

SURVEY REPORT
OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS
FOR

Pauls Valley Lake

2025

SURVEY REPORT

State: Oklahoma

Project Title: Pauls Valley Lake Fish Management Survey Report

Period Covered: 2025

Prepared by: Oklahoma Fishery Research Laboratory

Date Prepared: December 2025

Pauls Valley Lake

ABSTRACT

Pauls valley was surveyed by Spring and Fall gill netting in 2025 to monitor trends in Largemouth Bass and catfish populations respectively. The fishery supports self-sustaining populations of Largemouth Bass, Blue, Channel, and Flathead Catfish, White Crappie, and a variety of Sunfish species. Channel Catfish and Saugeye are stocked occasionally to provide additional angling opportunities. Pauls Valley is not considered a high priority Saugeye fishery and receives fish only when surplus are available. We recommend continued monitoring of population dynamics for self-sustaining sportfish species (Largemouth, Crappie spp., Catfish spp.). No regulation changes are recommended at this time.

INTRODUCTION

Pauls Valley Lake is located in Garvin County, 2 miles east of US 77 on East County Road 1550 NE of the city of Pauls Valley. The lake is 750 acres, has a maximum depth of 29.9 feet and has 8.2 miles of shoreline. The lake is owned by the city and impoundment was completed in 1954 for the purposes of providing municipal water supply and numerous recreational activities including fishing, boating, swimming, hiking, and camping. It is classified as mesotrophic with an average secchi disc visibility of around 18 inches. There are a variety of fish habitats including naturally occurring submerged timber, rock structure, and aquatic vegetation (water willow, bulrush, cattails, lotus), as well as fish attractor sites consisting of natural brush piles (cedar trees). Primary forage species include Gizzard Shad and Sunfish.

State mandated fishing regulations are same as statewide for all species ([Fishing Regulations | Oklahoma Department of Wildlife Conservation \(wildlifedepartment.com\)](#)). The city of Pauls Valley requires a fishing permit and city mandated restrictions include “One twenty-five (25) hook line per person, tagged with name and address; must be checked every twenty-four (24) hours or removed. Lines may be left without hooks. Owner must have a regular annual fishing permit. Trot lines must be placed at least 100 feet from the bank” and “Jug lines will be limited to 2 hooks per jug, with no more than 10 lines per person. Limb lines are not permitted” ([Permits — Pauls Valley](#)). Fish attractor sites have been constructed from brush piles to improve angler success and are periodically refurbished. Sites were most recently refurbished in 2017. To see locations of fish attractor sites please visit: [Fish Attractors Map \(arcgis.com\)](#).

Pauls Valley Lake has been previously surveyed by spring electrofishing (1983, 1993, 1997, 1999, 2002, 2003, 2006, 2012, 2025), summer hoop netting (2023), fall nighttime electrofishing (2008), fall gill netting (1983, 1993, 2024), and fall trap netting (1998, 2000, 2002, 2005, 2008) to monitor trends in fish populations. Channel Catfish and Saugeye have been stocked occasionally to provide and maintain additional angling opportunity (Appendix 1).

Aquatic Nuisance Species

There are no known ANS in Pauls Valley Lake.

Electrofishing- Bass, Random (44.02)

Overview

Pauls Valley Lake was sampled via electrofishing on April 21, 2025 to assess the Largemouth Bass population. The entirety of the shoreline was sampled for 120 minutes total (12, 10-minute runs). The average water temperature was 20 °C. A total of 80 Largemouth Bass were collected.

Largemouth Bass

The average total length (TL) of Largemouth Bass at Pauls Valley Lake was 326 mm with a minimum TL of 111 mm and a maximum TL of 559 mm (Table 1). Mean catch per unit effort (CPUE) was 40 with a standard error (SE) of 4, resulting in a 95% confidence interval from 32 to 48 (Table 2). The relative standard error (RSE) was 9.83 suggesting the gear could properly track changes in relative abundance for the species. Estimates of RSE by size category suggested only sub stock (22.08), stock (19.95), and preferred (18.46) size Largemouth Bass had potential for tracking relative abundance within their size category. The overall mean relative weight (Wr) was 99.54 which is above acceptable (i.e., ≥ 90). Likewise, sub stock, stock, quality, preferred, and memorable size classes all had Wr values above acceptable.

