

Coleman Reservoir

2024 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-5

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

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Survey and Management Summary

Fish populations in Coleman Reservoir were surveyed in 2024 by using electrofishing and in 2025 by using gill netting. Historical data are presented with the 2024-2025 data for comparison. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

Reservoir Description: Coleman Reservoir is an 1,811-acre impoundment constructed in 1966 on Jim Ned Creek in the Colorado River Basin. The reservoir is used for municipal water supply, flood control, and recreation. The reservoir is controlled by the City of Coleman and has a history of water level fluctuation. Coleman Reservoir's water level dropped to about 9 ft low prior to late spring 2024. Water level rose to conservation pool elevation after substantial rains in late spring through fall 2024.. Water level has fluctuated within 1 ft of conservation elevation since. Fish habitat primarily consisted of flooded terrestrial vegetation, standing timber, star grass, button bush, cattail, lotus, and water-willow. As of spring 2025 all boat ramps were useable. Bank-fishing access was limited to the boat ramp areas and near Press Morris Park.

Management History: Important sport fish include Largemouth Bass and White Crappie. Sport fishes are currently regulated by statewide harvest regulations. Threadfin Shad were introduced in 1984 and 1985. Channel Catfish were first introduced in 1966. In order to maintain a Hybrid Striped Bass fishery, fish were regularly stocked beginning in 1976 until 2021. Florida Largemouth Bass were introduced in 1991 and were last stocked in 2019. ShareLunker Largemouth Bass fingerlings were stocked in 2022 and 2023. Lonestar Largemouth Bass were stocked in 2024. Largemouth Bass continue to be monitored for size structure, body condition, and Florida Largemouth Bass genetic influence. To stop the spread of invasive species, aquatic invasive species signage has been posted. Also, outreach efforts provided continued engagement with partners and the public about the negative impact of aquatic invasive species through the use of print media, social media, and public engagements.

Fish Community

- **Prey species:** Gizzard Shad and sunfishes were present and available for sport fish. Relative abundance of prey species was improved. Gizzard Shad catch rates improved and most individuals were optimal prey sizes. No Threadfin Shad were caught during the survey period. Bluegill catch increased since the prior survey, and they were the predominant prey species. Prey abundance should not limit sportfish growth.
- **Catfish:** Catfish catches were low, and only seven fish were caught in the spring 2025 gill netting survey.
- **Hybrid Striped Bass:** Hybrid Striped Bass were present in the reservoir in low relative abundance. All fish sampled were harvestable size.
- **Largemouth Bass:** Catch rates of Largemouth Bass were high with improved numbers of legal length fish available to anglers. The Largemouth Bass population was dominated by smaller fish with most of the fish sampled < 8 inches. Mean relative weights were fair to optimal. Growth of Largemouth Bass appeared consistent to prior years.
- **White Crappie:** White Crappie catch was poor in the gill netting survey and was similar to the prior survey conducted in 2021. Most individuals were sub-legal lengths and had optimal body conditions.

Management Strategies: Largemouth Bass will be surveyed in fall 2026 with bass-only electrofishing and Largemouth bass and prey will be surveyed in fall 2028 with electrofishing. Gill netting will be conducted in spring 2029 to maintain long-term trend data on Channel Catfish as well as sample for White Crappie, and presence or absence of Flathead Catfish. Access and habitat surveys will be conducted in summer 2028. Inform the public of the threat and negative impact of invasive species.

Introduction

This document is a summary of fisheries data collected from Coleman Reservoir in 2024-2025. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other fishes was collected, this report deals primarily with major sport fishes and important prey species. Historical data are presented with the 2024-2025 data for comparison.

Reservoir Description

Coleman Reservoir is an 1,811-acre impoundment constructed in 1966 on Jim Ned Creek in the Colorado River Basin. The reservoir is used for municipal water supply, flood control, and recreation. The reservoir is controlled by the City of Coleman and has a history of extreme water level fluctuation and drought. The reservoir has a Carlson's Trophic State Index Chl *a* of 50.3 and is considered eutrophic (Texas Commission on Environmental Quality 2024). Coleman Reservoir's water level dropped to about 9 ft low prior to late spring 2024. Water level rose to conservation pool elevation after substantial rains in late spring through fall 2024. Water level has fluctuated within 1 ft of conservation elevation since and was slightly over conservation pool by early May 2025 (Figure 1). Other descriptive characteristics for Coleman Reservoir are in Table 1.

Angler Access

Coleman Reservoir's boat access consisted of three boat ramps: two public ramps at Press Morris Park and one private ramp at Quail Creek RV Park that was only accessible by those at the RV Park. During the 2021-2025 monitoring period, all ramps were useable. Additional boat ramp characteristics are in Table 2. Bank access was limited to Press Morris Park.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Goldstrohm and Homer 2021) included:

1. Discontinue the hybrid stocking program at Coleman Reservoir.

Action: Sunshine Bass were last stocked in 2021.

2. Monitor Hybrid Striped Bass by gill netting in 2025 determine trends in catch rates, size structure, body condition, growth, and collect genetic information.

Action: Hybrid Striped Bass were sampled in 2025. Twenty-nine fish were observed in the survey. All fish caught in the survey were retained to evaluate age and growth.

3. Educate the public about the threats of invasive species.

Action: Aquatic invasive species signage was posted at Coleman Reservoir access points and have been maintained as needed. Media and internet posts have been made about invasive species. Invasive species was a talking point when presenting to constituents.

4. Assess age and growth of Largemouth Bass collected by spring electrofishing.

Action: Spring electrofishing was not conducted and was completed the following fall 2024. A Category I age sample was collected during sampling.

Harvest regulation history: From 1985 to 1992, Largemouth Bass were managed with a 14-inch minimum length limit (MLL). A 16-inch MLL was implemented in 1992 to improve the population size structure. In 1999, the regulation was reverted to the statewide 14-inch MLL because the 16-inch MLL failed to produce satisfactory results. All other species have been managed with statewide regulations. Current regulations are found in Table 3.

Stocking history: Threadfin Shad were stocked in 1984 and 1985. Channel Catfish were stocked in the 60's and early 2000's. Hybrid Striped Bass (i.e., Palmetto Bass and Sunshine Bass) have been stocked frequently at Coleman Reservoir. Palmetto Bass were stocked from 1976 to 2009 and Sunshine Bass fry have been stocked from 2014 until 2017 and in 2020. Sunshine Bass fingerlings were last stocked in 2021. Florida Largemouth Bass were first stocked in 1991 and were most recently stocked in 2019. ShareLunker Largemouth Bass fingerlings were stocked in 2021 and 2022. Lonestar Largemouth Bass were stocked in 2024. The complete stocking history is displayed in Table 4.

Vegetation/habitat management history: Twenty-two aquatic plant species were planted in Coleman Reservoir in 1998 as part of a statewide habitat initiative. From 1998-2007, qualitative vegetation assessments were conducted annually by staff from the United States Army Corps of Engineers Lewisville Aquatic Ecosystem Research Facility. No introduced aquatic plants, aside from those documented to be naturally occurring, were found in vegetation surveys after the reservoir filled in 2002.

Water transfer: City of Coleman has the ability to transfer water from Hords Creek Reservoir to Coleman Reservoir. No interbasin transfers are known to exist.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Coleman Reservoir (Goldstrohm and Homer 2021). Primary components of the OBS plan are listed in Table 5. All survey sites were randomly selected unless otherwise stated and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2022).

Common names of fishes and their hybrids in this report are used following Page et al. (2023) with an exception for Largemouth Bass. While we recognize recent changes to black bass names, Texas reservoirs contain a mix of Florida Bass, Largemouth Bass, and their intergrade offspring. Therefore, Largemouth Bass is used in this report for simplicity as well as consistency with previous reports.

Electrofishing – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by electrofishing (1 hour at 12, 5-min stations). Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Ages for Largemouth Bass were determined by using otoliths collected from 274 Largemouth Bass in 2024.

Trap netting – Crappie were collected by using trap nets (10 net nights at 10 stations). Catch per unit effort for trap netting was recorded as the number of fish caught per net night (fish/nn).

Gill netting – Channel Catfish, Hybrid Striped Bass, White Crappie, and Black Crappie were sampled by gill netting (5 net nights at 5 stations). Catch per unit effort for gill netting was recorded as the number of fish caught per net night (fish/nn). Lengths and weights were measured for each species. Otoliths were collected from all hybrid Striped Bass (N=29) for evaluating age and growth.

