SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

Carl Albert LAKE

2024

SURVEY REPORT

State: Oklahoma

Project Title: Carl Albert Lake Fish Management Survey Report

Period Covered: 2024

Prepared by: David Bogner

Date Prepared: January 2025

Carl Albert

ABSTRACT

Bass abundance at Carl Albert from the 2024 sample were acceptable but low compared to the long term average. The 2024 sample was marked by an absence of larger bass, which while likely in the system were not collected in the sample. This lead to some age related metrics trending lower and mortality estimates trending up. Crappie and catfish sampling was poor due to bad weather at time of sampling.

INTRODUCTION

Lake Carl Albert impounds Rock Creek and is located 0.6 Km NW of the city of Talihina off State Highway 63 in Latimer County, Oklahoma (Fig. l). Carl Albert Lake covers 183 surface acres and was constructed in 1965. Turbidity is primarily from plankton. Fish habitat consists primarily of aquatic vegetation, rip rap along dam, the old creek channel and artificial fish habitat structures. Major fisheries include largemouth bass, channel catfish and bluegill sunfish.

RESULTS

Largemouth Bass

Largemouth Bass were sampled via spring shoreline electrofishing in 2024. Catch rates reported as Catch Per Unit Effort (CPUE) have decreased significantly since 2012 (table 1). Abundance of fish sub 240 mm was very low, with most fish being approximately 300 mm (figure 1). Size distribution of Largemouth Bass was best in 2021 but most of the larger fish were missing in 2024 (table 2 and 3). PSD has dropped to the lowest level in 12 years although the PSD S was highest in 2024. Relative weight has slowly improved since 2012 but is still below desirable levels (table 4). Age data shows that 40% of the fish are 3 years old and frequency of older fish drop off sharply (figure 2). This hints at issues with a bottleneck at Carl Albert limiting the opportunity to grow trophy fish. Mean length at age is similar between samples (table 5). Lack of older fish in the 2024 sample make inferences impossible. Mean weight at age is sharply lower in 2024 overall compared to previous samples (table 6). Von Bertalanffy estimates for L infinity have dropped over the last 6 years but this is understandable given the lack of larger fish in more recent years (table 7). Largemouth Bass mortality estimates have increased over time again influenced by the lack of older and larger fish in more recent samples (table 8). Estimates average 26% and are within acceptable levels for this part of the state.

Crappie

Crappie were sampled utilizing trap nets in Nov 2024. Unfortunately the first major cold front of the fall took place the day nets were set and only 8 crappie were collected in 15 nets. This precludes any meaningful inferences from being made. All but 2 of the crappie were greater than 250 mm with most above 275 mm and the largest being 310 mm. Body condition was good.

Catfish

Catfish were sampled utilizing standard gillnets. Conditions were poor during sampling and nets were set at the same time trap netting occurred. The aforementioned cold front had severe negative effects on catch rates and only 1 channel catfish was sampled. Most of the collected fish were gizzard shad.

Recommendations

1. Continue to monitor Bass metrics and abundance of larger individuals. Carl Albert has traditionally had great bass fishing but the absence of larger individuals indicates need for closer attention.
2. Consider the addition of Catfish spawning structures based on research lab recommendations when available.

Table 1: Largemouth Bass Catch Per Unit Effort (CPUE) by year.

Total CPUE	2012	2018	2021	2024
Mean	117	48	98	78
Count	6	5	6	6
SE	12.37	13.01	11.97	13.15
L 95% CI	92.76	22.5	74.55	52.24
U 95% CI	141.25	73.5	121.45	103.76

Table 2: Largemouth Bass CPUE across size classes by year.

CPUE Size	2012		2018		2021		2024	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Substock	11	1.84	1.2	1.2	8	2.97	8	2
Stock	39	4.58	13.2	3.5	13	2.86	34	3.69
Quality	43	5.67	21.6	7.96	41	7.5	23	9.35
Preferred	24	4.9	9.6	4.07	30	2.68	13	2.86
Memorable	.	.	2.4	2.4	5	2.41	.	.
Trophy	.	.	.	.	1	1	.	.

Table 3: Largemouth Bass Proportional Stock Density by year.

PSD	2012	2018	2021	2024
PSD	63	72	86	51
PSD-P	23	26	40	19
PSD-M	.	5	7	.
PSD-T	.	.	1	.
PSD S-Q	37	28	14	49
PSD Q-P	41	46	46	33
PSD P-M	23	21	33	19
PSD M-T	.	5	6	.

Table 4: Largemouth Bass Relative weight with standard errors across PSD classes by year.

Wr	2012		2018		2021		2024	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Substock	86.3	3.48	82.67	.	81.71	1.9	88.69	0.76
Stock	84.26	4.5	80.85	2.92	94.27	5.93	88.27	4.6
Quality	76.58	0.78	83.83	2.04	79.84	0.8	81.59	1.7
Preferred	79.58	1.71	77.64	2.3	82.24	1.96	86.87	1.58
Memorable	.	.	83.21	2.45	86.32	2.34	.	.
Trophy	.	.	.	.	95.38	.	.	.
Total	80.36	1.68	81.72	1.33	83.17	1.18	85.94	2.23

Table 5: Largemouth Bass Mean length at age with standard errors.

Mean Length at Age	2018		2021		2024	
	Mean	SE	Mean	SE	Mean	SE
1	169	.	153	9.66	139.67	17.63
2	269.83	4.66	243.53	7.57	274.07	5.43
3	338.23	5.82	330.88	3.67	305.71	5.03
4	361.25	24.02	372.22	7.13	323.4	21.53
5	368	.	401.17	8.17	387.38	19.53
6	421	15.17	394.27	8.79	405.6	10.52
7	403	.	556	.	436.4	13.01
8	468.5	58.5	521	25.96	.	.
9	.	.	471.5	9.5	.	.
10	.	.	.	.	.	.
11	.	.	.	.	.	.
12	.	.	629	8	.	.
13	628	.	.	.	.	.

