SURVEY REPORT
OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

FISH MANAGEMENT SURVEY AND RECOMMENDATIONS FOR LAKE EVANS CHAMBERS 2024

SURVEY REPORT

State: Oklahoma

Project Title: Lake Evans Chambers Fish Management Survey Report

Period Covered: 2013-2024

Prepared by: Dalton Norris

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LAKE EVANS CHAMBERS

ABSTRACT

Channel catfish were sampled at Lake Evans Chambers in 2016, 2019, 2022, and 2024 by means of tandem hoop net surveys. Largemouth bass were also sampled 2015, 2018, 2021, and 2023 by mean of boat electrofishing whole shoreline surveys. Electrofishing surveys showed a moderate catch per unit effort (CPUE) value for every year sampled. This indicates an average population of largemouth bass in Lake Evans Chambers. The 2019 channel catfish hoop net survey failed to collect on individuals.

INTRO

Lake Evans Chambers impounds Mexico Creek in Beaver County 29 km west of Lavern. Lake Evans Chambers has a maximum depth of 3.3 meters and a shoreline length of 4.5 km. The total surface area of Chambers is 80 surface acres at full pool, and the lake has a total volume of 780 acre feet when full. The secchi depth of Lake Evans Chambers is 35 cm at full pool. Lake Evans Chambers was constructed in 1965 by the Oklahoma Department of Wildlife Conservation

Lake Evans Chambers was stocked from 2013-2023 with channel catfish and walleye. Chambers was also stocked with 30 grass carp in 2020 to help manage aquatic vegetation in in the lake (Appendix 2).

Habitat was deployed in the lake for fish attractants for anglers to use (Appendix 1).

Channel catfish were sampled in 2016, 2019, 2022, and 2024 by means of tandem hoop net surveys. Largemouth bass were also sampled in 2015, 2017, 2018, 2021, and 2023 by mean of boat electrofishing surveys.

RESULTS

CHANNEL CATFISH

Channel catfish were surveyed in the summer of 2016, 2019, 2022, and 2024 at Lake Evans Chambers. The surveys were conducted following Standard Sampling Procedures for Fisheries Management. Tandem hoop net surveys were conducted by setting six stations of three net nights each totaling 18 net nights. Each station was three hoop nets set in tandem with the bridle end tied to the cod end. Each of these three nets was baited with a whole bar of Zoat soap (400g). The bait was changed from Zoat soap to cheese bait for the 2024 survey. This bait was first placed in a 0.9 kg plastic sample jar with 25-30 6 mm holes in it. The largest hoop on these nets was 0.8 meters and the net itself was approximately 3.4 meters long.

Total catch per unit effort (CPUE) values ranged from 0 in 2019 to 29.67 in 2024. The statewide CPUE value for channel catfish hoop net surveys in Oklahoma is CPUE=4.27. This statewide average value was met in 2016 and 2024. Surveys in 2022 and 2019 were both below the state average CPUE value. The largest sample size that was observed in 2024 with 445 individuals collected (Table 1). The survey from 2024 saw a larger range of total length values than 2016 and 2022 (Figure 1).

The proportional size distribution (PSD) values range from 74 in 2016 to 10 in 2022 (Table 3). The higher PSD value indicates a higher portion of individuals are of favorable size for anglers to interact with. The average PSD value for channel catfish hoop net surveys is PSD=24. The 2016 survey was well over the statewide average value (Table 3).

The relative weight (Wr) values for channel catfish in Lake Evans Chambers were over the favorable value Wr=80 except for quality class fish in 2022. Relative weight values above Wr=80 indicate that the body condition of the individuals is favorable. The statewide average Wr value in Oklahoma is Wr=88. This average of Wr=88 was not met in any of the surveys meaning that the relative weight of the individuals in Lake Evans Chamber is below the statewide average. (Table 1).

Table 2 displays the mean length of channel catfish at a given age for the 2024 hoop net survey. Individuals are reaching the quality size category at age 6 and reaching the preferred size category at age 16. Individuals are taking longer to reach these higher size categories (Table 2).

It is recommended that Lake Evans Chambers continues to be surveyed every three years to evaluate the status of the channel catfish fishery. The channel catfish population has been influenced by the lack of growout catfish (9”) stocked in recent years. Growout catfish are needed to maintain this population.

Table 1: Total number (No), catch per unit effort (CPUE), and relative weights (Wr) by size group of Channel Catfish collected in hoop net surveys from Lake Evans Chambers.