Electrofishing- Blue/Flathead Catfish (98)

Overview

Pauls Valley Lake was sampled via electrofishing on July 8, 2025 to assess the populations of Flathead and Blue Catfish. The entirety of the shoreline was sampled for a total of 45 minutes of effort (nine, five-minute runs). The average water temperature was 31 °C. A total of 63 Blue Catfish were collected.

Blue Catfish

The mean total length (TL) of Blue Catfish collected at Pauls Valley Lake was 369 mm with a minimum TL of 335 mm and a maximum TL of 437 mm (Table 4). The length-frequency distribution peaked at 360 mm TL (Figure 1.) Blue Catfish catch per unit effort (CPUE) was 84 with a standard error (SE) of 28, resulting in a 95% confidence interval (CI) from 30 to 138 (Table 5). This was noticeably lower than the statewide 50th percentile (197). The relative standard error (RSE) was 32.82, suggesting the gear could only track a large change in relative abundance (i.e., ~66%). Likewise, stock Blue Catfish, the only size class represented, had a similarly poor RSE (Table 6). The overall mean relative weight (Wr) and mean Wr for stock size Blue Catfish was 89.84.

Winter Gill Netting- Blue/Flathead Catfish

Overview

Blue and Flathead Catfish were sampled December 15-16, 2025 with experimental “large mesh” gillnets to obtain larger individuals for a more robust age sample. While sampling, the water temperature was 6.8 °C, and the lake was roughly 0.5 m below normal. Effort consisted of six hap-hazard selected sites and 144 total net hours. A total of 13 Blue catfish and 2 Flathead Catfish (665 and 690 mm TL) were sampled, and all Blue Catfish were kept for aging purposes. In addition to these species Saugeye (n = 2) were also caught.

Blue Catfish

The mean total length of Blue Catfish was 652 mm with a minimum TL of 432 mm and a maximum TL of 1033 mm (Table 4). The length-frequency distribution is sparse due to small sample size but peaked between 550-625 mm TL (Figure 1). Mean catch per unit effort (CPUE) was 2 with a standard error (SE) of 1, resulting in a 95% confidence interval (CI) ranging from 1 to 4 (Table 5). Relative standard error (RSE) was 34.57, suggesting suggesting the gear could only track a large change in relative abundance (i.e., ~70%). Likewise, stock, quality and memorable sized Blue Catfish had a similarly poor RSE (Table 7). The overall mean relative weight (Wr) was 107.29, which is well above acceptable (i.e., ≥ 90). Stock, quality, and memorable size classes of Blue Catfish had a Wr values of 84.31, 111.73, and 81.48, respectively.

Combined Gear Catfish Analysis

For growth and mortality estimates, sampling events (summer electrofishing; winter gill netting) were combined and a total of 85 Blue catfish were aged; ages ranged from 9 to 19 years. A von Bertalanffy growth model was unable to converge, but an age frequency plot shows that roughly 50% of the overall sample was comprised of age-12 fish (Figure 2). Mean length-at-age consisted of 3 age-9, 7 age-12, 2 age-18, and 1 age-19 fish. A catch-curve regression estimated an instantaneous mortality (Z) rate of 0.18, resulting in an annual mortality (A) of 16.7% for Blue Catfish age-12 and older. Considering the sporadic representation of ages and the low overall catch rate of fish, it appears that Blue Catfish only recruit episodically in this system.

RECOMMENDATIONS

1. Continue to monitor population dynamics for self-sustaining sportfish species (Largemouth, Crappie spp., Catfish spp.) and specifically sample Blue and Flathead Catfish through targeted methods (low-frequency electrofishing and large gill nets) to establish baseline population information.
2. No regulation changes are recommended at this time.

