

SURVEY REPORT
OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS
FOR

10 ACRE LAKE

2025

SURVEY REPORT

State: Oklahoma

Project Title: 10 Acre Lake Fish Management Survey Report

Period Covered: 2025

Prepared by: Oklahoma Fishery Research Laboratory

Date Prepared: November 2025

10 Acre Lake

ABSTRACT

10 Acre Lake was surveyed by spring electrofishing and fall modified-fyke netting in 2025 to monitor trends in fish populations. Crappie displayed stunted growth, where growth is limited even as fish continue to age and mature. Abundance of Largemouth Bass is low but those that are present are of healthy body condition. Bluegill Sunfish, Longear Sunfish, Redear Sunfish, and Warmouth were also encountered. The majority of sunfish spp. appear to be in acceptable condition. No regulation changes are recommended at this time.

INTRODUCTION

10 Acre Lake is located in Choctaw, Oklahoma County, Oklahoma. It has a surface area of 8.50 acres, 1.0 mile of shoreline, and a maximum depth of 10 feet. The lake was acquired by the city of Choctaw in the 1960's. 10 Acre Lake provides angling access, as well as trails surround the lake and adjacent park area for walking and other outdoor activities. Fish habitat consists of riprap jetties, stumps and downed trees. There are spider blocks (fish attractors) at various locations throughout the lake. Primary forage species consist of Gizzard Shad.

Close To Home Fishing regulations apply at this site, which includes an aggregate limit of three panfish, rainbow trout, and channel catfish per person per day. Fishing is limited to no more than three rods and reels per person with no more than three hooks per line; treble hooks are considered one hook. No other fishing methods are permitted.

10 Acre Lake has been previously surveyed by spring electrofishing (2010, 2011, 2019), hoop netting (2020), and fall trap netting (2020) techniques to monitor trends in fish populations. 10 Acre Lake has been stocked with Channel Catfish, Bluegill Sunfish, and Hybrid Sunfish (Appendix 1).

Aquatic Nuisance Species

There are no known ANS species in 10 Acre Lake.

RESULTS

Spring Electrofishing (Gear 41)

Overview

The fish population was sampled at 10 Acre Lake, Choctaw, OK using boat-mounted electrofishing on April 9, 2025. The average water temperature was 16° C. The entirety of the shoreline was sampled for a total of three units of effort (three, 10-minute runs). A total of 155 fish were collected across 10 species. The most abundant species by encounter were Redear Sunfish (n = 57), Bluegill Sunfish (n = 44), Longear Sunfish (n = 17), Warmouth (n = 13), and Largemouth Bass (n = 11) (Table 1). As compared to the 2010 electrofishing sample, and additional 13 Bluegill Sunfish and 41 Redear Sunfish were captured. In addition to capturing more individuals, the overall mean relative weight of Bluegill Sunfish increased, while the overall mean relative weight of Redear Sunfish decreased. Two fewer Green Sunfish and 29 fewer Largemouth Bass were captured during the 2025 electrofishing sample relative to the 2010 electrofishing sample. The number of Largemouth Bass decreased; however their overall mean relative weight increased. Channel Catfish, Gizzard Shad, Longear Sunfish, Warmouth, White Bass, and White Crappie were all observed in the 2025 electrofishing sample, but not in the 2010 sample. 10 Acre Lake was also sampled using boat-mounted electrofishing in 2011 and 2019; however, these sampling events were not used for comparison due to small sample sizes.

Redear Sunfish

Mean total length (TL) of Redear Sunfish was 151 mm with a minimum TL of 79 mm and a maximum TL of 223 mm (Table 1). The mean catch per unit effort (CPUE) of Redear Sunfish was 114 with a standard error (SE) of 36.17, resulting in a 95% confidence interval (CI) ranging from 43.11 to 184.89 Redear Sunfish per 10-minute sample (Table 2). Relative standard error (RSE) for Redear Sunfish from boat mounted electrofishing was 31.72, suggesting CPUE can only be used to detect a large change in relative abundance for the species (i.e., ~65%). The overall mean relative weight (Wr) for Redear Sunfish at 10 Acre Lake was 92.04, suggesting the population was in acceptable condition (i.e., $Wr \geq 90$). The Wr values for substock and stock sized Redear Sunfish were acceptable; however, Wr of quality size individuals (85.85) were slightly below acceptable (Table 3).

