LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -B

WATERBODY MANAGEMENT PLAN SERIES

FALSE RIVER

WATERBODY EVALUATION &
RECOMMENDATIONS

CHRONOLOGY

DOCUMENT SCHEDULED TO BE UPDATED ANNUALLY

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STRATEGY STATEMENT

Recreational
Recreational species are managed to provide a sustainable population while providing anglers the opportunity to catch or harvest numbers of fish.

Commercial
Commercial species of fish are managed to provide a sustainable population.

Species of Special Concern
Species of special concern are managed to ensure sustaining populations.

EXISTING HARVEST REGULATIONS

Recreational
Statewide regulations for all game fish species with the exception of largemouth bass (LMB) (*Micropterus salmoides*).
Largemouth Bass – 14" minimum total length, 5 daily
Visit webpage for regulations http://www.wlf.louisiana.gov/fishing/regulations

Commercial
Statewide regulations for all commercial fish species except the use of gill nets and trammel nets have a special recurring net season. Seines are prohibited.
Visit webpage for regulations http://www.wlf.louisiana.gov/fishing/regulations

TITLE 76
WILDLIFE AND FISHERIES
PART VII. FISH AND OTHER AQUATIC LIFE

Chapter 1. Freshwater Sports and Commercial Fishing

§158. False River, Trammel Nets, Gill Nets and Fish Seines

A. Prohibits the use of trammel and gill nets in False River, Pointe Coupee Parish, Louisiana, except their use will be allowed for the legal harvest of commercial fish during a special recurring trammel and gill netting season to commence each year at sunrise on October 1 and close at sunset on the last day of February the following year. The use of fish seines is prohibited and there is no season.

B. The trammel and gill nets allowed during the special recurring season shall have a minimum mesh size of 3½" square (7" stretched) or greater.

C. Commercial fishing will be allowed only during daylight hours except that gear can remain set overnight but fish captured shall be removed during daylight hours only.

D. Commercial fishing with trammel and gill nets will be allowed on False River Lake only during the open season and only by licensed commercial fishermen.

Species of Special Concern
Paddlefish – Recreational take is 2 per person per day, all fish greater than 30" lower jaw fork

length must be returned to the water unharmed. Snagging is prohibited.
http://www.wlf.louisiana.gov/fishing/regulations

SPECIES EVALUATION

Recreational
Largemouth bass

Relative abundance, relative weight and size structure indices
Figure 1 represents the spring electrofishing catch-per-unit-of-effort (CPUE = bass per hour) of LMB since 1989. There was an overall decline in annual catches from 1989 to 2014, as indicated by the downward trend in spring electrofishing CPUE. The indicated decline in relative abundance during 1991 may have resulted from the elevated water levels during that time. The rise in catch rate the following years may have resulted in a larger stock abundance and quality recruitment of young in 1992, 1993 and 1994. However, records of lake water levels during that period are not available. The hydrograph of the Mississippi River in 1991 (**APPENDIX I** – 1991 MISSISSIPPI HYDROGRAPH) is an indication of higher lake levels that year, because there is a subsurface hydrologic connection that exists between the river and the lake. There were also declines in catch rates during 1997 and 2001. These samples were probably negatively biased due to high water levels during spring of those years (**APPENDIX II** – LOG OF FALSE RIVER WATER LEVELS) (**APPENDIX III** – 2001 MISSISSIPPI HYDROGRAPH). Again, the declines in catch rate during these years were followed by years of increased relative abundance.

Due to the overall declining bass population, trophy lake status was rescinded in 1998. This decline followed the completion of the Bayou Grosse Tête Watershed Project in 1993 (**APPENDIX IV** – MAP OF BGT PROJECT AREA AFFECTING FALSE RIVER). The project drained an additional 30,000 acres which consisted primarily of agriculture land into False River. The additional drainage lead to heavy sedimentation on the north and south ends of the lake. Consequently, this resulted in loss of spawning habitat and virtual elimination of submersed aquatic vegetation. Since 2000, the total spring electrofishing catch rate has fluctuated widely between 26 and 154 bass per hour. Work done to reduce erosion in the M-1 canal in 2005 and to clean out the sediment trap in 2006 and 2010 was followed by a rise in stock- and quality- size fish (Figure 2). These higher numbers indicate that more habitats are available for successful spawns. Contrary to other fish populations in the region, the fish populations of False River did not suffer from hypoxia-induced fish kills following Hurricanes Katrina, Gustav and Isaac in 2005, 2008 and 2012, respectively.

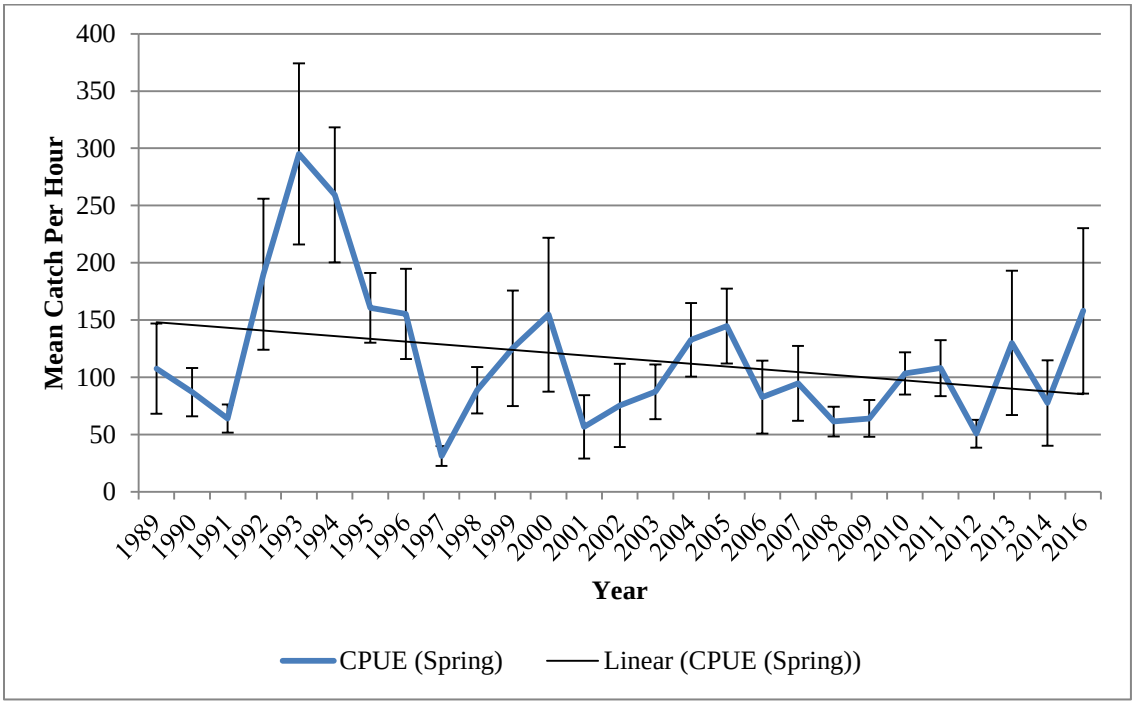


Figure 1. The mean CPUE (± 95% CI) in number per hour for largemouth bass collected from False River, LA, during spring electrofishing from 1989 to 2016.

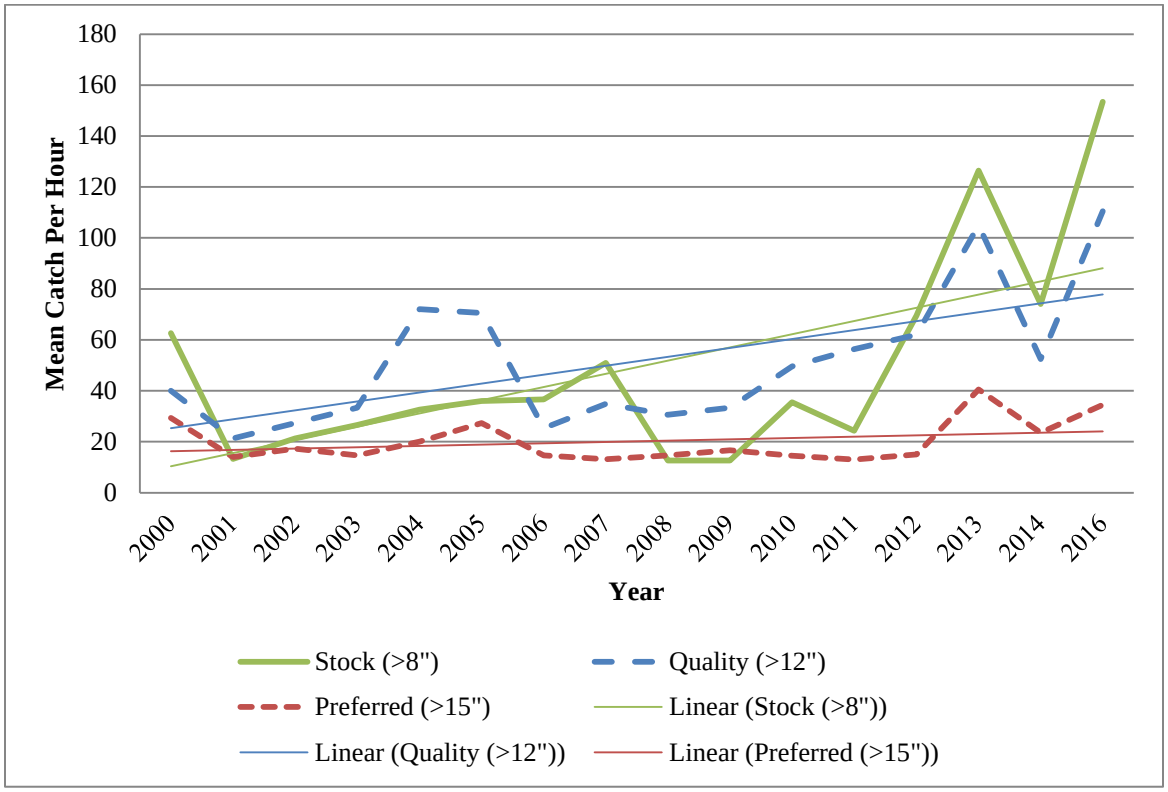


Figure 2. The mean CPUE for stock- (>8”), quality- (>12”) and preferred-size (>15”) largemouth bass collected from False River, LA during spring electrofishing from 2000 to 2016.

The average relative weight of LMB is 92 for stock-, quality- and preferred- size fish (Figures 3 and 4). The work done to reduce erosion in the M-1 canal in 2005 and clean out of the sediment trap in 2006 and 2010 was followed by less variation and an upward trend in relative weights of stock-, quality- and preferred- size fish.

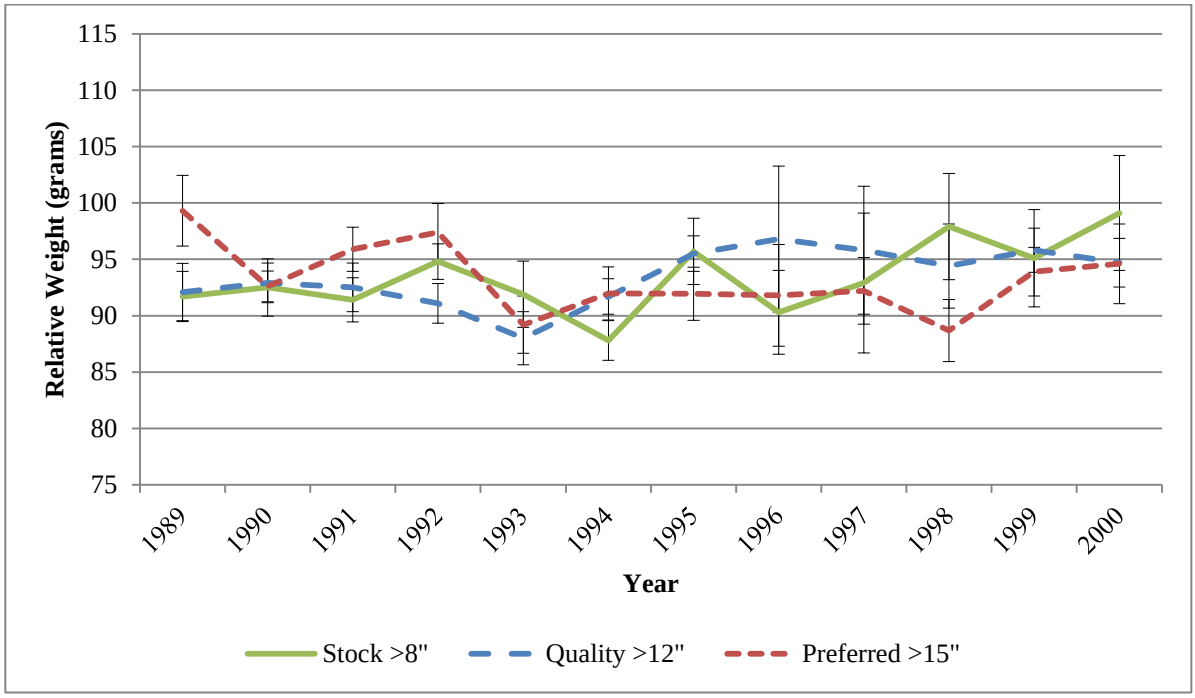


Figure 3. The mean relative weights (±95% CI) for stock- (>8”), quality- (>12”) and preferred-size (>15”) largemouth bass collected from False River, LA, during fall electrofishing from 1989 to 2000.