Genetics – Genetic analysis of Largemouth Bass was conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2022). Micro-satellite DNA analysis was used to determine genetic composition of individual fish from 2005 through 2024 and by electrophoresis for previous years. Each fish will be evaluated with a single base extension (SBE-Morone) assay using Cytochrome Oxidase Subunit-1 as a substrate to amplify single nucleotide polymorphisms (SNPs) at three sites, which this will allow for the resolution of species-specific SNPs which identified the maternal contributor to the hybrid.

Statistics – Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), terminology modified by Guy et al. 2007], and condition indices [relative weight (W_r)] were calculated for target fishes according to Neumann et al. (2012). Palmetto Bass PSD was calculated according to Dumont and Neely (2011). TPWD has stocked both hybrid striped bass crosses (palmetto bass and sunshine bass) in the past. Most hybrid striped bass currently produced by TPWD hatcheries is sunshine bass. Even though PSD length categories and standard weight equation were developed based on palmetto bass populations, they are applied to sunshine bass under the assumption that there

is little difference in the growth of the two hybrids. Index of Vulnerability (IOV) was calculated for Gizzard Shad (DiCenzo et al. 1996). Standard error (SE) was calculated for structural indices and IOV. Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE.

Habitat – In July 2024, the random point method was used to assess vegetation at 260 points throughout the reservoir, and structural habitat composition was by assessing 130 random stations distributed along the shoreline. During the survey 12 reservoir and 7 shoreline points were discarded because they could not be sampled. Percent occurrence ($\% = [N \text{ stations present} / \text{total stations sampled}] \times 100$) and associated 95% confidence intervals were calculated for structural habitat and habitat (Lake Tahoe Community College 2023).

Water level – Source for water level data was the United States Geological Survey (USGS 2025).

Results and Discussion

Habitat: Structural habitat surveyed along the shoreline consisted mostly of rocky shoreline (43.9%), natural shoreline (34.1%), rock bluffs (19.5%), flooded terrestrial vegetation (16.3%), standing timber (14.6%), gravel substrate (6.5%), and boat docks, piers, and ramps (5.7%; Table 6). Vegetation surveyed in summer 2024 consisted mostly of featureless areas (32.7%), standing timber (16.9%), buttonbush (15.3%), cattail (10.1%), smartweed (8.5%), waterwillow (7.7%), waterstargrass (6.0%), and flooded terrestrial vegetation (3.2%; Table 7).

Prey species: The prey base primarily consisted of Bluegill, Gizzard Shad, and Longear Sunfish. Other species present included Redear Sunfish, Green Sunfish, Warmouth, and Common Carp. Catch rate of Gizzard Shad in 2024 (111.0/h) was higher than reported in 2020 (72.0/h) but lower than reported in 2016 (184.0/h). Gizzard Shad IOV was 91 in 2024, which was substantial higher than the previous surveys in 2020 (27) and 2016 (28), and indicated an improvement in shad sizes and prey availability (Figure 2). Threadfin Shad catch rate has continued to decrease; no Threadfin Shad were collected in 2024, down from 33.0/h in 2020 (33.0/h; see Appendix A) and 118.0/h in 2016. Bluegill CPUE in 2024 was 271.0/h which increased since 2020 (220.0/h) and 2016 (150.0/h) (Figure 3). The size structure of Bluegill in 2024 was dominated by small sub-stock length fish (PSD=11), which was similar to previous surveys. Most Bluegill were of adequate prey size for sport fish (Figure 3). Prey catch has fluctuated over the years but has recently declined (see Appendix C).

Catfishes: Channel Catfish were present in monitoring surveys, but catch was low in all surveys. Flathead Catfish were present in the reservoir and observed during gill netting and electrofishing surveys.

Hybrid Striped Bass: Hybrid Striped Bass catch rates in gill net surveys increased from 2.4/nn in 2019 to 3.7/nn in 2021 to 5.8/nn in 2025. Catch rates of legal hybrids were nearly identical to the total catch rates recorded during the last few surveys. The PSDs in the 2019-2025 surveys were 100. Mean relative weights were ≥ 90 , which suggests these fish ranged from fair to ideal body conditions (i.e., $W_r = 100$). All hybrids except one sampled in 2025 were 4 years old (2021 Sunshine Bass cohort), and one individual was 8 years old (2017 Sunshine Bass cohort; Figure 6).

Largemouth Bass: Total catch rate of Largemouth Bass increased from 107.0/h in 2016 to 188.0/h in 2020 to 263.0/h in 2025 (Figure 6). The Stock CPUE fluctuated from 80.0/h in 2016 to 76.0/h in 2020 to 109.0/h in 2025. The catch rate of legal bass increased from 5.0/h in 2016 to 13.0/h in 2020 to 24.0/h in 2025. PSDs fluctuated from 38 in 2016 to 25 in 2020 to 39 in 2025. The PSD-14 increased from 6 in 2016 to 22 by 2025, which indicated a greater representation of legal individuals. The increase in the number of legal individuals may be attributed to increased habitat availability and forage production from the reservoir receiving enough consistent inflows and maintaining a relatively consistent water level. Historically, there have been few pure Florida Largemouth Bass in Coleman Reservoir (Table 9). The Florida Largemouth Bass allele percentage observed in fall 2024 was 55.0%, which is higher than last reported in 2016, and all individuals were intergrade bass. Since September 2021, 2 Lunker class, 1 Elite class, and 1 Legacy class were reported to the ShareLunker Program. A Category III sample of Largemouth Bass (n=274) was collected (Figure 9). Fish in the age sample ranged from 0-9 years old and lengths varied from about 8 to 18 inches TL. In the sample, 21 fish at 14 inches TL were collected and had a mean age of 2.9 years. Growth rate appeared to depress at about age 5 (Table 8), which these

older cohorts experienced substantial water level fluctuations due to drought, thus reducing habitat quality and forage availability. However, the Coleman Reservoir Largemouth Bass fishery appears to have adequate numbers of legal fish for angling, and recruitment appears sufficient.

White Crappie: Prior sampling of White Crappie with trap nets set from 2012-2020 have ranged from 0.1/nn in 2020 to 6.2/nn, and the poor samples led to attempting sampling with gill netting. Since 2012, a sample >50 stock individuals was only achieved in 2016 (n=59) with 10 net nights. Exploratory sampling with gill nets to target crappie did not yield favorable results to adequately evaluate size structure. Catch rates for White Crappie with gill nets were 2.0/nn in 2021 and 1.8/nn in 2025 (Figure 8). For the represented inch groups, mean relative weights were optimal; Approximately 25-30 gill nets would have been needed to achieve a sample of 50 fish, which was not feasible for this reservoir.

Fisheries Management Plan for Coleman Reservoir, Texas

Prepared – July 2025

ISSUE 1: Coleman Reservoir supports a popular Largemouth Bass fishery. Since 2021, four fish have been submitted to the ShareLunker Program, including one Legacy class fish. Several tournaments for Largemouth Bass are also held on the reservoir. Additional habitat as well as angler access enhancements may improve the quality of angling for Largemouth Bass and other species the reservoir.

MANAGEMENT STRATEGIES

1. Continue to monitor Largemouth Bass and prey populations with electrofishing surveys in 2026 and 2028.
2. Continue to monitor growth of individuals by conducting a Category II age sample in fall 2028.
3. Discuss, plan, and implement potential projects for habitat enhancement and angler access with City of Coleman and other potential partners.
4. Propose the installation of a fishing pier at Press Morris Park with possible application to the Habitat and Angler Access Program.

ISSUE 2: Monitoring efforts for White Crappie and Channel Catfish have yielded poor results and suggest that these species are present in low abundance. Anecdotally, anglers have reported catching White Crappie and Channel Catfish, but prior sampling attempts have not produced enough sizeable catches to effectively assess the fishery. Supplemental stocking of Channel Catfish may help boost recruitment of the species in the reservoir.

MANAGEMENT STRATEGIES

1. Stock Channel Catfish twice during 2025-2029 at a rate of 100/acre.
2. Conduct trap netting in fall 2028 to assess the White Crappie population.
3. Conduct a roving creel survey to monitor angler catches of sportfishes.