Bluegill Sunfish

Mean TL of Bluegill Sunfish was 81 mm with a minimum TL of 50 mm and a maximum TL of 120 mm (Table 1). The mean CPUE of Bluegill Sunfish was 88 and had a SE of 19, resulting in a CI ranging from 51 to 125 Bluegill Sunfish per 10-minute sample (Table 2). Bluegill Sunfish RSE was 21.68, suggesting CPUE can only track a large change in relative abundance for the species (i.e., ~44%). All Bluegill collected fell within the stock size category and had a mean Wr of 102.65, which is above acceptable.

Longear Sunfish

Mean TL of Longear Sunfish was 93 mm with a minimum TL of 75 mm and a maximum TL of 125 mm (Table 1). The mean CPUE of Longear Sunfish was 34 with a SE of 25, resulting in a CI ranging from -15 to 83 Longear Sunfish per 10-minute sample (Table 2). The lower CI being negative is likely the result of the of a failure to meet distributional assumptions and should be interpreted as “effectively 0”. Longear Sunfish RSE was 73.71, suggesting CPUE cannot be used to track changes in relative abundance for the species. Metrics for Wr and PSD size categories (e.g., substock, stock) have only recently been proposed for this species and have not yet been vetted by ODWC for incorporation into our management analyses.

Warmouth

Warmouth had a mean TL of 122 mm, with a minimum TL of 82 and a maximum TL of 214 (Table 1). The mean CPUE of Warmouth was 26 and had a SE of 12, resulting in a CI ranging from 2 to 50 Warmouth per 10-minute sample (Table 2). Warmouth RSE was 46.79, suggesting CPUE is unlikely to detect any changes in relative abundance for the species (i.e., ~ 94%). Warmouth collected fell mostly into the stock (n = 11) size category, with remaining warmouth being of quality (n = 1) and preferred (n = 1) size categories. Stock size Warmouth had a CPUE of 22, with a SE of 9, resulting in a CI ranging from 5 to 39 (Table 3). Stock size Warmouth RSE was 36.63, suggesting CPUE could only track a large change in relative abundance (e.g., ~ 73%). The overall mean Wr was 90.85 and the mean Wr of the stock size category were above acceptable. Quality and preferred size categories had mean Wr below acceptable; however, only one of each individual was captured.

Largemouth Bass

Mean TL of Largemouth Bass was 269 mm, with a minimum TL of 85 mm and a maximum TL of 400 mm (Table 1). Mean CPUE of Largemouth Bass was 22 with a SE of 13, resulting in a CI ranging from -4 to 48 Largemouth Bass per 10-minute sample (Table 2). The lower CI being negative is likely the result of the of a failure to meet distributional assumptions and should be interpreted as “effectively 0”. Largemouth Bass RSE was 59.61, suggesting CPUE is unlikely to detect any changes in relative abundance for the species. Overall mean Wr for Largemouth bass and Wr for stock, quality, and preferred largemouth bass were above acceptable.

Fall Trap Net (Gear 31)

Overview

Crappie spp. (hereafter Crappie) were sampled at 10 Acre Lake, Choctaw, OK using modified fyke nets (hereafter trap nets) from October 21-22, 2025. White and Black Crappie were measured and analyzed as an aggregate. A large portion of Bluegill Sunfish were also captured. The average water temperature was 18°C. Sites were randomly chosen as specified by ODWC standard sampling procedure (SSP) for a total of 5 net nights, or 120 hours of effort. From the last fyke net sample in 2020 to the most recent sample in 2025, Bluegill Sunfish slightly decreased in relative abundance while White Crappie slightly increased.

Crappie

A total of 252 Crappie were collected. Mean Total Length (TL) of Crappie was 130 mm with a minimum TL of 91 mm and a maximum TL of 368 mm (Table 4). Mean catch per unit effort (CPUE) of Crappie was 1,210 with a SE of 201, resulting in a 95% confidence interval (CI) ranging from 819 to 1,603 Crappie per trap net (Table 6). Crappie RSE was 16.61 suggesting some ability to detect a future change in relative abundance with this gear. Likewise, Crappie RSE for sub stock (CPUE = 821, CI = 500 – 1,142) and stock (CPUE = 336, CI = 68 – 203) estimates of relative abundance suggested some ability to detect future changes in relative abundance with trap nets (Table 6). However, RSE values for larger size categories greater than stock size showed little ability to track changes in relative abundance. The overall mean W_r of Crappie was 94.43; all mean W_r for all size categories were acceptable. A subsample of 102 Crappie were collected for age estimation. Estimated ages ranged from 0 -7 years old, however there were no age-5 Crappie were observed. The mean TL at age-0 was 104 mm, age-1 was 116 mm, age-2 was 123 mm, age-3 was 137 mm, age-4 was 173 mm, age-6 was 368 mm, and age-7 was 126 mm. A catch curve regression estimated an instantaneous total mortality (Z) of 0.52 for crappie age-1 and older, resulting in an annual mortality rate (A) of 40.45% (Figure 1).