		Total CPUE	Substock <280mm		Stock 280mm		Qualtiy 410mm		Preferred 610mm	
Year	**No**	**CPUE**	**CPUE**	**Wr**	**CPUE**	**Wr**	**CPUE**	**Wr**	**CPUE**	**Wr**
2024	445	29.67	2.73	-	21.93	-	4.87	-	0.13	-
2022	60	3.33	2.17	86.58	1.06	83.34	0.11	74.82	-	-
2019	0	-	-	-	-	-	-	-	-	-
2016	121	6.72	0.06	-	1.72	-	4.94	-	-	-

Table 2: Mean total length at age (mm) and L infinity (estimated mean maximum length) for Channel Catfish collected from Lake Evans Chambers.

Year	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	Age 10	Age 11	Age 16	L inf
2024	246.11	331.63	358.04	395.62	434.43	496.75	512	555	583	552	623.5	707.9

Table 3: Proportional Size Distribution (PSD) for Channel Catfish collected from Lake Evans Chambers hoop net surveys.

Year	PSD
2024	19
2022	10
2016	74

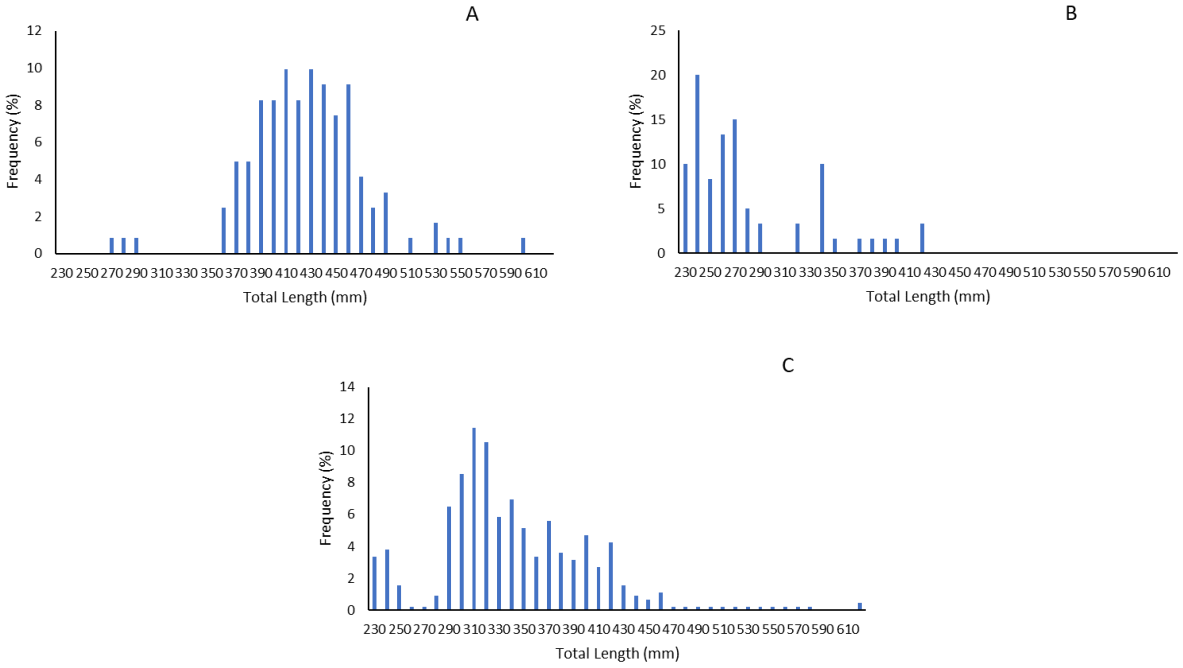


Figure 1: Channel catfish Length Frequencies for Canton Lake 2016(A), 2022(B), and 2024(C).

LARGEMOUTH BASS

Largemouth bass were sampled at Lake Evans Chambers by means of electrofishing in 2015, 2017, 2018, 2021, and 2023. The surveys were random shoreline samples of 10-minute stations. The electro fishing unit was used in accordance to our standardized power table given conductivity and water temperature. Standard Sampling Procedures for Fisheries Management were followed when conducting these electrofishing surveys.

Catch per unit effort (CPUE) values ranged from 13.71 in 2023 to 57.27 in 2018. These were all moderate values except for 2023. Individuals in the trophy (630 mm) size range were collected in 2015 (Table 4). The statewide average CPUE value for largemouth collected during electrofishing in Oklahoma is CPUE=62.5. This average value was not met any of the years sampled.

