SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

ONAPA LAKE

2024

SURVEY REPORT

State: Oklahoma

Project Title: Onapa Lake Fish Management Survey Report

Period covered: 2024

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Date: December 2024

ABSTRACT

Onapa lake was surveyed via spring boat electrofishing to determine fish population trends of black bass to inform potential stocking or future survey efforts. Continued high catch rates for Largemouth Bass (C/f = 147) and low relative weights for fish under 13 inches (W_r = 86) indicate an overabundance of smaller fish and limited forage availability. With the new statewide black bass regulation that allows for the harvest of smaller fish and educating anglers to harvest the smaller bass (<16 inches), as well as the regular stockings of Threadfin Shad, it is hoped that fish body conditions would begin to improve over time.

INTRODUCTION

Onapa lake is located 8 miles south and 1 mile west of Checotah off Hwy 69 in Mcintosh County, Oklahoma and is a small, 63.5-acre watershed lake, with a shoreline length of 3.9 miles that is also spring fed. Onapa lake was constructed in 1936 for use as a water supply. Water clarity is clear with a secchi disk reading of up to 9ft. Onapa is a deep lake with a maximum depth near 40 and steeply sloped banks in all but the uppermost end of the lake. Primary fish habitat consists of a wreath of water willow, submerged vegetation including coontail, muskgrass, chara, and spatterdock in the upper end. Other habitat includes rocky outcroppings, contour changes and man-made structures such as riprap and a cedar tree brushpile. Access is limited with only an earthen boat ramp and parking area that is deeply rutted and eroded.

Recent fish management activities have included stocking threadfin shad as a supplemental forage, stocking and evaluation of FLMB through fin clips, habitat enhancement work and routine standardized sampling. Recent Onapa stockings can be seen in Table 6. ODWC fish attractors at Onapa consist of a cedar brushpile marked with a buoy (Table 7).

Onapa follows statewide creel, size and method of take regulations, with only a “no wake” regulation imposed by the city of Checotah.

RESULTS

Largemouth Bass

1. Largemouth Bass abundance from spring boat electrofishing in 2024 (C/f = 147) was very high and has remained high since 2015 (Table 1, Figure 1).
2. Relative weights (Wr) were poor for all size groups less than 13 inches (Table 1), indicating a possible overabundance of smaller fish and limited forage within the lake.
3. Trophy potential remains for Largemouth Bass due to the stocking of Certified FLMB into the lake. Certified FLMB stockings should continue to ensure that the trophy potential continues within the reservoir.

Shad

1. The 2022 gillnet survey showed low abundance of both gizzard and threadfin shad (Tables 4 & 5).
2. All gizzard shad captured were $\geq$ 11 in. There are no size categories for threadfin shad. Optimal forage size for most species is six inches or less

RECOMMENDATIONS

Fish Attractor Structures

1. Habitat structures should be refurbished in 2025 or 2026.

Fish Stockings

1. Threadfin Shad should be stocked in spring of 2025 to supplement the forage base for sportfish. Threadfin populations should be monitored and restocked as needed to try to improve Largemouth Bass relative weights.

Fish Surveys

1. Spring boat electrofishing surveys should be conducted in 2026 as conditions allow to continue monitoring changes in the overall black bass populations and to monitor impact of new statewide bass regulations that were passed in 2022.
2. Age data from Largemouth Bass should be taken monitor growth rates within the lake.

Fishing Regulations

1. Onapa follows statewide creel, size and method of take regulations, with only a “no wake” regulation imposed by the city of Checotah.
2. No new regulation changes are recommended at this time.

Table 1. Total number (No.), catch rates (C/f), and relative weights (W_r) by size groups of **Largemouth Bass** collected by spring electrofishing from Onapa Lake. Numbers in parentheses represent acceptable C/f values for a quality fishery. Acceptable W_r values are ≥90.

