoxis annularis* (Rafinesque)
Black crappie, *Pomoxis nigromaculatus* (Lesueur)

Perch Family, PERCIDAE
Swamp darter, *Etheostoma fusiforme* (Girard)
Slough darter, *Etheostoma gracile* (Girard)

Drum Family, SCIAENIDAE
Freshwater drum, *Aplodinotus grunniens* (Rafinesque)

Threatened/endangered/exotic species

No threatened or endangered species have been documented. Silver carp (*Hypophthalmichthys molitrix*) an exotic Asian carp species has been documented. Bighead carp (*Hypophthalmichthys nobilis*) and grass carp (*Ctenopharyngodon idella*) have not been documented; however, they are likely to occur due to periodic flooding from local rivers.

Creel

Access point creel surveys with trailer counts were conducted on the Larto-Saline Complex in 2000 and 2001.

Hydrological Changes

In the early seventies, due to a navigational project on Black River, a diversion canal was constructed from Catahoula Lake to Black River in an effort to control Catahoula Lake water levels. This channel prevented Black River water from entering the Larto-Saline complex except during extreme high water years. As a result, Red River water became the main source of water for the complex. This created high turbidity that limited game fish production. In 1987, a weir was installed in the diversion canal spoil bank at Cross Bayou which allowed Black River water to enter at 37.0 MSL. Flap gates were installed on the Larto Bayou control structure that prevents Red River water from entering the lake until reaching a level of 42.0 MSL.

Water Use

Hunting

Hunting on the Larto-Saline Complex is regulated as part of the LDWF Dewey Wills Wildlife Management Area. The lake is utilized for duck hunting. Some parts of the lake are privately owned and a portion is owned by the LaSalle Parish School Board. Dewey Wills WMA regulations apply to areas that are within the WMA boundary. State regulations apply to the areas that are privately owned. A copy of the Louisiana Hunting Regulations including Wildlife Management Area (WMA) Regulations can be viewed at the link below.
www.wlf.la.gov

Recreational watersports

Recreational water sports are popular in the Larto-Saline Complex and include water skiing, personal watercraft, and other recreational boats. The majority of recreational watersports occur in the deep open water of Larto Lake that is free of underwater obstructions.

Fishing

The Larto-Saline Complex is utilized extensively for recreational fishing – primarily crappie and largemouth bass. The lake also supports a healthy population of channel, blue and flathead catfish.

Scuba Diving

Minimal scuba diving is done on the Larto-Saline Complex due to limited water clarity.

Swimming

Swimming occurs in the lake. There are no beaches or designated swimming areas. The majority of swimming occurs from private piers and boat docks.

Irrigation

The Larto-Saline Complex has some irrigation pumps located in Big Creek and Saline Bayou for agriculture irrigation.

Appendix I
(return to access)

Map of Larto-Saline Lake boat ramps

1. Sander's boat landing
2. Wiley's Boat landing
3. Uncle Bud's Boat Landing
4. Youngblood Boat Landing
5. Saline Bayou Campground
6. Taylor Bayou Boat Landing
7. Phil's Landing (Cross Bayou Landing)
8. Muddy Bayou landing
9. Open Bayou Boat Landing
10. Steve's lake Landing (currently closed)
11. Woodson Landing
12. Big Creek Boat Landing

Appendix II
(return to events)

The following is a general history (timeline) of events of the Larto-Saline Complex:

1950's – The Larto-Saline complex earned a reputation as excellent recreational fisheries. During this decade, the remote area began to see development to accommodate recreational fishing (access roads, boat ramps, boat rentals, lodges, camps and bait shops). This contributed to the local economy of the area that prior to this had been dependent primarily on the areas excellent commercial fishing. Regular flooding of the Largo-Saline complex and the surrounding bottomland hardwood forests contributed to the high fisheries production. Flooding was from several sources – Black River, Red River and Little River.

* Reference – 1954 USFWS "Preliminary Report on Fish & Wildlife Resources Affected by Red River Backwater Project, Louisiana (With Special Reference to Larto Lake to Harrisonburg Segment)"
1958 – Larto Spillway was built by Office of Public Works to maintain pool stage at 36.0'.