Table 1. Sample size, mean TL (mm), mean weight (g), and associated ranges for Largemouth Bass.

Species	Number	Mean TL (range)	Mean Weight (range)
Largemouth Bass	80	326 (111-559)	875 (15-3260)

Table 2. Total catch per unit effort for Largemouth Bass.

Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5	N RSE = 20
							(25% range)	(40% range)
Largemouth Bass	40.00	12	9.83	3.93	32.29	47.71	7	3

Table 3. Catch per unit effort by size category for Largemouth Bass.

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
Largemouth Bass	Substock	8.50	22.08	1.88	4.82	12.18	37	15
Largemouth Bass	Stock	11.00	19.95	2.20	6.70	15.30	31	12
Largemouth Bass	Quality	5.00	32.47	1.62	1.82	8.18	81	32
Largemouth Bass	Preferred	12.00	18.46	2.22	7.66	16.34	26	10
Largemouth Bass	Memorable	3.50	39.24	1.37	0.81	6.19	118	46

Table 4. Sample size, mean TL (mm), mean weight (g), and associated ranges for Blue and Flathead Catfish sampled with low-frequency electrofishing (LFE) and large-mesh gill nets.

Gear	Species	Number	Mean TL (range)	Mean Weight (range)
LFE	Blue Catfish	63	369 (335-437)	415 (270-690)
Gill Net	Blue Catfish	13	652 (432-1033)	3982 (660-12360)
	Flathead Catfish	2	678 (665-690)	3928 (3470-4385)

Table 5. Total catch per unit effort for Blue and Flathead Catfish sampled with low-frequency electrofishing (LFE) and large-mesh gill nets.

Gear	Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE =
									20 (40% range)
LFE	Blue Catfish	84	9	32.82	27.57	29.97	138.03	62	24
Gill Net	Blue Catfish	2.17	6	34.57	0.75	0.70	3.63	46	18
	Flathead Catfish	0.33	6	63.25	0.21	-0.08	0.75	154	60

Table 6. Catch per unit effort by size category for Catfish Electrofishing.

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
Blue Catfish	Stock	82.67	32.95	27.24	29.28	136.05	63	24

Table 7. Catch per unit effort by size category for Catfish Gill Netting.

Species	Size Category	Mean	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
Blue Catfish	Stock	0.17	100.00	0.17	-0.16	0.49	384	150
Blue Catfish	Quality	1.83	35.68	0.65	0.55	3.12	49	19
Blue Catfish	Memorable	0.17	100.00	0.17	-0.16	0.49	384	150
Flathead Catfish	Quality	0.33	63.25	0.21	-0.08	0.75	154	60