ISSUE 3: Hybrid Striped Bass have supported a fishery, though they were last stocked in 2021. Prior monitoring efforts in 2021 indicated a possible growth bottleneck between 20-23 inches, and the maximum age recorded within this length interval was 14 years old, which multiple individuals from this cohort were sampled. While a creel was not conducted to determine the level of angling pressure at the reservoir, the decision to cease stockings was made because of evidence of slow growth. However, Sunshine Bass stocked in 2021 were present in the most recent gill netting survey, and they presented similar growth at legal length to other reservoirs in the district. Angling opportunities for other species aside from Largemouth Bass are limited, which Hybrid Striped Bass may present other opportunities for angling at the reservoir.

MANAGEMENT STRATEGIES

1. Stock Hybrid Striped Bass fingerlings at a rate of 7/acre each year during the survey period.
2. Conduct gill netting in spring 2029 to assess recruitment and growth of Hybrid Striped Bass.
3. Assess angler effort, catch, and harvest of Hybrid Striped Bass in the 2025-2026 roving creel survey.

ISSUE 4: Many invasive species threaten aquatic habitats and organisms in Texas and can adversely affect the state ecologically, environmentally, and economically. For example, zebra mussels can multiply rapidly and attach themselves to any available hard structure, restricting water flow in pipes, fouling swimming beaches, and plugging engine cooling systems. Giant salvinia and other invasive vegetation species can form dense mats, interfering with recreational activities like fishing, boating, skiing, and swimming. The financial costs of controlling and/or eradicating these types of invasive species are significant. Additionally, the potential for invasive species to spread to other river drainages and reservoirs via watercraft and other means is a serious threat to all public waters of the state.

MANAGEMENT STRATEGIES

1. Cooperate with the controlling authority to post appropriate signage at access points around the reservoir.
2. Contact and educate marina owners about invasive species, and provide them with posters, literature, etc... so that they can in turn educate their customers.
3. Educate the public about invasive species with media and the internet.
4. Make a speaking point about invasive species when presenting to constituent and user groups.
5. Keep track of (i.e., map) existing and future inter-basin water transfers to facilitate potential invasive species responses.

Objective-Based Sampling Plan and Schedule (2025–2029)

Sport fish, prey fish, and other important fishes: The popular sportfish in Coleman Reservoir is Largemouth Bass. The proposed sampling schedule is in Table 10.

Low-density fisheries: Channel Catfish, Flathead Catfish, and White Crappie are considered low density species. Flathead Catfish will be monitored for presence/absence in conjunction with other sampling. White Crappie had low catch rates in trap nets (only one fish in 10 trap nets in 2020) and have also had poor catch rates in late winter/early spring gill netting surveys at Coleman Reservoir. Trap netting was not conducted this last cycle for these reasons. No specific sampling goals will be set for Flathead Catfish and White Crappie and they will be monitored for presence/absence and catch rate in other surveys.

Survey objectives, fisheries metrics, and sampling objectives

Prey species: Gizzard Shad, Threadfin Shad, and Bluegill are the primary prey species in Coleman Reservoir. The next electrofishing survey will be conducted in fall 2026 and fall 2028 for 1 hour at 12, 5-minute random stations. The total catch rate target precision will be $RSE \leq 25\%$ for Gizzard Shad and Bluegill. A sample of ≥ 50 Gizzard Shad will be collected for monitoring trends of size structure (length frequency) and Index of Vulnerability to assess prey availability and prey size suitability for sport fish. Size structure (PSD) will be determined for Bluegill by collecting ≥ 50 stock length fish. No additional sampling effort will be conducted if objectives for prey species are not met during electrofishing sampling. Largemouth Bass body condition can provide information prey availability and prey catch rates.

Channel Catfish: Anglers have anecdotally reported catching Channel Catfish, but prior monitoring has yielded poor results. Channel Catfish monitoring surveys have yielded poor catches which have suggested this population appears to have low abundance and poor recruitment. Furthermore, making additional inferences about the status of this population has been challenging. Channel Catfish will be sampled by gill netting while monitoring for Hybrid Striped Bass. No targets for data precision for relative abundance will be set, and PSD and relative weights will be determined should sample sizes are adequate (i.e., ≥ 50 fish ≥ 11 inches).

Hybrid Striped Bass: Should Hybrid Striped Bass be stocked during 2026 or 2027, a gill net survey will be conducted in spring 2029 to collect data on catch rates and size structure. Gill nets will be deployed at 15 random stations at depths ≤ 25 feet to collect relative abundance data, and no targets for RSE will be attempted. A target of ≥ 50 fish will be collected to assess size structure as PSD. Length and weight will be taken on all fish and relative weight will be assessed for the represented inch group if ≥ 5 fish/inch group are achieved. If both hybrid types are stocked during the survey period, fin clips will be taken on all sampled Hybrid Striped Bass to determine stocking success. Otoliths from dead Hybrid Striped Bass collected in gill nets will be sampled for age and growth. No additional effort will be conducted if objectives for Hybrid Striped Bass are not met during designated sampling. Gill netting will not be conducted if hybrids are not stocked.

Largemouth Bass: To monitor Largemouth Bass and their prey, a night-time electrofishing survey will be conducted during fall 2026 and fall 2028 to monitor trends in relative abundance (CPUE-Total, CPUE-Stock, and CPUE-14), size structure, and body condition. Electrofishing will be conducted for 1 hour at 12, 5-minute stations. A target precision of $RSE \leq 25\%$ will be attempted for estimates of CPUE-Total and CPUE-Stock. A target of ≥ 50 fish $\geq$ stock-size will be collected to assess size structure, and ≥ 5 fish per inch group $\geq$ stock-size will be measured for length and weight to assess body condition. If precision, size structure, or body condition objectives are not achieved, up to one hour of additional sampling (12, 5-minute stations) may be added. In fall 2028, fin clips from 30 random fish of any size will be collected for microsatellite DNA analysis to determine genetic introgression of Florida Largemouth Bass in 2024 after recent stockings. A category II age and growth sample will be collected during the fall 2028 survey.

Creel: A roving creel survey will be conducted from June 1, 2025 – May 31, 2026.