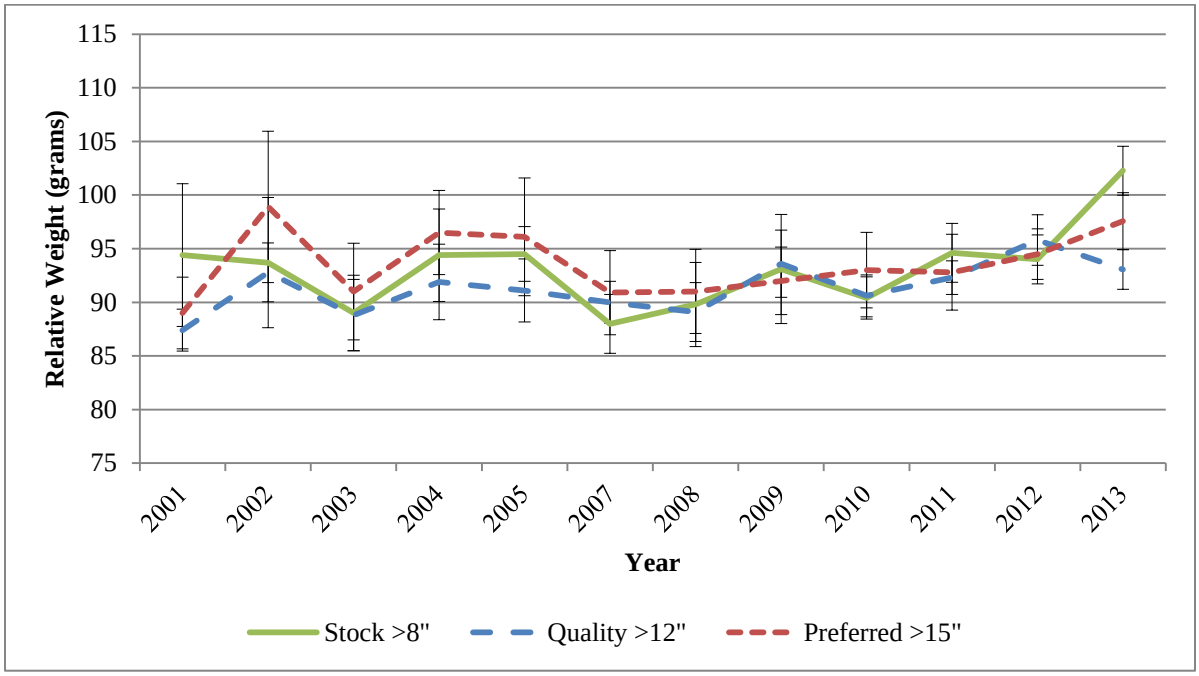


Figure 4. The mean relative weights (±95% CI) for stock- (>8”), quality- (>12”) and preferred-size (>15”) largemouth bass collected from False River, LA, during fall electrofishing from 2001 to 2013.

Proportional stock density (PSD) and relative stock density (RSD) are indices used to numerically describe length-frequency data. Proportional stock density compares the number of fish of quality-size (greater than 12 inches for LMB) to the number of bass of stock-size (8 inches in length). The PSD is expressed as a percent. A fish population with a high PSD consists mainly of larger individuals, whereas a population with a low PSD consists mainly of smaller fish. For example, Figure 5 below indicates a PSD of 80 for 2011. The number indicates that 80% of the bass stock (fish over 8 inches) in the sample was at least 12 inches or longer.

$$PSD = \frac{\text{Number of bass>12 inches}}{\text{Number of bass>8 inches}} \times 100$$

Relative stock density (RSD) is the proportion of LMB in a stock (fish over 8 inches) that is 15 inches (preferred-size) or longer.

$$RSD = \frac{\text{Number of bass>15 inches}}{\text{Number of bass>8 inches}} \times 100$$

In False River, LMB proportional stock densities (PSD) are relatively stable, even though the trend line shows a slight increase from 1989 to 2016 (Figure 5). Also, changes in relative stock density (RSD) indicate that the proportion of preferred-size fish is declining.

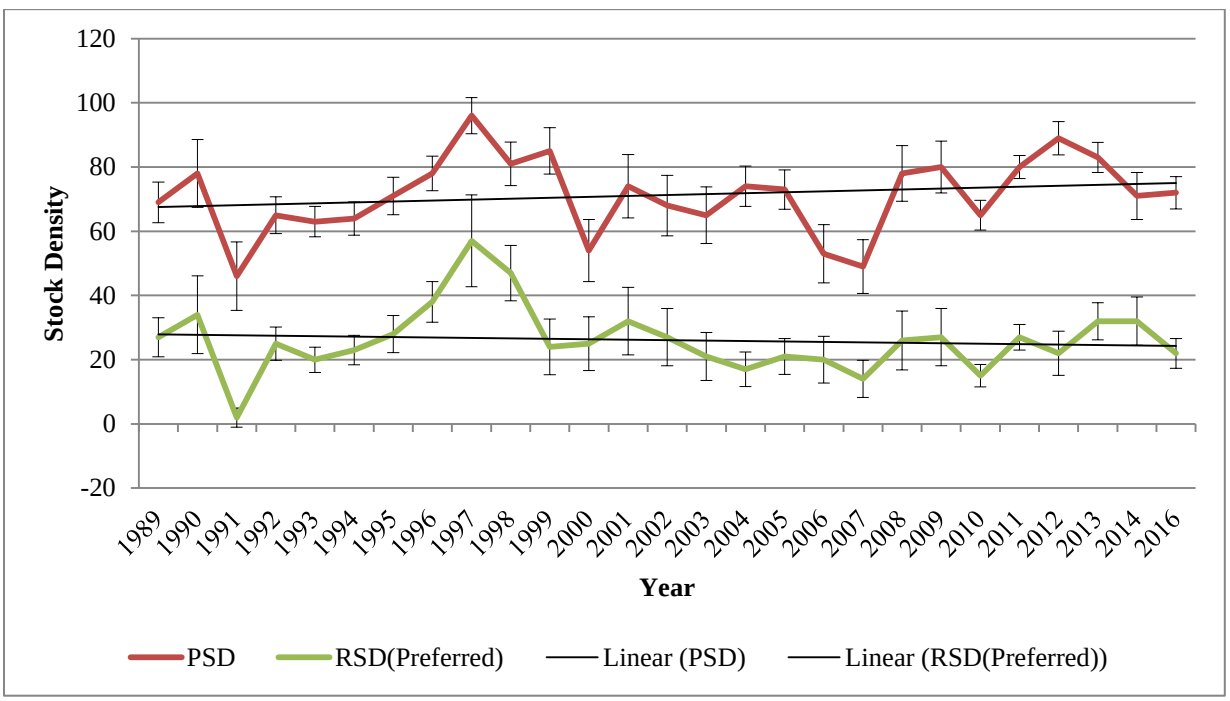


Figure 5. The mean size-structure indices (PSD and RDS_p) for largemouth bass collected from False River, LA during spring electrofishing from 1989 to 2016. Error bars represent 95% confidence limits of the mean size-structure indices.

Age, growth and mortality

In 2013, LDWF released a report titled "False River Largemouth Bass: Population and Fishery Characteristics with Size Regulation Simulations". The report details the age, growth and mortality results of the LMB population in a three-year study conducted from 2010 to 2012. A summary of the report is presented below.

Figure 6 illustrates that False River supports a moderately healthy bass population with some LMB reaching 20 inches in length. Good representation of fish in the 10 to 14 inch size range was observed for each year. It is important to note that spring electrofishing sampling typically does not include fingerling size bass. However, the recurring presence of small (age-1) bass indicates successful reproduction (Figure 7).

The age structure of the complete electrofishing LMB dataset (2010-2012) is shown in Figure 7. The majority of the age 5+ fish were females. While bass up to 9 years old were found, only a small percentage of False River LMB that were 5 years and older were sampled. Average length at age for False River bass is provided in Table 1. Growth is rapid through age 4, but then slows to only 1.1 inches or less per year.

The rate at which fish die each year is referred to as mortality. Mortality consists of two parts: natural mortality (predation, disease) and fishing mortality (angler harvest and discard mortality). Results of the study indicate that the total mortality rate for False River LMB is 58% per year. At that rate, if you start with 100 age-1 False River LMB, only 3 will remain by age 5.

The results of the study suggested that the False River LMB population has a total mortality that is more influenced by natural mortality than by fishing mortality (31 and 26%, respectively). The fishing mortality rate for False River LMB is 26% per year. This rate comes from two sources; 1) harvest and 2) post release mortality. Creel survey results from 2010 suggest that False River anglers voluntarily release a much larger percentage of LMB than they harvest (87% of legal size fish are released).

In summary, the study found that the False River LMB population has a fast growth rate, relatively high mortality rate, and moderate recruitment variability. The False River LMB fishery is currently managed with a 14 inch minimum length limit and a five fish per day harvest limit. When compared to other Louisiana LMB populations, False River has a smaller proportion of larger fish. This may result from a combination of factors including natural mortality, fishing mortality, and recruitment variability. The current regulation was implemented as a precautionary measure to ensure spawning and recruitment of young bass into the False River population. However, the results of this project indicate that the existing 14 inch minimum length limit has minor influence. If anglers remain hesitant to harvest LMB from False River, the effectiveness of any size regulation as a management tool would be severely limited.

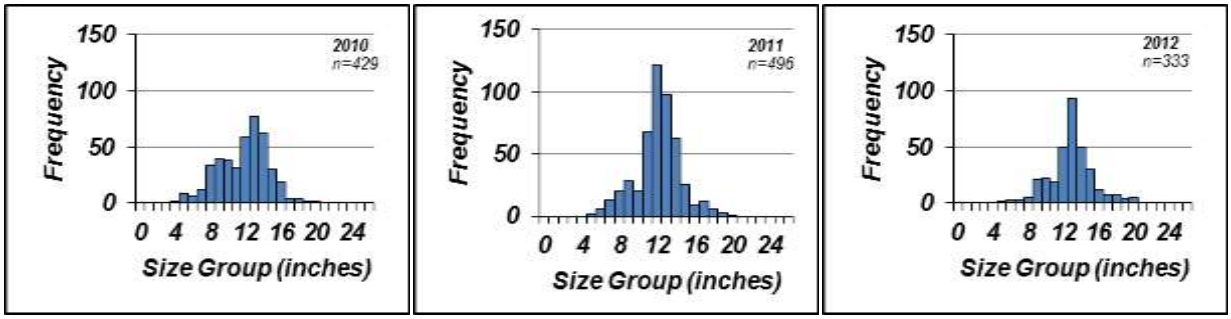


Figure 6. Annual length distributions of largemouth bass collected from False River during spring electrofishing surveys in 2010-2012. Sample sizes (n) are presented in each graphic.

Table 1. Length at age of LMB from False River, LA averaged for the three year period 2010 – 2012 (n = 1,258).

FALSE RIVER LMB LENGTH AT AGE FOR 2010 - 2012	
Age	**Total Length in Inches**
1.0	8.2
2.0	11.8
3.0	14.3
4.0	16.0
5.0	17.1
6.0	17.9
7.0	18.4
8.0	18.7
9.0	19.0

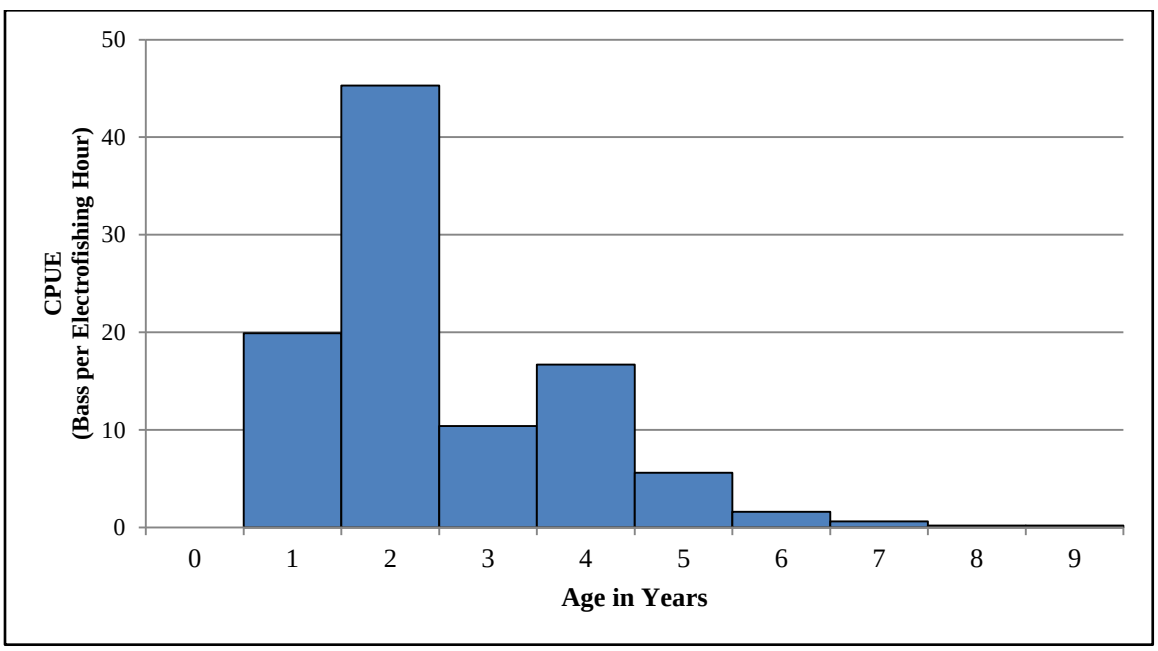


Figure 7. The age structure of largemouth bass from False River, LA combined for the three year period 2010 – 2012 (n=1,258).