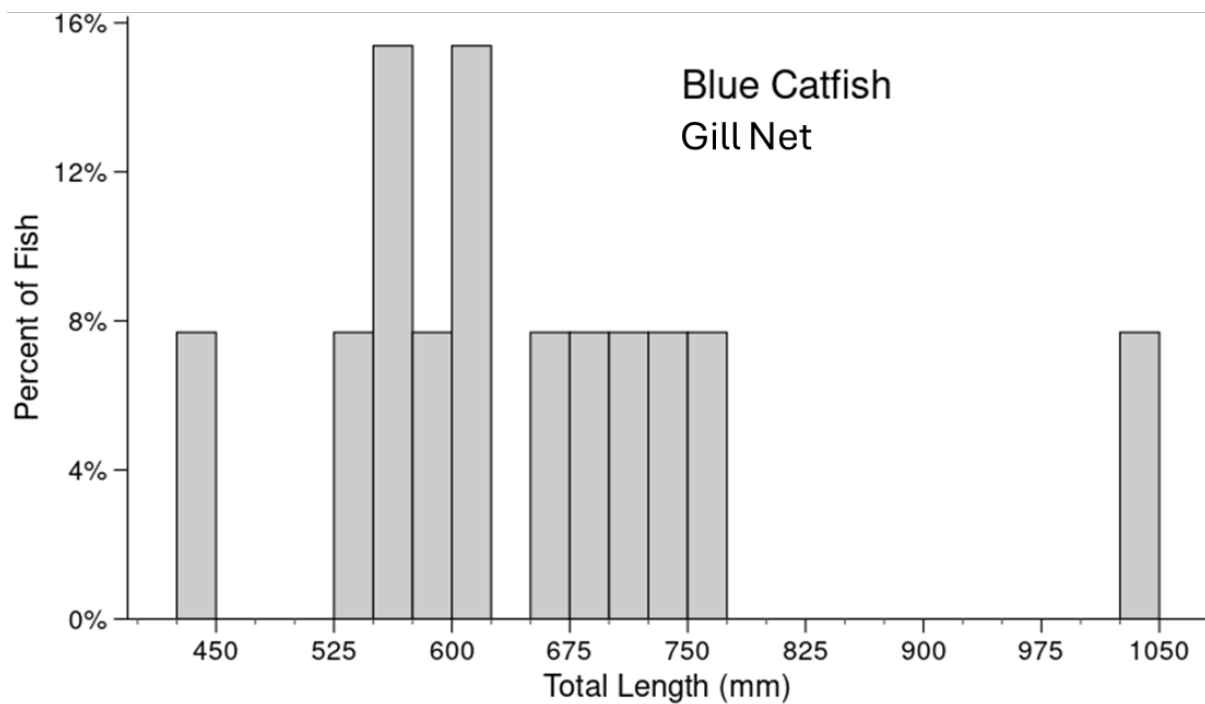
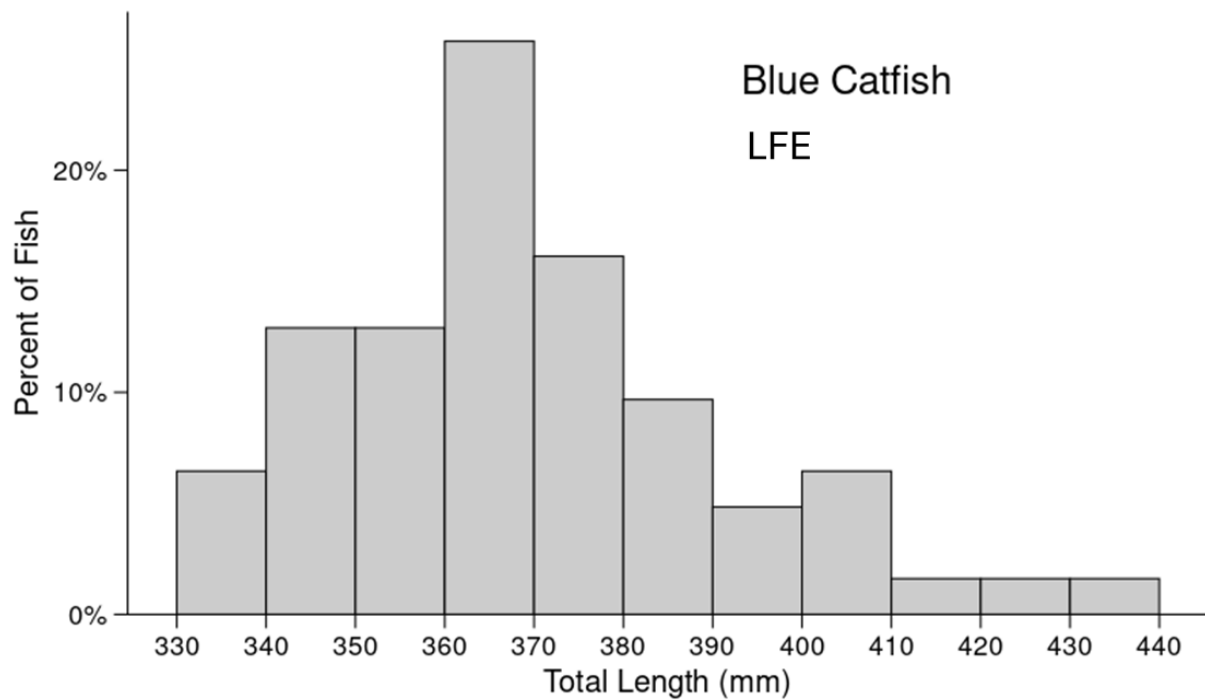


Figure 1. Length-frequency distribution of Blue Catfish caught using low-frequency electrofishing (LFE) and large-mesh gillnets.

