SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

Coon Creek LAKE

2024

SURVEY REPORT

State: Oklahoma

Project Title: Coon Creek Lake Fish Management Survey Report

Period Covered: 2024

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Coon Creek

ABSTRACT

Largemouth Bass fishing is very popular at Coon Creek and individuals greater than 10 lbs. have been caught previously. The bass fishery has continue to improved by maintained high abundances. The high abundance can lead to very productive fishing but at the detriment of fish condition and likely limits the opportunity to currently support trophy sized individuals. Removal of smaller bass could improve the potential for larger bass while still maintaining high catch rates.

INTRODUCTION

Coon Creek Lake is located 5 miles North of Wilburton on Oklahoma State Highway 2 in Latimer County. The lake was constructed during 1966 and 1967 on Coon Creek and impounds approximately 34 acres. The lake was constructed for the purpose of flood control and recreation by the Soil Conservation Service.

RESULTS

Largemouth Bass

Largemouth Bass were sampled via spring shoreline electrofishing in 2024. Catch rates in Catch Per Unit Effort (CPUE) were the lowest reported since 2006 but still high compared to many regional waterbodies (table 1). The length frequency histogram for Largemouth Bass shows a peak around 350 mm with most fish ranging in length from 300 to 400 mm (figure 1). The abundance of stock size individuals in 2024 is low compared to most previous samples indicating a recent weak year class, while abundance of quality size fish is the highest recorded for Coon Creek (table 2). Proportional Stock Density (PSD) in 2024 was 81 and driven by quality size fish (table 3). Previous samples have had lower PSD due to the abundance of stock and sub-stock fish. Relative Weight (Wr) for Largemouth Bass in Coon Creek has been low historically and that trend continues in 2024 (table 4). Given the high catch rates of bass there is likely an overabundance of Largemouth Bass in Coon Creek. Bass age frequency increases from year 2 when Largemouth are recruited to the sampling all the way to age 5 before dropping off sharply between age 5 and 6 and again from age 6 to 7 (figure 2). There is potential for increasing the number of age 6 and 7 fish by targeting appropriate size forage to increase survival or reducing age 5 fish density to increase the number of larger and older fish. Mean length at age has improved for most age classes between 2021 and 2024 (table 5). Average weight at age has also improved for all bass age classes except for 8 year olds in 2024 (Table 6). The growth coefficient for the Von Bertalanffy has greatly increased in 2024 indicating better growth which has resulted in the greater lengths and weights at age mentioned earlier (table 7). Given the lack of older age individuals in the sample the mortality rate estimate has increased but is still within normal ranges (table 8).

Recommendations

1. Efforts to increase Largemouth Bass weights should be undertaken. This will likely require removal of smaller fish or introduction of additional forage fish. The reservoir shoreline prevents the seining of the reservoir to look at current baitfish abundances and composition.

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

Total CPUE	2006	2010	2021	2024
Mean	148	145.33	165.5	133.2
Count	4	3	4	5
SE	11.2	14.11	11.59	14.62
L 95% CI	126.06	117.68	137.79	104.54
U 95% CI	169.94	172.99	183.21	161.86

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

CPUE Size	2006		2010		2021		2024	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Substock	37	7.72	58.67	16.38	15	1.73	10.8	2.94
Stock	90	6.83	70.67	3.53	67.5	14.36	22.8	5.16
Quality	11	2.52	10.67	4.81	66	4.24	80.4	7.73
Preferred	7	2.52	4	2.31	6	2.45	16.8	5.16
Memorable	3	1	1.33	1.33	6	3.46	2.4	1.47
Trophy	.	.	.	.	.	.	.	.

Table 3: Largemouth Bass Proportional Stock Density by year.

PSD	2006	2010	2021	2024
PSD	19	18	54	81
PSD-P	9	6	8	16
PSD-M	3	2	4	2
PSD-T	.	.	.	.
PSD S-Q	81	82	46	19
PSD Q-P	10	12	45	66
PSD P-M	6	5	4	14
PSD M-T	3	2	4	2

Table 4: Largemouth Bass Relative Weight with standard errors by year.

Wr	2006		2010		2021		2024	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Substock	88.78	6.05	81.76	3.77	97.47	.	64.05	9.18
Stock	77.27	0.63	77.14	0.99	80.81	1.47	80.36	2.72
Quality	73.95	3.36	78.72	3.34	79.33	1.71	78.75	1.33
Preferred	84.91	2.72	87.78	4.41	59.48	18	80.32	1.8
Memorable	79.28	2.97	107.79	.	95.06	3.49	86.27	2.01
Trophy	.	.	.	.	.	.	.	.
Total	78.5	0.85	78.64	11	80.03	1.33	78.56	1.14

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

Mean Length at Age	2021		2024	
	Mean	SE	Mean	SE
1	.	.	148.14	8.97
2	218.38	2.31	234.5	7.74
3	280.04	5.48	304.74	6.92
4	302	7.4	337.1	3.88
5	321.83	4.99	366.1	8.22
6	336.7	7.83	378.57	11.7
7	325.4	11.79	386	.
8	461.25	41.08	341.33	22.1
9	261	.	.	.
10	588	9	.	.
11	.	.	.	.
12	.	.	.	.
13	.	.	.	.
14	.	.	625	.

