LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

KINCAID LAKE

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

February 2014 - Prepared by

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TABLE OF CONTENTS

LAKE HISTORY

General Information

Date reservoir formed
Kincaid Lake was constructed as part of the Bayou Boeuf Watershed project under the provisions of Public Law 566, commonly called the Watershed Protection and Flood Prevention Act. This Act was passed by Congress in 1954. The Soil Conservation Service was given the responsibility for carrying out the provisions of the Act. It emphasized partnership of local, State, and Federal agencies.

Kincaid Lake dam was completed in 1972. It was designed, engineered, and constructed by the former Soil Conservation Service and United States Department of Agriculture, and Rapides Parish Police Jury for watershed protection, irrigation and recreation.

Impoundment
Ownership – Rapides Parish Police Jury

Purposes for creation – First priority is for watershed protection and agriculture irrigation. The Police Jury has established a dedicated drawdown pool to 82.3 MSL (12.4') if needed to meet agricultural needs by route of Bayou Boeuf. Secondary purpose was to provide recreational opportunities for the citizens of the state.

Size
1,920 acres

Water shed
35 square miles (ratio 11.6:1) of upland pine land in southwestern Rapides Parish. It receives inflow from Sibley Branch, Walker Branch, Valentine Creek and Lamotte Creek.

Pool stage
94.7 mean sea level (MSL)

Parish/s located
Rapides

Drawdown description
During normal drawdowns for lake management the water is lowered 3 to 4 inches per 24 hour period. The maximum drawdown rate is undocumented: however, according to elevations listed in Louisiana Department of Transportation and Development (LADOTD) dam inspection documents, the water level can be lowered at least 12.0 feet.

Spillway

The principle spillway is 100 feet wide with a crest elevation of 94.7 feet MSL. The spillway is located on the east side of the lake at the north end.

Description of the Dam

Kincaid Lake dam is an earthen embankment that is 5,200 feet long with a crown of 16 feet wide at an elevation of 105.3 feet MSL. The earth fill embankment has soil-cement shoreline protection.

Dam height is 36 feet.
Structural height is 42 feet.
Hydraulic height is 36 feet.
Maximum discharge is 23,510 cubic feet per second
Maximum storage is 45,250 acre-feet.
Normal storage is 25,000 acre-feet.
Surface area is 1,920 acres.
Drainage area is 35 square miles.

Outlet Works (Drawdown Structure)

The outlet works consists of a 10'x 10' square concrete tower. It is topped with a 60 inch slide gate. The outflow pipe is 60 inches in diameter and 256 feet long. It is pre-stressed round concrete pipe.

Who controls

The outlet works are operated and maintained on an as needed basis for irrigation. Gate opening is handled by Rapides Parish Police Jury (RPPJ) personnel. Openings at the request of the Louisiana Department of Wildlife and Fisheries (LDWF) for habitat or fisheries management purposes must be approved by RPPJ.

Lake Authority

Kincaid Lake is owned by the Rapides Parish Police Jury. Through interagency agreement with the United States Department of Agriculture Soil Conservation Service, RPPJ is responsible for maintenance and operation of the impoundment.
Primary contact information-

Rapides Parish Police Jury
P.O. Box 792
Alexandria, LA. 71301
Tel: 318-473-6660
Fax: 318-473-6670

Access

Maps with locations (see **Appendix I**)

1. U.S. Forest Service West Ramp – concrete ramp – Fee Required
2. U.S. Forest Service East Ramp – concrete ramp – Fee Required
3. Tunk's Landing – concrete ramp – Fee Required

Boat docks
No public boat docks

Piers
No public fishing piers are available. A limited number of private piers associated with homes and camps.

State/Federal Facilities
The U.S. Forest Service maintains Kincaid Lake Recreational Area on the southeast side of the lake.

Recreational Area Information

- Operated by USDA Forest Service
- Site assignments are first come first served—no reservations
- Registration is self- reservation at the fee box
- Parking at site—limit 2 vehicles

Facilities

- 41 Multipurpose sites
- Electric (30 amp) and water hookups
- Each site provides picnic table, lantern post, fire ring
- Dump station
- Restrooms and shower facilities
- Picnic Pavilion
- Hiking trails
- Boat ramps
- Boat dock
- swimming beach
- no playgrounds

Additional information can be found at the following link.
www.southernregion.fs.fed.us/kisatchie

State/National Parks
NONE

Shoreline development by landowners
Approximately 30% of the shoreline is developed by landowners with homes and camps. Several areas around the lake have been extensively developed with subdivisions; however the majority of the lake is surrounded by Kisatchie National Forest property.