Proportional size distribution (PSD) values ranged from 32 in 2015 to 73 in 2021. Proportional size distribution of preferred size range (PSD-P) ranged from 3 in 2018 to 14 in 2015 (Table 5). The higher PSD values in recent years indicate that there is a larger portion of individuals that are of a favorable size for anglers to interact with. The statewide average PSD value for Oklahoma is PSD=72. This PSD=72 mark was only hit twice since 2015. This means that the Lake Chambers is below the state average for largemouth bass PSD values (Table 5).

The relative weight (Wr) values for largemouth were mostly over the Wr=80 mark indicating good body condition. The few length classes that fall short of this are close to that Wr=80 mark except the trophy class in 2015. The average Wr value for the state of Oklahoma is Wr=92. In 2023 only one length class was above the statewide average. In the other years there is a mix of both above the state average and below (Table 4).

It is recommended that Lake Evans Chambers continues to be sampled annually by means of electrofishing to evaluate the status of the largemouth bass fishery.

Table 4: Total number (No), catch per unit effort (CPUE), and relative weights (Wr) by size group of Largemouth Bass collected in electrofishing surveys from Lake Evans Chambers.

		Total	Substock		Stock 200mm		Quality		Preferred		Trophy	
		CPUE	<200mm				300mm		380mm		630mm	
Year	No	CPUE	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr	CPUE	Wr
2023	16	13.71	-	-	4.29	94.43	8.57	86.49	0.86	79.15	-	-
2021	54	40.5	1.5	78.74	10.5	99.37	25.5	93.06	3	91.73	-	-
2018	105	57.27	1.64	83.12	34.91	93.04	10.09	88.48	1.64	94.03	-	-
2017	28	33.6	14.4	101.62	4.8	120.44	14.4	90.58	-	-	-	-
2015	72	48	33.33	98.27	10	101.63	2.67	94.25	1.33	103.6	0.67	2.51

Table 5: Proportional Size Distribution (PSD), Proportional Size Distribution of Preferred (PSD-P), Memorable (PSD-M), and Trophy (PSD-T) for Largemouth Bass collected from Lake Evans Chamber electrofishing surveys.