Genetics

Table 2. Florida LMB stocking records and genetic analyses for False River, LA from 1984 – 2016.

FALSE RIVER FLORIDA LMB STOCKING RECORDS AND GENETIC ANALYSES							
YEAR	SIZE	FLMB STOCKED	GENETIC SAMPLING RESULTS				
			N	% NLMB	% FLMB	% HYBRID	TOTAL FLORIDA INFLUENCE
1984	Fingerlings	150,000					
1989	Fingerlings	32,000					
1990	Fingerlings	301,193	15	100	0	0	0
	Phase II	1,733					
1991	Fingerlings	211,000	8	75	0	25	25
1992			39	61	18	21	39
1993	Fingerlings	241,557					
1994	Fingerlings	83,667	36	67	25	8	33
	Phase II	156,875					
1995	Fingerlings	4,500	39	62	18	20	38
	Fry	312,550					
1996	Fingerlings	23,854	29	59	7	34	41
1997	Fingerlings	125,145	39	52	15	33	48
1998			50	56	16	28	44
1999	Fingerlings	33,506	30	73	3	24	27
2000	Fingerlings	40,440	30	53	13	34	47
2001	Fingerlings	34,832	28	68	7	25	32
2002	Fingerlings	31,988	35	60	6	34	40
2003	Fingerlings	32,242					
2004	Fingerlings	32,067	30	60	13	27	40
2005	Fingerlings	30,911					
2007			40	68	10	22	32
2008	Fingerlings	32,554					
2009			52	67	4	29	33
2010	Fingerlings	2,520	139	64	5	31	36
2011	Phase II	600	130	68	9	22	31
2012			119	67	4	29	
2013	Phase II	6,528					
	Adults	301					
2014	Phase II	9,003	100	55	7	35	45
2016	Fingerlings	6,760					

Florida largemouth bass (FLMB) have been stocked into False River, Louisiana regularly since 1984 (Table 2). Genetic sampling indicates that 30% to 40% of the bass population includes

some Florida-strain genetic influence. This percentage exceeds the minimum 20% expectation of the management objective to provide the opportunity to catch fish of greater than average size. Establishment of the Florida-strain was a success due to the intense and frequent stocking; nearly two million FLMB have been introduced into the lake. Also, False River is a fairly closed system which limits the emigration of stocked fish.

Creel

Table 3. Largemouth bass angler effort and catch rates for False River, LA, for the years 1989 – 1992.

FALSE RIVER LMB ANGLER EFFORTS CATCH RATES 1989 - 1992			
Year	**Mean angler hours/trip**	**LMB caught/hour**	**% LMB released**
1989	4.8	0.22	41
1990	4.8	0.30	41
1991	3.5	0.29	56
1992	3.9	0.38	74
Average	4.3	0.30	53

Creel data for 1989, 1990, 1991 and 1992 is presented in Table 3. Through the period LMB anglers spent an average 4.3 hours fishing per trip and caught an average 0.3 bass per hour. Hours spent fishing per trip were reduced and the percentage of released bass increased during 1991 and 1992 when a 15”-19” protected slot limit was in effect.

Creel data for bass anglers in 2006 and 2010 indicates an average release rate of 89.5%, when the 14 inch minimum length limit (MLL) was in effect. A significant proportion of those bass were smaller than the 14 inch MLL (Table 4). Angler catch rates increased during the 2006 and 2010 surveys due to an increased presence of bass smaller than 14 inches.

Table 4. Largemouth bass angler effort, catch and release rates for False River, LA for 2006 and 2010.

FALSE RIVER LMB ANGLER EFFORTS CATCH RATES 2006 AND 2010				
Year	**Mean angler hours/trip**	**LMB caught/hour**	**% LMB released**	**% LMB released <14”**
2006	3.7	0.46	96	70
2010	3.7	0.89	83	76
Average	3.7	0.67	89.5	73

<u>Recreational – Other Fish Species</u>

In Figures 8 and 9 below, the pounds per acre of redear (*Lepomis microlophus*) and bluegill sunfishes (*L. macrochirus*) are shown prior to, and after, the completion of the Bayou Grosse Tête Watershed project. The sunfish population has been in decline since the construction of the Bayou Grosse Tête Watershed Project in the late 1980’s. The decline is attributed to the loss of available habitat for sunfish. The project silted over the shell beds that served as spawning habitat for the fish.

Rotenone is no longer used to sample fish in False River. Lead net and hoop net sampling stations will be established to monitor sunfish, crappie (*Pomoxis* spp.) and catfish (*Ictalurus* spp.).

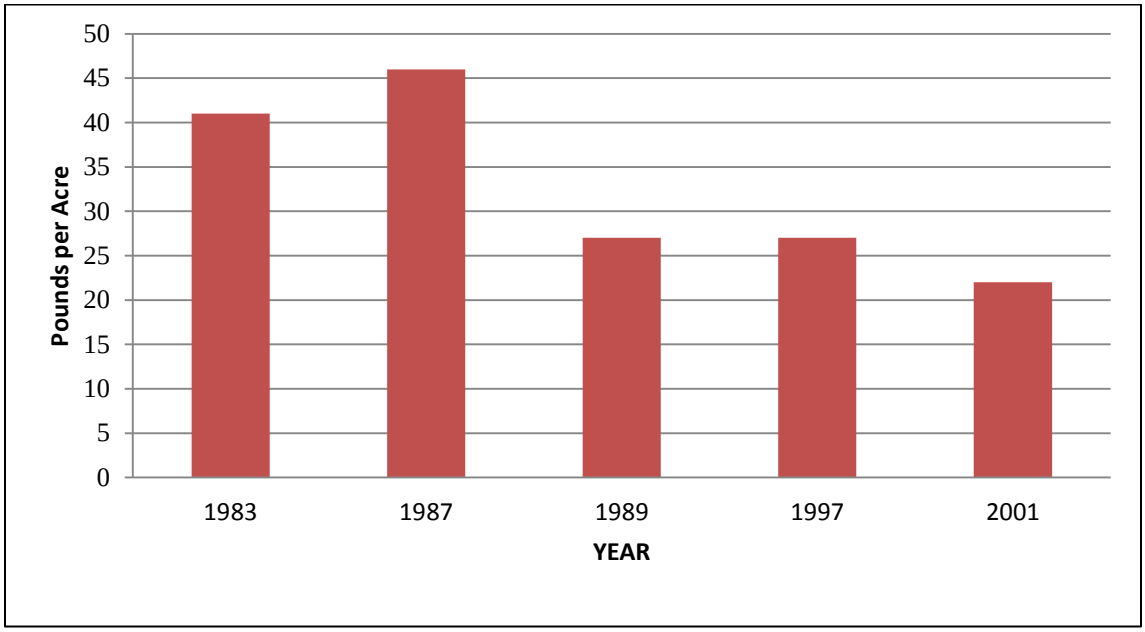


Figure 8. Redear sunfish standing crop estimates from rotenone samples from False River, LA for 1983, 1987, 1989, 1997 and 2001.

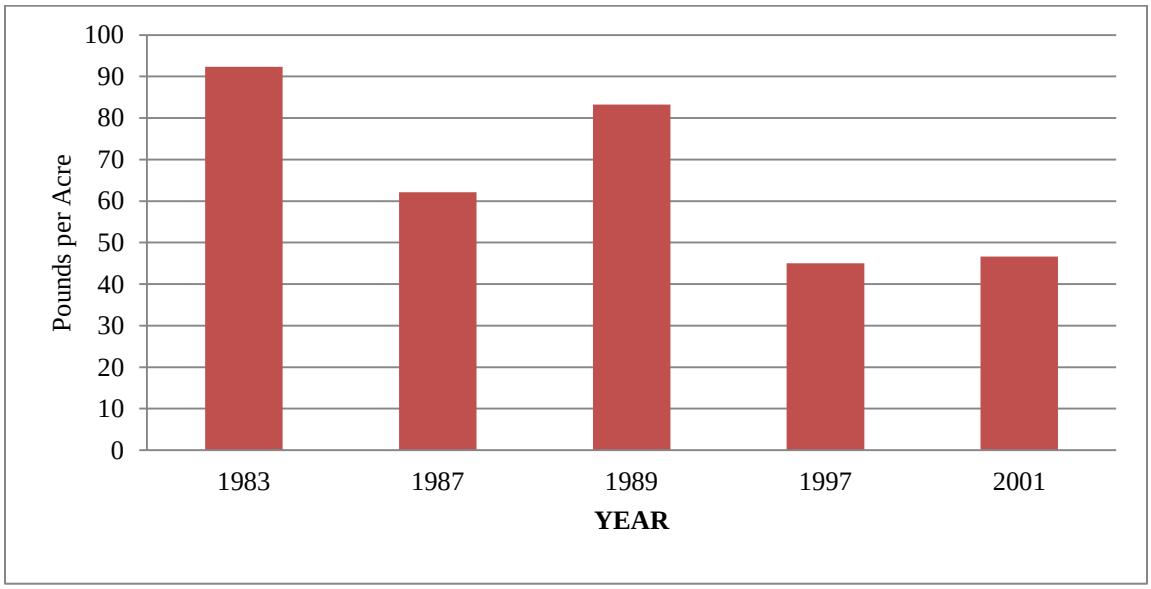


Figure 9. Standing crop estimates from rotenone samples for bluegill sunfish from False River, LA for 1983, 1987, 1989, 1997 and 2001.

Figure 10 shows channel catfish (*Ictalurus punctatus*) pounds per acre prior to and after the commercial net ban in 1991. The regulation prohibited the use of gill nets, trammel nets, and seines for False River.

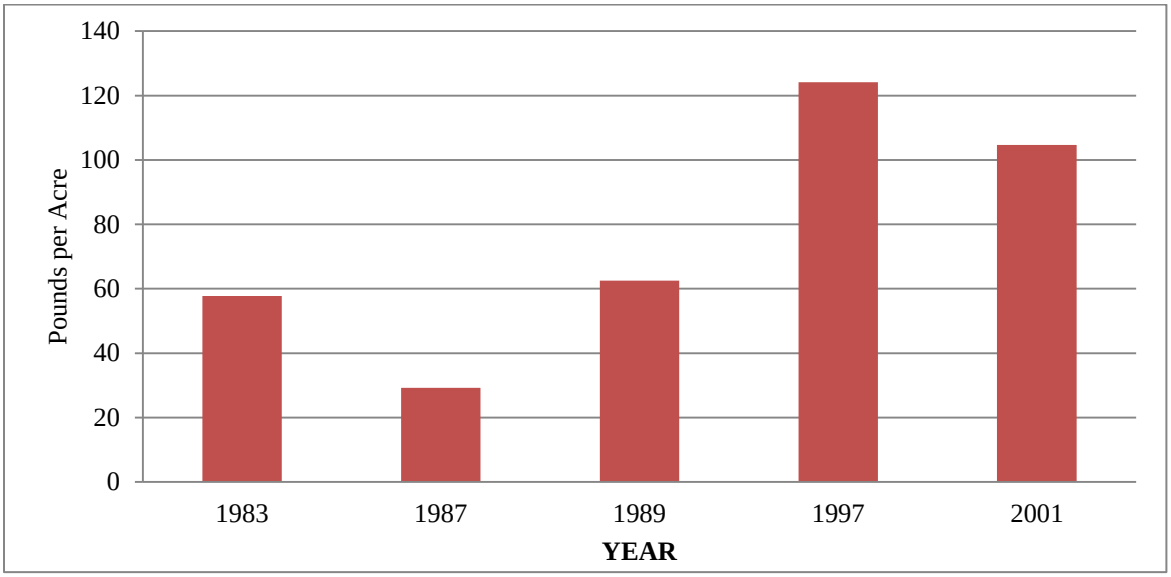


Figure 10. Channel catfish standing crop estimates from rotenone samples from False River, LA, for 1983, 1987, 1989, 1997 and 2001.

Forage

Forage availability is typically measured directly through electrofishing and shoreline seine sampling, and indirectly through measurement of LMB body condition or relative weight. Relative weight (Wr) is the ratio of a fish's weight to the weight of a ''standard'' fish of the same length. The index is calculated by dividing the weight of a fish by the standard weight for its length, and multiplying the quotient by 100. Largemouth bass Wr below 80 indicate a potential problem with forage availability. Largemouth bass in False River have an average relative weight of 92 from 2003 to 2013 (Figure 11). Relative weights indicate that there is sufficient forage available to LMB predation.

