JOHN K. KELLEY GRAND BAYOU RESERVOIR

LAKE HISTORY & MANAGEMENT ISSUES
CHRONOLOGY

August 2013 – Prepared by

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October 2016 – Updated by

Villis Dowden, Biologist, District 10

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LAKE HISTORY

GENERAL INFORMATION

Date reservoir formed
Grand Bayou Reservoir dam was designed by the Louisiana Department of Public Works. The dam was constructed by Louisiana Paving Company and completed in 1994. The spillway gate was closed in 1996 and the lake reached pool stage during the first week of August 1996.

Impoundment
John K. Kelly Grand Bayou Reservoir is an impoundment of the stream known as Grand Bayou.

Owners – Approximately 75% of the lake bottom up to the 138.5’ MSL contour line is owned by the John K. Kelly Grand Bayou Reservoir Commission. Flood easements were purchased for the remainder of the lake bed and this portion remains in private ownership. All lands bordering the lake below the 147.5’ MSL contour are in the surcharge area. A permit from the John K. Kelly Grand Bayou Reservoir Commission is required for any construction in this area.

Purposes for creation – The lake was formed as a water supply and recreational reservoir.

Size (surface area)
2500 acres at pool stage.

Water shed
134 sq. miles or 85,760 acres
Watershed ratio 34.3:1

Pool stage
138.5’ MSL

Parish located
Red River Parish

Spillway Width
350’

Drawdown description
Spillway
Gate size - 60” x 60”
Number of gates - 1
Condition – good
Flow rate - 800 cubic feet per second
The structure allows for the lake to be lowered to a level of 115’ MSL which is 23.5’ below
normal pool stage. The lake can be lowered at a rate of up to one foot per twenty-four-hour period at an elevation of 138.5’ MSL.

Who controls
The John K. Kelly – Grand Bayou Reservoir Commission has control over the lake but relies on the Louisiana Department of Wildlife and Fisheries (LDWF) for management of fisheries and aquatic habitats and enforcement of laws governing these resources. The Louisiana Department of Transportation and Development is responsible for maintenance and operation of dam and control structure.

LAKE AUTHORITY

Association
John K. Kelly Grand Bayou Reservoir District.
The District shall be governed and controlled by a board of seven commissioners, each of whom shall be a qualified elector of Red River Parish residing within and owning property within the district. The members of the board of commissioners shall be appointed by the governor for a five-year term. Any vacancy in the office of commissioner due to death, resignation, or any other cause shall be filled by the governor for the unexpired term. Current members of the board of commissioners are given in Table 1.

Table 1. Current members of the John K. Kelly Grand Bayou Reservoir District Board of Commissioners.

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Address</th>
<th>Term Expires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dallas Bryan</td>
<td>1406 Esperanza Rd.</td>
<td>11/12/18</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Faerie Sledge</td>
<td>5099 Highway 784</td>
<td>9/28/2017</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Anita S. Hinds</td>
<td>5367 Hwy. 507</td>
<td>11/12/18</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Blake J. McCartney</td>
<td>P.O. Box 1301</td>
<td>11/24/18</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Peggy McCoy</td>
<td>P.O. Box 436</td>
<td>10/5/19</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Cindy Coffey</td>
<td>P.O. Box 393</td>
<td>11/12/18</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
<tr>
<td>Mary Ann Wiggins</td>
<td>6098 Hwy. 71</td>
<td>7/30/19</td>
</tr>
<tr>
<td></td>
<td>Coushatta, LA 71019</td>
<td></td>
</tr>
</tbody>
</table>

Contact information:
John K. Kelly Grand Bayou Reservoir District
c/o Rene’ Albright
5286 Hwy. 784
Coushatta, LA 71019
Phone (318) 932-0066
FAX (318) 932-9396
Authorization
Louisiana Act No. 474 House Bill No. 875 created the Grand Bayou Reservoir Commission in 1958 as a recreation and water conservation district with an area consisting of Wards 1 and 2 of Red River Parish. Act 474 granted the Grand Bayou Reservoir Commission authority to develop “the natural resources of the district by the conservation of soil and water for agricultural, recreation, commercial, industrial and sanitary purposes”. Act 474 created the District as a political subdivision of the State of Louisiana, and gives the District “complete control over the supply of fresh water made available by its facilities which shall be administered for the benefit of the persons residing or owning property within the District and, if it shall be for the benefit of the District, it shall have the authority to sell such water for irrigation, municipal and industrial uses, both within and outside of the District”.

This legislation was amended in 1989 by Act No. 176 and in 1993 by Act No. 120 as found in LA R.S. 38:2701 to R.S. 38:2717. The name was changed in 1993 to the John K. Kelly Grand Bayou Reservoir District.

ACCESS

Boat docks
Grand Bayou Resort – owned and operated by the John K. Kelly Grand Bayou Reservoir Commission. A map of the reservoir including the location of Grand Bayou Resort and boat ramp appears in Appendix I.

Piers
Private piers are present and associated with many lakeside properties. A 7600 sq. ft. partially covered fishing / picnicking pier is located at the Grand Bayou Resort.

State/Federal facilities
The only public facility on the lake is the Grand Bayou Resort which is owned and operated by the John K. Kelly Grand Bayou Reservoir Commission.

SHORELINE DEVELOPMENT

State/National Parks
The Grand Bayou Resort is owned and operated by the John K. Kelly Grand Bayou Reservoir Commission. The park offers boat launches, swimming areas, RV campsites, picnic areas, pavilion, fishing pier, and 8 luxury cabins. Contact information for these facilities is provided below.

Grand Bayou Resort
Rt. 5, Box 12250
Coushatta, LA 71019
318-932-3821
318-932-0066
Shoreline development by landowners

Approximately 20% of the shoreline is currently developed or under development for camps, homes, and the Grand Bayou Resort.