	Total (≥40)		<8 inches (15-45)		8-13 inches (15-30)		≥12 inches (≥10)		≥14 inches (≥10)		≥16 inches (≥8)	
Year	No.	C/f	C/f	W_r	C/f	W_r	C/f	W_r	C/f	W_r	C/f	W_r
1989	105	26.3	11.2	74	9.2	76	5.7	87	5.0	88	-	-
1991	109	48.4	28.0	84	13.6	81	2.8	94	0.8	103	-	-
1995	88	88.0	80.0	67	47.0	75	11.0	83	6.0	84	-	-
1998	104	69.3	18.0	93	28.0	77	23.3	78	5.3	85	-	-
2000	120	96.0	43.2	88	33.6	77	19.2	77	11.2	79	-	-
2004	185	123.3	32.7	86	46.0	80	45.3	77	11.3	79	-	-
2007	109	72.6	8.0	91	16.7	80	48.0	79	17.3	78	-	-
2012	68	75	-	-	-	-	-	-	-	-	-	-
2015	110	116	25.0	82	61.0	80	45.0	87	23.0	90	11.0	94
2018	293	125	3.86	74	54.43	84	80.6	91	45.4	92	13.3	93
2021	137	139	13.0	83	48.0	82	91.0	92	65.0	94	28.0	96
2024	147	147	34.0	88	20.0	86	101	92	69.0	93	28.0	92

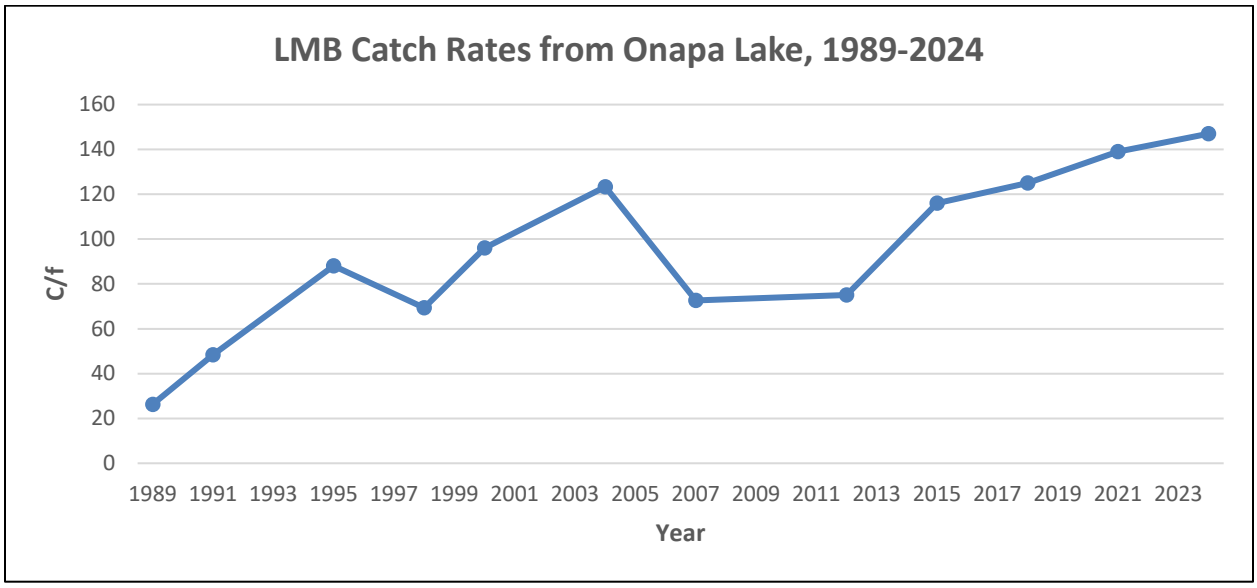

Figure 1. Catch rates (C/f) for Largemouth Bass caught by boat electrofishing from Onapa Lake.

Table 2. Largemouth Bass catch rates for Onapa Lake, 2024 (OFAT analysis).

Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
LMB	147	6	10.20	15.00	117.60	176.40	4	2

Table 3. Catch rates by size category for Largemouth Bass sampled from Onapa Lake, 2024 (OFAT analysis).

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
LMB	substock	32	23.05	7.38	17.54	46.46	20	8
LMB	stock	12	31.62	3.79	4.56	19.44	38	15
LMB	quality	58	14.55	8.44	41.46	74.54	8	3
LMB	preferred	42	8.25	3.46	35.21	48.79	3	1
LMB	memorable	3	44.72	1.34	0.37	5.63	77	30
LMB	trophy	0	NA	NA	NA	NA	NA	NA