1960's – Flood control levees began to be built south of Saline Lake in the 1960's. By the end of the decade, much of the bottomland hardwood forest was cleared and converted to agriculture. Silt-laden farm runoff was discharged into Saline Lake. Also in this decade, USACE enters planning phase of "Ouachita-Black Rivers Navigation Project". On March 28, 1962, La. Wildlife & Fisheries Commission passed a resolution that recommended the USACE proposed Lock & Dam be placed above the mouth of Little River to avoid permanent impounding of Catahoula Lake and destruction of waterfowl habitat.

*March 25 1969 letter from Clark Hoffpauir to Public Works setting the level of Larto Lake at 37' by legislative action.

1969 – Pool stage for Larto Lake set at 37.0' by LA Legislative Act

1970 – Construction begins on "Ouachita-Black Rivers Navigation Project". USACE locates L&D below Jonesville, requiring additional construction of the Diversion Canal and Archie Structure on Little River in order to manage water levels on Catahoula Lake to mitigate impacts to waterfowl habitat. By 1970, the connection between Larto Lake and Black River via Island Bayou and Honey Brake was closed by levees.
In 1970, receding floodwaters scoured a channel at Open Mouth Bayou into the Diversion Canal threatening to drain Larto Lake. Meetings are held with LDWF, La. Dept. of Public Works and USACE. Mr. Stacy McKnight of the USACE states that either a permanent structure at Open Mouth Bayou or a continuous spoil bank above elevation 55' is needed to

prevent future cutting and that a weir at Open Mouth Bayou as proposed by Public Works would be more desirable as it would stop the cutting action and also prevent most Red River water from entering the lake.*

*La. Dept. of Public Works correspondence of May 8 and June 5, 1970; LDWF correspondence of July 10, 1970.

1972 – USACE completes Jonesville Lock & Dam on Black River and Archie Structure on Little River and adds a continuous spoil bank to approximate elevation 45' on south side of the Diversion Canal.

* Letter from Governor (Edwards) to USACE (October 6, 1972) recommending additional engineering projects to restore and improve water quality. And (October 18) response from USACE stating they will look at water control structures.

1974 – In response to legal action by a local sportsmen group, Saline Lake Farms develops a drainage plan to divert agricultural runoff away from Saline Lake to enter Red River.

* See March 1, 1974 correspondence from La. Wildlife & Fisheries Commission to Attorney General.

1977 – Jonesville ring levee is completed; levee is placed on north side of Diversion Canal.

* Letter to LA Rep. Joe Waggoner talked about the debate on the location of the levee on the North (or South) side of the Diversion canal which is part of the ring levee.

1978 – USACE looks at feasibility of structures in the Diversion Canal at Boggy Bayou and Open Mouth Bayou.

* Letters dated September 19, 1978 and October 18, 1978.

1979 – USACE releases a draft of its "Larto Lake, Saline Lake, Louisiana Reconnaissance Report". This report addresses water quality and fisheries problems in the area and acknowledges that Red River backwater is now a primary source of sediments causing turbidity problems and that Red River inflow had increased since the Diversion Canal and spoil bank blocked inflow of floodwater from other sources (Black River and Little River). Department in a letter to the Governor outlined the problems related to Larto/Saline lakes to date and refers to the fact that the Department was against the location of the Lock and Dam (above Little River)

1982 – LDWF opens Larto Spillway for a summer draw down to dry out sediments in an effort to reduce turbidity caused by re-suspension of sediments already in lake bed (as recommended by Richard Price of USACE water quality section).

1983 – In late winter of '82 through spring of '83, unusually high flood conditions caused the

Catahoula Diversion Canal to overtop the spoil bank at several locations and this good quality floodwater flooded the Larto-Saline system and pushed out the highly turbid Red River floodwater that had previously backed over the Larto Spillway. As floodwaters receded, there was minor scouring of the spoil bank at Open Mouth Bayou.* LDWF notified the USACE of this problem and USACE personnel inspected the site but no repairs were made. The combination of drying of the bottom in '82 draw down and the favorable flooding conditions of '83 brought about improved water quality and a large increase in fish production in Larto-Saline.

*Aerial photo of the spoil bank at Open Mouth Bayou taken December 14, 1982.

1984 – Flooding was more in normal range, high enough for Red River to back over the Larto Spillway but not high enough for the Diversion Canal to overtop the spoil bank. Turbid conditions returned and fisheries declined again.