PHYSICAL DESCRIPTION OF THE RESERVOIR

Shoreline length
27 miles.

Timber type
The entire lake bottom was clear-cut prior to impoundment. There was some re-growth of pine, sweet gum, and willows subsequent to clearing the lake bed. This re-growth has mostly decomposed following inundation of the lake bed and the lake is fairly open with the exception of a few isolated areas where stumps are present.

Average depth
10 feet.

Maximum depth
29.5 feet.

Natural seasonal water fluctuation
Two - three feet.

EVENTS/PROBLEMS

Special Regulations
In September of 1995, a moratorium on the harvest of black bass from Grand Bayou Reservoir was enacted to protect the pre-impoundment stocking of 100 adult Florida bass brood fish and thereby enhance the establishment of the Florida gene in the bass population. This moratorium expired at midnight on May 31, 1997. (Title 76, Part VII, Chapter 1, Section 179.) Prior to expiration of this moratorium plans to include Grand Bayou Reservoir in the “Quality Lake Program” were introduced to the Wildlife and Fisheries Commission for their action. This included plans to implement a 14” – 17” protective slot limit for black bass, along with an 8 fish creel limit of which only 4 fish could be over 17”. These regulations went into effect on June 1, 1997. (Title 76, Part VII, Chapter 1, Section 149.)

In 1998 the Louisiana Wildlife and Fisheries Commission prohibited the use of gill nets, hoop nets, trammel nets, fish seines, and wire nets in the reservoir. (Title 76, Part VII, Chapter 1, Section 185.)

Aquatic Vegetation
The invasive aquatic plant hydrilla (*Hydrilla verticillata*), first recorded in 1999, occasionally causes problems for recreational users of the lake. However, the complex cover provided by
hydrilla is associated with some benefit to sport fisheries. Water hyacinth was first recorded in the lake in 2001 and has been controlled through herbicide applications. To date, water hyacinth remains at low densities and is generally restricted to the backs of coves near the shore. Giant salvinia (*Salvinia molesta*) was discovered in the lake in 2006. The majority of Grand Bayou Reservoir is not conducive to maximum growth of giant salvinia and to date the plant remains problematic only in the upper reservoir and the shallow ends of protected coves.

**Drawdowns**

The Fairview–Union water system relies upon surface water from Grand Bayou Reservoir as the sole source for water distributed to customers. The water system serves approximately 1,800 people, a large public school, and the employees of the Weyerhaeuser Paper Mill in Campti, La.

The Riley Company of Louisiana, Inc. serves as the consulting engineer firm for the Fairview–Union water system. A letter from Tyrone A. Riley, P. E., President of the Riley Company of Louisiana, Inc., dated August 9, 2006 discusses concerns related to drawdowns. Excerpts from Mr. Riley’s letter are as follows:

“The Fairview-Union water system has two intake screens mounted on a wooden platform within the buoy line at the spillway. Pool stage of the lake is at 138.5 msl. The very top of the upper screen is set at approximately 133.5 msl or approximately 5 feet below pool stage. The very top of the lower screen is set at approximately 126.0 msl or approximately 12.5 feet below normal pool. In addition, water is transferred from the intake structure to a wet well on land through a 24” pipe line. The top of the pump in the wet well that delivers water to the treatment plant is at approximate elevation 128.5 msl or 10 feet below normal pool.”

“The purpose of two intake points at different levels is for quality control. There are periods of the year when water quality is better near the surface and periods of the year when water quality is better at a deeper level. This dual intake structure allows the treatment plant operator the flexibility to draw from the best quality stratum. Quality is usually associated with depth of algae in the lake but also is associated with lake turbidity and dissolved minerals.”

Mr. Riley believes that the hydraulic challenges presented by a drawdown can be addressed in regard to removal of water from the lake for input into the treatment plant, but has “very real concerns regarding water quality and ability of the treatment plant to treat enough water for system customers even though the water can be withdrawn from the lake.”

The initial drawdown plans for control of hydrilla called for the lake to be lowered initially to eight feet below normal pool and this level be maintained while officials from the Fairview-Union Water System evaluate the capability of their water system to withstand further dewatering. During the initial weeks of the drawdown, a period of drought resulted in a reduction of the water level to approximately 130.0 msl or approximately 8.5 feet below normal pool stage. At this elevation some cavitation of the raw water pump was noted by the operator the water treatment plant. It was recommended that the lake not be lowered beyond 7.5 feet below normal pool stage in the future to avoid recurrence of this problem. Unless this problem is addressed, the target water level during future drawdowns should not be greater than seven feet below normal pool stage.
MANAGEMENT ISSUES

Aquatic Vegetation

Initial post-impoundment type map surveys of the aquatic vegetation in the reservoir indicated light coverage. Aquatic plant coverage steadily increased in the years following impoundment. A survey conducted during August of 2000 indicated 5% coverage of aquatic vegetation in the reservoir. In July of 2001 the estimated coverage was 15%. In the 2005 type map survey, coverage was approximately 15-20% and hydrrilla (*Hydrilla verticillata*) had become a dominant plant in the reservoir despite spot treatment with herbicides in previous years. A survey conducted in July of 2006 revealed that the coverage of submersed aquatic vegetation was approximately 30%, with hydrrilla remaining the dominant plant. The aquatic vegetation typemap developed in 2011 indicated that the total coverage by submersed aquatic vegetation was 380 acres and was almost exclusively comprised of hydrrilla. The most recent survey, which was conducted in 2016, indicated a significant drop in submerged vegetation, and total aquatic vegetation coverage of only 6%.