Available forage is mostly comprised of threadfin and gizzard shad (*Dorosoma* spp.) and sunfishes (*Lepomis* spp.; Figure 12).

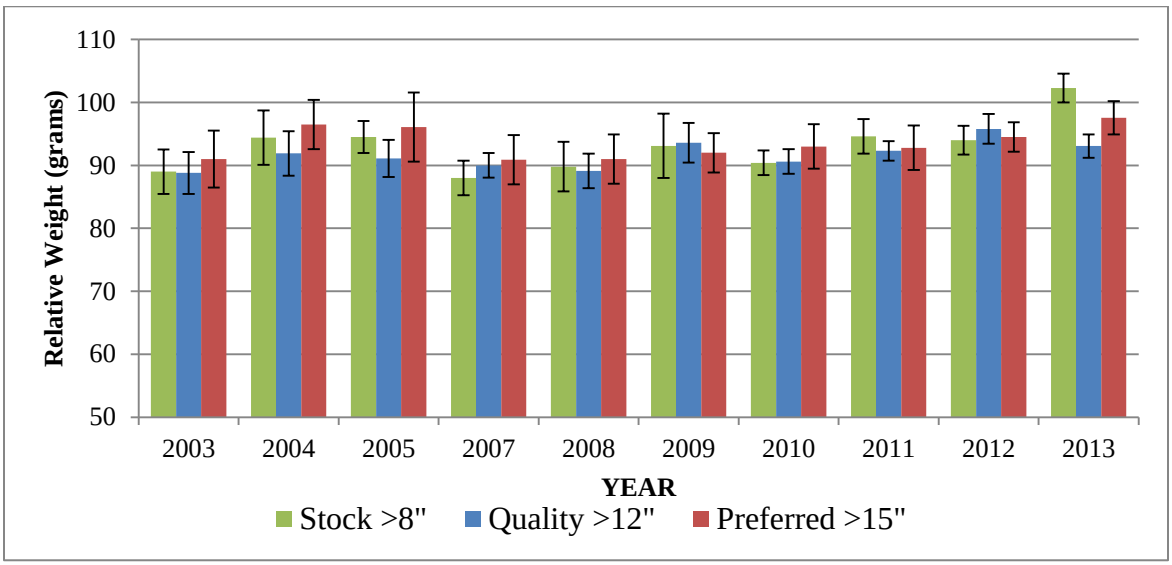


Figure 11. The mean relative weights (±95% CI) for stock- (>8"), quality- (>12") and preferred-size (>15") largemouth bass collected from False River, LA during fall electrofishing samples from 2003 to 2013.

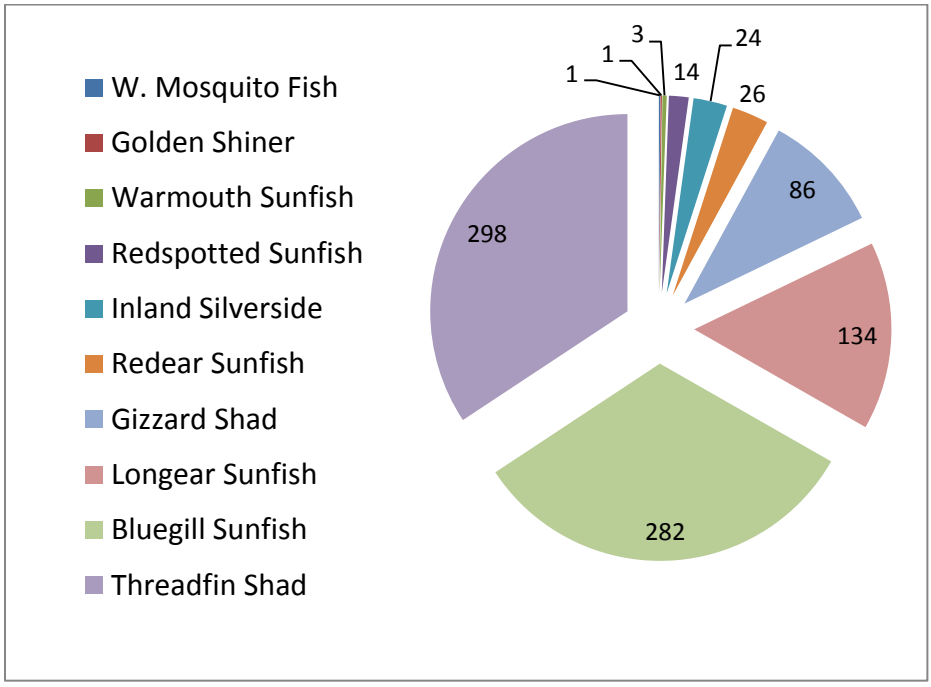


Figure 12. Mean CPUE for forage species collected from False River, LA during fall electrofishing for 2012 and 2013.

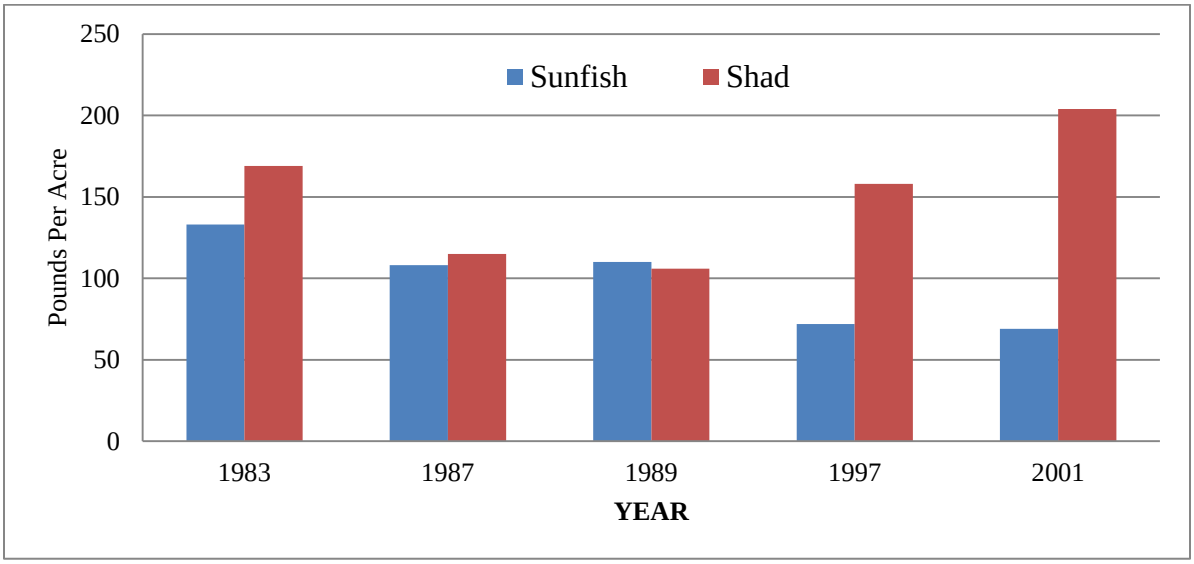


Figure 13. Sunfish (predominantly bluegill and redear sunfish) and shad standing crop estimates in rotenone catches on False River, Louisiana from 1983, 1987, 1989, 1997 and 2001. The trend lines indicate that there was a shift from nesting sunfish to shad following construction of the Bayou Grosse Tête Watershed Project.

<u>Commercial</u>

The use of gillnets, trammel nets, and seines was prohibited from 1991 to 2012. The ban was initiated to protect large bass. The trophy status was rescinded on False River in 1998, but the netting ban was not repealed for another 14 years. Since the ban, there have been increases in rough fish as indicated from standardized fishery-independent gillnet sampling (Figure 14).

Due to habitat degradation that has occurred over the years and the increase in rough fish, particularly common carp (*Cyprinus carpio*), there is a need for control of these invasive fish populations.

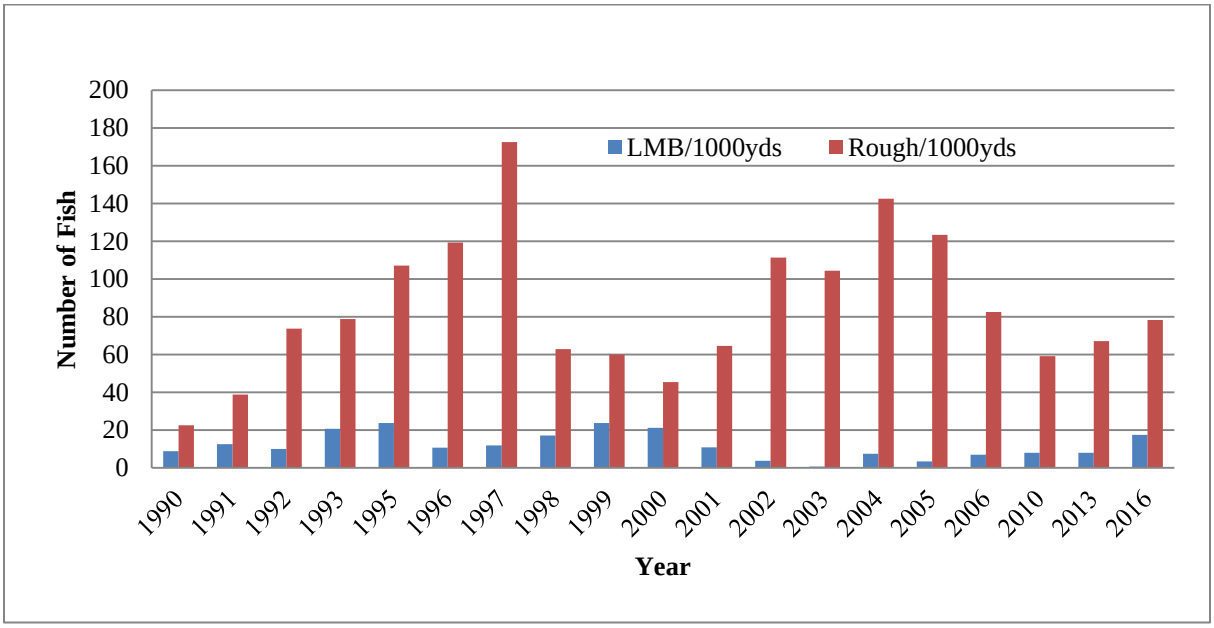


Figure 14. Gill nets catch results per net night (1,000 yards of net fished for 1 night) in numbers of fish for selected commercial fish species and LMB from 1990 to 2016 from False River, LA.

Species of Special Concern

Paddlefish (*Polyodon spathula*) are present in False River. The last recorded capture was from 2016 LDWF gillnet sampling. Paddlefish were also captured during gillnet sampling in 2000, 2002, 2006 and 2013 (Table 5). A paddlefish was observed in a 2009 gillnet sample, but the fish escaped before being brought into the boat for data capture.

Aquatic Invasive Species

Common carp and grass carp (*Ctenopharyngodon idella*) are present in False River. Gillnet data in Figure 15 show an increase in common carp catches, especially since 2000.

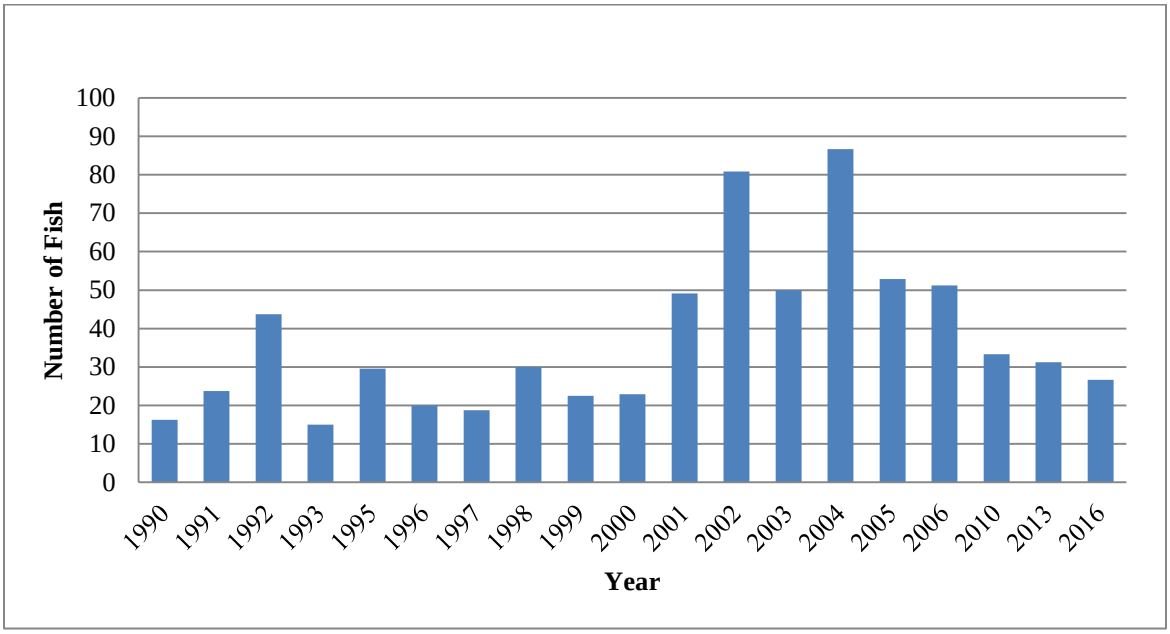


Figure 15. Gill net catch results by number per net night (1,000 yards of net fished for 1 night) of common carp from False River, LA, from 1990 to 2016.