Physical Description of lake

Shoreline length
35.0 miles

Timber type
Kincaid Lake is an open water lake. Approximately 40% of the lake has visible dead timber and stumps above the water line. No live timber is found in the lake.

Average depth
13 feet

Maximum depth
22 feet

Natural seasonal water fluctuation
Due to the small watershed (12.9: 1) water levels rarely rise above the normal pool elevation. However water fluctuations of 1' to 2' are common due to water withdrawal for agriculture irrigation.

Events / Problems

No events or problems are known at this time.

MANAGEMENT ISSUES

Aquatic Vegetation

Kincaid Lake has been surveyed for aquatic vegetation 9 times since 1991. Prior to 1994 native aquatic vegetation was predominantly found in the shallow water areas of the lake. Submersed vegetation includes fanwort (*Cabomba caroliniana*.), bladderwort (*Utricularia spp.*) and coontail (*Ceratophyllum demersum*). Emergent vegetation species include white water lily (*Nymphaea odorata*), watershield (*Brasenia schreberi*), and American lotus (*Nelumbo lutea).* Type maps conducted in the early 1990's reported the lake to be in excellent condition with no serious aquatic vegetation issues. Only small amounts of native submersed vegetation was found during this time period.

Hydrilla was first documented in the lake in 1994. Vegetation surveys in 1995 and 1997 documented the expansion and spread of hydrilla throughout the lake. The 1998 survey reported hydrilla to be the most prevalent submerged plant. The 1999 vegetation survey documented hydrilla growth in 13 feet of water and area coverage at 15 to 20 percent. At that time, hydrilla was providing beneficial complex cover for the fisheries community. However, the invasive plant was causing serious boating access problems. Numerous complaints were received from area residents.

The August 2000 vegetation survey indicated the hydrilla infestation on Kincaid was slowly increasing. The slower than typical spread was likely a product of infertile waters and a coarse sandy substrate that inhibits root anchoring. Hydrilla was matted to the surface in areas of the lake out to depths of 8 and 9 feet. The major complaint was access to boat houses and docks. An 8 feet drawdown was recommended by the LDWF. The Rapides Parish Police Jury concurred. The water control gates were opened on September 5, 2000 and closed on January 15, 2001. Results of the drawdown were excellent. No hydrilla was documented in the lake from 2000-2013. No complaints concerning aquatic vegetation have been received since the drawdown and no vegetation spraying was conducted until 2013. Hydrilla was observed in the fall of 2013.

Type map

Vegetation surveys have been conducted sporadically since 2000 due to a lack of vegetation. No significant vegetation problems have been documented since 2000. A total of 10 vegetation surveys (type maps) were conducted on Kincaid Lake between 1991 and 2013. The surveys were conducted in 1991, 1992, 1993, 1994, 1995, 1997, 1998, 1999, 2000, and 2013. The most current vegetative survey can be viewed in **Appendix II**.

Biomass

No biomass sampling has been conducted.

Treatment history by year available

Biological
No biological treatments have occurred.

Chemical
Prior to 2013, no aquatic vegetation spraying had occurred on Kincaid Lake. However, in 2013 LDWF spray personnel treated 61 acres of emergent vegetation. For a complete summary of herbicide applications see Table 1.

Table 1. Herbicide applications on Kincaid Lake, Louisiana during 2013.

Year	Acres Treated	Vegetation
2013	18	Alligator Weed
	36	Salvinia, Common
	7	Water Hyacinth

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

Imazapyr (Ecomazapyr): Used at a rate of 0.5 gal/acre with Inergy (0.25 gal/acre) surfactant to treat alligator weed.

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

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

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

Future herbicide applications for the treatment of giant and common salvinia will be in accordance with the approved LDWF Aquatic Herbicide Recommendations effective March 18, 2013. Schedule and rates listed below:

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

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

Physical Characteristics

Kincaid Lake has been drawn down one time since hydrilla was discovered in the lake. The drawdown occurred in the fall/winter of 2000/2001. The drawdown was successful. No hydrilla was documented in the lake until 2013.