Historically, the plant community on Grand Bayou has been made up of the following species: water hyacinth (*Eichhornia crassipes*), fanwort (*Cabomba caroliniana*), coontail (*Ceratophyllum demersum*), hydrrilla (*Hydrilla verticillata*), primrose (*Ludwigia* spp.), water shield (*Brasenia schreberi*), Illinois pondweed (*Potamogeton illinoensis*), giant salvinia (*Salvinia molesta*), duckweed (*Leanna minor*), alligator weed (*Alternanthera philoxeroides*), lizard’s tail (*Saururus cernuus*), southern watergrass (*Hydrochloa caroliniensis*), primrose(*Ludwigia* spp.), roadgrass (*Eleocharis baldwinii*), pennywort (*Hydrocotyle umbellata*), fragrant water lily (*Nymphaea odorata*), American Lotus (*Nelumbo lutea*), frog’s-bit (*Limnobium spongia*), *Sagittaria* spp., filamentous algae, variable-leaf milfoil (*Myriophyllum heterophyllum*) yellow nutsedge (*Cyperus esculentus*) and chara grass (*Chara* spp.).

Giant salvinia was first documented in the reservoir during the 2006 vegetation survey. The plant was found near the resort boat launch and likely “hitchhiked” by boat trailer from one of the nearby infested waterbodies. All visible giant salvinia plants were physically removed from the lake and the area treated with herbicides in an attempt to kill any remaining plants. Intensive efforts were made by LDWF spray crews to eradicate giant salvinia through herbicide applications. It is believed that giant salvinia was temporarily eradicated from the lake by these efforts in conjunction with annual drawdowns from 2006 to 2008 for hydrilla control. However, the plant was apparently reintroduced later via boat trailers as LDWF personnel observed plants floating in the lake that had been flattened from being trapped between boat trailer bunks and the hull of a boat. LDWF staff also observed one boat launching and noted giant salvinia floating out from under the boat after it was backed off the trailer. Efforts to control giant salvinia on Grand Bayou Reservoir are ongoing.

Hydrilla was first found in the lake in 1999 and increased to higher densities each year despite herbicide treatments. The change in coverage from 2005 to 2006 is noteworthy. In 2006, hydrilla was found at depths greater than had been documented in previous surveys. Initially, hydrilla was limited to a maximum depth of six feet. The 2006 survey showed that hydrilla had established itself in depths up to ten feet. The waters of the reservoir are clear due to the low fertility of the watershed and this trait is conducive to the spread of hydrilla.
The 2006 survey showed that the plant was growing in deeper water and had significantly increased coverage. The density of hydrilla noted in the 2006 typemap survey was approximately 30% coverage. This coverage level falls within the range of submerged vegetation that is optimal for fish production, and standardized fisheries samples did not reflect any adverse effects on the game fish population. However, at this density boating and fishing access was difficult in many areas of the lake and for most shoreline property owners. In 2006, hydrilla had almost totally covered the area upstream of the Hwy. 784 Bridge.

The John K. Kelly Grand Bayou Reservoir Commission expressed concerns about reservoir-wide boating access, user access at the Grand Bayou Resort, problems experienced by the shoreline property owners, and any further impacts to the lake if the hydrilla continued to increase in coverage. With these concerns in mind the reservoir commission requested a series of drawdowns for hydrilla control in the lake. The initial drawdown began September 12, 2006. The lake was dewatered at a prescribed rate of four to six inches per day until the lake reached eight feet below normal pool. The plan called for the lake to be lowered as much as 11 feet below normal pool, pending a survey of the lake to see how much hydrilla remained in the water at eight feet below normal pool. A survey revealed that nearly all of the hydrilla was exposed at the level of eight feet below normal pool so no efforts were made to dewater the lake further. However, the lake level fell to 8.5 feet below normal pool due to evaporation and the Fairview-Union Water System experienced some problems with their water intake at that level. The drawdown was scheduled to continue until January 31, 2007, but heavy rains refilled the lake in late December and it was determined by DOTD that the target level could not be reached again by that time, so the gate was closed in early January 2007.

An aquatic vegetation typemap survey conducted in August of 2007 indicated approximately 25% coverage of submerged aquatic vegetation. Many areas that previously had hydrilla were now harboring native submerged vegetation. There was also a reduction in the maximum depth of vegetative occurrence. Vegetation was only found reaching depths of 6 feet below normal pool stage. A second drawdown was conducted beginning August 15, 2007 and extended through the end of January 2008. The lake was lowered to a level of 7 feet below normal pool as the submerged vegetation was not found past this contour. A drawdown to this depth eliminated the cavitation problem that the intake pump for the water system had experienced the previous year.

A typemap survey conducted in August 2008 revealed a significant reduction in aquatic vegetation coverage as submerged vegetation was found to cover approximately 5% of the lake, with submerged vegetation found out to only depths of 4 feet below normal pool stage. The majority of the submerged vegetation was composed of native species, and hydrilla was found only in a few areas of the lake with low densities noted at those sites. The Grand Bayou Reservoir Commission decided to continue with the planned series of three consecutive drawdowns as there was evidence that some hydrilla tubers still remained viable in the subsoil of the lake bed. This drawdown began September 2, 2008 and extended through the end of January 2009. The lake was dewatered 7 feet as had been done in the previous year.

Hydrilla was found at low densities in a few areas of the lake during the typemap survey conducted in September 2009. Aquatic vegetation was found to cover approximately 5% to 8% of the lake, with submerged vegetation consisting predominately of native species being
found out to depths of 4.5 feet. The consecutive drawdowns conducted the previous three years were successful in reducing the hydrilla coverage on the lake.

The extreme freeze experienced in January of 2010 significantly reduced giant salvinia and other floating and emergent vegetation on the lake.

Drought conditions during 2011 resulted in the lowest lake level outside of intentional drawdowns. The lake level fell five and one-half feet below pool stage in the fall season of 2011. This drought induced lake level resulted in a reduction of submerged aquatic vegetation along the shoreline of the lake.

