

SURVEY REPORT

OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION



FISH MANAGEMENT SURVEY AND RECOMMENDATIONS

FOR

LANGSTON LAKE

2025

SURVEY REPORT

State: Oklahoma

Project Title: Purcell Lake Fish Management Survey Report

Period Covered: 2025

Prepared by: OFRL Research Biologists

Date Prepared: January 2026

Langston Lake

ABSTRACT

Surveys of Langston Lake were conducted in 2011, 2021 and 2025 for Largemouth Bass using standardized electrofishing, 2023 and 2025 for Sauger and Saugeye using nighttime electrofishing, 2020 for Channel Catfish using hoop nets, 2018 for crappie using trap nets, and in 2020 for a variety of species using experimental gill nets. The fishery consists of Largemouth Bass, White Bass, various sunfish species, White Crappie, Channel Catfish, and Flathead Catfish.

INTRODUCTION

Langston Lake was impounded in 1966 and is located immediately southwest of Langston in Logan County, Oklahoma. The lake is a 420-acre impoundment with a maximum depth of 46 feet and a total water storage capacity of 4,668 acre-ft. It is classified as mesotrophic with an average secchi disc visibility of around 104 cm. Fish habitat consists primarily of sandstone shelves and submerged trees. The city of Langston manages all facilities.

Primary management concerns are a stunted Channel Catfish population. See Appendix 1 for recent stocking record. Fish attractor sites have been constructed from brush piles to improve angler success and are periodically refurbished. Sites were most recently refurbished in 2021. To see locations of fish attractor sites please visit: [Fish Attractors Map \(arcgis.com\)](https://arcgis.com). Please see the statewide regulations for more information ([Fishing Regulations | OK Department of Wildlife Conservation](#)).

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Aquatic Nuisance Species

Common Carp are the only known ANS.

RESULTS

Electrofishing- Bass, Random (44.02)

Overview

Langston Lake was sampled via boat-mounted electrofishing on April 23, 2025 to assess the Largemouth Bass population. The entirety of the shoreline was sampled for 200 minutes total (20, 10-minute runs). The average water temperature was 19 °C. A total of 104 Largemouth Bass were collected.

Largemouth Bass

The average total length (TL) of Largemouth Bass at Langston Lake was 363 mm with a minimum TL of 119 mm and a maximum TL of 533 mm (Table 1). Mean catch per unit effort (CPUE) was 31 with a standard error (SE) of 6, resulting in a 95% confidence interval (CI) ranging from 20 to 43 (Table 2). The relative standard error (RSE) for Largemouth Bass (5.91) suggests the gear may accurately track relative abundance for Largemouth Bass. However, RSE values for sub stock (22.08), stock (19.95), quality (32.47), preferred (18.46), and memorable (39.24) suggest it is likely only sub stock, stock, and preferred size classes have potential to properly track relative abundance with this gear. The overall mean relative weight (Wr) was 88.82 which is below acceptable (i.e., ≥ 90). Of the four size classes, only preferred and memorable had Wr values above acceptable.

Electrofishing- Perch (49)

Langston Lake was sampled for juvenile Sauger, Saugeye, Walleye, and *Sander* spp. hybrids using boat mounted electrofishing after sunset on October 21, 2025. The prior sample for Sauger on October 21, 2024 yielded no juvenile individuals. Ten, 10 minute electrofishing samples were performed around the majority of the reservoirs littoral zone.

A single *Sander* spp. was captured during sampling, with a total length (TL) of 168 mm. This fish is suspected to be a Saugeye based on visual identification. This resulted in an estimated catch per unit effort of 0.1 *Sander* spp./10 minutes and a standard error of 0.1 *Sander* spp./10 minutes.

RECOMENDATIONS

1. Continue to monitor population dynamics for sportfish species (Largemouth, Sunfish Spp., Catfish Spp.).
2. Continue to stock and monitor *Sander* spp. recruitment and interactions. We recommend fall gillnetting to sample any adult Sauger, Saugeye, or *Sander* spp. hybrids present in the reservoir. If robust samples are obtained, genetic evaluation may be recommended to determine if any additional backcrossing has occurred between stocked Sauger, Saugeye, Walleye, or *Sander* spp. hybrids.

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	104	363 (119-533)	821 (15-2380)

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 (25% range)	N RSE = 20 (40% range)
Largemouth Bass	40	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	21	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

Appendix 1: Species, number, and size of fish stocked in Langston Lake since 2012.

Date	Species	Number	Size (inches)
2012	Channel Catfish	24,640	4.5-7
2014	Channel Catfish	21,261	7
2017	Channel Catfish	24,600	6.25-7
2018	Channel Catfish	11,900	5.75
2019	Channel Catfish	12,528	7
2020	Channel Catfish	10,302	7
2023	Hybrid Sunfish	525	6
2023	Sauger	170,000	Fry
2025	Saugeye Cross	171,000	Fry
2025	Walleye	18,325	Fry