

SURVEY REPORT
OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS
FOR
BLACK KETTLE LAKE
2025

SURVEY REPORT

State: Oklahoma

Project Title: Black Kettle Lake Fish Management Survey Report

Period Covered: 2017-2025

Prepared by: Dalton Norris

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BLACK KETTLE LAKE

ABSTRACT

Black Kettle Lake was sampled in summer of 2025 for channel catfish by baited tandem hoop net surveys. Results from this survey showed a large population of channel catfish that appear to be slower growing due to high CPUE and low Mean Length at Age values.

INTRO

Black Kettle Lake is an impoundment of Dead Indian Creek 5km south of Roll, Oklahoma in Roger Mills County in the Black Kettle National Grassland. Black Kettle is roughly 32 ha in size and holds approximately 1205000m³ of water. The shoreline of Dead Warrior is roughly 4.5 km.

Black Kettle is open year-round to the public for fishing opportunities and routinely stocked with channel catfish (Appendix 1).

Black Kettle Lake was sampled in the summer of 2025 by means of baited tandem hoop nets for channel catfish.

RESULTS

Channel Catfish

Channel catfish were surveyed in the summer of 2025 at Black Kettle Lake. 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 or cheese bait (400g). 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.

In 2025, the catch per unit effort (CPUE) value for channel catfish was 14.61. This higher CPUE value demonstrates that the channel catfish population in Black Kettle Lake is high. The statewide average CPUE value for channel catfish hoop net surveys in Oklahoma is CPUE=4.27. The CPUE value from the 2025 survey was higher than the statewide average CPUE value (Table 1).

The proportional size distribution (PSD) value was very low at Black Kettle. With a value of PSD=2, there is only a small proportion of individuals collected from the survey that were of favorable size for anglers to interact with. The statewide average PSD value for channel catfish collected in hoop nets surveys is PSD=24. This value of PSD=24 is much higher than the recorded value of PSD=2 in 2025 (Table 2).

Mean length at age follows the trend of fish having larger length values at older ages (Table 3).

Length frequency figures show that there is a higher frequency of smaller individuals collected (Figure 1).

It is recommended that additional surveys on Black Kettle Lake be conducted and annual stocking be reduced until further evaluations.

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 Black Kettle Lake.

		Total CPUE	Substock <280mm		Stock 280mm		Quality 410mm	
Year	No	CPUE	CPUE	Wr	CPUE	Wr	CPUE	Wr
2025	262	14.61	0.67	-	13.60	-	0.33	-

Table 2: Proportional Size Distribution (PSD) for channel catfish collected from Black Kettle Lake hoop net surveys.

Year	PSD
2025	2

Table 3: Mean total length at age (mm) for channel catfish collected from Black Kettle Lake hoopnet surveys.

Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7	Age 8	Age 9	Age 10	Age 15	L inf
2025	213.75	301.47	317.26	326.79	354.31	355.00	387.86	364.40	435.33	362.75	487.00	397.080

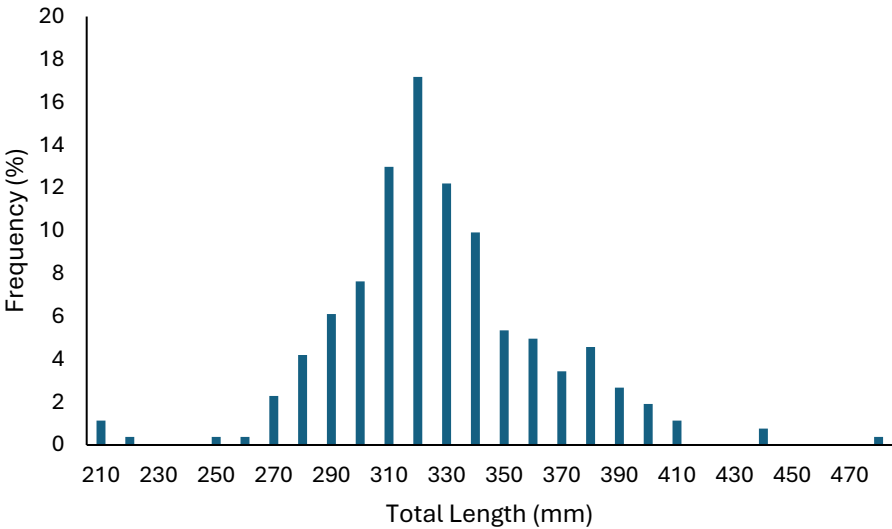


Figure 1: Channel Catfish Length Frequencies for Black Kettle Lake in 2025.

Year	Species	Number	Size (mm)
2023	Channel Catfish	1,320	304.8
2022	Channel Catfish	2,400	254
2021	Channel Catfish	3,159	266.7
2020	Channel Catfish	3,184	208.28
2019	Channel Catfish	3,180	215.9