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Tables and Figures

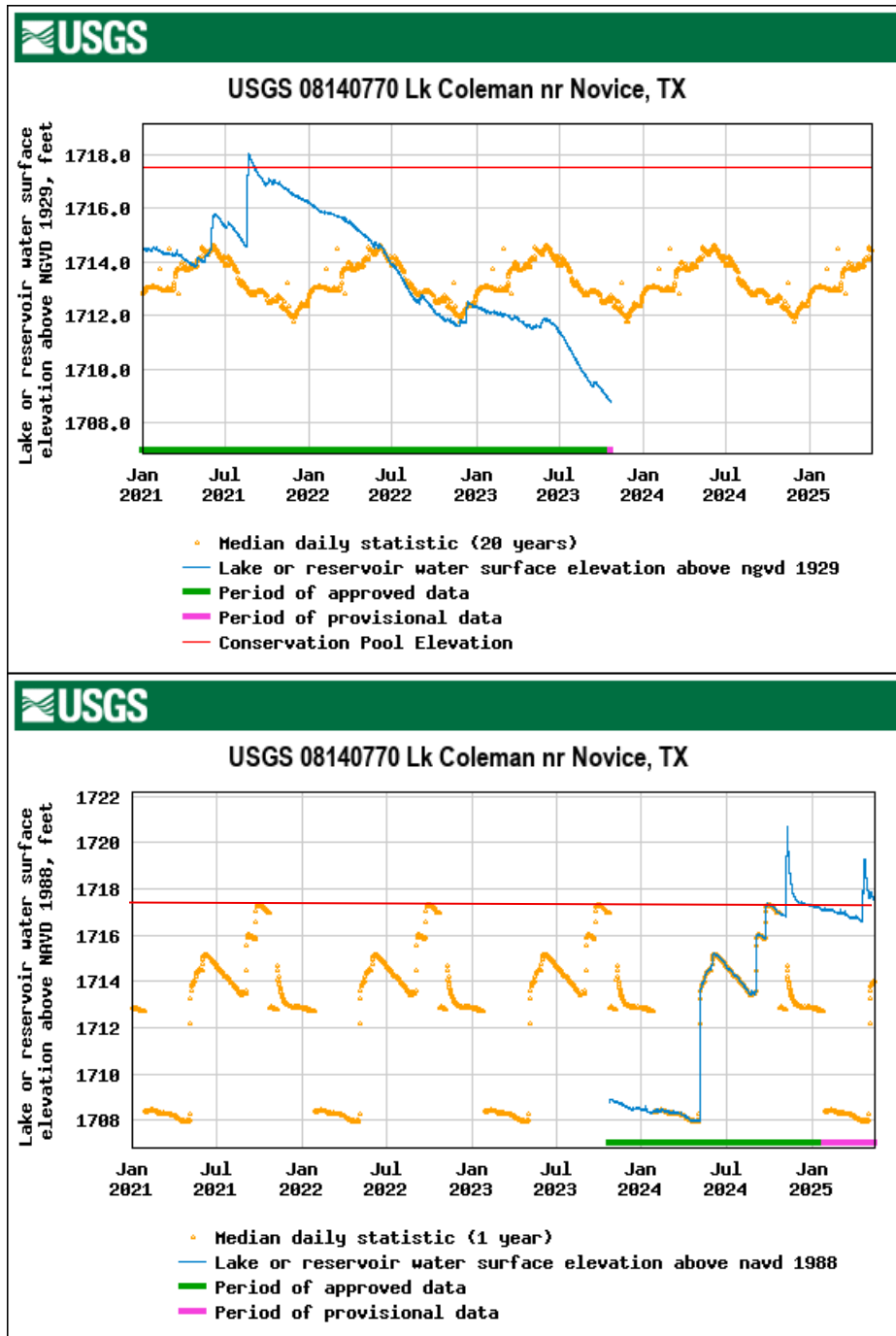


Figure 1. Mean daily water level data for Coleman Reservoir, Texas, January 2021- July 2023 (top) in National Geodetic Vertical Datum (NGVD) of 1929 and mean daily water data from July 2023 to May 2025 in NGVD of 1988 (USGS 2025).

Table 1. Characteristics of Coleman Reservoir, Texas.

Characteristic	Description
Year constructed	1966
Conservation pool	1,717.5 feet above mean sea level
Maximum depth	1,661.5 feet above mean sea level
Controlling authority	City of Coleman
County	Coleman
Reservoir type	Tributary
River basin	Colorado River Basin
Trophic Classification Index (Chl a)	52.02
USGS 8-Digit HUC Watershed	12090108 (Jim Ned)

Table 2. Boat ramp characteristics for Coleman Reservoir, Texas, July 2024. Reservoir elevation at time of survey was 1,716.5 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
Press Morris Park, North	32.03853 -99.46322	Y	15	1,709.5	Good; Accessible
Press Morris Park, South	32.03775 -99.46311	Y	8	1,707.5	Good; Accessible
Quail Creek RV Park	32.03622 -99.47069	N	5	1,705.5	Good; Accessible

Table 3. Harvest regulations for Coleman Reservoir, Texas.

Species	Bag limit	Length limit
Catfish: Channel and Blue Catfish, their hybrids and subspecies	25 (in any combination); no more than 5 $\geq$ 20 inches	No minimum
Catfish, Flathead	5	18-inch minimum
Bass, Hybrid Striped (i.e., Palmetto Bass and Sunshine Bass)	5	18-inch minimum
Bass, Largemouth	5	14-inch minimum
Crappie: White and Black Crappie, their hybrids and subspecies	25 (in any combination)	10-inch minimum

Table 4. Stocking history of Coleman Reservoir, Texas. FRY = fry; FGL = fingerling; AFGL = advanced fingerling; ADL = adults; UNK = unknown.

Year	Number	Size	Year	Number	Size
<u>Threadfin Shad</u>			<u>Sunshine Bass</u>		
1984	1,950	FGL	2014	124,952	FRY
1985	1,200	FGL	2015	118,918	FRY
Total	3,150		2016	108,379	FRY
<u>Channel Catfish</u>			2017	142,500	FRY
1966	84,000	AFGL	2020	85,900	FRY
1967	350	UNK	2021	10,083	FGL
2002	1,081	AFGL	Total	580,649	
2003	33,584	AFGL	<u>Largemouth Bass</u>		
Total	119,015		1966	246,000	UNK
<u>Palmetto Bass</u>			1967	8,000	UNK
1976	21,280	1967	1970	100,000	UNK
1977	16,656	1970	Total	354,000	
1979	13,950	UNK	<u>ShareLunker Largemouth Bass</u>		
1981	10,575	UNK	2021	10,295	FGL
1983	9,999	UNK	2022	9,350	FGL
1986	35,180	FRY	Total	19,645	
1987	40,050	FGL	<u>Kemp's Largemouth Bass</u>		
1988	300,000	FRY	1985	102,528	FRY
1989	250,000	FRY	<u>Florida Largemouth Bass</u>		
1991	32,030	FGL	1991	100,465	FGL
1992	24,400	FGL	2001	201,471	FGL
1994	24,786	FGL	2012	104,477	FGL
1995	14,950	FGL	2019	145,802	FGL
1996	10,096	FGL	Total	552,215	
1997	10,235	FGL	<u>Lonestar Bass</u>		
1998	10,087	FGL	2024	24,454	FGL
2004	9,998	FGL			
2007	523,122	FRY			
2007	10,119	FGL			
2009	10,220	FGL			
Total	1,377,733				

Table 5. Objective-based sampling plan components for Coleman Reservoir, Texas 2021–2025.

Gear/target species	Survey objective	Metrics	Sampling objective
<i>Electrofishing</i>			
Largemouth Bass	Abundance	CPUE–Total, CPUE–Stock, CPUE–14	RSE–Stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Condition	W_r	5 fish/inch group (max)
	Age-and-growth	Age at 14 inches	N = 13, 13.0 – 14.9 inches
Bluegill ^a	Abundance	CPUE–Total	RSE ≤ 25
	Size structure	PSD, length frequency	N ≥ 50
Gizzard Shad ^a	Abundance	CPUE–Total	RSE ≤ 25
	Size structure	length frequency	N ≥ 50
	Prey availability	IOV	N ≥ 50
Threadfin Shad ^a	Abundance	CPUE–Total	RSE ≤ 25
<i>Trap netting</i>			
Crappie	Abundance	CPUE–Total, CPUE–Stock	RSE–Stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50
	Condition	W_r	5 fish/inch group (max)
<i>Gill netting</i>			
Hybrid Striped Bass	Abundance	CPUE–Total, CPUE–18	RSE–Stock ≤ 30
	Size structure	PSD, length frequency	N ≥ 50
	Condition	W_r	All fish sampled
	Age-and-growth	Age at 18 inches	N = 13, 17.0 – 18.9 inches
	Genetics	Hybrid type	All fish sampled

^a No additional effort will be expended to achieve an RSE ≤ 25 for CPUE of Gizzard Shad, Threadfin Shad, and Bluegill, if not reached from designated Largemouth Bass sampling effort. Instead, Largemouth Bass body condition can provide information on prey abundance, vulnerability, or both relative to predator density.

Table 6. Survey of shoreline habitat Coleman Reservoir, Texas, July 2024. Percent occurrence with lower and upper 95% confidence limits (CL) of habitat types 123 points along the shoreline. Water level at the time of the survey was about 1.0 ft below conservation pool elevation.

Throughout the reservoir			
Habitat type	Percent occurrence	Lower CL	Upper CL
Rocky Shoreline	43.9	35.1	52.7
Natural Shoreline	33.9	25.8	42.5
Rock Bluff	19.4	12.5	26.5
Flooded Terrestrial Vegetation	16.1	9.7	22.8
Standing Timber	14.6	8.3	20.9
Gravel	6.5	2.1	10.9
Ramps, Docks, Piers	5.6	1.6	9.8
Bulkhead	0.8	0.0	2.4

Table 7. Survey of aquatic vegetation, Coleman Reservoir, Texas, July 2024. Percent occurrence with lower and upper 95% confidence limits (CL) of vegetation at 248 random sites throughout the reservoir. Water level at time of survey was about 1.0 feet below conservation pool elevation.