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

Mean Weight at Age	2021		2024	
	Mean	SE	Mean	SE
1	.	.	24.29	6.87
2	108.12	4.38	144.25	15.32
3	263.25	22.94	315.67	28.17
4	325	28.15	436.6	18.03
5	367.38	19.62	629.19	65.78
6	384	30.75	695.86	72.17
7	387.2	43.65	644	.
8	1530	387.77	460.67	101.62
9	182	.	.	.
10	3136	244	.	.
11	.	.	.	.
12	.	.	.	.
13	.	.	.	.
14	.	.	3536	.

Table 7: Largemouth Bass Von Bertalanffy growth metrics.

Von Bert	2021	2024
L inf	977.705	446.14
K	0.053	0.31
t0	-2.542	-0.36

Table 8: Largemouth Bass mortality estimates.

Mortality Table	2021	2024
Instantaneous	0.33	0.45
Annualized	28.32	36.05

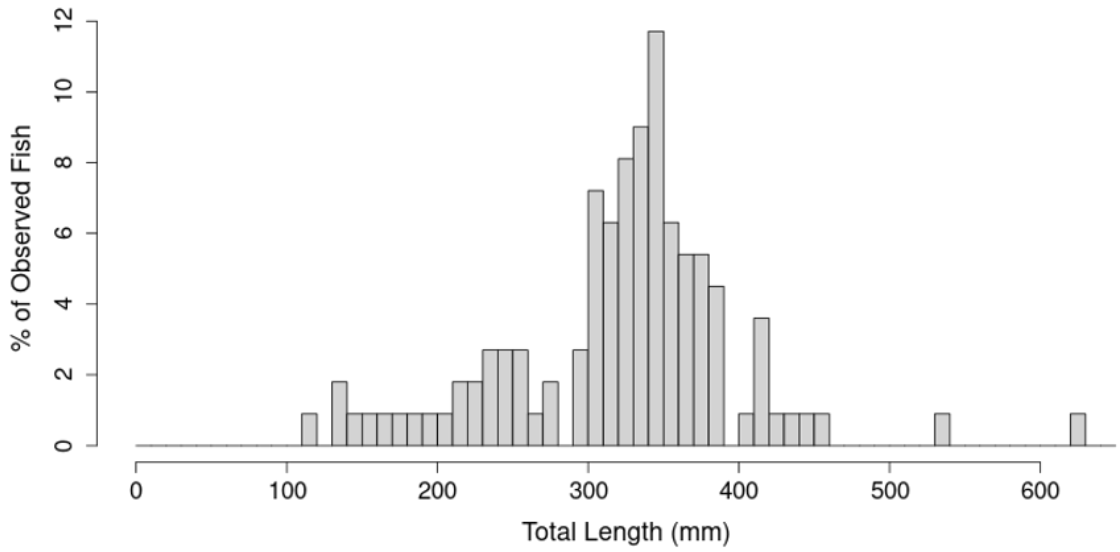

Figure 1: Largemouth Bass length frequency histogram.

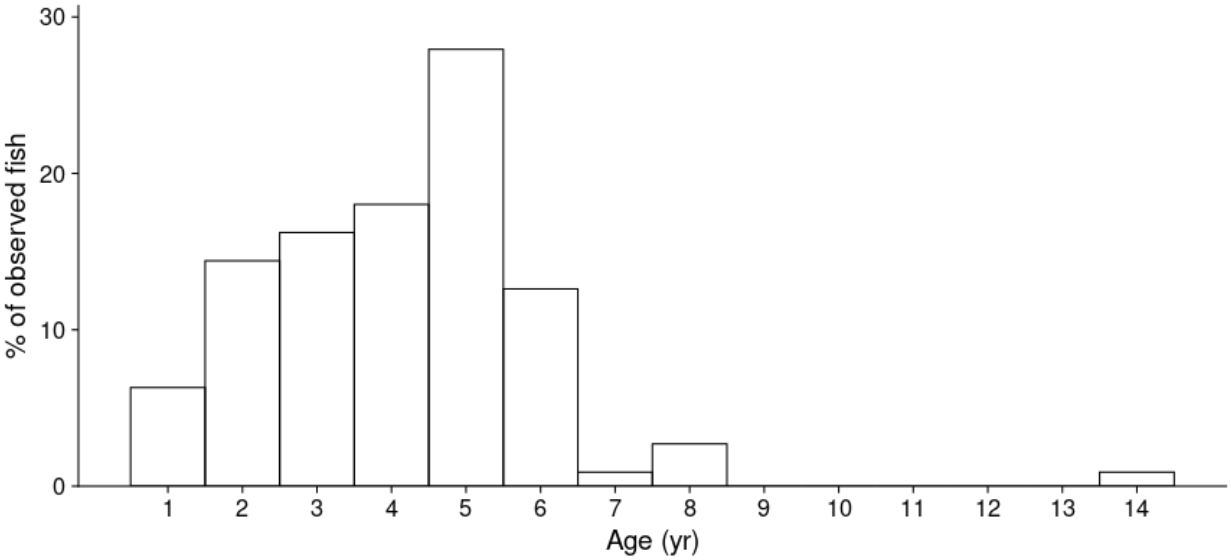

Figure 2: Largemouth Bass age frequency histogram.