Water levels remained low for most of year 2012 with the lowest level reached being four and one-half feet below pool stage. Submerged aquatic vegetation was again controlled along the lake shoreline by low water levels during 2012.

Reservoir inflow returned to a more typical pattern in year 2013. While aquatic vegetation coverage was not problematic at this point, it was expected that if the lake level stabilized, vegetation coverage would increase.

Reservoir water levels remained stable during much of 2014, and aquatic vegetation increased slightly but was still not problematic. Isolated pockets on the upper end of the reservoir with beaver dams and giant salvinia within were noticed by LDWF staff in the summer of 2014. Coordination between LDWF staff and U.S.D.A Animal Plant Health Inspection Service staff reduced beaver populations and drained a pond to reduce coverage of areas that would re-infest the reservoir.

Water levels remained stable through September 18, 2015 when a 7-foot drawdown was initiated at the request of the John K. Kelly Grand Bayou Reservoir District Board of Commissioners. The drawdown was deemed necessary to repair bulkheads along the resort that caved in as a result of shoreline erosion. Control structure closure date was February 1, 2016. The bulkheads at the resort were not repaired during this period due to insufficient funds and the drawdown level only reached 6 feet below pool due to high fall and winter precipitation.

Much of the reservoir and its watershed experienced increased inflow and higher turbidity levels in 2016. The lake level crested at 144.7 msl on March 9, 2016. Submerged aquatic vegetation decreased further and no hydrilla was observed when a typemap survey was conducted on August 26, 2016. Areas that historically contained hydrilla had increased coverage of fanwort and Illinois pondweed. Areas that previously consisted of alligator weed had increased coverage of yellow primrose.

Aquatic plant species status as of August 26, 2016 was estimated to be:

Giant salvinia – Coverage was minimal, scattered and confined to areas protected from wind and wave action. Total infestation was approximately 18 acres.

Yellow primrose – Coverage was minimal and mostly contained to shallow areas in the upper end of the reservoir. Total coverage was 32 acres.
American lotus – Coverage was minimal and limited to a few pockets and points within the reservoir. Total coverage was 22 acres.

Illinois pondweed – Coverage was minimal and isolated to shallow, open areas of the reservoir. Total coverage was 30 acres.

Fanwort – Coverage was minimal and scattered along protected pockets and the upper end of the reservoir. Total coverage was 55 acres.

Total vegetation coverage = 157 acres or 6.28% of total surface acreage.

Expectations for 2017: It is expected that hydrilla may increase in coverage slightly during the year depending on water clarity and if tubers are still viable. Hydrilla has caused problems in key recreational areas such as at the boat launch, pavilion and swimming area. Over the last 5 years, hydrilla has decreased in coverage, most likely due to lake level fluctuations and higher turbidity levels. Based upon past experience, giant salvinia is not expected to be problematic at this lake.

Typemap
Type map surveys were conducted in 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2009, 2011 and 2016 on Grand Bayou Reservoir. Type maps from 1998 – 2009 are compiled in MP-C archives. The most current type maps for this reservoir appear in Appendix II. A significant increase in submerged aquatic vegetation was noted between 1998 and 2006, at which point a series of three consecutive drawdowns were initiated for control of hydrilla in the reservoir. An overall reduction in submerged aquatic vegetation was noted for the time period between 2011 and 2016.

Biomass
Biomass sampling was conducted in 2002 and 2003. The 2003 samples indicate an increase in total biomass by both depth and transect. Predominant species found in the sampling included chara, coontail, cabomba, hydrilla, brittle naiad, and pondweed. The only species showing a decline from 2002 to 2003 was chara.

Treatment history by year available

Biological – none to date.

Chemical –
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 will be treated according to the standard operating procedures for the application of herbicides as adopted by the LDWF Inland Fisheries Section. Chemical treatments made at John K. Kelly Grand Bayou Reservoir by year appear in Table 2.
Table 2. Chemical treatments made by LDWF at John K. Kelly Grand Bayou Reservoir by year.

<table>
<thead>
<tr>
<th>Treatment Year</th>
<th>Chemical</th>
<th>Vegetation</th>
<th>Acres Treated</th>
<th>Rate</th>
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<td>2005</td>
<td>2, 4-D</td>
<td>Water Hyacinth</td>
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<td>0.5 gal./Acre</td>
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<td>2, 4-D</td>
<td>Water Shield</td>
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<td>0.5 gal./Acre</td>
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<td>2006</td>
<td>Aquamaster</td>
<td>Alligator Weed</td>
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<td>0.75 gal./Acre</td>
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<td>Aquaneat</td>
<td>Alligator Weed</td>
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<td>0.86 gal./Acre</td>
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<td></td>
<td>Aquastar</td>
<td>Alligator Weed, Cutgrass, Fanwort, Primrose, Giant Salvinia, Water Hyacinth</td>
<td>118</td>
<td>0.76 gal./Acre</td>
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<td>2008</td>
<td>Aquamaster</td>
<td>Alligator Weed, Primrose, Giant Salvinia, Water Hyacinth, cattail, Smartweed</td>
<td>264</td>
<td>0.98 gal./Acre</td>
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<td>Diquat</td>
<td>Giant Salvinia, Water Hyacinth, Cutgrass, Alligator Weed, Primrose, Rush ssp.</td>
<td>93</td>
<td>1.0 gal./Acre</td>
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<td>2009</td>
<td>Aquamaster</td>
<td>Alligator Weed, American Lotus, Primrose</td>
<td>47</td>
<td>0.75 gal./Acre</td>
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<tr>
<td></td>
<td>Aquathol</td>
<td>Hydrilla, Coontail, Fanwort</td>
<td>60</td>
<td>13.33 lbs./Acre</td>
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<td>Super K</td>
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<tr>
<td>Diquat</td>
<td>Rush ssp., Alligator Weed, Primrose, Cutgrass, Giant Salvinia, Cattail</td>
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<td>2010</td>
<td>Aquamaster</td>
<td>Alligator Weed, Giant Salvinia, Water Hyacinth</td>
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<td>0.75 gal./Acre</td>
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<td></td>
<td>Diquat</td>
<td>Giant Salvinia</td>
<td>90.77</td>
<td>0.75 gal./Acre</td>
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<tr>
<td></td>
<td>Aquathol</td>
<td>Hydrilla</td>
<td>17.04 Acre feet</td>
<td>17.6 pounds/Acre foot</td>
</tr>
<tr>
<td></td>
<td>Super K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Aquamaster</td>
<td>Alligator Weed, Giant Salvinia, Water Hyacinth</td>
<td>40</td>
<td>0.75 gal./Acre</td>
</tr>
<tr>
<td></td>
<td>Diquat</td>
<td>Giant Salvinia</td>
<td>562</td>
<td>0.75 gal./Acre</td>
</tr>
<tr>
<td></td>
<td>Aquamaster</td>
<td>Alligator Weed, Giant Salvinia, Torpedo Grass</td>
<td>201</td>
<td>0.75 gal./Acre</td>
</tr>
<tr>
<td></td>
<td>Diquat</td>
<td>Giant Salvinia</td>
<td>562</td>
<td>0.75 gal./Acre</td>
</tr>
<tr>
<td></td>
<td>Ecomazapyr</td>
<td>Alligator Weed, Giant Salvinia</td>
<td>80</td>
<td>0.75 gal./Acre</td>
</tr>
</tbody>
</table>