History of Regulations

Recreational

Statewide regulations for all fish species, the recreational fishing regulations may be viewed at the link: http://www.wlf.louisiana.gov/fishing/regulations

Commercial

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

Rapides Parish Ordinance Article I, Section 19.5 -1. Rules and Regulations for Recreational Areas; Part B (4) b3: – prohibits the use of fishing nets, seines, slat traps or similar devices. The complete Rapides Parish Ordinance can be viewed at the following link. This regulation is a not a state law thus it cannot be enforced by the LDWF enforcement division personnel. It is enforced by the authority of the local Rapides Parish Sheriff's Office.
http://library.municode.com/index.aspx?clientId=10429

Drawdown history

Drawdowns have occurred on two occasions since Kincaid Lake was created. The first drawdown in 1991 was insignificant for lake management. The water level was lowered 2 feet for a month for the Kincaid Recreation Area Swim site shoreline stabilization project. The second drawdown was in 2000 for hydrilla control. The results of the drawdown were excellent and hydrilla was eliminated. No regrowth of hydrilla was documented in the lake until 2013. The lake has a small watershed and extensive rainfall is required for the lake to refill. Drawdowns are always of concern to the RPPJ, and they are hesitant to approve drawdowns greater than 8' below pool elevation. The primary purpose of the lake is to provide water for agriculture irrigation. The concern is that the reservoir may not refill in a timely manner due to the small watershed (11 to 1). Complete drawdown history in Table 2 below.

Table 2. Drawdown history of Kincaid Lake, Louisiana from 1991 through 2013.

DRAWDOWN HISTORY				
Date Opened	Date Closed	Purpose	Results	Issues
Sept. 4, 1991	Oct. 1991	Shoreline stabilization	Successful	None
Sept. 5, 2000	Jan. 15, 2001	Hydrilla control	Excellent	None

Fishing closure
The lake was not closed to fishing during drawdowns.

Depth below pool
The maximum depth below pool during the drawdown was 8 feet.

Estimated % exposed
Approximately 25% of the lake bottom is exposed during an 8' drawdown.

Who operated structure?
Drawdown structure gate opening is handled by Rapides Parish Police Jury personnel.

Fish kills
No documented fish kills have occurred during drawdowns or at any other time.

Fish kills / disease history, LMBV
A review of the records indicates Kincaid Lake was not sampled for LMBV. No fish kills or disease history has been documented.

Contaminants / Pollution

No documented records of contaminants or pollution have been located in the files. Currently there are no fish consumption advisories for Kincaid Lake. However, annual updates can be found at the DEQ and LDWF links below:
http://www.deq.louisiana.gov/portal/tabid/2201/Default.aspx
http://www.wlf.louisiana.gov/fishing/fish-consumption-advisories

Water level
Normal pool elevation for Kincaid Lake is 94.7 MSL Water levels do not fluctuate greatly due to the small watershed. The lake water is utilized for irrigation purposes thus water fluctuations of 1' to 2' below pool elevation are common during summer and fall months.

Biological

Fish samples

Table 3. Historical and scheduled fisheries sampling on Kincaid Lake, Louisiana.

YEAR	SAMPLING GEAR
1981	Rotenone – 6 Stations
1984	Rotenone – 6 Stations
1987	Rotenone – 6 Stations
1990	Electrofishing Forage (Fall – 1 Station)
1991	Electrofishing Boom (Spring – 1 Station)
1994	Electrofishing Boom (Spring and Fall – 4 Stations) Electrofishing Forage (Fall – 1 Station)
1995	Electrofishing Boom (Spring and Fall – 4 Stations) Electrofishing Forage (Fall – 1 Station)
1998	Seine Net (Summer – 3 Stations) Frame Net (Fall – 2 Stations) Electrofishing (Spring and Fall – 5 Stations) Rotenone – 4 Stations
1999	Seine Net (Summer – 3 Stations) Gill Net (Winter – 3 Stations)
2000	Electrofishing (Spring and Fall – 4 Stations)
2001	Seine Net (Summer – 3 Stations) Gill Net (Winter – 3 Stations)
2002	Electrofishing (Spring and Fall – 4 Stations)
2004	Frame Net (Winter – 2 Stations) Lead Net (Winter – 2 Stations) Electrofishing (Spring and Fall – 4 Stations)
2005	Gill Net (Winter – 3 Stations)
2006	Electrofishing (Spring and Fall – 4 Stations)
2008	Gill Net (Winter – 3 Stations) Electrofishing (Spring and Fall – 4 Stations)
2009	Electrofishing (Spring and Fall – 4 Stations) Lead Nets (Fall and Winter – 20 stations – Research Project)
2010	Lead Nets (Fall and Winter – 20 stations – Research Project)
2014	Electrofishing (Spring 4-stations and Fall -5 stations)