Table 5. Individual species statistics by pounds caught per 100 feet of gill net per night from False River, LA, for the time period of 1999 to 2016.

FALSE RIVER SPECIES IN POUNDS PER 100 FEET OF GILL NET										
Species	**1999**	**2000**	**2002**	**2003**	**2004**	**2005**	**2006**	**2010**	**2013**	**2016**
Largemouth Bass	4.62	5.89	0.41	0.55	0.76	1.31	1.34	2.02	1.64	3.36
White Bass	0.49	1.68		0.22	0.96	0.30				
Striped Bass				5.11				1.96		
Hybrid Striped Bass		0.16	1.03	6.61					7.42	10.84
White Crappie	0.10	0.04		0.03						
Black Crappie		0.04		0.04	0.02	0.04	0.34	0.05		0.08
Redear Sunfish	0.01	0.03								
Common Carp	11.33	15.22	12.96	27.34	27.08	19.29	23.81	17.62	18.24	17.7
Grass Carp							0.36	0.55		0.12
Bigmouth Buffalo	1.02	3.74					2.51		1.18	4.14
Smallmouth Buffalo	14.35	8.54	6.81	26.43	21.88	23.23	25.18	13.20	15.66	24.30
Freshwater Drum	0.53	1.63	0.40	2.53	0.38	0.06	0.34	0.66	0.10	1.22
Channel Catfish	0.14	0.81	0.09	0.04	0.13	0.31	0.07	0.05	0.06	0.10
Blue Catfish		0.84		0.49	0.33	0.90	1.40		0.88	1.76
Flathead	1.37	0.99			0.20	0.37	0.64	0.86		0.18

Catfish										
Bowfin	1.48	0.42	0.91	0.15	0.45		0.42	0.94	0.46	0.18
Longnose Gar									1.42	4.34
Spotted Gar	0.33	0.47		0.48			0.37	0.21		
Gizzard Shad	0.36	0.62		0.44	0.04	0.01	0.20	0.79	0.60	2.04
Striped Mullet	0.08	5.83			1.50		2.29			
Paddlefish		3.42	1.26				5.19		4.28	2.76

Gill net data for 1999, 2000, 2002, 2003, 2004, 2005, 2006, 2010, 2013 and 2016, presented in Table 5, show that common carp and smallmouth buffalo comprise more pounds per 100 feet of gill net than any other species in False River.

The presence of grass carp has been documented since the late 1980's. The introduction of the species has not been authorized by the department. It has yet to be determined if the fish are diploid or triploid. Due to the reproductive biology of grass carp, the potential for achievement of a sustained population are low. Capture records of grass carp in the lake are as follows:

May 1989 – A grass carp weighing approximately 52 pounds is captured near the Lighthouse Canal.
February 1991 – During routine gillnet sampling, a grass carp is netted in the south end of the lake. The fish escapes capture by tearing the net.
December 2005 – During routine gillnet sampling, a grass carp is netted in the north end of the lake.
January 2010 – During routine gillnet sampling, two grass carp are netted. One in the south end and one near the Lighthouse Canal.
January 2016 – During routine gillnet sampling, one grass carp is netted in the south end of the lake.

HABITAT EVALUATION

Watershed

False River's watershed is comprised of 34,453 acres of mostly agricultural pasture-land in the interior of the island, and mixed woodlands and pasture-land northeast of New Roads. Peak crop production was reached in the 1980's, with approximately 75% of the island under agricultural use. Currently, the total watershed area consists of 2,300 acres of cropland, 1,700 acres of residential/commercial property, 27,353 acres of pasture and woodland, and the remaining acreage is the surface area of the lake. There are two main drainages in the watershed that flow into the lake. Patin Dyke on the north end drains 25% of the watershed, while Discharge Bayou (M-1 canal) on the south end drains the remaining 75%. The Natural Resource Conservation Service (NRCS) installed sediment traps in both of the discharge canals. NRCS also fenced many of the canals in pastureland areas to reduce bank erosion. Efforts to decrease the amount of sediment discharging into False River, although difficult to quantify, are evident. Since bank stabilization efforts and maintenance of sediment traps, sediment traps are collecting far less material, and LMB stocks have increased and native vegetation is starting to establish in the south flats.

Aquatic Vegetation

Estimates of vegetation coverage are below:

Problematic species (as of December 18, 2015):

Water Hyacinth (*Eichhornia crassipes*) – 20 acres (primarily in the south end of the lake with a small amount in the canals on the north end.

Common Salvinia (*Salvinia minima*) – <5 acres (primarily in False Bayou with a small amount in Bayou Chenal and other connecting bayous/canals)

Duckweed (*Lemna* spp.) – 7 acres (primarily in False Bayou with a small amount in Bayou Chenal and other connecting bayous/canals)

Beneficial Species (as of December 18, 2015):

Coontail (*Ceratophyllum demersum*) – 10 acres (all in connecting bayous/canals)

Fanwort (*Cabomba caroliniana*) – 10 acres (all in connecting bayous/canals)

Physical Control

No additional physical control measures are currently proposed for nuisance aquatic vegetation at False River.

Biological Control

No additional biological control measures are currently proposed for nuisance aquatic vegetation at False River.

Chemical Control

The use of herbicides is an important component of the LDWF integrated pest management program. The proper selection and use of herbicides is essential to achieve cost effective benefits and to avoid damage to non-target species. Each product listed has been approved by the Environmental Protection Agency for aquatic use. Aquatic vegetation is treated according to the Aquatic Herbicide Application Procedures as adopted by the LDWF Inland Fisheries Section.

A total of 47 acres of nuisance aquatic vegetation were treated in 2015 by LDWF personnel (Table 6).

Table 6. Herbicide treatments in False River, LA during 2015.

FALSE RIVER ACRES OF AQUATIC VEGETATION TREATED IN 2015			
SPECIES	**ACRES**	**HERBICIDES***	**APPLICATION RATES**
Water hyacinth	19	2,4-D	0.5 gal/acre
Duckweed	28	Diquat	1.0 gal/acre
TOTAL	47		

* All foliar herbicide applications included a non-ionic surfactant at a rate of 0.125 gal/acre for water hyacinth control and 0.25 gal/acre for duckweed control.

Limitations

Water stagnates in the extremely shallow portion of Bayou Chenal above the railroad bridge crossing. This area serves as a nursery for duckweed and water hyacinth.

Substrate

Sedimentation, particularly on the north and south ends, has minimized spawning habitat for nesting fish. Old shell beds that once served as excellent substrate for redear sunfish spawning have been silted over since the completion of the Bayou Grosse Tête Project (Figure 8).

During the carp spawning season, residents along the lake complain that thousands of fish root around in the loose sediments, muddying the water. These fish are also contributing to the loose sediment issues. Average depth of the flats is less than 5 feet and the loose sediments are easily stirred by boat traffic and wave action. Soil samples collected in January of 2010 showed that the flats' substrate is high in organic matter in relation to the rest of the lake's littoral zone.

In October 2013, Pointe Coupee Parish provided sixty tons of gravel for the creation of seven spawning beds. In November 2015, the Parish once again provided gravel (twenty-four yards) for the creation of three additional spawning beds. The gravel was used by LDWF personnel to construct spawning areas for nesting fishes. Each spawning bed is roughly 400 square feet, measuring in strips of 20' x 20', or 10' x 40', and approximately four inches thick. A total of ten spawning beds have been constructed by LDWF personnel (Table 7).

Table 7. Locations of gravel spawning beds placed in False River, LA.

GRAVEL BED SITE	COORDINATES	
Island side north	30.67616	-91.45856
Across from hospital	30.682943	-91.444377
Island Queen	30.643352	-91.481402
Across from public landing	30.683388	-91.432734
Bergeron Pecans	30.67420	-91.47068
Hospital	30.68256	-91.46001
Public landing	30.692011	-91.436095
LA Xpress	30.61571	-91.43414
Sandbar	30.61344	-91.44904
South Island	30.60724	-91.43124

Artificial Structure

There is currently a lack of complex cover in False River. The deficiency is primarily due to the lack of submersed vegetation. Complex cover in False River is limited to man-made structures, including piers and structures placed in the lake by anglers. In an effort to increase future angler success rates, the addition of artificial complex cover will be considered.

Water Level Fluctuation

Waters associated with the Mississippi River are very productive due in part to water fluctuation. A typical hydrograph will show high water periods in the spring and low water periods in the fall. The annual pattern contributes to productivity in ways that include the following:

- High spring water coincides with most sport fish spawning periods and covers areas that

stay dry throughout most of the year. The newly flooded substrate is ideal spawning substrate for nesting sport fish. Flooded terrestrial vegetation provides protection for newly hatched fish. Without exception, increased sport fish recruitment is linked to timely high water of sufficient duration. Low water levels in the fall expose bottom sediments to the sun and atmosphere. In addition to beneficial soil compaction, a drying period reduces organic material that could otherwise negatively impact spawning success.

- The development of the False River shoreline is associated with demands to control water fluctuation and maintain a stable water level to the extent possible. The resulting user group conflict has been the source of considerable acrimony for an extended period of time. Currently, the Pointe Coupee Police Jury makes efforts to accommodate its constituents and manipulates the False River water level toward a stable level. Flood control is conducted to the extent possible. The False River Civic Association has recommended that the lake be lowered at a rate of 6 inches per day to 13' MSL if a six inch rain is forecasted within a 6 to 10 day period. Recommendations for low water periods are met with strong opposition and have been successfully prevented to date.

CONDITION IMBALANCE / PROBLEM

1. The Grosse Tête Watershed Project. Resulting sedimentation has caused significant loss of aquatic vegetation and spawning habitat for nesting sportfish species, including LMB and sunfish.

2. Shoreline development and siltation has greatly reduced the available complex cover for fish and other aquatic life.

3. Control measures to stabilize water level fluctuation are reducing associated benefits to aquatic habitat and fisheries resources. Shoreline residents comprise an active and vocal constituency of the Point Coupee Police Jury. Opposition to water levels above or below the 16' MSL pool stage is strongly expressed. Reasons cited include inconvenience, loss of aesthetic quality, and potential damage to shoreline structures.

4. Rough fish species including common carp are causing damage to aquatic habitat. Commercial gill netting was prohibited from 1991 to 2012.

5. Bayou Chenal has a chronic infestation of duckweed.

CORRECTIVE ACTION NEEDED

1. Water fluctuation to the extent possible to mimic a natural hydrograph will provide benefit to the aquatic habitat and fish population.

2. Additional complex cover and native aquatic vegetation need to be established. This would include artificial reef structures and the planting of native aquatic vegetation.

3. Harvest of rough fish is necessary to minimize associated damage to aquatic habitat. Continued successful commercial net seasons are needed to harvest the overabundant rough fish.

4. Revise agricultural practices to reduce sedimentation. Including the maintenance of existing sediment trap and bank stabilization in the watershed.

5. Control duckweed in Bayou Chenal.

RECOMMENDATIONS

1. Determine current conditions of siltation and turbidity of False River. Continue to work with the False River Watershed Council on restoration projects: http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=924

2. Continue standardized sampling of fish populations to evaluate the condition of the stock and evaluate reproductive success of nesting species.

3. Mimic historic natural water fluctuation to the extent possible. Develop a plan to ensure that the water level manipulations do not interfere with spawning success (**APPENDIX V** – False River Water Level Management).

4. Siltation from runoff must be addressed in the False River watershed. Routine cleaning of the silt trap and continued improvements to reduce erosion should be implemented. This may include the impoundment of water upstream from the lake to allow for the settling of suspended materials before runoff water enters the lake. Establishment of water quality monitoring stations throughout the lake should be implemented. These stations would include turbidity monitoring to measure the suspended and dissolved solids in the lake.

5. Develop and implement an artificial reef project. The addition of complex cover will increase angler success. Work with local sponsors to secure funds, materials and labor (**APPENDIX VI** – Artificial Reef and Native Aquatic Vegetation Plan).