* December 17, 1984 USACE sent letter to LDWF discussing alternatives to improve water quality.

1985 – Flooding similar to '84, only turbid Red River entered the system. Fisheries continued to decline. Sheet metal weir at Larto Bayou collapsed, Larto-Saline was drained nearly 6' below pool stage and receding waters scoured a channel and damaged the timber pilings of the highway bridge.
A November 7, 1985 letter from the USACE to Senator Long states that if the Department constructs a weir at Cross Bayou then the Permittee Assumes responsibility for the weir and damages.

1986 – LDWF constructs a temporary earthen closure at the Larto Bayou outlet to replace the sheet metal weir and maintain 37' pool stage. LDWF also begins construction of a 200' wide weir through the Diversion Canal spoil bank at Cross Bayou. USACE 404 Permits were issued for both the closure at Larto Bayou and the weir through the Diversion Canal spoil bank at Cross Bayou (COE 404 permit number LMKOD-FE 1522-14-10I27-13). The USACE voiced no objections to these projects.

1987 – LDWF's Cross Bayou Weir is completed and operational. Water quality and fisheries improve significantly (Ewing 1991, "Turbidity Control and Fisheries Enhancement in a Bottomland Hardwood Backwater System in Louisiana" in: Regulated Rivers Research & Management, vol. 6, no. 2, pp. 87-99.) USACE releases "Larto Lake Summary Report" – their report concludes that the state of Louisiana has already completed two structures that were essentially the same as two of the USACE recommended features (a closure at Larto Bayou to exclude Red River and a weir through the Diversion Canal spoil bank) and thus deemed that no further action by the USACE was needed and recommended their studies be terminated.

1991-92 – DOTD replaces old timber piling bridge on Hwy 124 with an earthen embankment. This replaces temporary closure made by LDWF in 1986.

* See DOTD correspondence of March 26, 1991.

1992 – January 15, 1992 correspondence from LDWF to USACE reports severe erosion problem in spoil bank at Open Mouth Bayou. Repairs were made later in the year by Tensas Basin Levee Board under USACE supervision. Repairs involved using materials on site to make an earthen fill in the washed out area.

*Letters dated January 15 and February 5 1992.

1993 Larto Spillway renovation plan initiated. USACE is notified of the planned work and offers no objections.

* February 3, 1993 letter from contractor to the Corp on modifications to the Larto Spillway and asking for information.

1994 – Scouring of Diversion Canal spoil bank at Open Mouth Bayou reported to USACE by LDWF by letter of February 11, 1994. USACE constructs a rock weir in late summer 1994. See correspondence of August 10, 1994 from USACE to Senator John Breaux stating that "the cost of the project and the utilization of maintenance is justified by the elimination of future repairs and the environmental damage that would occur if the Larto Lake-Saline Lake complex is allowed to drain because of repeated failure of the earthen plug".

1995 – In its first year of operation, the USACE rock weir at Open Mouth Bayou was partially washed out by receding spring flood waters of a normal magnitude. USACE makes repairs to weir in summer of '95. Also in July of '95 our staff notified Mr. L.C. Corkin of the USACE Monroe Area Office of new development of an erosion problem at Denny's Drain and accompanied USACE personnel to inspect the site. Drainage at this location had already stopped by the time of the site inspection and no recommendations for repairs were made by the USACE at that time.

1996 – On February 5, 1996, LDWF sends letter to USACE notifying them of renewed erosion and development of a scour channel through the spoil bank at Denny's drain. USACE makes repairs in fall of '96 by placing earthen fill across the eroded channel.

* Letter from LDWF Secretary, Jimmy Jenkins to Col. Wright of USACE was sent February 5, 1996

1997 – Larto Spillway renovation completed.

1999 – Scouring at Denny's Drain occurs again. This time the USACE builds a rock weir

that according to their letter of June 11, 1999 to LDWF stating their intentions to build a "permanent closure of the type placed at Open Mouth Bayou.

* Letter of June 11, 1999 from Robert Crear Col. To Jimmy Jenkins (LDWF)

2000 – The USACE' "permanent" rock weir at Denny's Drain washes out after less than one year. USACE is notified by LDWF letter of July 19, 2000. Joe McCormick of USACE Maintenance Section in Monroe had already made a field inspection prior to that. USACE repaired the structure in late summer 2000.