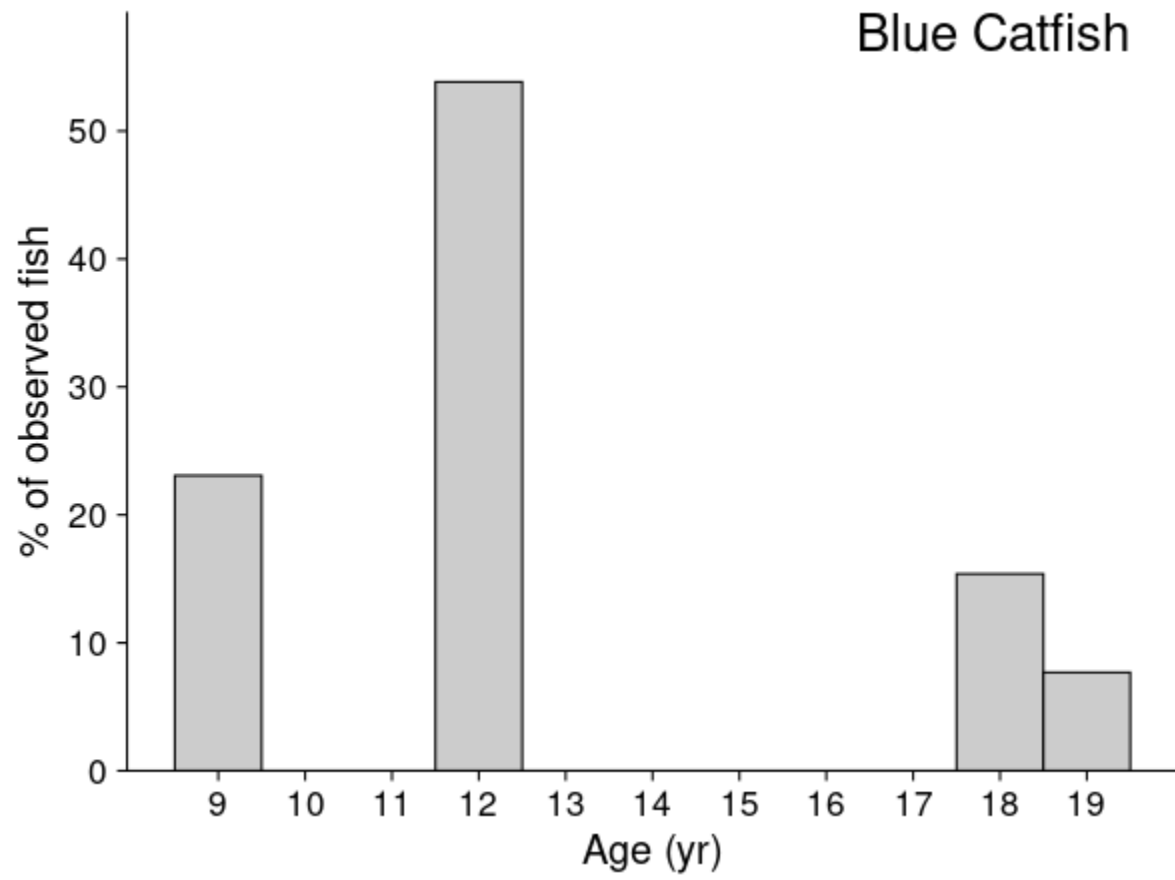


Figure 2. Age-frequency distribution of Blue Catfish.

