Performance Report

State: Oklahoma

Project Title: Fisheries Management Survey

Southwest Region Fisheries Management

Fort Cobb

Abstract

Fort Cobb was surveyed in 2024 via gill netting for all sportfish to determine population structure and dynamics to evaluate the fishery for needs and possible improvements to the lake to enhance the system as a whole. It had been 8 years since a previous gill netting survey for sportfish were conducted at Ft. Cobb so the need for current data was important to southwest region fisheries.

Fort Cobb Lake has long been a quality Saugeye and Hybrid Striped Bass fishery to many anglers southwest Oklahoma, with the current state record saugeye being caught here. Gill netting surveys for hybrid striped bass and saugeye have not been conducted on a routine basis due to other priority fisheries needs, with previous samples being conducted in 2016. Having sampled this lake in 2024 the plan forward is to routinely sample to access stock base needs. Although sampling methods are conducted on the lake on a rotational basis it has provided some idea to the fishery as a whole.

Introduction

Fort Cobb Lake is one of the larger impoundments (4100 acres) located in southwest Oklahoma and is owned by the Bureau of Reclamation (USBOR) for water storage and recreational use. This highly used recreational lake is managed for Saugeye, Hybrid Striped Bass, Largemouth Bass, and Catfish. This reservoir consists of agricultural runoff areas and supports a balance amount of nutrients which supports a balanced fishery in turn. This highly sought after destination is encompassed by Ft. Cobb wildlife management area and Ft. Cobb state park, which is a high use waterfowl hunting area and utilized by anglers.

Management issues that seem to be present is the lack of usable habitat to an aging reservoir. In past years Fort Cobb was subjected to an aquatic vegetation planting regime with the goal to provide usable native habitat to fish present; this project was marginal in providing usable habitat. Conversely, deep water habitat such as cedar trees used for thermal cover and predation avoidance is lacking within the lake, although there are cedar trees in shallow areas which are being utilized by Bass and baitfish species.

Results

Our gill net samples were conducted in October of 2024 when water temperatures were 64^0F which fall with bounds of fall gill netting standard sampling protocols (SSP). Being a larger lake, we needed ample sample sites to incorporate all available habitats and within SSP methodology, samples consisted of 15 sites with each timed site being a 24 hour units of effort that included bare bank/cobble, vegetation/shallow, drops, and near the dam in waters consistent of 8-18 feet deep. In the duration of the 360 hours of sample we collected a total of 24 saugeye, 40 hybrid striped bass, 45 white bass, 26 crappie, along with catfish, shad, and forage/rough fish.

Gill netting samples are measured in catch per unit effort (CPUE) and were fairly consistent based off abundance (Figure 1), but we did see a slight decrease in hybrid striped bass in 2024. When measuring fish body condition (body mass/length) relative weight (Wr) is the metric that is used to describe how fit the population is, the relative weight for sportfish at Ft. Cobb were on average white bass 89, saugeye 88, hybrid striped bass 83, catfish (channel and blue combined) 83, and crappie 97 respectively (Table 1) which is considered high in the acceptable level to population present. The length frequency of fish (Figure 2) was normally distributed between hybrids, saugeye, and white bass with overall size structure showing good growth of larger fish when paired with relative weight body condition. Age and growth data was collected from this sample set along with length, weight, sex, and age of each individual collected and currently being analyzed in the shiney application.

Based on the 2024 gill net survey, the abundance of all sportfish is relatively stable with past trends showing stocking regimes, forage present, and angler success is working. The quality of fish was high (hybrids, saugeye, white bass, crappie), with a fair abundance of larger saugeye and hybrids over the 15”-18” range, and good distribution of among all size classes. The body condition of the fish was marginal but showed good growth compared to other SWR lakes and noticeable with larger fish than average fish stocks over 16 inches for larger southwest lakes. These metrics show a good population structure and not a typical stockpiling of smaller individuals and limited growth rates. The forage base of gizzard shad for Ft. Cobb has remained higher than normal compared to other regional lakes and other survey methods we have seen a fair number of silversides and small cyprinids for predatory sportfish.

Since we have sampled, a follow up sampling plan for every other year needs to be completed since it’s a priority and trophy fishery. In 2023 we started electrofishing and collecting routine data and noting habitat needs at Ft. Cobb. There is also a lack of deep water habitat that Bass, Crappie, and forage fish that is needed on a yearly basis for thermal cover. This lake has the potential to remain a sought after fishery in southwest Oklahoma with the continuation of stocking regimes and improvement on habitats available. The best management plan should utilize the forage present, provide more habitats, and sample routinely for stocking recommendations in order to create a quality fishery.