Throughout the reservoir			
Vegetation type	Percent occurrence	Lower CL	Upper CL
Open water	32.7	26.8	38.5
Standing Timber	16.9	12.3	21.6
Buttonbush	15.3	10.8	19.8
Cattails	10.1	6.3	13.8
Smartweed	8.5	5.0	11.9
Waterwillow	7.7	4.4	11.0
Waterstargrass	6.0	3.1	9.0
Logs/fallen timber	4.4	1.9	7.0
American Lotus	4.0	1.6	6.5
Flooded Terrestrial Vegetation	3.2	1.0	5.4
Water Primrose	2.0	0.0	3.8
Bulrush	0.8	0.0	1.0
<i>Potamogeton</i> spp.	0.8	0.0	1.0

Gizzard Shad

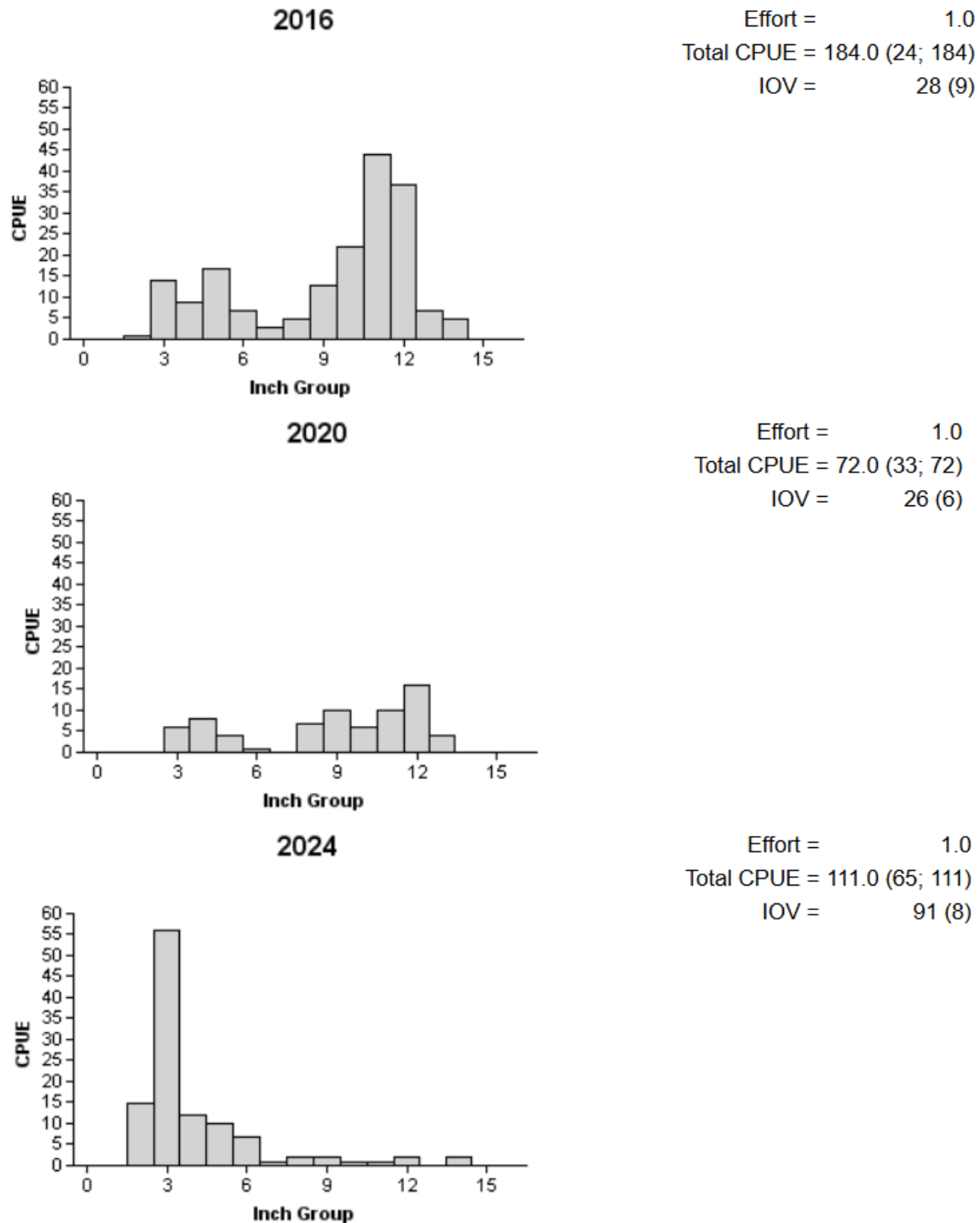


Figure 2. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Coleman Reservoir, Texas, 2016, 2020, 2024.

Bluegill

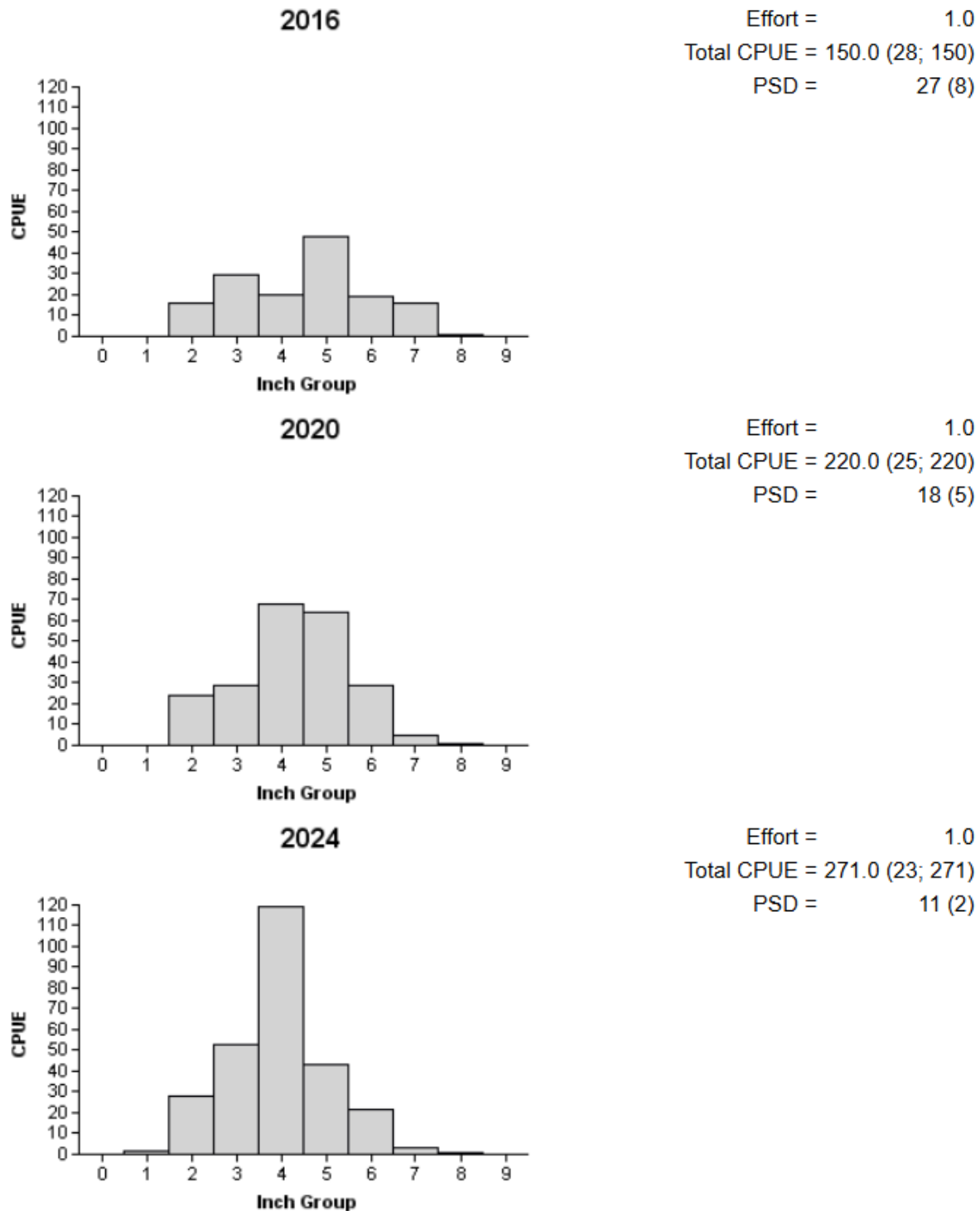


Figure 3. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Coleman Reservoir, Texas, 2016, 2020, and 2024.