14
Recreational Fishing Regulations

*Largemouth Bass* – In September of 1995, a moratorium on the harvest of black bass was enacted to protect the initial stocking of 100 adult Florida bass brood fish and allow them a chance to spawn in an effort to establish the Florida gene in the bass population. This moratorium expired at midnight on May 31, 1997. (Title 76, Part VII, Chapter 1, Section 179.) A 14” – 17” protective slot limit for black bass, along with an 8 fish creel limit of which only 4 fish could be over 17” was implemented June 1, 1997. (Title 76, Part VII, Chapter 1, Section 149.)

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

Commercial Fishing Regulations
Use of gill nets, trammel nets, fish seines, hoop nets, and wire nets is prohibited on Grand Bayou Reservoir. (Title 76, Part VII, Chapter 1, Section 185.)

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

**Chapter 1. Freshwater Sports and Commercial Fishing**

185. *Netting Prohibition, John K. Kelly - Grand Bayou Reservoir*

*The Louisiana Wildlife and Fisheries Commission hereby prohibits the possession and/or use of commercial nets, including, but not limited to, gill nets, trammel nets, flag nets, hoop nets, wire nets and fish seines in John K. Kelly - Grand Bayou Reservoir located in Red River Parish.*

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 56:22(B).
**HISTORICAL NOTE:** Promulgated by the Department of Wildlife and Fisheries, Wildlife and Fisheries Commission, LR 24:1520 (August 1998).
Commercial fishing regulations may be viewed at the link below:
http://www.wlf.louisiana.gov/fishing/regulations

**DRAWDOWN HISTORY**

**Table 2. Description of John K. Kelly Grand Bayou Reservoir Drawdowns from 2006 – 2009.**

<table>
<thead>
<tr>
<th>Drawdown Dates</th>
<th>Depth Below Pool</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 12, 2006 through January 31, 2007 scheduled dates.</td>
<td>Initial target depth of 8 feet below normal pool. Plan called for lake to be lowered as much as 11 feet below normal pool, pending a survey of the lake to assess hydrilla exposure at the 8 – 11-foot range. A survey revealed that most of the hydrilla was exposed at the level of 8 feet below normal pool and the control structure was closed. The lake level fell to 8.5 feet below normal pool due to evaporation and the Fairview-Union Water System experienced some problems with their intake at that level. Lake allowed to return to and held at approximately 7’ below pool.</td>
<td>Hydrilla control at the request of the John K. Kelly Grand Bayou Reservoir Commission. First in a series of three consecutive drawdowns for hydrilla control.</td>
</tr>
<tr>
<td>September 2, 2008 through January 31, 2009</td>
<td>7’ below normal pool stage</td>
<td>Hydrilla control at the request of the John K. Kelly Grand Bayou Reservoir Commission. Third in a series of three.</td>
</tr>
<tr>
<td>September 18, 2015 through February 1, 2016</td>
<td>6’ below normal pool stage. Fall and winter precipitation began in late October and continued through the closing date with fluctuating lake levels above the 7’ minimum drawdown level.</td>
<td>Bulkhead repair at the request of the John K. Kelly Grand Bayou Reservoir Commission for Resort.</td>
</tr>
</tbody>
</table>
Success
The series of three consecutive drawdowns conducted during 2006 through 2008 proved successful in reducing the coverage of hydrilla and other submerged aquatic vegetation in Grand Bayou Reservoir. A typemap survey conducted during the summer of 2009 revealed submerged aquatic vegetation coverage of only 5% to 8%. Hydrilla was found only sporadically and at very low densities during this survey. The bulkhead repair for Grand Bayou Resort in 2015 was not initiated during the drawdown due to insufficient funds. Repairs to private bulkheads and docks were noticed during the first 4 weeks of drawdown.

Fish kills
There have been no fish kills associated with drawdowns at this reservoir.

FISH KILLS / DISEASE HISTORY
An extensive fish kill occurred in January 2001, most likely due to thermal shock following severe freezing weather. Over 280,000 fish were killed, including over 11,000 available size game fish.

LMBV – 60 fish sample collected in spring 2002 with 5% of largemouth bass testing positive for the virus. Bluegill and Redear also tested, with no positive results.