Catch per Unit Effort

Total CPUE

Species	Mean	Count	RSE	SE	L 95% CI	U 95% CI	N RSE = 12.5 (25% range)	N RSE = 20 (40% range)
Blue Catfish	0.47	15	46.13	0.22	0.04	0.89	204	80
Channel Catfish	2.93	15	18.66	0.55	1.86	4.01	33	13
Gizzard Shad	22.00	15	8.49	1.87	18.34	25.66	7	3
Saugeye	1.60	15	21.82	0.35	0.92	2.28	46	18
Striped Bass X White Bass Hybrid	2.67	15	21.23	0.57	1.56	3.78	43	17
White Bass (Sand Bass)	3.00	15	19.52	0.59	1.85	4.15	37	14
White Crappie	1.73	15	23.53	0.41	0.93	2.53	53	21

Cobb **Gill Net Summary Statistics October 2016**

Species	CPUE	# Samples = 10 Standard Deviation	Standard Error	CONFIDENCE INTERVALS Lower 80%	Upper 80%	Lower 95%	Upper 95%	Relative Weight W_r
Saugeye	1.60	1.51	0.48	1	2	1	3	93
Hybrid Striped Bass	7.60	9.34	2.95	4	12	1	14	91
White Bass	7.30	5.01	1.58	5	9	4	11	85
Channel Catfish	2.40	2.17	0.69	1	3	1	4	86
Blue Catfish	0.40	0.52	0.16	0	1	0	1	85
White Crappie	1.40	2.07	0.65	0	2	0	3	98
Black Crappie	0.20	0.63	0.20	0	0	0	1	102
All Crappie	1.60	2.12	0.67	1	3	0	3	93
Gizzard Shad	27.10	21.70	6.86	18	37	12	43	-

Figure 1: Catch per unit effort of all sportfish and forage at Fort Cobb Lake 2024(top) and 2016 (bottom) gill net samples.

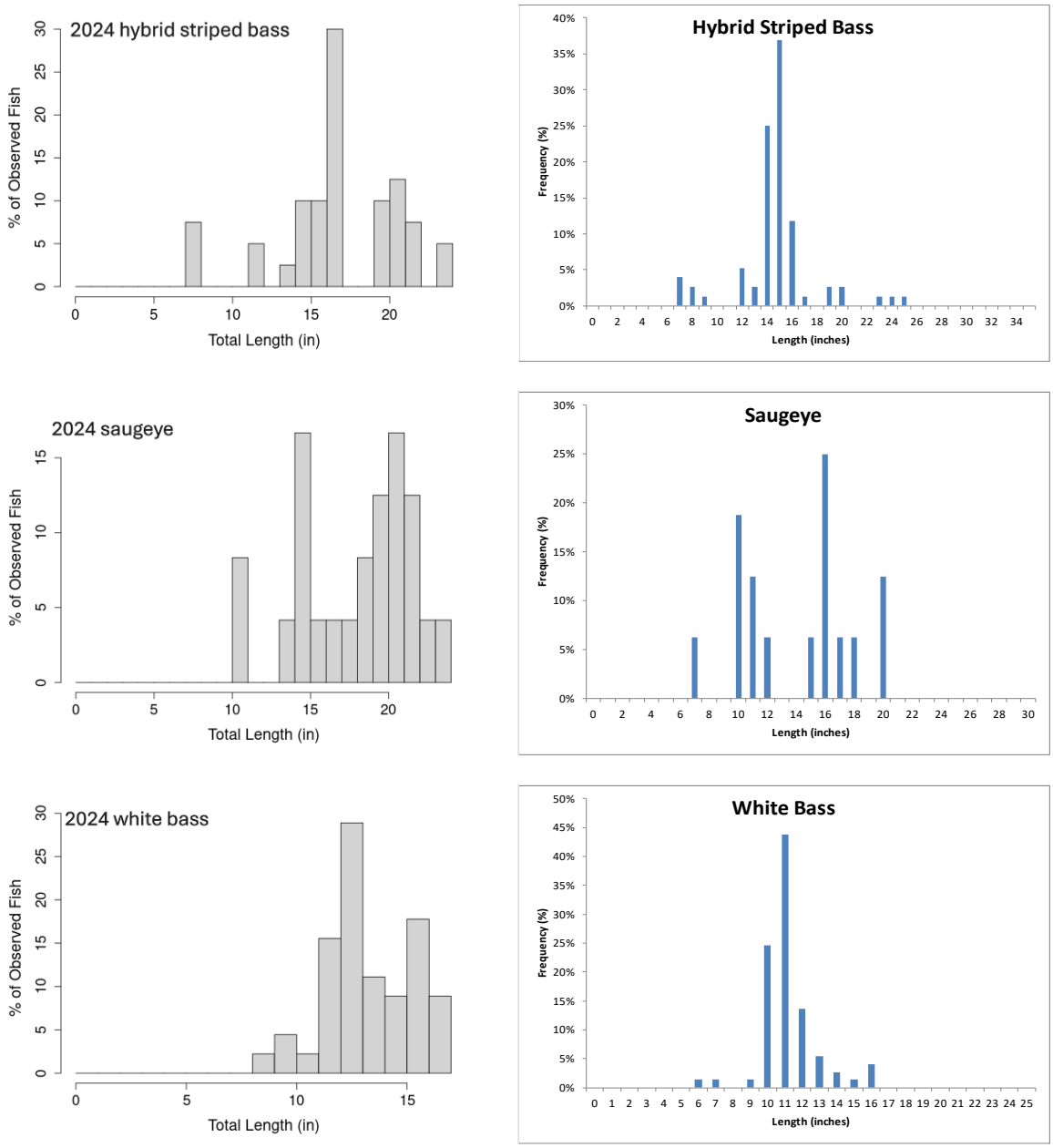

Figure 2. Length frequency and size structure of hybrid striped bass, saugeye, and white bass at Fort Cobb Lake, 2024 and 2016 samples

Species	2024	2016
White Bass	89	85
Saugeye	88	93
Hybrid Striped Bass	83	91
Catfish Spp.	83	86
Crappie Spp.	97	99

Table 1. Relative weights for sportfish at Ft. Cobb lake 2016 and 2024.