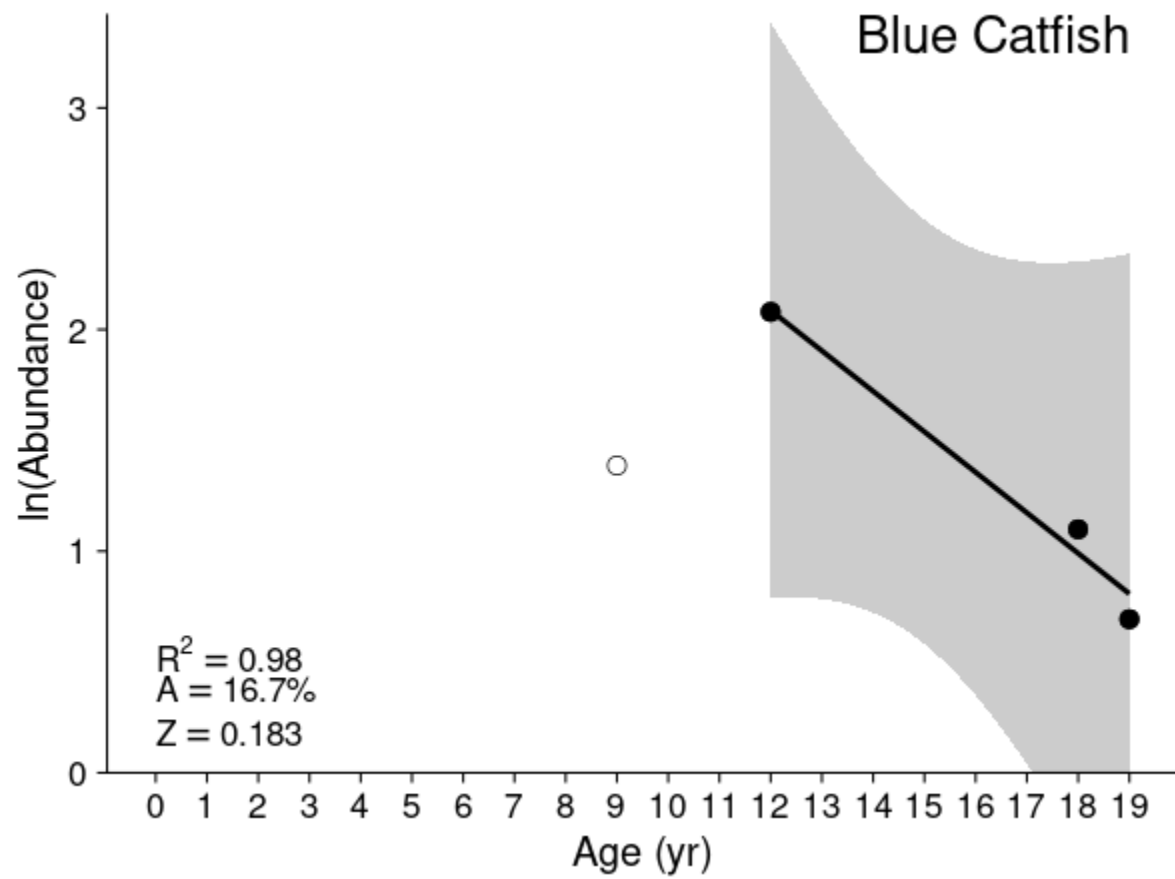


Figure 3. Catch-curve for Blue Catfish.

Appendix 1. Species, number, and size of fish stocked in Pauls Valley Lake since 2012.

Date	Species	Number	Size (inches)
1985	Blue Catfish*	15,012	fingerling
2015	Channel Catfish	30,000	7
2015	Channel Catfish	30,608	4
2016	Saugeye	7,500	1.5
2016	Saugeye	11,700	1.5
2021	Saugeye	93,000	Fry
2022	Channel Catfish	11,250	2.8
2023	Saugeye	15,008	3

*As a reference for this report, a single Blue Catfish stocking occurred in 1985.