2001 – The USACE' other "permanent" rock weir at Open Mouth Bayou washed out for the second time and the USACE repaired it by adding more rock.

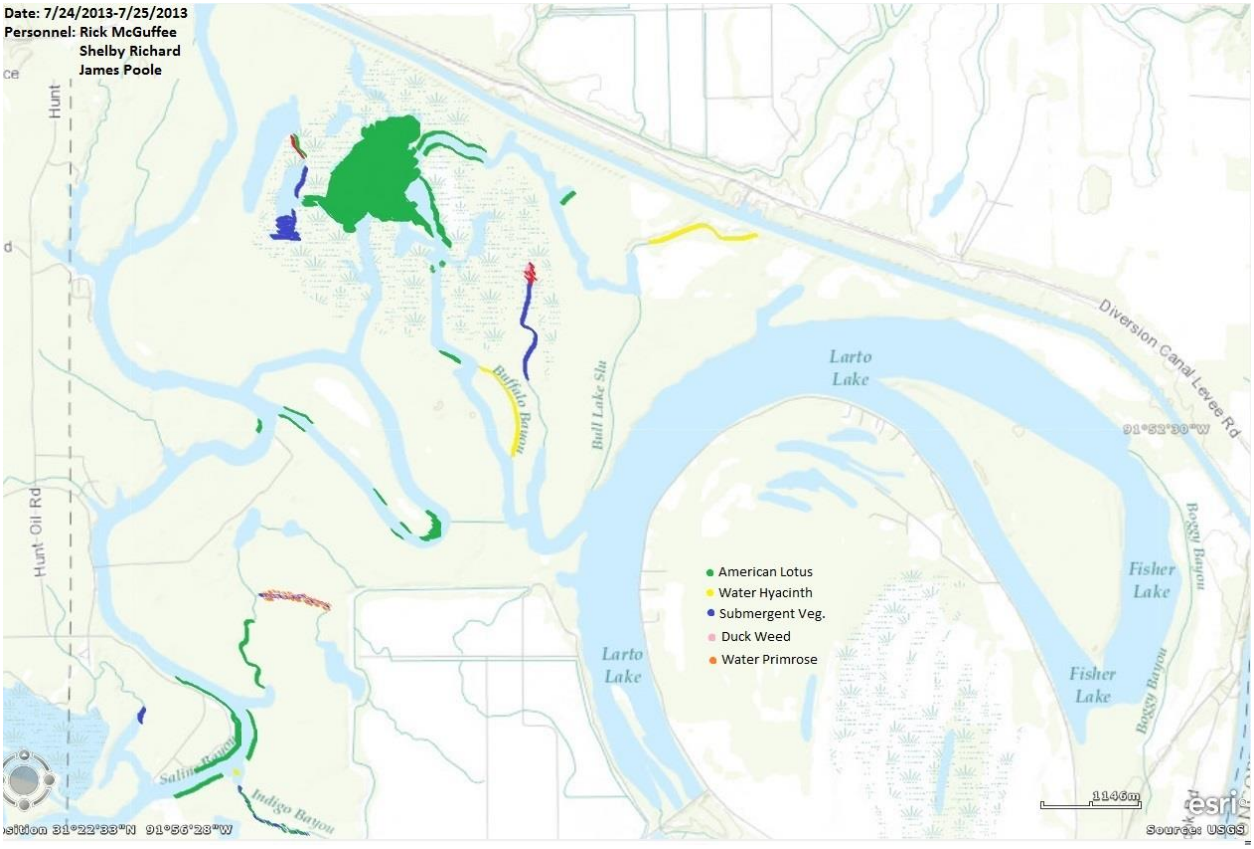
2002 – The rock weir at Denny's Drain washed out for the second time. Emergency repairs were made and plans were made to make more permanent repairs.

2008 – Extreme rainfall from Hurricane Gustav caused major flooding in Larto-Saline system and caused the collapse of the weir at Cross Bayou and the weir at Denny's Drain. Emergency repairs were made to both weirs.

2013 – The weir at Cross Bayou collapsed at the same place as previously occurred in 2008. Emergency repairs were made and LDWF is reviewing options to make permanent repairs in summer/fall of 2014

Appendix III
(return to typemap)

Larto-Saline Aquatic Vegetation Type Map
2013



Larto-Saline type map 2013 – continued