CONTAMINANTS / POLLUTION
Mercury
The latest fish consumption advisory from DEQ and DHH for Grand Bayou Reservoir relating to mercury contamination was released on 5-29-03:

Women of childbearing age and children less than seven years of age SHOULD NOT CONSUME BOWFIN (choupique, grinnel) and should consume no more than ONE MEAL PER MONTH of largemouth bass.

Other adults and children seven years of age and older should consume no more than TWO MEALS PER MONTH of largemouth bass or bowfin (choupique, grinnel) combined from the advisory area.

Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.

The current fish consumption advisories can be found at:
http://new.dhh.louisiana.gov/index.cfm/page/564
http://deq.louisiana.gov/assets/docs/Water/Mercury-FishConsumptionAdvisoryTable.pdf

Water Quality
Water Quality information for the watershed including Grand Bayou Reservoir is listed on the Louisiana Department of Environmental Quality website:
http://deq.louisiana.gov/page/triennial-review
Water quality data is collected at one sample site in the watershed at the Hwy. 507 Bridge below Grand Bayou Reservoir. Impairments for the watershed include fecal coliform from wildlife sources other than waterfowl, mercury from atmospheric deposition and unknown sources, low dissolved oxygen from natural conditions, and total dissolved solids from natural sources.

Water quality sampling is conducted by LDWF in conjunction with standardized sampling activities on the reservoir. Measured parameters include secchi disk transparency, pH, conductivity, dissolved oxygen, salinity, turbidity and temperature. All parameters are within acceptable limits. Surface pH generally ranges between 6.5 and 7.5 with only slight variation throughout the sampled depth range. Conductivity ranges from 0.05 to 0.1 mS/cm. Thermal stratification occurs annually during the summer and fall, with a resulting thermocline.

Monthly water quality parameters were most recently taken for one full year starting February 2015 through January 2016 to be included within the three-year ongoing fish stock assessment. Three fixed stations were sampled on the reservoir, extending from the upper end beside the Hwy 784 Bridge to the face of the spillway and dam area. Each station was located along the Grand Bayou channel with water quality parameters taken at one meter intervals from the surface to the bottom. Measured parameters included secchi disk transparency, pH, conductivity, dissolved oxygen, salinity, turbidity and temperature.

**Water level**

USGS sight gauge recently installed at the dam near the intake for the Fairview – Union Water System. Daily, monthly or yearly recordings can be accessed by the following link: https://waterdata.usgs.gov/la/nwis/dv/?site_no=07352820&PARAMeter_cd=00060,00065

**BIOLOGICAL**

**Fish samples**

Table 3. Historical, current and proposed LDWF biological fisheries sampling conducted at John K. Kelly Grand Bayou Reservoir.

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>Electrofishing – (nighttime DC, prod) – 10 stations with varied sampling durations for a total of 180 minutes, includes 1 – 15 minute forage sample</td>
</tr>
<tr>
<td>1997</td>
<td>Electrofishing – (nighttime DC, prod) – 8 – 15 minute samples – Spring / includes 1 forage sample</td>
</tr>
<tr>
<td></td>
<td>Electrofishing – (nighttime DC, prod) – 8 – 15 minute samples – Fall / includes 2 forage samples</td>
</tr>
<tr>
<td></td>
<td>4—300’ Gill Net Sets, 2.5 Inch Bar, Mono</td>
</tr>
<tr>
<td></td>
<td>4—300’ Gill Net Sets, 3 Inch Bar, Mono</td>
</tr>
<tr>
<td>Year</td>
<td>Gill Net Sets</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
</tr>
<tr>
<td>1998</td>
<td>3.5 Inch Bar, Mono</td>
</tr>
<tr>
<td>1999</td>
<td>3 Inch Bar, Mono</td>
</tr>
<tr>
<td></td>
<td>4 Inch Bar, Mono</td>
</tr>
<tr>
<td>2000</td>
<td>½ Inch Bar, 3 ft. X 6 Ft. Frame (72 hour soak time)</td>
</tr>
<tr>
<td></td>
<td>6 - 25 ft. X 6 ft. Seine, 3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2001</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2002</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2003</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2004</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2005</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td>2007</td>
<td>3/16 Inch Bar, 1 Quadrant Sets</td>
</tr>
<tr>
<td></td>
<td>2.5 Inch Bar, Mono</td>
</tr>
<tr>
<td></td>
<td>3 Inch Bar, Mono</td>
</tr>
<tr>
<td></td>
<td>3.5 Inch Bar, Mono</td>
</tr>
<tr>
<td></td>
<td>4 Inch Bar, Mono</td>
</tr>
<tr>
<td>Year</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>2009</td>
<td>Electrofishing – (nighttime DC, prod) 6 – 15 minute samples – Spring&lt;br&gt;Electrofishing – (nighttime DC, prod) 7 – 15 minute samples – Fall / includes 1 forage sample</td>
</tr>
<tr>
<td>2010</td>
<td>8 – Frame Net Stations ½ Inch Bar, 3Ft. X 6 Ft. Frame (soak time research) – 4 nets per station (64 samples)&lt;br&gt;8 – Lead Net Stations ½ Inch Bar, 3 ½ Ft. Diameter (soak time research) – 4 nets per station (64 samples)</td>
</tr>
<tr>
<td>2011</td>
<td>6—300’ Gill Net Sets, 2.5 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 3 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 3.5 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 4 Inch Bar, Mono</td>
</tr>
<tr>
<td>2012</td>
<td>No fisheries sampling conducted</td>
</tr>
<tr>
<td>2013</td>
<td>Electrofishing – (nighttime DC, prod) 6 – 15 minute samples – Spring&lt;br&gt;Electrofishing – (nighttime DC, prod) 7 – 15 minute samples – Fall / includes 1 forage sample&lt;br&gt;6—300’ Gill Net Sets, 2.5 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 3 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 3.5 Inch Bar, Mono&lt;br&gt;6—300’ Gill Net Sets, 4 Inch Bar, Mono&lt;br&gt;6 – Lead Net Stations ½ Inch Bar, 3 ½ Ft. Diameter – 2 nets per station (24 samples)</td>
</tr>
<tr>
<td>2014</td>
<td>No fisheries sampling conducted</td>
</tr>
<tr>
<td>2015</td>
<td>Electrofishing – (nighttime DC, prod) 6 – 15 minute samples – Spring&lt;br&gt;Electrofishing – (nighttime DC, prod) 3 – 7.5 minute samples – Fall forage&lt;br&gt;6 – Lead Net Stations ½ Inch Bar, 3 ½ Ft. Diameter – 2 nets per station (24 samples)</td>
</tr>
<tr>
<td>2016</td>
<td>Conducted and planned sampling activities</td>
</tr>
</tbody>
</table>
2017 Planned sampling activities