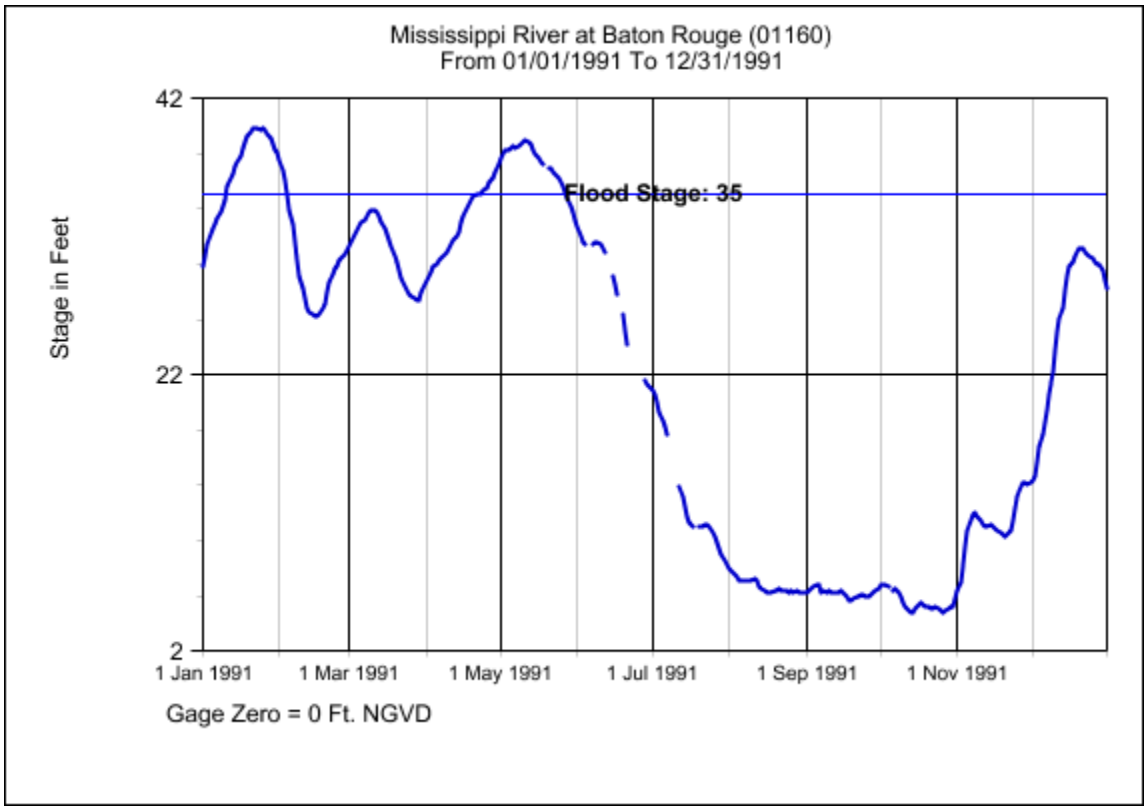
6. Monitor grass carp populations in the lake. Work with USGS to determine ploidy of the population. It is also planned to investigate other potential herbivores in the lake.

7. Conduct a limnological survey of False River.

8. False River will be assessed monthly during the growing season for nuisance aquatic plant infestations. Public complaints will receive a timely response. Problem areas will be treated as they arise with foliar applications in accordance with the approved LDWF Aquatic Herbicide Application Procedure. Water hyacinth should be treated with 2,4-D at a rate of 0.5 gallons per acre. Common salvinia should be treated with a mixture of glyphosate (0.75 gallons per acre) and diquat (0.25 gallons per acre) with Turbulence (0.25 gallons per acre) surfactant from April 1 – October 31. Diquat (0.75 gallons per acre) and a non-ionic surfactant (0.25 gallons per acre) will be used outside of that time frame. Alligator weed should be treated with imazapyr (0.5 gallons per acre) with Turbulence surfactant (0.25 gallons per acre). Alligator weed growth in developed areas will be treated with imazamox (Clearcast) (0.5 gallons per acre) and Turbulence surfactant (0.25 gallons per acre).

APPENDIX I
(return to recreation**)**

1991 MISSISSIPPI HYDROGRAPH



APPENDIX II
(return to recreation)

LOG OF FALSE RIVER WATER LEVELS

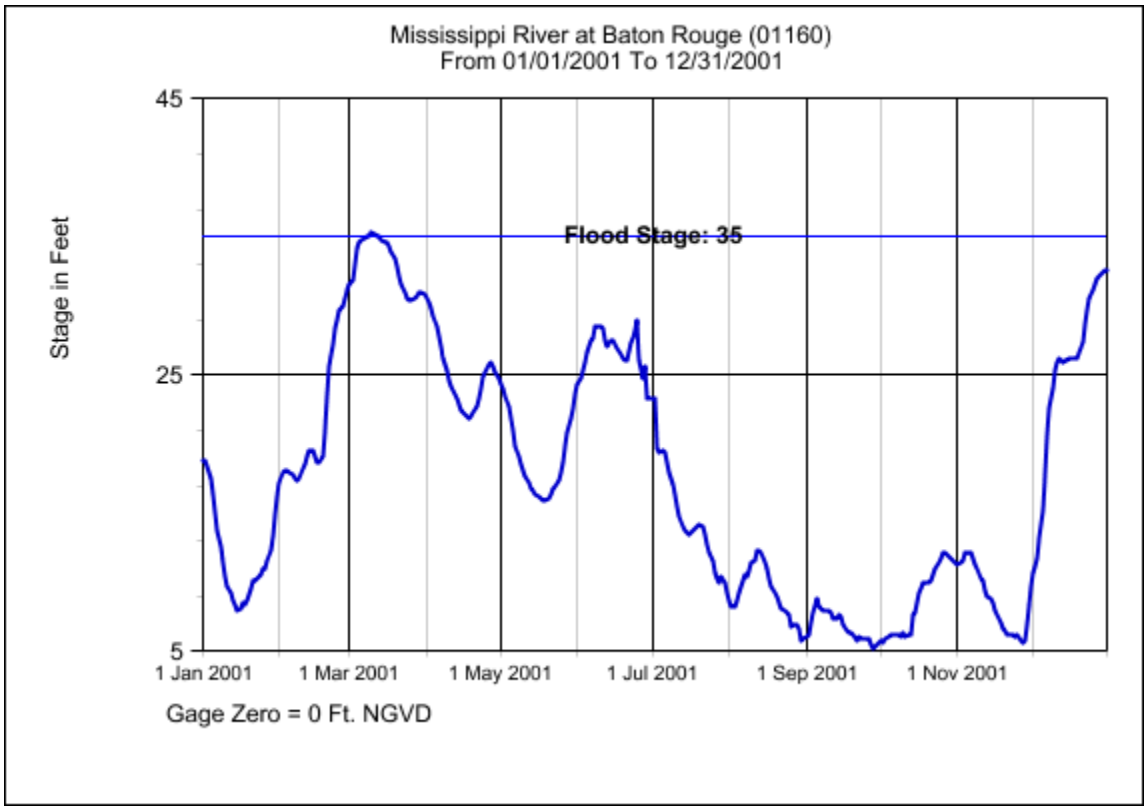
DAILY LOG OF FALSE RIVER'S LEVEL

DATE	RIVER LEVEL	POSITION OF GATES	DATE	RIVER LEVEL	POSITION OF GATES
3-11-97	15.6	Closed	4-29	19.0	3 gates opened
3-12	15.6	"	4-30	19.0	"
T 3-13	15.8	"	5-1-97	18.8	"
M 3-17	15.6	3-16-97 Open 3 gates 14.0 at 4:30 PM	5-5	19.0	"
3-18	15.6	Closed by M. Beauchamp	5-6	18.8	"
3-19	15.7	"	5-7	18.6	"
T 3-20	15.8	" *	5-8	18.4	"
M 3-24	15.8	"	5-12	17.1	"
3-25	16.0	"	5-13	16.8	"
3-26	16.2	opened 4:30 PM 3 gates	5-14	16.5	"
T 3-27	Daliday	3-29 - Closed 7:30 AM 15.6 by M. Beauchamp	5-15	16.2	"
M 3-31	15.9	Closed	5-19	16.0	"
4-1-97	15.9	"	5-20	15.8	"
4-2	15.9	"	5-21	15.6	"
T 4-3	15.9	"	5-22	15.5	Closed
M 4-7	16.9	Apr 5 - 7:30 AM open 3 gates open M. Beauchamp	5-24 / 5-27	15.8 / 15.5	opened 3 gates / Closed 4:30 PM
4-8	16.6	"	5-28	15.5	"
4-9	16.4	"	5-29	15.6	"
T 4-10	16.2	"	6-2-97	16.0	"
M 4-14	15.6	" 4:30 closed 15.8	6-3	16.0	"
4-15	15.8	Closed	6-4	16.0	"
4-16	15.8	"	6-5	16.0	"
T 4-17	15.8	"	6-9	16.0	"
M 4-21	15.8	"	6-10	16.0	"
4-22	15.7	"	6-11	16.0	
4-23	15.7	"	6-12	16.0	
T 4-24	15.7	"	6-16	16.1	
M 4-28	18.8	4-27 4:30 AM 17 ft opened 3 gates M. Beauchamp	6-17	16.1	

POSITION OF GATES OPEN - O CLOSED - C

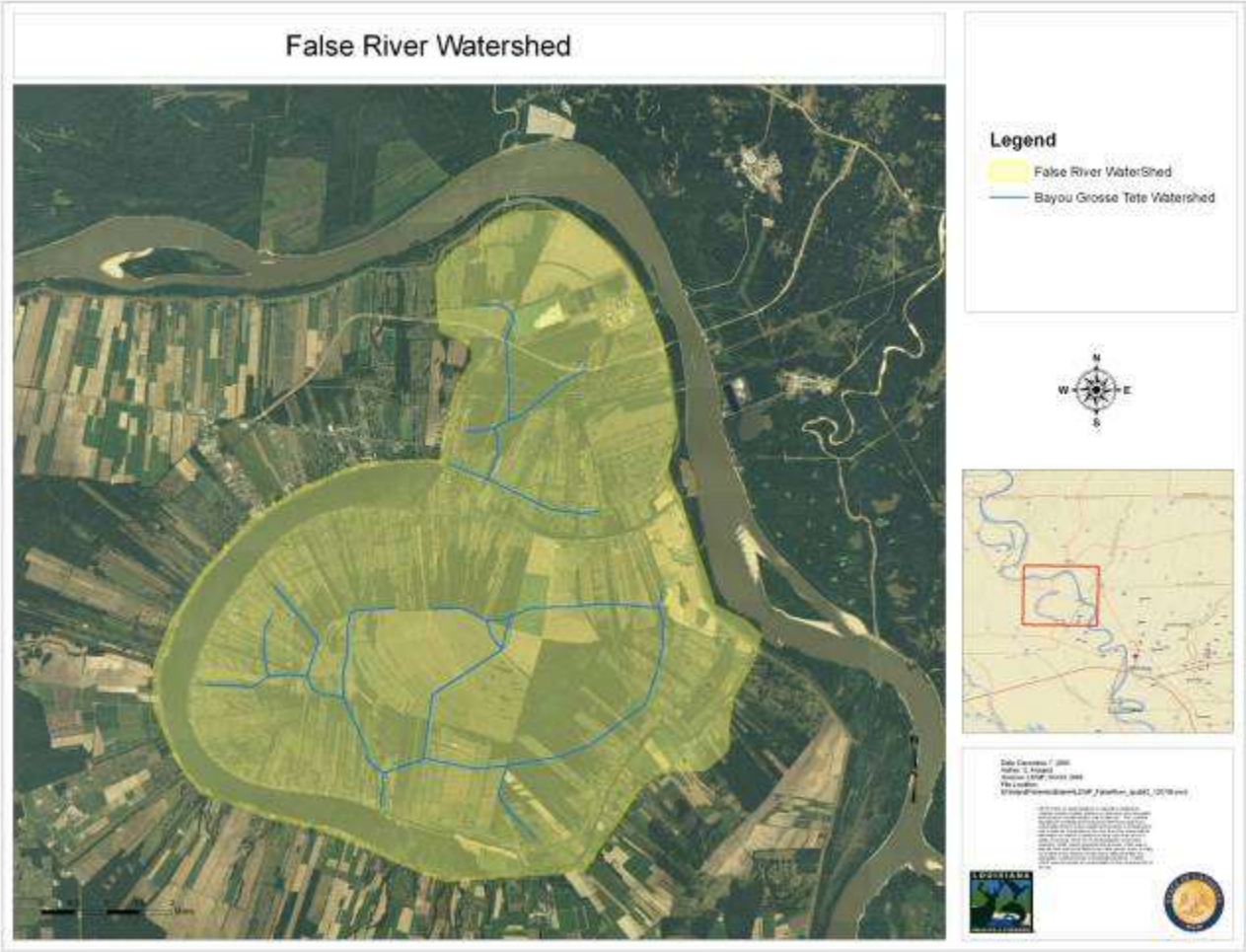
APPENDIX III
(return to recreation**)**

2001 MISSISSIPPI HYDROGRAPH



APPENDIX IV
(return to recreation**)**

MAP OF BGT PROJECT AREA AFFECTING FALSE RIVER



NOTE: Shaded area encompasses that portion of the Bayou Grosse Tête Watershed Project that affects False River. This area is now the new watershed for the lake. The drainage canals that were dredged during the construction phase of the project are outlined in blue. Construction on these canals took place between 1988 and 1993.

