

SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

WEBBERS FALLS LAKE

2023

SURVEY REPORT

State: Oklahoma

Project Title: Webbers Falls Lake Fish Management Survey Report

Period Covered: 2022.

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Webbers Falls Lake

ABSTRACT

Webbers Falls lake was surveyed via fall trap netting to monitor trends in the crappie population. Survey results indicate a low to moderate abundance of crappie with the majority of fish coming in the stock and sub stock size ranges. Otoliths were collected for age and growth information and showed moderate growth rates.

INTRODUCTION

Webbers Falls is a 11,600 acre reservoir located in Muskogee county in northeast Oklahoma (Figure 1). This reservoir impounds the Arkansas, Verdigris and Grand rivers just below their confluence at the port of Muskogee. The dam is located at Latitude 35.55371° Longitude -95.16952° approximately 3.25 miles NW of the town of Gore, Ok. Webbers Falls lake is owned and operated by the U.S. Army Corps of Engineers (USACE), and was authorized as part of the McClellan-Kerr Arkansas River Navigation System in the River and Harbor Act approved July 24, 1946. The lock and dam project became operational for navigation in December 1970, hydroelectric power was completed in November 1973. The watershed area is significant draining approximately 97,000 square miles as far reaching as Colorado, and into Kansas, Missouri and Oklahoma.

Webbers Falls is classified as Eutrophic with excessive primary productivity and nutrient conditions. Water quality data collected through the OWRB as part of their Beneficial Use Monitoring Program (BUMP) classifies Webbers Falls as supporting the outline Fish & Wildlife propagation (FWP) beneficial uses for pH, Dissolved Oxygen and Metals. However, Webbers Falls is classified as not supporting the FWP for Turbidity.

Shoreline habitat in Webbers Falls lake consists of large woody debris, naturally rocky areas, emergent vegetation and man-made structures such as docks, brush piles and rip-rap along bridges and jetties. A stable water level allows for floating and emergent aquatic vegetation to become established a rarity for a large Oklahoma reservoir. Some creek arms and backwaters can have standing timber and stumps present. The ODWC has placed brush piles in varying areas of the lake. Locations of ODWC habitat sites are shown in Appendix I.

The major sportfish species in Webbers Falls include largemouth bass, blue and channel catfish, black and white crappie, flathead catfish and paddlefish. The primary forage species include threadfin and gizzard shad. The fish stocking history for Webbers Falls is included in Appendix II. Special area fishing regulations which apply to Webbers Falls include a minimum size limit of 16" for all walleye, sauger and saugeye with a daily creel limit of 6 combined.

Crappie

Crappie were surveyed in the fall of 2022 by means of trap netting. Nets were set on 28 selected shoreline sites. Since non-random sites were chosen, abundance data may be skewed, however it will be provided in this report for the purposes of documentation. The total Catch Per Unit Effort (CPUE) for the 2022 survey was 9.66, most of the fish captured being the stock

or sub stock size classes (Table 1). Crappie catch was down from the 2019 survey in every category except the stock and quality size ranges. Body condition of fish measured as relative weight (Wr) was above acceptable levels for all size categories except the sub stock category (Table 1). Length Frequency histograms show that 79% of crappie captured were below the quality size category (Figure 1). Crappie growth was moderate to good with fish taking between two and three years to reach ten inches (Table 2). Age frequencies show the 1 year old class to be the dominant year class with fish over 1 year old dropping off dramatically (Figure 2). No changes are recommended to the Webbers Falls crappie regulations at this time. Crappie should be evaluated via trap netting in 2025 to monitor the progress of the 1 year old class and look for subsequent spawning success.

Table 1. Total number (No.), catch per unit of effort (CPUE), and relative weights (Wr) by size groups of Crappie collected by fall trap netting from Webbers Falls Lake. Acceptable Wr values are ≥ 90 .

		Total CPUE	<u>Sub Stock</u> 0-5 in		<u>Stock</u> 5.1 in		<u>Quality</u> 7.9 in		<u>Preferred</u> 9.8 in		<u>Memorable</u> 11.8	
<u>Year</u>	<u>No.</u>	<u>CPUE</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>	<u>CPUE</u>	<u>Wr</u>
<u>1996</u>	148	14.33	9.21	88	1.85	88	0.96	93	2	104	0.31	108
<u>2022</u>	363	9.66	5.95	83	1.96	93	1.39	98	0.34	101	0.03	102