Hybrid Striped Bass

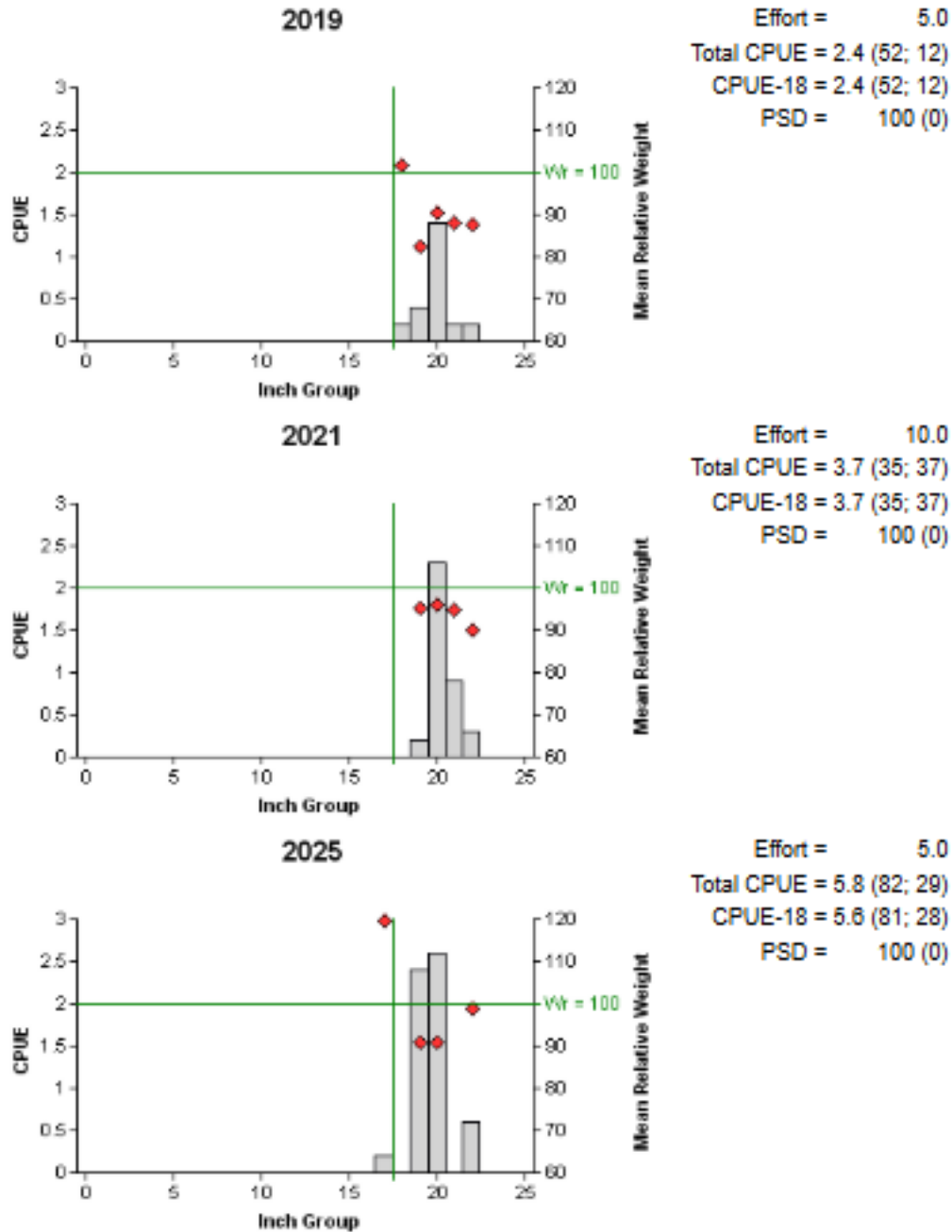


Figure 4. Number of Hybrid Striped Bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Coleman Reservoir, Texas, 2019, 2021 and 2025. Vertical line indicates minimum length limit, and the horizontal line indicates mean relative weight = 100.

Hybrid Striped Bass

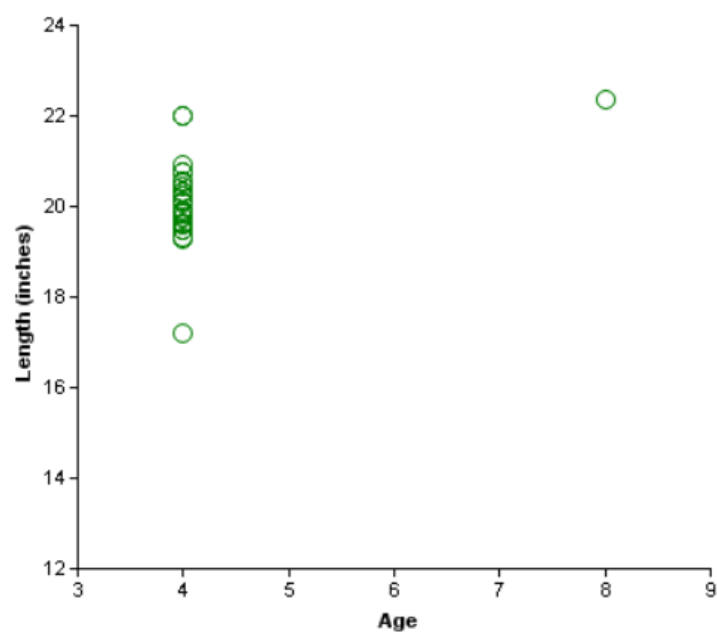


Figure 5. Length at age for Hybrid Striped Bass (N=29) collected during spring 2025 gill netting, Coleman Reservoir, Texas.