APPENDIX V
(return to action plan**)**

FALSE RIVER WATER LEVEL MANAGEMENT

False River Water Level Management

By:
Rachel Walley
Inland Fisheries Division
Louisiana Department of Wildlife and Fisheries

History – False River is a 3,212 acre inactive oxbow lake situated in the south eastern portion of Pointe Coupee Parish. The watershed is 34,453 acres of mostly agricultural pasture-land in the interior of The Island and mixed woodlands and pasture-land northeast of New Roads. In the late 1980's and early 1990's the Bayou Grosse Tête Watershed Project was constructed. The purpose of the project was a means of flood control for agricultural land. Since the completion of the project, False River has endured years of siltation from agricultural runoff. Siltation is particularly problematic in the north and south flat portions of the lake. These areas have become increasingly shallow and the bottom substrate is comprised of several feet of flocculent material. The result has been a loss of largemouth bass (LMB) and other centrarchids spawning habitat. False River has also since become a lake of special concern due to its state of decay.
Lake level is currently maintained at 16' MSL by the Police Jury for flood control purposes. The Louisiana Department of Wildlife and Fisheries is considering a lake drawdown as a management effort to combat the adverse effects of siltation and improve sportfish habitat. **Benefits –** drawdowns mimic natural water fluctuations and therefore have several positive impacts on older and aging lakes:

1. Increased sport fish reproduction for reasons including the following:
   a. Improved bottom substrate for spawning habitat and for aquatic vegetation growth
   b. Improved pre-spawn body condition of sport fish predators such as LMB due to increased availability to forage
2. Reduce accretion (filling in) of the lake by compacting sediments and decomposing organic matter thus creating depth.
3. Reduce turbidity by consolidating exposed sediment.

Procedures – the drawdown would be accomplished by LDWF with assistance from the Pointe Coupee Parish Police Jury.

1. **Fall/winter drawdown** to be conducted from September 7th through January 15th.
2. **Notice** of the drawdown will be given to the Pointe Coupee Parish Police Jury. LDWF will request their assistance with manipulating the control structure at the Lighthouse Canal.
3. **Lake level** would be maintained anywhere up to 6 feet below pool elevation (10.0' MSL) to accomplish management objectives. This level would be

achieved by lowering the lake level at a rate of 1.5 to 2 inches per day until the desired level is achieved. The lake would be held at the desired level until January 15th. Then the lake will be able to naturally refill.

> **NOTE:** The water level during the drawdown period is subject to rain events. Due to the lake's sizable watershed, any considerable amount of rain could potentially raise water levels back to pool stage. Long durations of high water levels during the drawdown period will affect the overall success of the drawdown.

4. **Lake bottom exposure** would be particularly apparent in the north and south flats. Six feet below pool elevation will expose approximately 197 and 72 acres in the north and south flats, respectively (SEE APPENDIX – NORTH AND SOUTH FLATS DRAWDOWN EXPOSURE MAPS).
5. The lake should be maintained at **normal pool stage** all other months.
6. **Fish population monitoring**, especially nesting fishes, will be ongoing to track the long term effects.
7. **Type mapping** will be performed annually during the early fall when plant communities are most abundant.

Predictably, a lower than normal water level would not be universally accepted by shoreline residents of False River. For that reason it is important that the benefits of this management effort be well documented. The primary benefit to shoreline residents as well as all other stakeholders is the health of the lake. An improved sport fishery would also be popular with area anglers. The drawdown would also afford shoreline residents the opportunity for shoreline improvements.

NORTH AND SOUTH FLATS DRAWDOWN EXPOSURE MAPS

SOUTH FLATS:

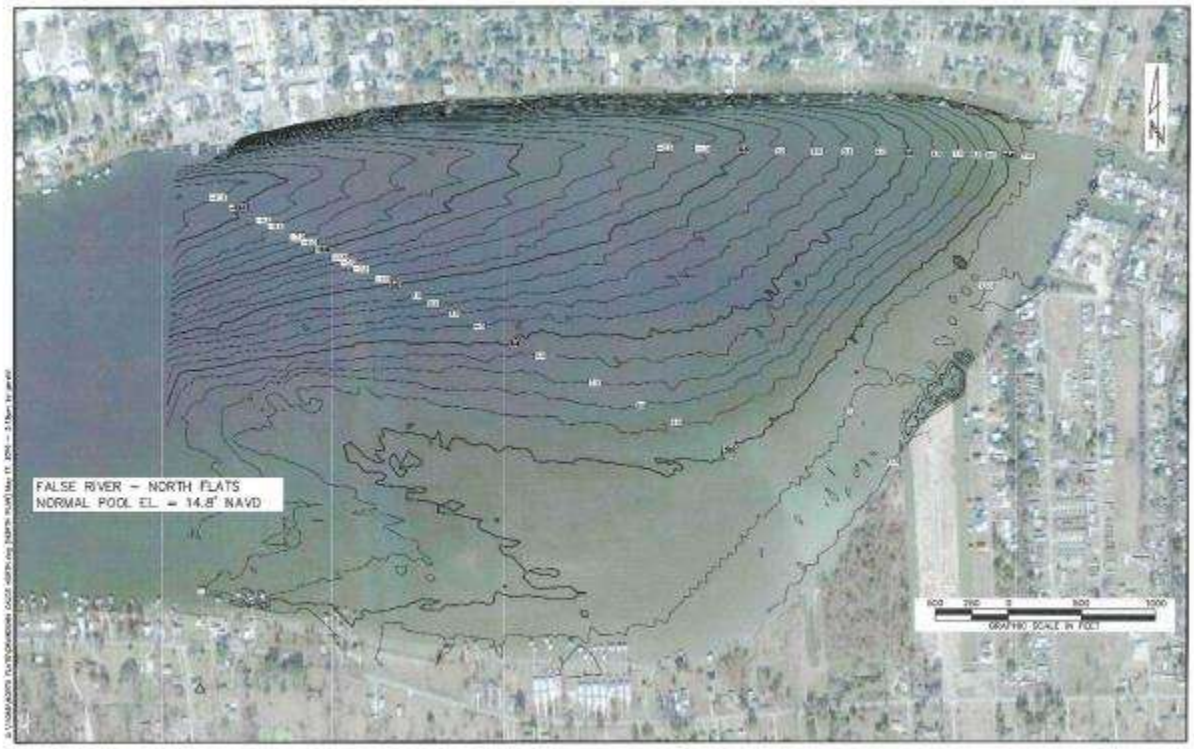
FALSE RIVER–SOUTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO EL 8 NAVD (3FT.)
7.1 ACRES DREDGED

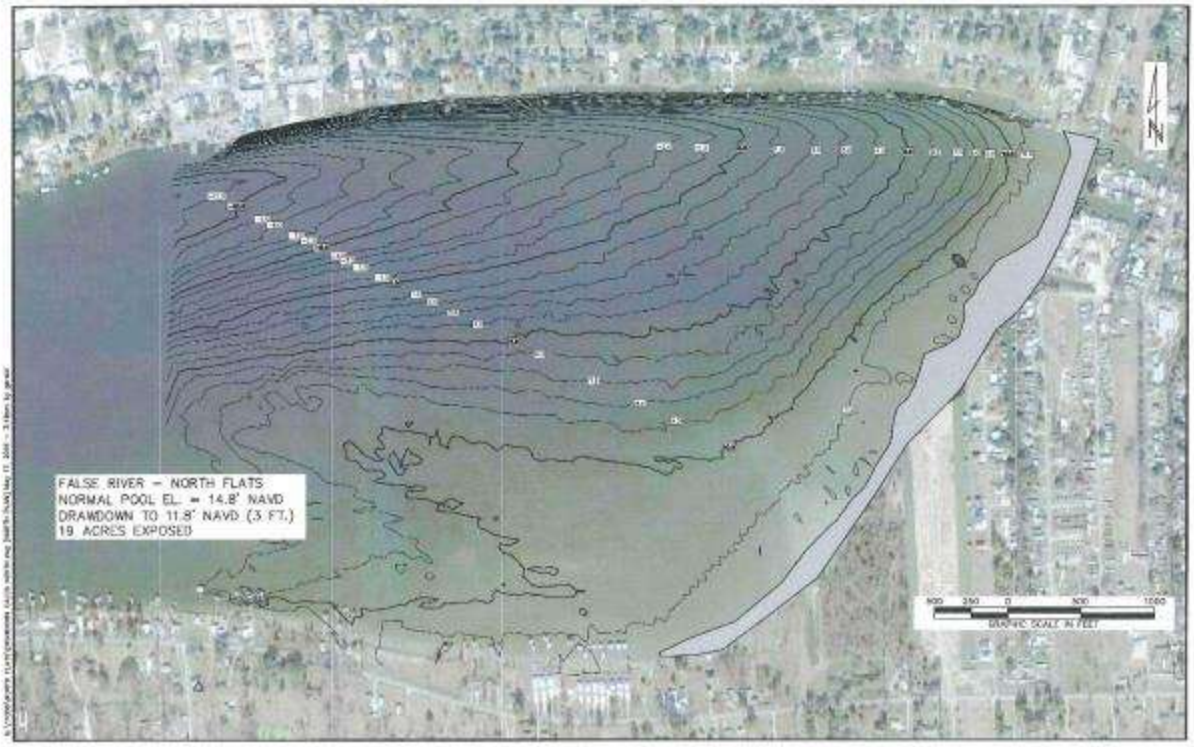
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 10.8' NAVD (4' FT.)
33 ACRES EXPOSED

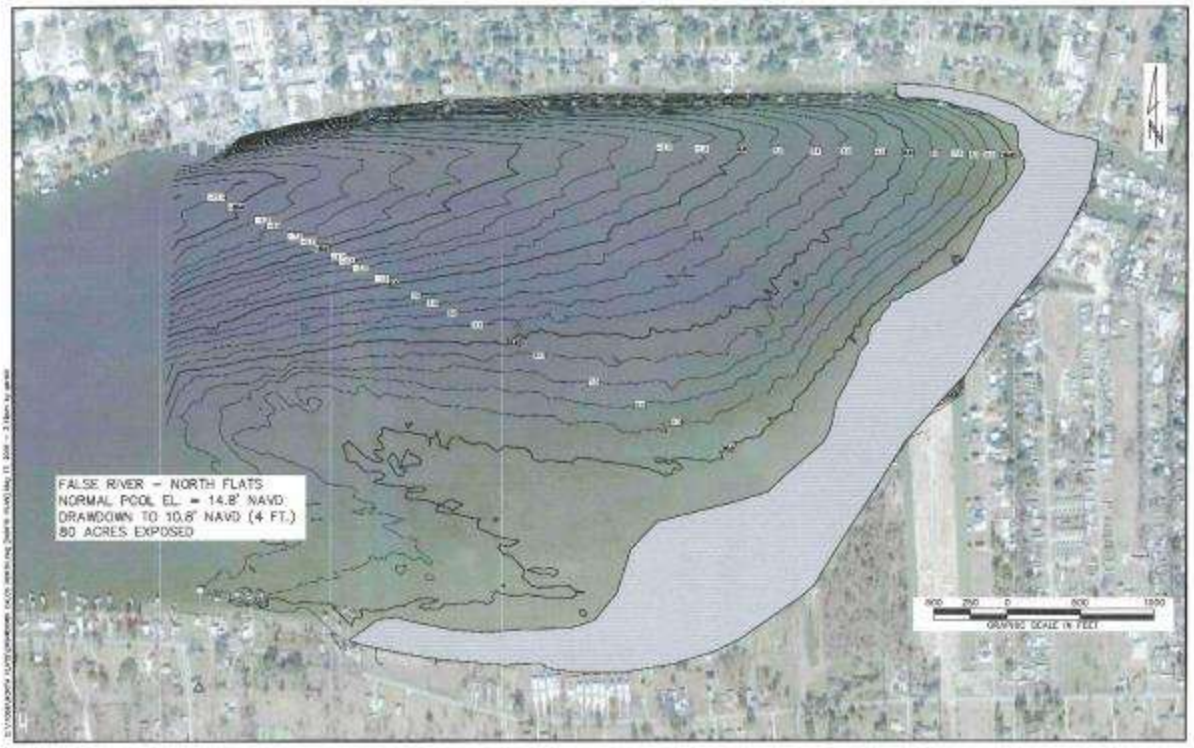
FALSE RIVER-SOUTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 9.8' NAVD (5' FT.)
44 ACRES EXPOSED

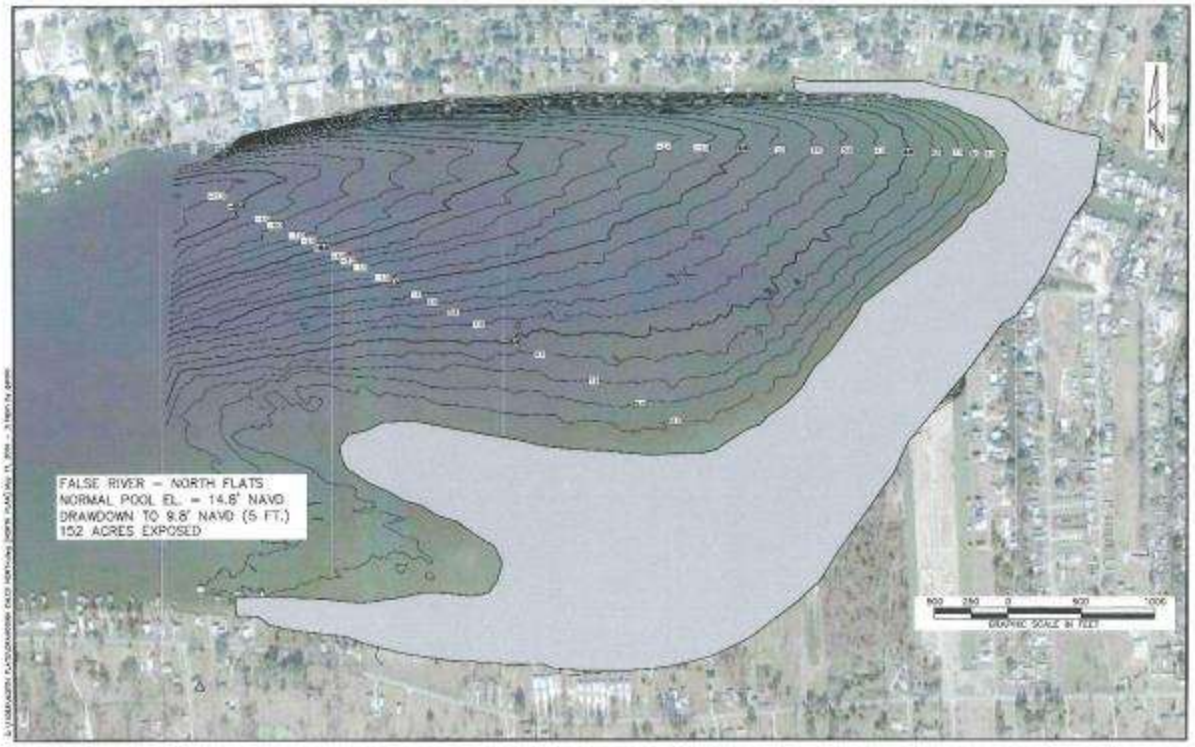
FALSE RIVER-SOUTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 5.8 NAVD (9 FT.)
72 ACRES EXPOSED