Bluegill Sunfish

Mean TL of Bluegill Sunfish was 84 mm with a minimum TL of 47 mm and a maximum TL of 152 mm (Table 4). Mean CPUE of Bluegill Sunfish was 734 with a SE of 383 resulting in a CI ranging from -17 to 1,486 Bluegill per trap net (Table 5). The lower CI being negative is likely the result of the of a failure to meet distributional assumptions and should be interpreted as “effectively 0”. Bluegill Sunfish RSE was 52.19, suggesting CPUE is unlikely to detect any changes in relative abundance for the species. Likewise, RSE values for the sub stock (CPUE = 374, CI = -7 – 756), stock (CPUE = 355, CI = -133 – 844), and quality (CPUE = 5, CI = -5 – 14) categories also suggested CPUE is unlikely to detect changes in relative abundance for any size categories (Table 6). The overall mean W_r for Bluegill Sunfish was acceptable (93.92), and so were W_r values for stock (93.89) and quality (96.41) size Bluegill Sunfish.

RECCOMENDATIONS

1. Continue to monitor sportfish populations (Crappie, Largemouth Bass, Bluegill) to better track recruitment and growth.
2. Consider sampling with summer hoop netting to better assess the catfish population.
3. Habitat is being added through the Habitat Enhancement Partnership.
4. No regulation changes are recommended at this time.

Table 1. Sample size, mean TL (mm), mean weight (g), and associated ranges for each species represented through spring electrofishing.

Species	Number	Mean TL (range)	Mean Weight (range)
Bluegill Sunfish	44	81 (50-120)	10 (2-32)
Channel Catfish	4	448 (398-560)	785 (508-1480)
Gizzard Shad	1	345	-
Green Sunfish	1	84	16
Largemouth Bass	11	269 (85-400)	425 (6-952)
Longear Sunfish	17	93 (75-125)	17 (6-38)
Redear Sunfish	57	151 (79-223)	73 (6-200)
Warmouth	13	122 (82-214)	47 (8-208)
White Bass (Sand Bass)	1	435	1130
White Crappie*	6	215 (108-249)	143 (12-202)

*Crappie spp. analyzed in aggregate

Table 2. Total catch per unit effort for each species sampled through spring electrofishing.

Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE =	
							12.5 (25% range)	N RSE = 20 (40% range)
Bluegill Sunfish	88	3	21.68	19.08	50.61	125.39	9	4
Channel Catfish	8	3	50.00	4.00	0.16	15.84	48	19
Gizzard Shad	2	3	100.00	2.00	-1.92	5.92	192	75
Green Sunfish	2	3	100.00	2.00	-1.92	5.92	192	75
Largemouth Bass	22	3	59.61	13.11	-3.71	47.71	68	27
Longear Sunfish	34	3	73.71	25.06	-15.12	83.12	104	41
Redear Sunfish	114	3	31.72	36.17	43.11	184.89	19	8
Warmouth	26	3	46.79	12.17	2.16	49.84	42	16
White Bass (Sand Bass)	2	3	100.00	2.00	-1.92	5.92	192	75
White Crappie*	12	3	76.38	9.17	-5.96	29.96	112	44

*Crappie spp. analyzed in aggregate

Table 3. Catch per unit effort by size category for the spring electrofishing sample.