2015	None scheduled
2016	None scheduled
2017	Electrofishing (Spring 4-stations and Fall – 5 stations)

Lake records

No official records are kept for Kincaid Lake.

Stocking History

Since 2005, Florida largemouth bass stocking has occurred three times. Channel catfish stocking has occurred on six occasions. No channel catfish reproduction has been documented in the lake; however, local fishermen indicate catfishing success is good following stockings.

Table 4. Historical fish stocking records for Kincaid Lake, Louisiana, from 2005 – 2013.

Year	Florida bass	Channel Catfish
2005	-	19,038
2006	-	17,585
2007	19,110	20,700
2008	19,440	19,677
2009	-	15,998
2010	-	-
2011	-	47,502
2012	-	-
2013	8,986	-

Genetics

Genetic analysis of largemouth bass was conducted in 2006 and 2008 for Kincaid Lake, LA. The complete record of genetic testing is found in Table 5.

Table 5. Genetic analysis of the largemouth bass population in Kincaid Lake, Louisiana for 2006 and 2008.

Year	Sample Size	% Northern	% Florida	% Hybrid	% Florida Influence
2006	41	83	0	17	17
2008	81	95	0	5	5

Species profile

As per Freshwater Fishes of Louisiana by Dr. Neil H. Douglas, fish species listed in Table 6 have been collected or are likely to occur in Kincaid Lake.

Table 6. Fishes collected or likely to occur in Kincaid Lake, LA

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

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

Bowfin Family, AMIIDAE
- Bowfin, *Amia calva* Linnaeus

Freshwater Eel Family, ANGUILLIDAE
- American eel, *Anguilla rostrata* (Lesueur)

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

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

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

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

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

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

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

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

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

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

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

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

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

Threatened/endangered/exotic species
None documented.

Creel
No creel survey has been conducted on Kincaid Lake.

Hydrological Changes

Hydrological changes have been minimal since the lake was created in 1972. Development around the shoreline has been limited. The majority of the shoreline is owned by the United States Forest Service.

Water Use

Hunting
Kincaid Lake provides limited hunting opportunities. The lake is utilized for duck hunting and statewide regulations apply except duck blinds are regulated by the Rapides Parish Police Jury.

Recreational watersports
Recreational water sports are very popular on Kincaid Lake and include water skiing, jet skis, party barges, and other recreational boats. The southern end of the lake is not suitable for water sports but the main body of the lake is free of obstructions. It is ideal for watersports and recreational boaters.

Fishing
Kincaid Lake is utilized extensively for recreational fishing -- primarily for largemouth bass and crappie. It is also well known for producing large redear sunfish.

Scuba Diving
Minimal scuba diving is done on Kincaid Lake due to limited water clarity.