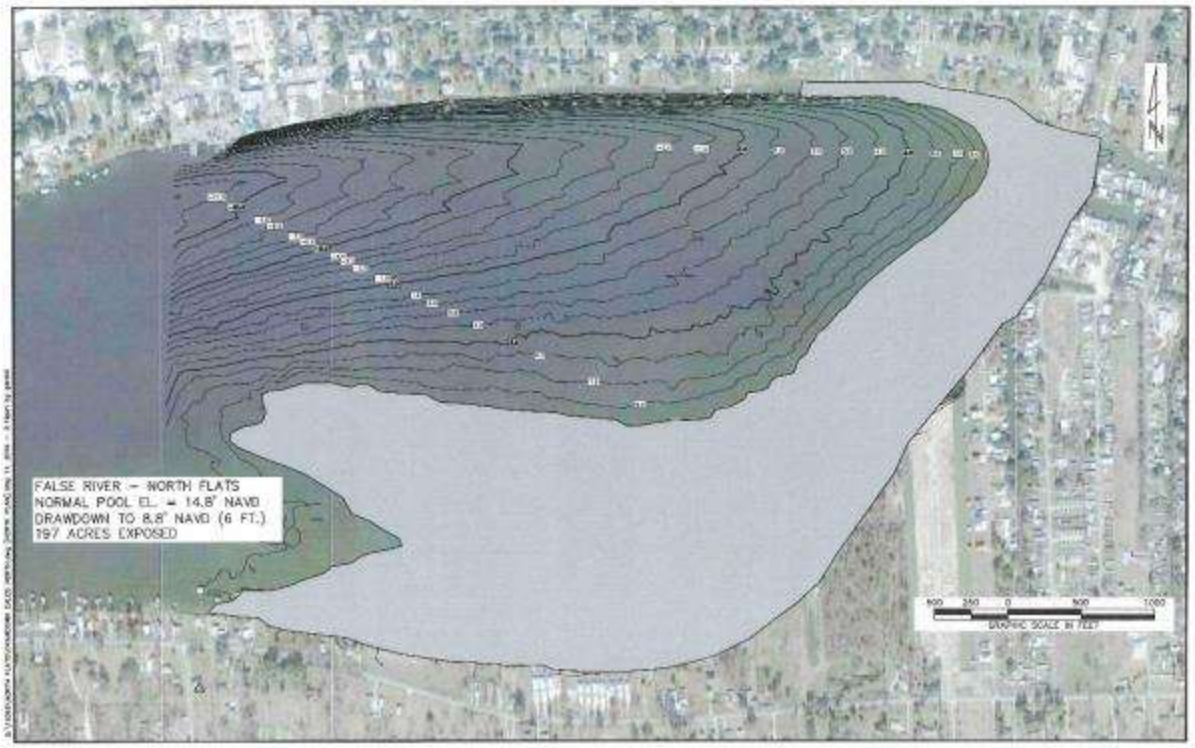
NORTH FLATS:


FALSE RIVER – NORTH FLATS
NORMAL POOL EL. = 14.8' NAVD
GRAPHIC SCALE IN FEET


FALSE RIVER – NORTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 11.8' NAVD (3 FT.)
19 ACRES EXPOSED
GRAPHIC SCALE IN FEET


FALSE RIVER – NORTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 10.8' NAVD (4 FT.)
80 ACRES EXPOSED
GRAPHIC SCALE IN FEET


FALSE RIVER – NORTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 9.8' NAVD (5 FT.)
152 ACRES EXPOSED
GRAPHIC SCALE IN FEET


FALSE RIVER – NORTH FLATS
NORMAL POOL EL. = 14.8' NAVD
DRAWDOWN TO 8.8' NAVD (6 FT.)
197 ACRES EXPOSED
GRAPHIC SCALE IN FEET

APPENDIX VI
(return to action plan**)**

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

FALSE RIVER
ARTIFICIAL REEF AND NATIVE AQUATIC VEGETATION PLAN

Prepared by:

Rachel Walley, Biologist Manager
District 7

2011
BACKGROUND
False River is a 3,212 acre inactive oxbow lake situated in the south eastern portion of Pointe Coupee Parish. The watershed is 37,500 acres of mostly agricultural pasture-land in the interior of The Island and mixed woodlands and pasture-land northeast of New Roads. In the late 1980's and early 1990's the Bayou Grosse Tête Watershed Project was constructed. The purpose of the project was a means of flood control for agricultural land. Since the completion of the project, False River has endured years of siltation from agricultural runoff. The result has been a loss of largemouth bass (LMB) and other centrarchids habitat. False River has also become a lake of special concern due to its state of decay.

The Louisiana Department of Wildlife and Fisheries, Inland Fisheries Section is responsible for managing freshwater fisheries resources through a variety of methods including habitat improvement. Fisheries habitat can be improved in several ways. One means of habitat improvement is the addition of cover for fish. It is known that anglers enjoy increased success when they target underwater structure. Many anglers place brush and other structure for their own use. The Inland Fisheries Section recognizes the importance of underwater structure in determining the quality of fisheries habitat. Several fisheries districts have undertaken habitat projects, which placed artificial structures into lakes and/or establishing native aquatic vegetation. Fish utilization and angler success have been positive on these projects and public interest in such projects is increasing. As a result of the loss of complex habitat in and the success of artificial reefs and establishment of native aquatic vegetation in other state waterbodies, the need has arisen for such project in False River.
OBJECTIVES
Freshwater artificial reefs and the establishment of aquatic native vegetation can be utilized to accomplish multiple objectives:

- Increase angler success.
    - For many anglers, finding fish in a water body, especially one that is new to them is a major obstacle to a successful fishing trip. Artificial reefs concentrate fish and identifying the structures on maps and with buoys makes them available to all anglers.
- Increase fisheries habitat.
    - As lakes age, flooded timber decomposes and water bottoms may accumulate silt and organic debris. This progression can lead to a reduction in fisheries productivity. If sufficient artificial cover or substrate is added, fisheries productivity can be increased.
- Establish stands of native vegetation.
    - Sufficient stands of native aquatic vegetation have several benefits. They not only are cover and food for aquatic life, but produce oxygen and decrease the rate of erosion and sediment re-suspension.

ARTIFICIAL REEFS
General guidelines
- Reef structures cannot be constructed of prohibited materials, including:

    - Tires
    - Appliances
    - Metal objects
    - Engines
    - Vehicles
    - Any other materials that potentially contains hazardous chemicals
- Artificial structures must be well anchored to prevent movement.
- Materials should be long lived in underwater conditions.
- Design should be durable to avoid damage during deployment as well as post deployment failure.
- Structures must be well marked with buoys and/or signs. Buoys may be marked to credit project sponsors.
- Project sponsors should provide marker buoys and future maintenance of those buoys.
- Structures should be easily accessible by anglers. Ideally, structures should be placed to provide multi-seasonal use by fish and anglers.

Structure

Plastic feed pallet trees

- Basic design includes a five-gallon nursery pot filled with cement to support a length of three inch PVC pipe to form the trunk of the tree. Plastic feed pallets are slid onto the pipe along with sections of four-inch plastic sewer and drain pipe serving as spacers. Pallets and spacers are alternated until reaching the top of the PVC trunk. A three-inch PVC cap is glued onto the top of the trunk to hold the pallets in place and capture air inside the PVC pipe. Trapped air serves to keep the tree upright when deployed. PVC trunks are usually five foot in length but may be longer of needed. Trunks longer than five feet are partially filled with water to reduce buoyancy. Clusters of pallet trees are deployed ranging in number from 15 to 100 depending upon desired coverage and spacing.

    - Advantages: Longevity, availability of materials, relatively low cost. Studies report that feed pallet trees are known to attract harvestable size LMB, crappie, bluegill, and redear sunfish.
    - Disadvantages: None reported.
    - Recommendations: Construction and deployment of this type of structure involves considerable manpower and equipment. Handling of concrete bases requires lifting by hand in most cases. Project planning should include adequate manpower to reduce individual effort. A large working platform such as a pontoon boat or barge will increase deployment rate.

Spawning substrate

- This category consists of habitats that include sand, gravel, cobble, boulder, and mixtures thereof.
    - Advantages: Availability of materials, addresses problem of lack of existing structure. Evidence indicates use of sand and/or rock beds by sport fish including

bluegill, redear sunfish and LMB.

- Disadvantages: Higher cost, algal growth, sinking, and placement in areas with too great of slope.
- Recommendations: To minimize some of the problems associated with spawning beds, the following guidelines are offered:
- Ten pads of washed gravel spread over suitable sites throughout the lake
    a) beds should only be placed when there is evidence of inadequate spawning habitat.
    b) beds should be placed in areas that will be exposed to some level of wave action in order to reduce siltation.
    c) beds should be placed at depths > 3 ft. if periphyton is a problem.
    d) beds should be placed in areas with a slope < 10%.
    e) beds should be placed on substrates that are able to support the weight of the material.
    f) filter cloth may be placed beneath the sand/gravel to support the weight of the materials and prevent subsidence of the spawning pad.

Example of loading gravel on barge for transport to spawning bed site. Gravel is then washed off the barge with a water pump.

Placement of structures

Site selection for the placement of reef structures will consider access, historically popular fishing sites, water depth and areas that propose no danger to boaters, swimmers and other user groups. Initial project consists of 11 sites. Three sites situated in both, the north and south flats, three sites accessible to the public fishing piers, and two situated along the LA 1 side of the lake (see map below).

Map

Potential sites for placement of artificial fish attractant structures in False River, LA.

Monitoring

When time permits, LDWF Inland Fisheries staff will monitor artificial reef structures to determine long-term usage and success. Monitoring will include one or more of the following methods; creel surveys, SCUBA diving and underwater photography. Information gathered during monitoring will be included in the Annual Performance Report.

NATIVE AQUATIC VEGETATION

General guidelines

- Will identify, transport, and inoculate False River with a source of desired aquatic plant species.
- Plant propagules will be obtained via commercial suppliers.
- Only native plants whose strain is appropriate for USDA Hardiness Zone 8b will be considered. Plant species also will be selected based on lake habitats or anticipated environmental conditions.
- Shallow waters protected from winds and wave action will be selected for establishment of aquatic plants. High-use areas will be avoided.
- Plantings will occur before or during periods of active growth and as early as practical. Late planting reduces the length of growing season remaining and may decrease the likelihood of success.
- Once established, founder colonies will spread in two manners, including
    - Expansion (vegetative spread from the founder colony itself).

    - Colonization (formation of new colonies from fragments, seeds, etc.).
- After a culture of a particular species is established, it will be used as a source for the next generation of cultivation.

Phases

Once suitable sites are selected the project will proceed in three phases:

- Phase 1 involves planting and monitoring over a full growing season of test plants of a variety of species. Assuming suitable sediments, water quality and minimal herbivory, these plants will establish. The response of the plants will dictate the best course of action for subsequent growing seasons. Aquatic plant materials prepared for application to water body. Four beds to be spaced in suitable sites – One on each end and one mid-lake on each side.
- Phase 2 should result in the successful establishment of founder colonies of several species. During the second growing season, those species performing best during Phase 1 will receive additional plantings.
- Phase 3 colonies should expand to into new areas by vegetative and/or sexual modes of reproduction. Monitoring will continue at this stage, as large-scale disturbances can have serious consequences on newly established plant communities. Additional species may also be desirable to ensure maximum diversity, stability, and resilience of the aquatic plant community.

Monitoring

LDWF Inland Fisheries staff will monitor to determine status of planting establishment success. Information gathered during monitoring will be included in the Annual Performance Report.

LOCAL SPONSORS

Local sponsors may include interested groups or individuals that could provide funding, supplies, manpower and/or expertise. Local sponsors can include the following:

- Police Jury
- Fishing clubs
- Scout troops
- Other interested parties or individuals