

2013 Horseshoe Lake (Caldwell Parish) Aquatic Vegetation Control Plan LDWF, Inland Fisheries

1. Waterbody type – natural, historic oxbow lake of the Ouachita River
2. Type of control structure – 24” culvert only, with screen to contain grass carp
3. Water level range (MSL)– unknown, very little fluctuation
4. Surface area – approximately 110 acres
5. Average depth – 6 feet; max. depth less than 10 feet
6. Watershed ratio – small watershed
7. Drawdown potential of structure – none
8. Waterbody Board or Lake Authority –

Boeuf River WMA - LDWF Wildlife Division – Horseshoe Lake lies almost entirely within the Boeuf River Wildlife Management Area (See attached map). Boeuf WMA is owned by, and is under exclusive authority of the Louisiana Department of Wildlife and Fisheries.

Primary contact information –

- a. Jerald Owens, LDWF District II Wildlife Biologist Manager.
- b. Lowery Moak – LDWF Biologist Supervisor

Horseshoe Lake Commission

- a. Legacy advisory board comprised of concerned citizens. Appointments made by the Caldwell Parish Police Jury.
- b. Primary contact information – Kent Nugent, Chairman (318) 614-9688

9. What significant stakeholders use the lake?
Horseshoe Lake lies almost entirely within the Boeuf River WMA. The extreme northern end of the lake is privately owned. Fishing and waterfowl hunting are the primary activities. Boeuf River WMA provides recreational opportunities for public users and habitat for wintering waterfowl.
Private landowners – own property where culvert is located
General public – access, vegetation control/management
10. What is the history of aquatic vegetation complaints?
Nuisance vegetation has reportedly been a long term problem.
11. Have there been any controversial issues on the lake?
Recent requests have been made by the Horseshoe Lake Commission for aquatic vegetation control, fish stocking, implementation of bass regulations, and elevation of lake pool stage.

Aquatic Vegetation Status:

Current Status of Problem Plant Species (May 8 2012):

There is a severe infestation of submerged aquatic vegetation (SAV), primarily fanwort, *Cabomba caroliniana*. The coverage reaches the surface in depths exceeding 6 feet. An estimated 90% of the lake is infested. Water hyacinth, *Eichhornia crassipes*, is common but not abundant. Coverage is limited to much of the immediate shoreline. Duckweed, *Lemna sp.* is common but not overabundant.

Current Status (December, 2012)

It was confirmed in December 2012 that the severe infestation of SAV still exists on Horseshoe Lake and that levels are similar to what was found in May 2012. Water hyacinth and duckweed were at similar amounts when compared to the assessment in May 2012.

Coverage and Status of Beneficial Plant Species

Duckweed is considered desirable for waterfowl species. WMA technical staff advise no treatment for control during fall and winter. Fanwort is a native submersed species and could be beneficial to the fisheries if the current coverage was reduced.

Limitations:

The Ouachita River occasionally backflows into Horseshoe Lake during high water events. The hydrologic connection allows for migration of fish and potential for escape of stocked grass carp.

Management recommendations for Boeuf Wildlife Management Area include consideration for waterfowl.

A waiver is required from Louisiana Department of Agriculture and Forestry (LDAF) for application of 2,4-D between March 15 – September 15.

Past Control Measures:

Chemical:

Routine herbicide treatments have been made with boats equipped with high volume spray pumps. Diquat dibromide (0.75 gal/acre) is used for duckweed. Glyphosate (0.75 gal/acre) and 2,4-D (0.5 gal/acre) are used for water hyacinth. Treatments are typically made in response to requests by WMA personnel or the Horseshoe Lake Commission.

Biological:

A total of 1,328 grass carp were stocked in 2008. The survival of these fish is unknown. There have been no high water events that would have allowed escapement. No fish kills have been reported. To date, no resulting control of fanwort or other submerged aquatic vegetation is apparent.

Recent Control Efforts:

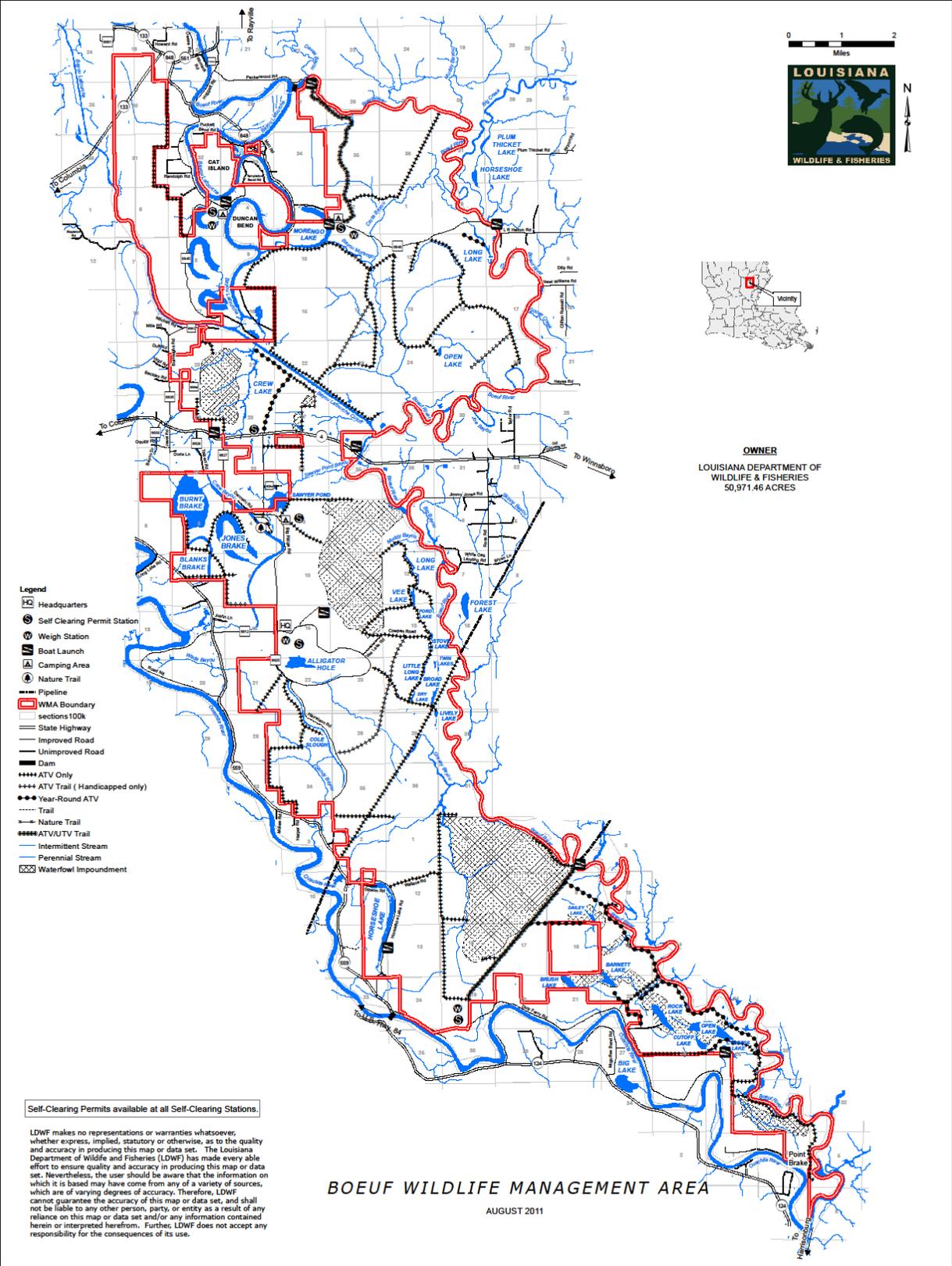
Recent control efforts have included herbicide applications to water hyacinth. Glyphosate (0.75 gal/acre) and 2,4-D (0.5 gal/acre) have been used. Duckweed has been treated with diquat dibromide (0.75 gal/acre) when infestations became severe.

2012 Control Efforts

Water hyacinth was the only floating or emergent species requiring control in 2012. Aquatic weed crews treated a total of 23.4 acres with glyphosate.

Recommendations:

1. Stock 10 triploid grass carp per surface acre for a total of approximately 1,000 fish to reduce coverage of SAV. Stocking should occur in winter/spring 2013, while water temperatures are below 70°F. Stocked grass carp should be at least 12 inches in length to minimize loss to predation. Conduct aquatic vegetation type map for a 5 yr. period to evaluate success.
2. Maintain total coverage of water hyacinth to less than 10 acres with routine herbicide applications as listed above.



OWNER
 LOUISIANA DEPARTMENT OF
 WILDLIFE & FISHERIES
 50,971.46 ACRES

- Legend**
- ☐ Headquarters
 - ⊙ Self Clearing Permit Station
 - ⊙ Weigh Station
 - ⊙ Boat Launch
 - ⊙ Camping Area
 - ⊙ Nature Trail
 - Pipeline
 - ▭ WMA Boundary
 - ▭ sections 100K
 - ▭ State Highway
 - ▭ Improved Road
 - ▭ Unimproved Road
 - ▭ Dam
 - ++++ ATV Only
 - ++++ ATV Trail (Handicapped only)
 - ◆◆◆ Year-Round ATV
 - Trail
 - Nature Trail
 - ◆◆◆ ATV/UTV Trail
 - Intermittent Stream
 - Perennial Stream
 - ▭ Waterflow Impoundment

Self-Clearing Permits available at all Self-Clearing Stations.

LDWF makes no representations or warranties whatsoever, whether express, implied, statutory or otherwise, as to the quality and accuracy in producing this map or data set. The Louisiana Department of Wildlife and Fisheries (LDWF) has made every able effort to ensure quality and accuracy in producing this map or data set. Nevertheless, the user should be aware that the information on which it is based may have come from any of a variety of sources, which are of varying degrees of accuracy. Therefore, LDWF cannot guarantee the accuracy of this map or data set, and shall not be liable to any other person, party, or entity as a result of any reliance on this map or data set and/or any information contained herein or interpreted herefrom. Further, LDWF does not accept any responsibility for the consequences of its use.

BOEUF WILDLIFE MANAGEMENT AREA

AUGUST 2011