Year	PSD	PSD-P	PSD-M	PSD-T
2023	69	6	-	-
2021	73	8	-	-
2018	37	3	-	-
2017	75	-	-	-
2015	32	14	5	5

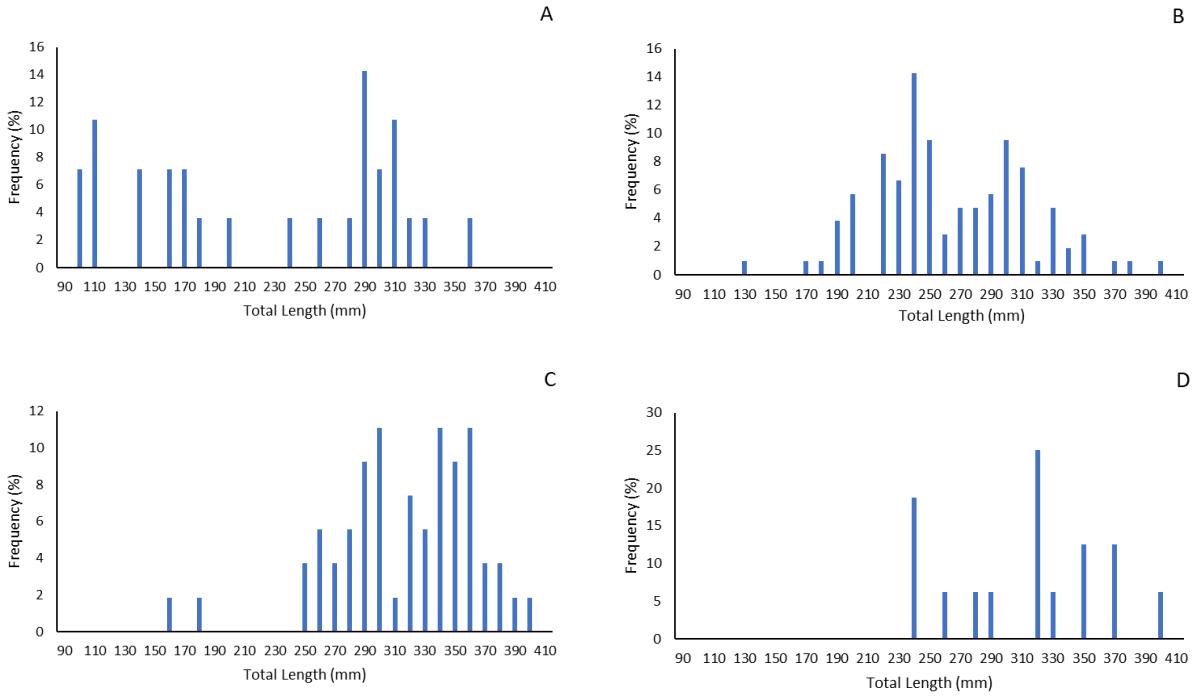
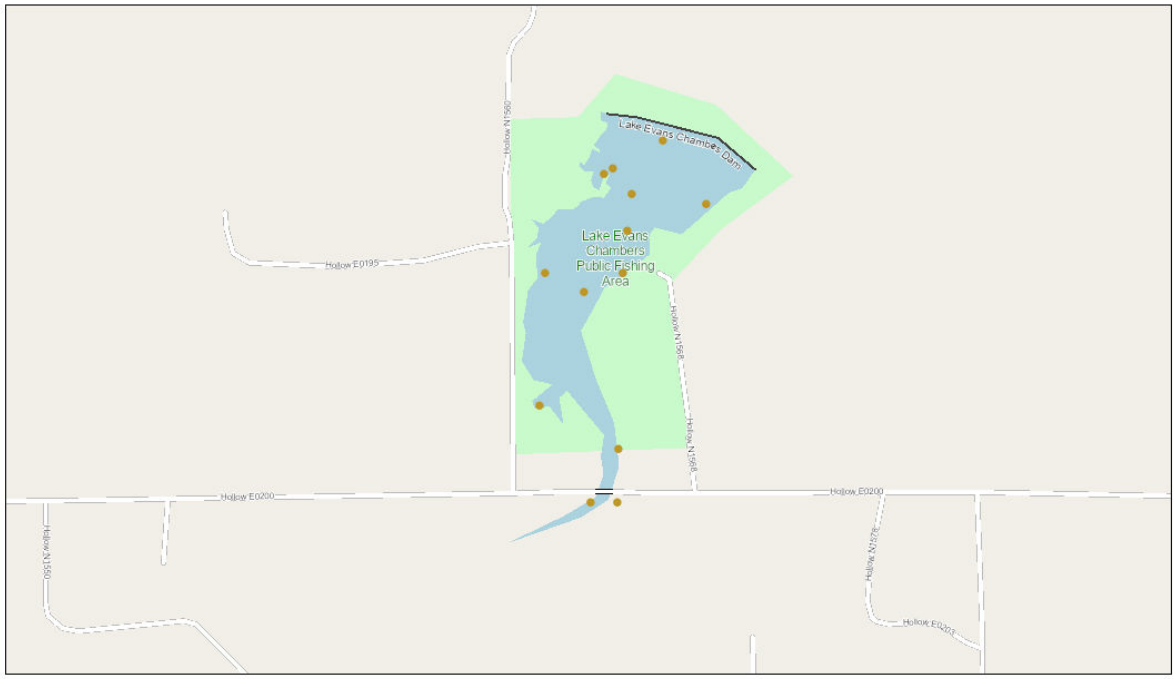


Figure 2: Largemouth bass Length Frequencies for Canton Lake 2015(A), 2018(B), 2021(C), and 2023(D).

Lake Evans Chambers Fish Attractors



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FishAttractors

- Brush Pile
- Spider Blocks
- Pallet
- Combination
- PVC Structure
- Gravel Pile
- Sunken Boat
- Tire Reefs
- Other
- Unknown

1:18,056

0 0.13 0.25 0.5 mi

0 0.17 0.35 0.7 km

APPENDIX 1

Year	Species	Number	Size (mm)
2024	Walleye	56,000	6.35
2023	Walleye	40,000	6.35
	Channel Catfish	1,475	304.8
2022	Walleye	80,000	6.35
2020	Grass Carp	30	304.8
2019	Channel Catfish	35,992	63.5
	Channel Catfish	9,888	154.94
2018	Channel Catfish	7,920	76.2
2016	Channel Catfish	8,000	101.6
2015	Walleye	40,000	6.35
2014	Walleye	40,000	6.35
2013	Walleye	40,000	6.35
	Channel Catfish	400	266.7

APPENDIX 2