Largemouth Bass

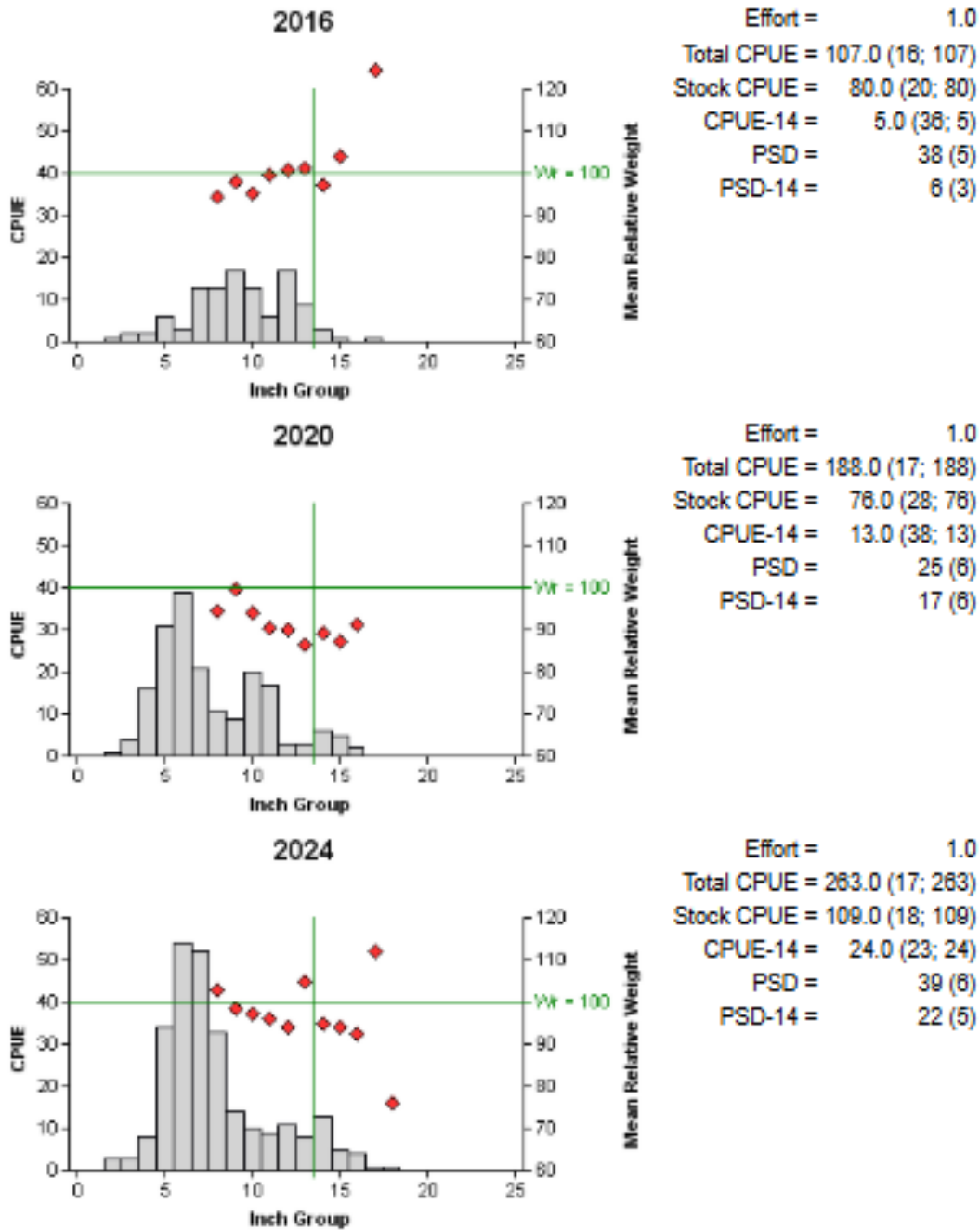


Figure 6. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Coleman Reservoir, Texas, 2016, 2020, and 2024. Vertical line indicates minimum length limit and horizontal line indicates mean relative weight = 100.

Largemouth Bass

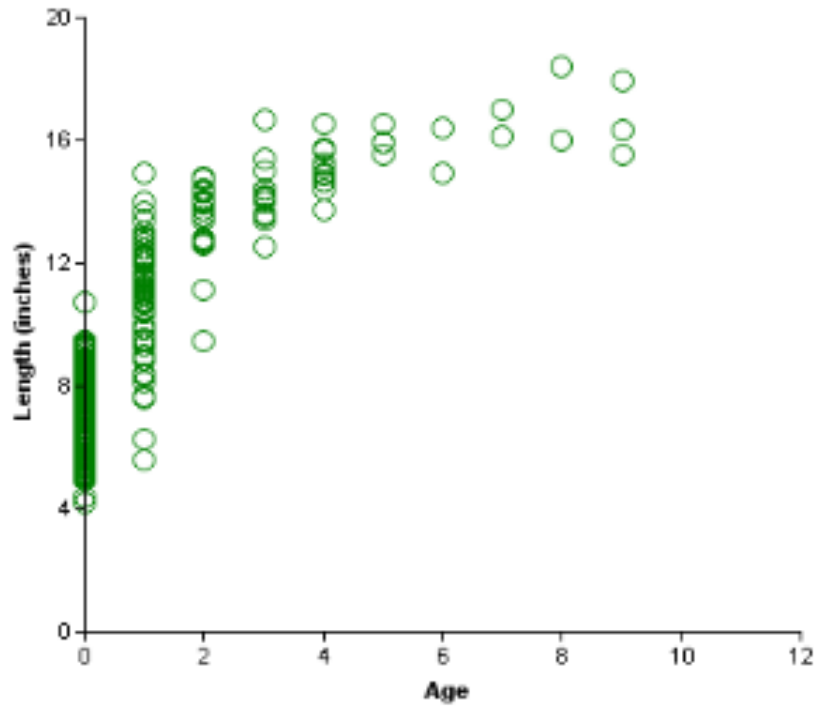


Figure 7. Length at age for Largemouth Bass (N=274) collected during fall 2024 electrofishing, Coleman Reservoir, Texas.

Table 8. Mean length at age for 274 Largemouth Bass collected during the fall 2024, Coleman Reservoir, Texas.

Age	Mean Length (in)	N
0	7.3	151
1	10.9	63
2	13.4	22
3	14.3	14
4	15.1	11
5	16.0	4
6	15.6	2
7	16.5	2
8	17.2	2
9	16.6	3

Largemouth Bass

Table 9. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Coleman Reservoir, Texas, 1987-2024. FLMB = Florida Largemouth Bass, NLMB = Northern Largemouth Bass, F1 = first generation hybrid between a FLMB and a NLMB, Fx = second or higher generation hybrid between a FLMB and a NLMB. Genetic composition was determined by electrophoresis prior to 2005 and with micro-satellite DNA analysis since 2005.

Year	Sample size	Number of fish				% FLMB alleles	% FLMB
		FLMB	F1	Fx	NLMB		
1987	41	0	NA	4 ^a	37	3.0	0.0
1991	30	0	NA	17 ^a	13	17.5	0.0
1994	21	8	NA	12 ^a	1	71.5	38.1
1997	30	1	NA	21 ^a	8	31.7	3.3
2000	30	2	NA	26 ^a	2	48.3	6.7
2002	41	4	NA	31 ^a	6	48.7	9.8
2004	24	5	NA	23 ^a	6	46.2	14.7
2006	30	0	NA	30 ^a	0	48.4	0.0
2012	30	1	1	28	0	59.2	3.3
2014	30	0	1	29	0	48.6	0.0
2016	30	1	26	2	1	50.8	3.3
2024	30	0	0	30	0	55.0	0.0

^a Determination of hybrid status not conducted

White Crappie

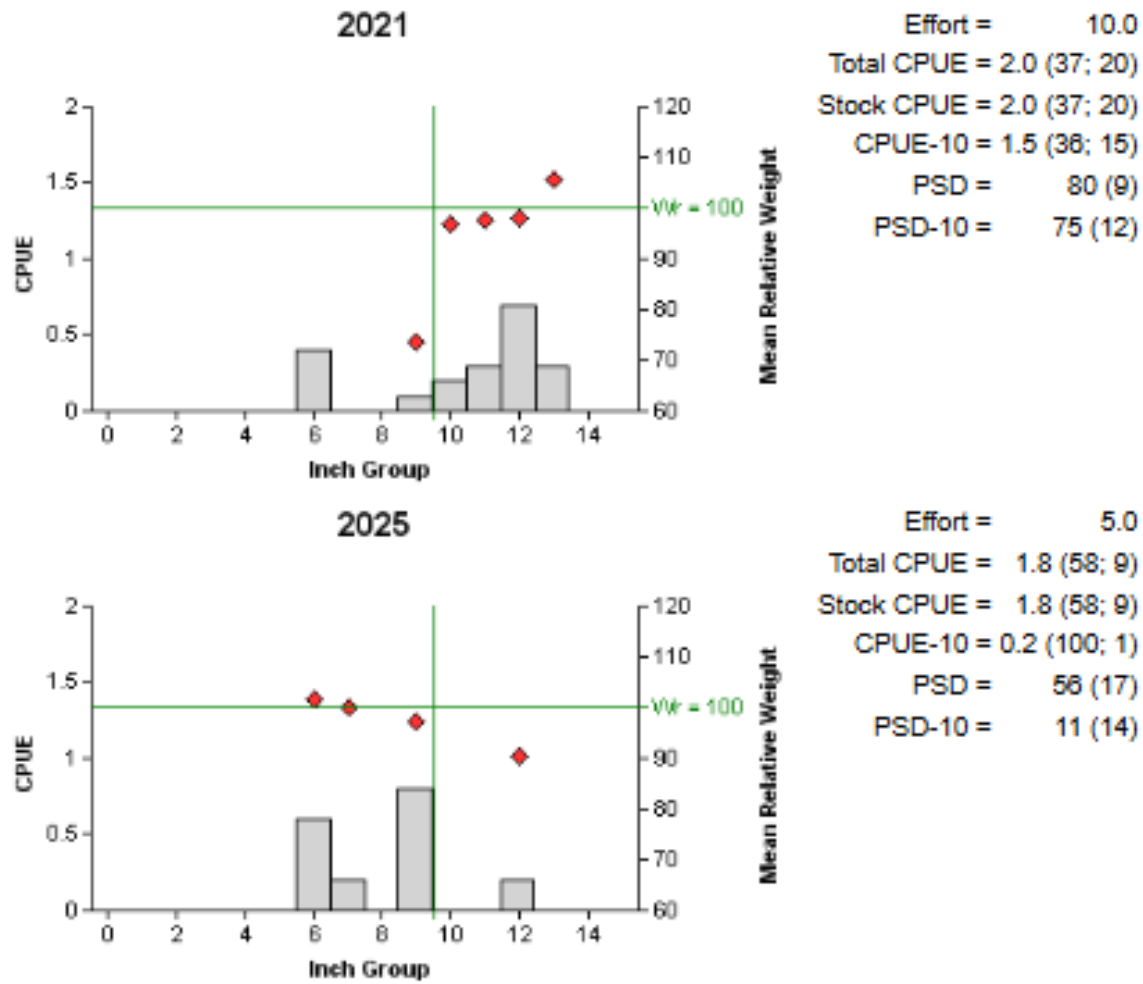


Figure 8. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill netting survey, Coleman Reservoir, Texas, 2021 and 2025. Vertical line indicates minimum length limit. Horizontal line indicates the mean relative weight = 100.