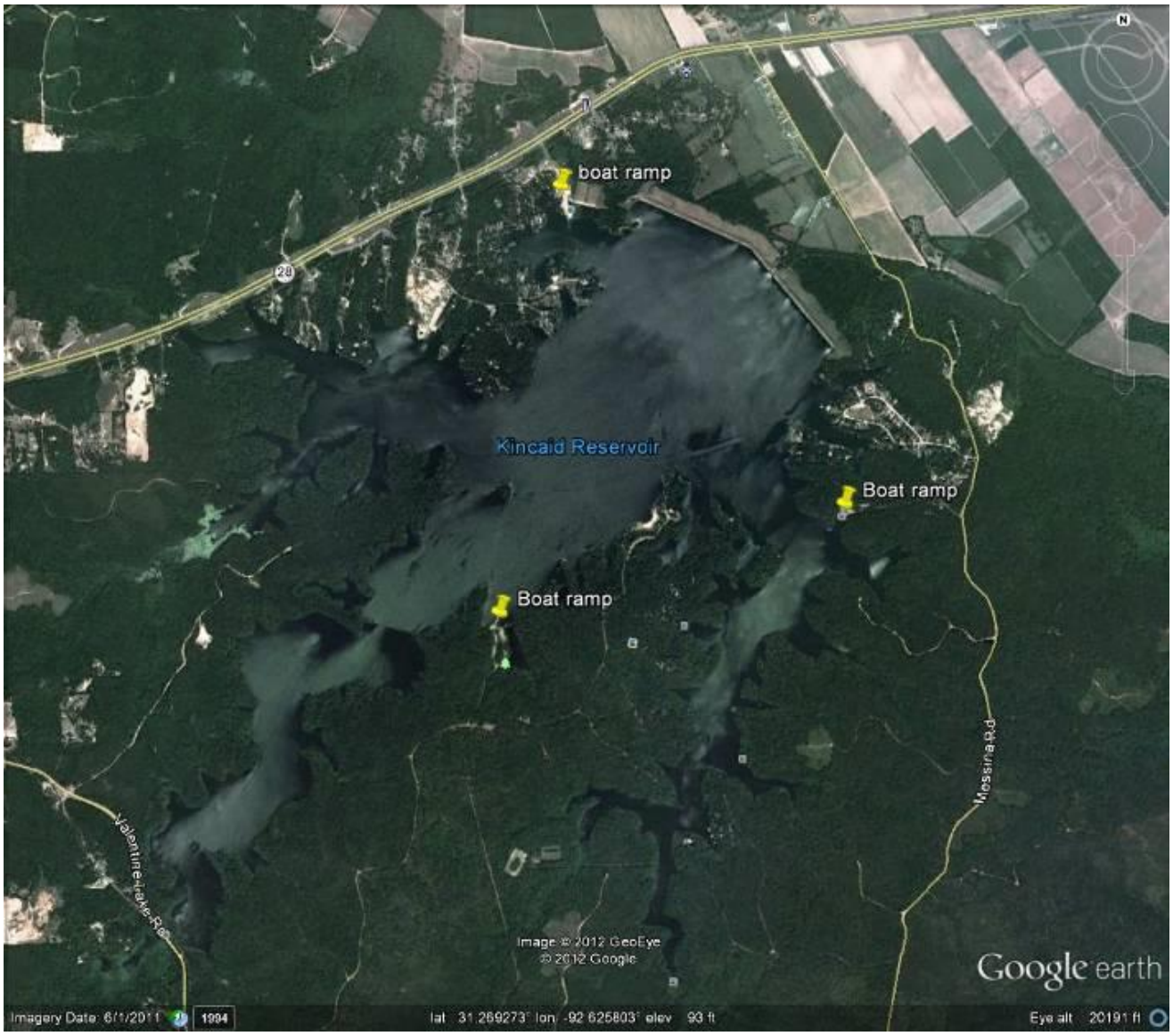
Swimming
Yes

Irrigation

Kincaid Lake was built to provide water for irrigation. Water is released from the lake as needed through a series of bayous to provide downstream farms with irrigation water.

Appendix I
(return to boat ramps)

Map of Kincaid Lake boat ramps.



Appendix II
(return to Typemap)

Vegetation survey for Kincaid Lake, Rapides Parish, Louisiana

July 9, 2013

As of July 9, 2013 there was no problem vegetation. The plant coverage and diversity in Kincaid Lake has been consistent since 2001 and has not caused access or habitat issues since 2001. The lake has less than 5 % coverage of native submergent vegetation that occurs in shallow water areas, and a fringe of emergent vegetation that occurs along much of the shoreline. The submergent vegetation species include fanwort, southern naiad, and chara. A small amount of Hydrilla was observed during the July 2013 vegetation survey. It was located in shallow water along the shoreline on the extreme southern end of the lake. Hydrilla had not been observed in the lake since 2001. Combined coverage for all submergent species is less than 100 acres. Emergent vegetation occurs in a narrow fringe along the shoreline and in the extreme back portions of coves. Emergent vegetation includes white water lily, alligator weed, water hyacinth and torpedograss. Common salvinia was observed for the first time in the 2013 vegetation survey. Combined coverage of these species is less than 50 acres.