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
Bluegill Sunfish	Substock	48.00	31.46	15.10	18.40	77.60	19	7
Bluegill Sunfish	Stock	40.00	13.23	5.29	29.63	50.37	3	1
Channel Catfish	Stock	4.00	100.00	4.00	-3.84	11.84	192	75
Chanell Catfish	Quality	4.00	100.00	4.00	-3.84	11.84	192	75
Gizzard Shad	Quality	2.00	100.00	2.00	-1.92	5.92	192	75
Green Sunfish	Stock	2.00	100.00	2.00	-1.92	5.92	192	75
Largemouth Bass	Substock	6.00	57.74	3.46	-0.79	12.79	64	25
Largemouth Bass	Stock	6.00	100.00	6.00	-5.76	17.76	192	75
Largemouth Bass	Quality	4.00	100.00	4.00	-3.84	11.84	192	75
Redear Sunfish	Substock	14.00	28.57	4.00	6.16	21.84	16	6
Redear Sunfish	Stock	58.00	29.46	17.09	24.51	91.49	17	7
Redear Sunfish	Quality	42.00	37.80	15.87	10.89	73.11	27	11
Warmouth	Stock	22.00	39.63	8.72	4.91	39.09	30	12
Warmouth	Quality	2.00	100.00	2.00	-1.92	5.92	192	75
Warmouth	Preferred	2.00	100.00	2.00	-1.92	5.92	192	75
White Bass (Sand Bass)	Memorable	2.00	100.00	2.00	-1.92	5.92	192	75
White Crappie*	Substock	2.00	100.00	2.00	-1.92	5.92	192	75
White Crappie*	Quality	10.00	100.00	10.00	-9.60	29.60	192	75

*Crappie spp. analyzed in aggregate

Table 4. Sample size, mean TL (mm), mean weight (g), and associated ranges for each species represented through fall trap netting.

Species	Number	Mean TL (range)	Mean Weight (range)
Black Bullhead	1	231	152
Bluegill Sunfish	153	84 (47-152)	11 (2-70)
Gizzard Shad	1	206	82
Longear Sunfish	1	105	22
Orangespotted Sunfish	9	72 (63-78)	5 (2-6)
Redear Sunfish	8	108 (82-157)	26 (12-64)
Warmouth	6	64 (46-78)	4 (2-8)
White Crappie*	252	130 (93-368)	39 (2-736)

*Crappie spp. analyzed in aggregate

Table 5. Total catch per unit effort for each species sampled through fall trap netting.

Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE =	
							12.5 (25% range)	20 (40% range)
Black Bullhead	4.80	5	100.00	4.80	-4.61	14.21	320	125
Bluegill Sunfish	734.40	5	52.19	383.29	-16.86	1485.66	87	34
Gizzard Shad	4.80	5	100.00	4.80	-4.61	14.21	320	125
Longear Sunfish	4.80	5	100.00	4.80	-4.61	14.21	320	125
Orangespotted Sunfish	43.20	5	73.28	31.66	-18.85	105.25	172	67
Redear Sunfish	38.40	5	85.24	32.73	-25.75	102.55	232	91
Warmouth	28.80	5	31.18	8.98	11.20	46.40	31	12
White Crappie*	1209.60	5	16.61	200.88	815.87	1603.33	9	3

*Crappie spp. analyzed in aggregate

Table 6. Catch per unit effort by size category for the fall trap netting sample.

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE =	
							12.5 (25% range)	20 (40% range)
Black Bullhead	Quality	4.80	100.00	4.80	-4.61	14.21	320	125
Bluegill Sunfish	Substock	374.40	52.02	194.77	-7.35	756.15	87	34
Bluegill Sunfish	Stock	355.20	70.17	249.23	-133.29	843.69	158	62
Bluegill Sunfish	Quality	4.80	100.00	4.80	-4.61	14.21	320	125
Gizzard Shad	Stock	4.80	100.00	4.80	-4.61	14.21	320	125
Redear Sunfish	Substock	14.40	100.00	14.40	-13.82	42.62	320	125
Redear Sunfish	Stock	24.00	77.46	18.59	-12.44	60.44	192	75
Warmouth	Substock	28.80	31.18	8.98	11.20	46.40	31	12
White Crappie*	Substock	820.80	19.95	163.73	499.89	1141.71	13	5
White Crappie*	Stock	336.00	20.20	67.88	202.95	469.05	13	5
White Crappie*	Quality	4.80	100.00	4.80	-4.61	14.21	320	125
White Crappie*	Preferred	24.00	77.46	18.59	-12.44	60.44	192	75
White Crappie*	Memorable	24.00	63.25	15.18	-5.75	53.75	128	50