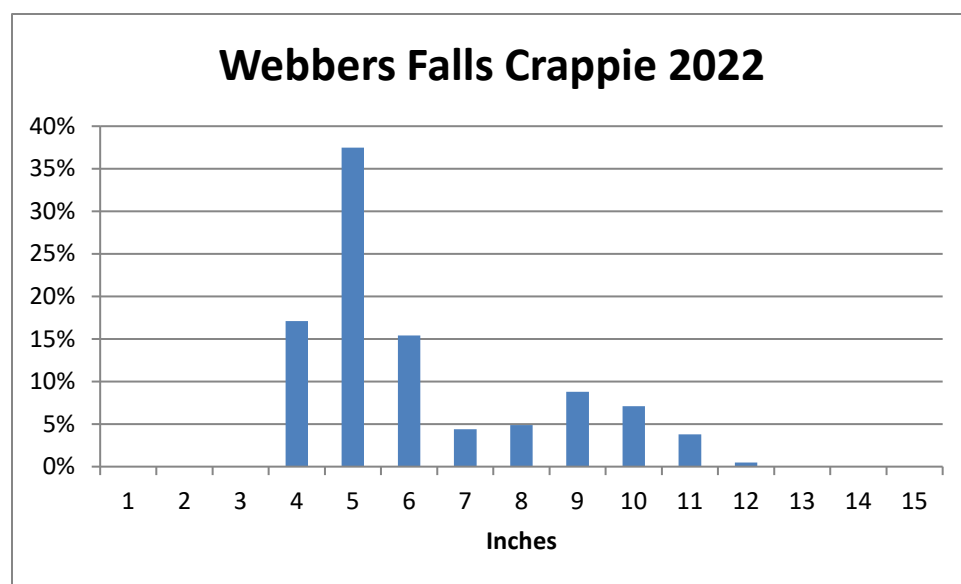


Figure 1. Crappie Length Frequencies for Webbers Falls Lake 2022

Table 2. Mean Total Length at age (inches) and L infinity (estimated mean maximum length) for Largemouth bass from Webbers Falls Lake

Year	Age 0	Age 1	Age 2	Age 3	L infinity
2022	4.6	8.6	9.2	10.8	11.3

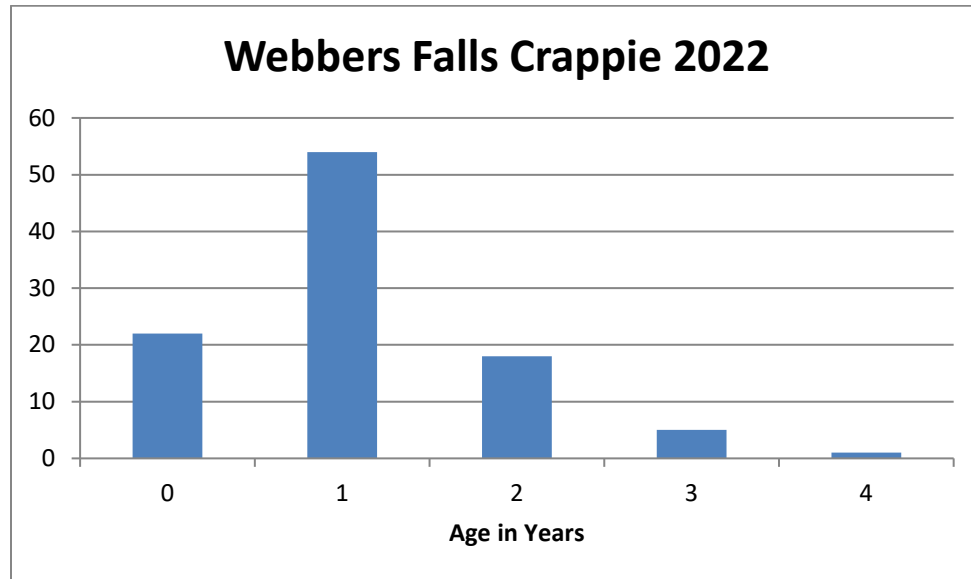


Figure 2. 2022 Age Frequency of Crappie

Appendix I. ODWC Habitat Enhancement Sites Webbers Falls

Area	Type	Latitude	Longitude	Date
Little Greenleaf	102 Spiderblocks	35.62098	-95.1823	10/13/2015
Brewers Bend	30 good cedars	35.57224	-95.18243	9/14/2017
Brewers Bend	7 large cedar trees	35.57339	-95.18222	9/14/2017
Brewers Bend	5 large trees	35.57276	-95.18164	9/14/2017
Brewers Bend	4 Large Cedars	35.57305	-95.18099	9/14/2017
Brewers Bend	2 Large Cedars	35.56919	-95.17234	9/14/2017
Brewers Bend	3 cedar trees	35.57352	-95.18138	9/14/2017
Brewers Bend	4 Cedar trees	35.57367	-95.18067	9/14/2017

Appendix II. Webbers Falls stockings

Year	Species	Number	Size
1981	Largemouth Bass	66,504	2.1"
1983	FL. Largemouth Bass	50,190	2.5"
1983	Channel Catfish	100,601	3.5"
1984	FL. Largemouth Bass	110,100	1.7"
1986	Walleye	114,640	1.4"
1986	Largemouth Bass	48,950	1.5"
1987	Walleye	59,539	1.7"
1987	Largemouth Bass	49,950	1.5"
1988	Walleye	109,000	1.2"
1989	Walleye	199,378	1.3"