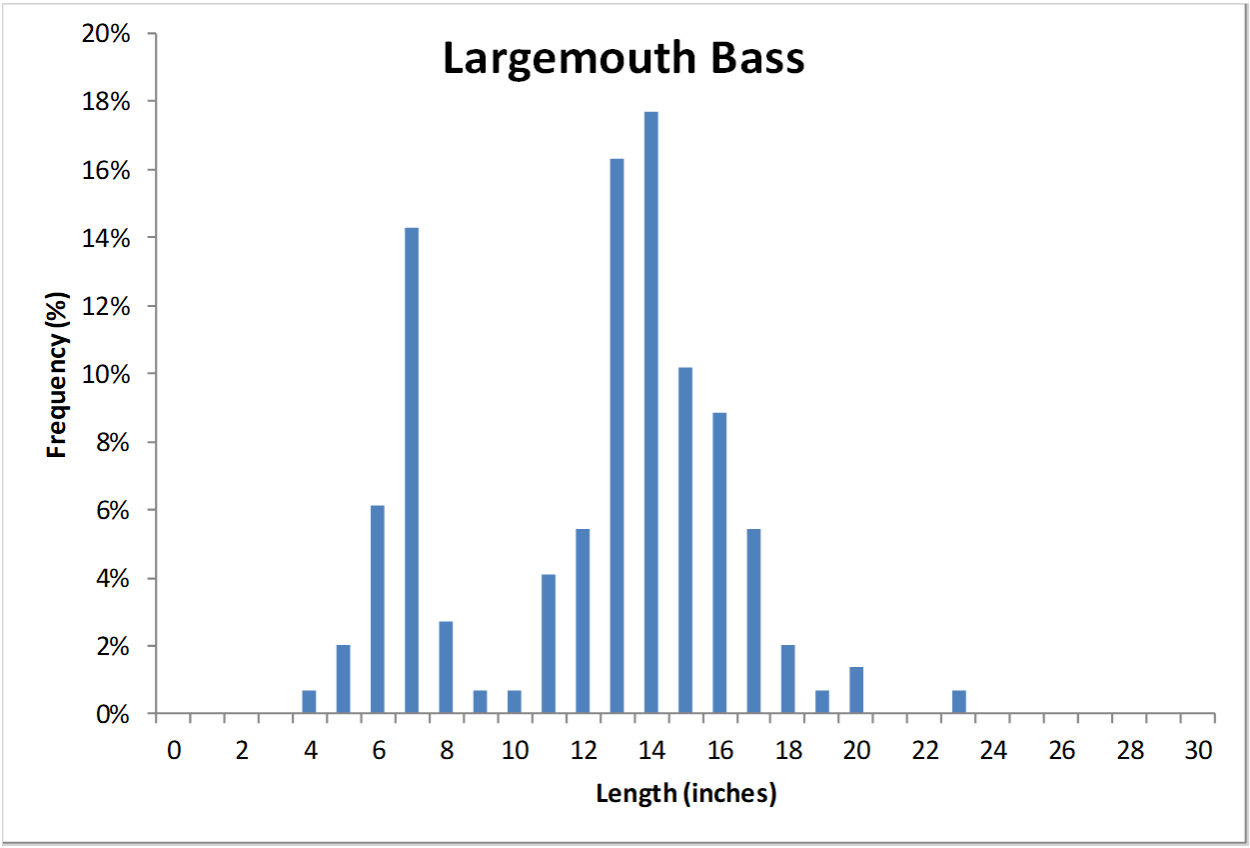

Figure 2. Length frequencies for Largemouth Bass sampled from Onapa Lake, 2024.

Table 4. Total number (No.) and catch per unit of effort (CPUE) by size groups of **Gizzard Shad** collected by fall gill net from Onapa Lake.

Year	No.	Total CPUE	Substock	Stock	Quality
2019	1	0.2	-	-	0.2
2022	9	1.34	-	-	1.34

Table 5. Total number (No.) and catch per unit of effort (CPUE) by size groups of **Threadfin Shad** collected by fall gill net from Onapa Lake.

Year	< 6 inches	≥ 6 inches
2019	-	-
2022	1	0.15

Table 6. Onapa stocking history

YEAR	SPECIES	Number	Size (inches)
2000	Channel catfish	7250	7
2001	Channel catfish	7180	7
2002	Channel catfish	7315	6.25
2012	FLMB	6,201	1.5
2013	FLMB	130	6-7”
2015	FLMB	1000	3-4”
2015	Threadfin Shad	1000	3-4”
2016	FLMB	100	10”
2016	Threadfin Shad	3000	3”
2017	Threadfin Shad	500	4”
2018	FLMB	100	9.25”
2018	Threadfin Shad	2500	3”
2020	Threadfin Shad	1500	3-5"
2021	Threadfin Shad	1500	3"

Table 7. Onapa habitat enhancement

Lake	Area	Habitat type	Latitude	Longitude	Date Installed
ONAPA	SE side of lake	6 large cedars	35.40029	-95.56589	10/31/2019