*Crappie spp. analyzed in aggregate

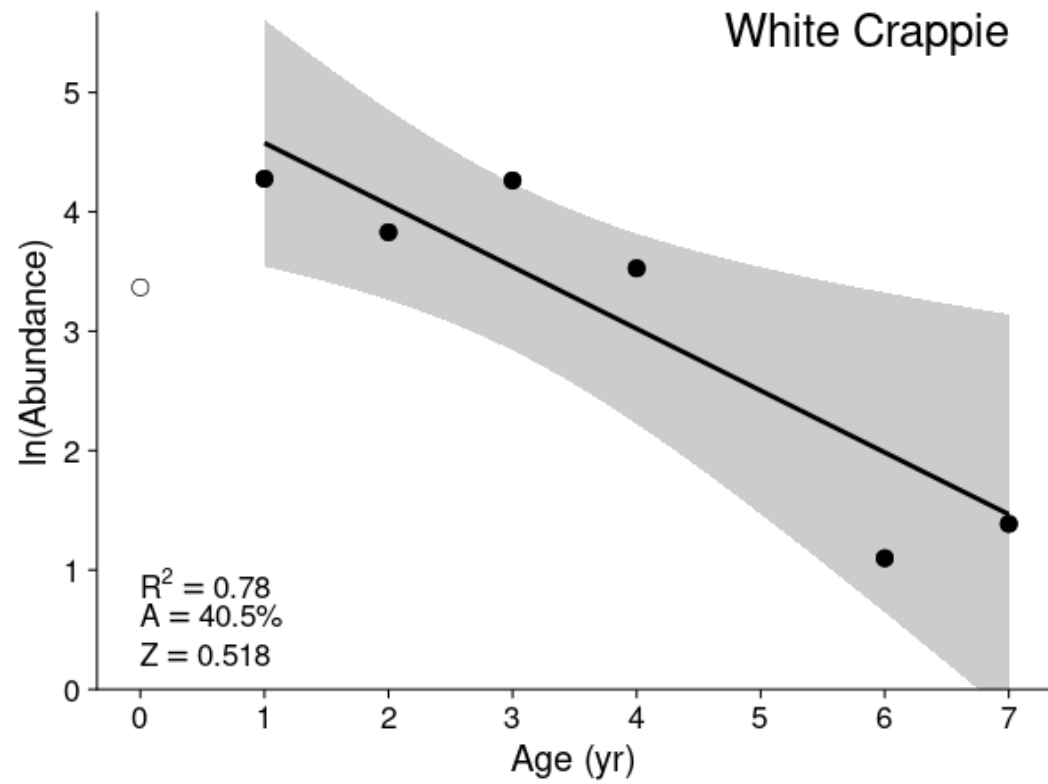


Figure 1. Catch curve for Crappie in 10 Acre Lake.

Appendix 1. Species, number, and size of fish stocked in 10 Acre Lake since 2014.

Date	Species	Number	Size (inches)
2014	Channel Catfish	800	9
2014	Channel Catfish	400	10
2014	Channel Catfish	798	11
2015	Channel Catfish	800	9
2016	Channel Catfish	800	9
2016	Channel Catfish	250	13
2016	Bluegill Sunfish	400	-
2016	Channel Catfish	200	14
2016	Channel Catfish	400	-
2017	Channel Catfish	800	9
2017	Channel Catfish	802	9
2017	Channel Catfish	250	14
2017	Hybrid Sunfish	300	5
2017	Hybrid Sunfish	300	4
2017	Hybrid Bluegill	200	-
2017	Hybrid Sunfish	200	5
2018	Channel Catfish	500	12-14
2019	Channel Catfish	1640	9
2019	Channel Catfish	832	8
2020	Channel Catfish	200	14
2020	Hybrid Sunfish	400	6
2021	Channel Catfish	800	242
2021	Hybrid Sunfish	308	5
2021	Channel Catfish	400	14
2021	Channel Catfish	208	15
2021	Hybrid Sunfish	500	6
2022	Channel Catfish	111	14
2022	Hybrid Sunfish	450	6
2022	Channel Catfish	405	18
2022	Hybrid Sunfish	405	6
2022	Hybrid Sunfish	300	6
2023	Channel Catfish	60	18-22
2023	Hybrid Sunfish	800	4-7
2023	Channel Catfish	165	18-22
2024	Channel Catfish	450	12
2024	Channel Catfish	30	17
2024	Channel Catfish	415	15
2025	Channel Catfish	241	12-15