Electrofishing – (nighttime DC, prod) 6 – 15 minute samples – Spring forage
Electrofishing – (nighttime DC, prod) 3 – 7.5 minute samples – Fall forage
6—300’ Gill Net Sets, 2.5 Inch Bar, Mono
6—300’ Gill Net Sets, 3 Inch Bar, Mono
6—300’ Gill Net Sets, 3.5 Inch Bar, Mono
6—300’ Gill Net Sets, 4 Inch Bar, Mono
6 – Lead Net Stations ½ Inch Bar, 3 ½ Ft. Diameter – 2 nets per station (24 samples)

2018 No fisheries sampling scheduled.

Lake records
Lake records on Grand Bayou Reservoir are not maintained by any known entity. The Louisiana Outdoor Writers Association (LOWA) maintains state fish records for Louisiana. LOWA’s record fish list may be viewed at:

Two white crappies are listed in LOWA’s state record freshwater fish list revised 11/30/2012 as being caught from Grand Bayou Reservoir. Those fish records appear in Table 4.

Table 4. State record fish taken from John K. Kelly Grand Bayou Reservoir.

<table>
<thead>
<tr>
<th>Species</th>
<th>Weight (pounds)</th>
<th>Date</th>
<th>Angler</th>
<th>State Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Crappie</td>
<td>3.38</td>
<td>April 28, 2002</td>
<td>B. R. Shepherd</td>
<td>2</td>
</tr>
<tr>
<td>White Crappie</td>
<td>3.21</td>
<td>March 13, 2004</td>
<td>David “L. D.” Henry</td>
<td>5</td>
</tr>
</tbody>
</table>

Stocking History
Note - existing fish population not removed prior to impoundment. Post impoundment stockings to date have consisted of Florida strain largemouth bass and channel catfish. Stocking history is shown in Table 5. Fish stockings at John K. Kelly Grand Bayou Reservoir.

<table>
<thead>
<tr>
<th>Date</th>
<th>Florida Largemouth Bass</th>
<th>Size</th>
<th>Channel Catfish</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>100</td>
<td>Adults</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>21,510</td>
<td>Fingerlings</td>
<td>52,459</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>1997</td>
<td>31,475</td>
<td>Fingerlings</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>178,196</td>
<td>Fingerlings</td>
<td>20,808</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>1998</td>
<td>0</td>
<td>50,000</td>
<td>Advanced Fry</td>
<td>0</td>
</tr>
<tr>
<td>1999</td>
<td>131,132</td>
<td>Fingerlings</td>
<td>24,185</td>
<td>0</td>
</tr>
<tr>
<td>Year</td>
<td>Fingerlings</td>
<td>Advanced Fry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>--------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1999</td>
<td>124,500</td>
<td>Advanced Fry</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>249,887</td>
<td>Fingerlings</td>
<td>41,796</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2001</td>
<td>252,866</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>249,919</td>
<td>Fingerlings</td>
<td>27,185</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2003</td>
<td>125,010</td>
<td>Fingerlings</td>
<td>15,081</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2004</td>
<td>123,030</td>
<td>Fingerlings</td>
<td>59,950</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2005</td>
<td>132,259</td>
<td>Fingerlings</td>
<td>50,368</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2006</td>
<td>79,908</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>120,510</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>564,000</td>
<td>Advanced Fry</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>31,751</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>81,734</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>83,816</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>20,027</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>766,200</td>
<td>Advanced Fry</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>46,540</td>
<td>Fingerlings</td>
<td>68,718</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2015</td>
<td>31,802</td>
<td>Fingerlings</td>
<td>41,191</td>
<td>Fingerlings</td>
</tr>
<tr>
<td>2016</td>
<td>31,701</td>
<td>Fingerlings</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>3,477,873</td>
<td>451,741</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Species profile
LDWF samples taken at Grand Bayou show the following species to be present in the lake.

Gar Family, LEPISOSTEIDAE
Spotted gar, *Lepisosteus oculatus* (Winchell)

Bowfin Family, AMIIDAE
Bowfin, *Amia calva* Linnaeus

Herring Family, CLUPEIDAE
Gizzard shad, *Dorosoma cepedianum* (Lesueur)
Threadfin shad, *Dorosoma petenense* (Günther)

Minnow Family, CYPRINIDAE
Common Carp, *Cyprinus carpio* Linnaeus
Golden shiner, *Notemigonus crysoleucas* (Mitchill)
Weed shiner, *Notropis texanus* (Girard)
Bullhead minnow, *Pimephales vigilax* (Baird and Girard)

Sucker Family, CATOSTOMIDAE
Lake chubsucker, *Erimyzon suetra* (Lacépède)
Spotted sucker, *Minotrema melanops* (Rafinesque)