Table 6: Largemouth Bass Mean weight at age with standard errors.

Mean Weight at Age	2018		2021		2024	
	Mean	SE	Mean	SE	Mean	SE
1	48	.	37.14	6.6	40.67	14.09
2	224.5	18.54	183.6	18.49	263.47	21.04
3	492.92	32.28	418.58	17.08	343.48	18.88
4	559.5	142.78	615.78	42.09	410.8	87.3
5	541	.	852.22	63.46	792.25	138.29
6	916.8	114.03	727	54.92	891.6	91.79
7	806	.	2508	.	1142	151.86
8	1420	637	2099	370.25	.	.
9	.	.	1473	113	.	.
10	.	.	.	.	.	.
11	.	.	.	.	.	.
12	.	.	3885	375	.	.
13	3443	.	.	.	.	.

Table 7: Largemouth Bass Von Bertalanffy growth metrics.

Von Bert	2018	2021	2024
L inf	732.366	635.067	450.234
K	0.121	0.172	0.379
t0	-1.901	-0.88	-0.115

Table 8: Largemouth Bass mortality estimates.

Mortality Est.	2018	2021	2024
Instantaneous	0.27	0.31	0.375
Annualized	23.61	26.64	31.3

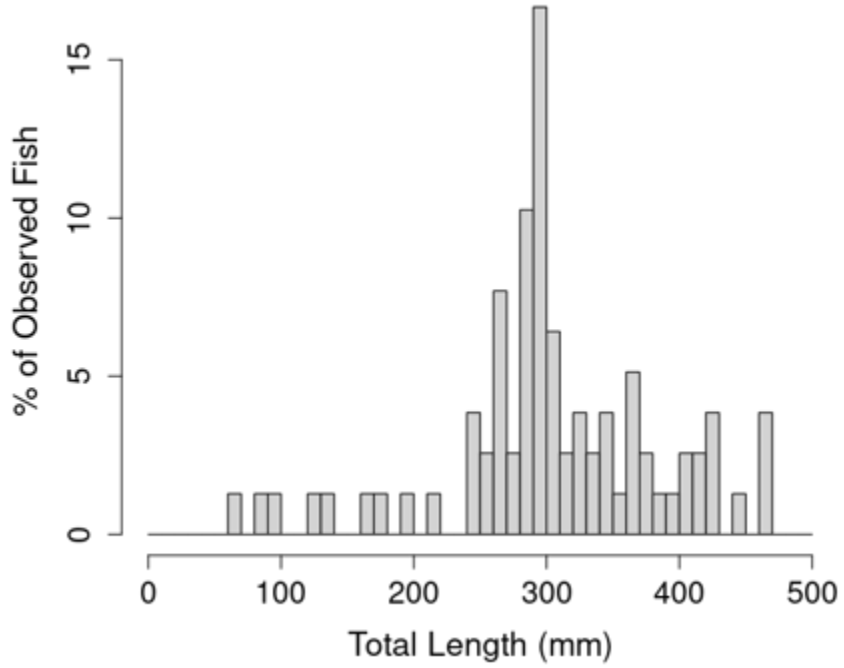

Figure 1: Largemouth Bass length frequency histogram.

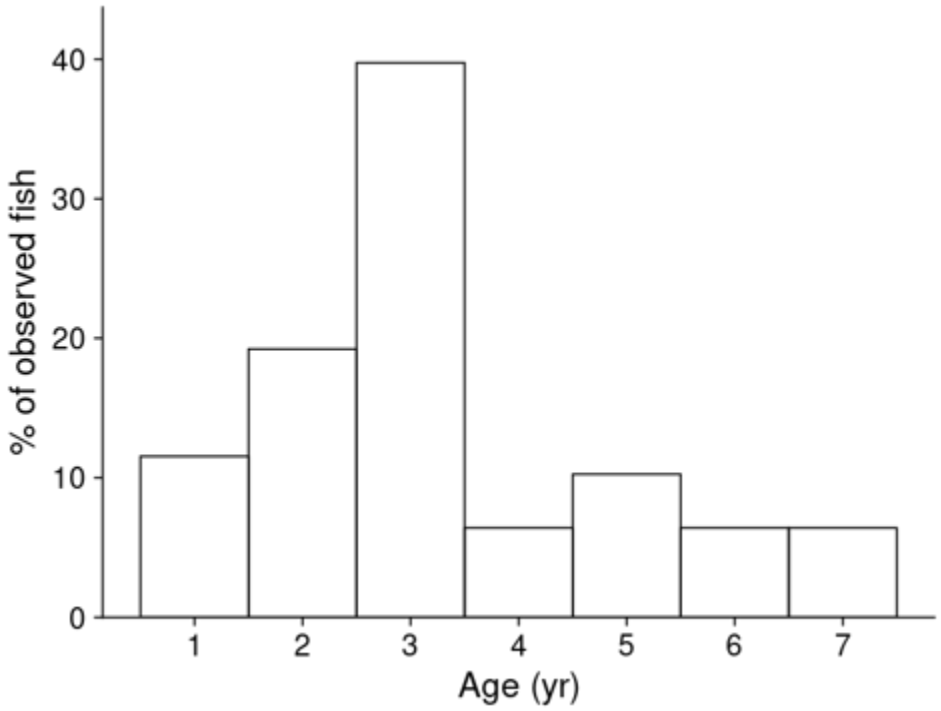

Figure 2: Largemouth Bass age frequency histogram.