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

Pike Family, ESOCIDAE
Chain pickerel, *Esox niger* Lesueur

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

Killifish Family, CYPRINODONTIDAE
Blackstripe topminnow, *Fundulus notatus* (Rafinesque)

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

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

Temperate Bass Family, PERCICHTHYIDAE
Yellow bass, *Morone mississippiensis* Jordan and Eigenmann

Sunfish Family, CENTRARCHIDAE
Flier, *Centrarchus macropterus* (Lacépède)
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
Northern largemouth bass, *Micropterus salmoides* (Lacépède)
White crappie, *Pomoxis annularis* Rafinesque
Black crappie, *Pomoxis nigromaculatus* (Lesueur)

Perch Family, PERCIDAE
Cypress darter, *Etheostoma proeliare* (Hay)
Logperch, *Percina caprodes* (Rafinesque)

**Genetics**
Grand Bayou has been stocked with Florida strain largemouth bass since 1995. Florida strain
largemouth bass are stocked into the reservoir to incorporate a genetic trait associated with larger maximum sized adult fish. Samples taken from electrofishing show that over time, the percentage of bass with Florida influence (F - F<sub>x</sub>) has ranged from 6 percent (1998-1990) to 60 percent (2003-2004). Sampling has indicated that largemouth bass with the genetic signature defined as pure Florida have ranged from 0 percent (1997-1998 and 2009-2010) to 19 percent (2005-2006). Genetic testing for Florida largemouth bass influence is currently ongoing and incorporated within a three-year waterbody study from 2015-2017. Genetic testing results for largemouth bass are shown in Table 6.


<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Northern</th>
<th>Florida</th>
<th>Hybrid</th>
<th>Florida Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>102</td>
<td>86%</td>
<td>3%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>1997</td>
<td>49</td>
<td>86%</td>
<td>0%</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>1998</td>
<td>95</td>
<td>94%</td>
<td>2%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>1999</td>
<td>59</td>
<td>80%</td>
<td>8%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>2000</td>
<td>74</td>
<td>61%</td>
<td>15%</td>
<td>24%</td>
<td>39%</td>
</tr>
<tr>
<td>2001</td>
<td>49</td>
<td>63%</td>
<td>14%</td>
<td>23%</td>
<td>37%</td>
</tr>
<tr>
<td>2002</td>
<td>46</td>
<td>70%</td>
<td>11%</td>
<td>19%</td>
<td>30%</td>
</tr>
<tr>
<td>2003</td>
<td>52</td>
<td>79%</td>
<td>4%</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>2004</td>
<td>53</td>
<td>40%</td>
<td>13%</td>
<td>47%</td>
<td>60%</td>
</tr>
<tr>
<td>2005</td>
<td>53</td>
<td>49%</td>
<td>19%</td>
<td>32%</td>
<td>51%</td>
</tr>
<tr>
<td>2009</td>
<td>45</td>
<td>87%</td>
<td>0%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>2015</td>
<td>172</td>
<td>47%</td>
<td>18%</td>
<td>36%</td>
<td>54%</td>
</tr>
<tr>
<td>2016</td>
<td>153</td>
<td>39.2%</td>
<td>21.6%</td>
<td>39.2%</td>
<td>60.8%</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ongoing</td>
</tr>
</tbody>
</table>

**Threatened/endangered/exotic species**

No threatened or endangered species of fish found in reservoir.

Several non-native plants are found in Grand Bayou Reservoir including; water hyacinth, alligator weed, hydrilla, and giant salvinia.

**CREEL SAMPLING**

**Historic information / Type**

A creel survey was initiated in May 1997 to determine angler effort and catch rates. This access point survey included a count of trailers and bank fishermen. Interviews were
conducted on two weekend days and one weekday per month during the remainder of 1997. In 1998, the creel survey was continued with efforts increased to six days per month during the peak periods of March through October, and three days per month from November through February. In 2001, the creel survey followed a schedule similar to that in 1998.

An angler opinion survey was also conducted in conjunction with the creel surveys to determine the angler opinion of the 14” – 17” slot limit. During the 1998 creel survey, 82% of anglers were in favor of the 14” – 17” slot limit. During the 2001 survey, 63% were in favor of the regulation. The latest creel survey was conducted from February 2015 through January 2016 and was included with a three-year ongoing population study on bass and crappie. Access points were sampled randomly six times per month with four weekend days and two weekdays being sampled. An angler opinion survey was included for angler perceptions of current harvest regulations. Of the 375 bass anglers interviewed, 75% were in favor of the 14” – 17” slot limit, 11% had no opinion and 14% were opposed.

Current methods
No creel survey is currently underway on the reservoir. An analysis of the latest creel survey for bass and crappie anglers is included in part MP-B.

Hydrological changes
None noted.

WATER USE

Hunting
Waterfowl hunting is allowed on Grand Bayou Reservoir. Only floating blinds are allowed by the lake commission and all blinds must be removed no later than 30 days after the close of duck season.

Skiing
This reservoir is a popular destination for skiing and recreational boating.

Scuba Diving
Water clarity at this reservoir is not sufficient for recreational diving activity.

Swimming
A swimming area is located at the park site of Grand Bayou Resort.

Irrigation
Reservoir water is used for lawn irrigation by some shoreline property owners.

Boating
Houseboats are not allowed on the lake. Houseboat is defined by the Grand Bayou Reservoir Commission as any vessel with living quarters on board. In addition, any vessel with a toilet on board is only allowed to operate on the reservoir in daylight hours and must be removed from the lake during the night. These measures are in effect to limit the discharge of sewerage into the reservoir and protect the water supply.
APPENDIX I
(return to boat docks)

Grand Bayou Map
Aquatic Vegetation Typemap 2011
John K. Kelly – Grand Bayou Reservoir
2,500 Acres
Red River Parish, Louisiana