Proposed Sampling Schedule

Table 10. Proposed sampling schedule for Coleman Reservoir, Texas. Survey period was June through May. Gill netting surveys are conducted in the spring, while electrofishing surveys are conducted in the fall.

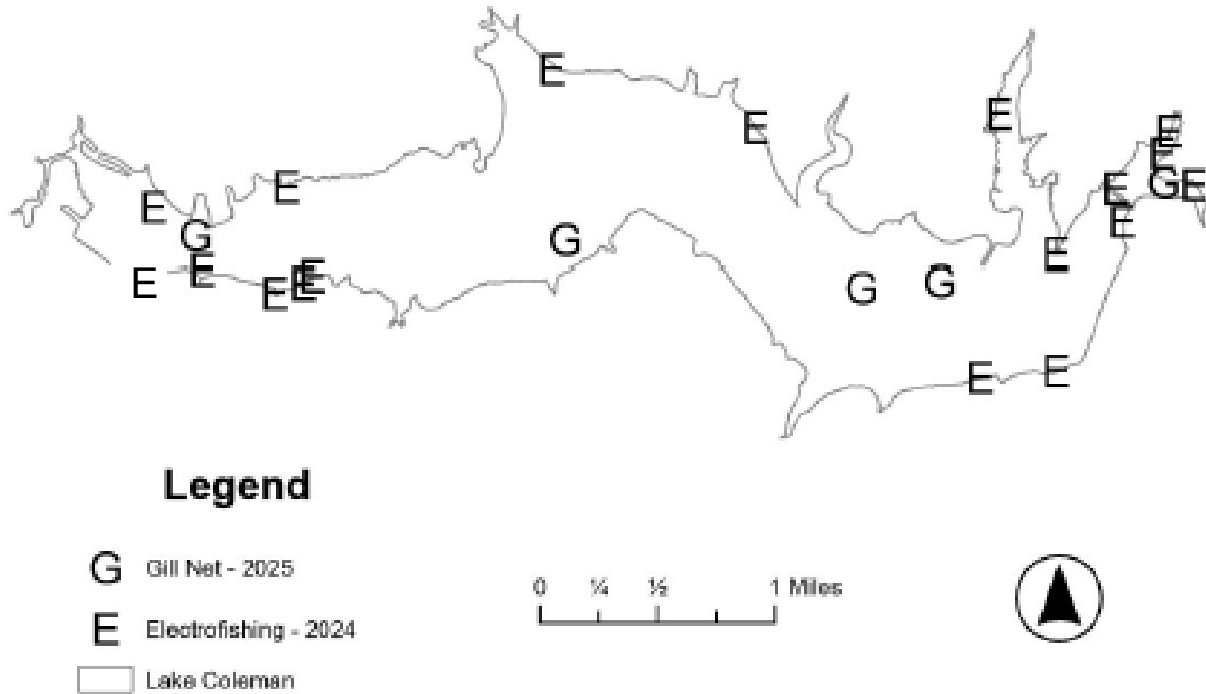
	Survey year			
	2025-2026	2026-2027	2027-2028	2028-2029
Angler access				X
Structural habitat				X
Vegetation				X
Hoop Netting				X
Electrofishing		X		X
Trap Netting				X
Gill netting				X
Creel	X			
Report				X

APPENDIX A – Catch rates for all species from all gear types

Number (N) and catch rate (CPUE) (RSE in parentheses) of all target species collected from all gear types from Coleman Reservoir, Texas, 2024-2025. Sampling effort was 1 hour for electrofishing and 5 net nights for gill netting.

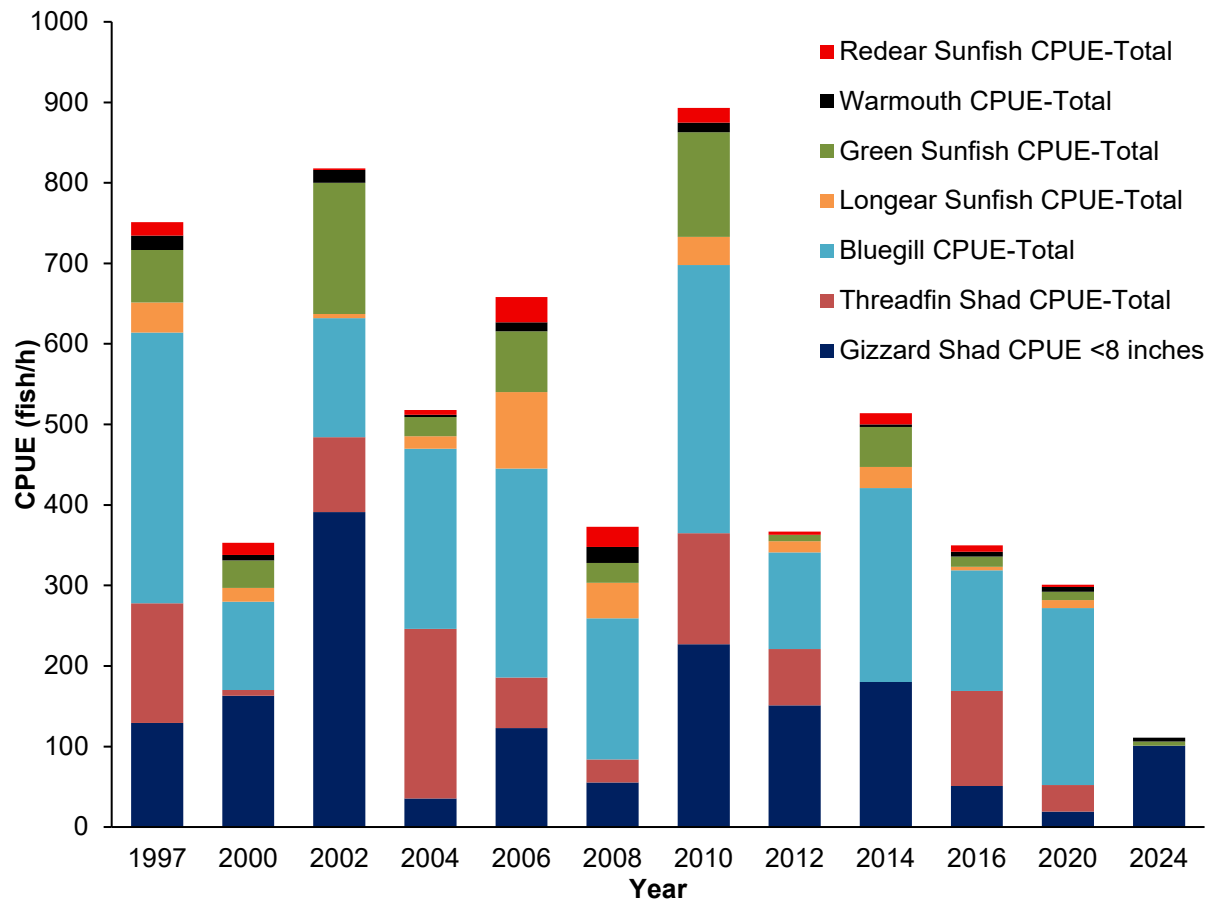
Species	Electrofishing		Gill Netting	
	N	CPUE	N	CPUE
Gizzard Shad	111	111.0 (65)		
Channel Catfish			7	1.4 (43)
Green Sunfish	5	5.0 (62)		
Warmouth	5	5.0 (62)		
Bluegill	271	271.0		
Longear Sunfish	33	33.0 (35)		
Redear Sunfish	10	10.0 (25)		
Largemouth Bass	263	263.0 (17)		
White Crappie			9	1.8 (58)
Hybrid Striped Bass			29	5.8 (82)

APPENDIX B – Map of sampling locations



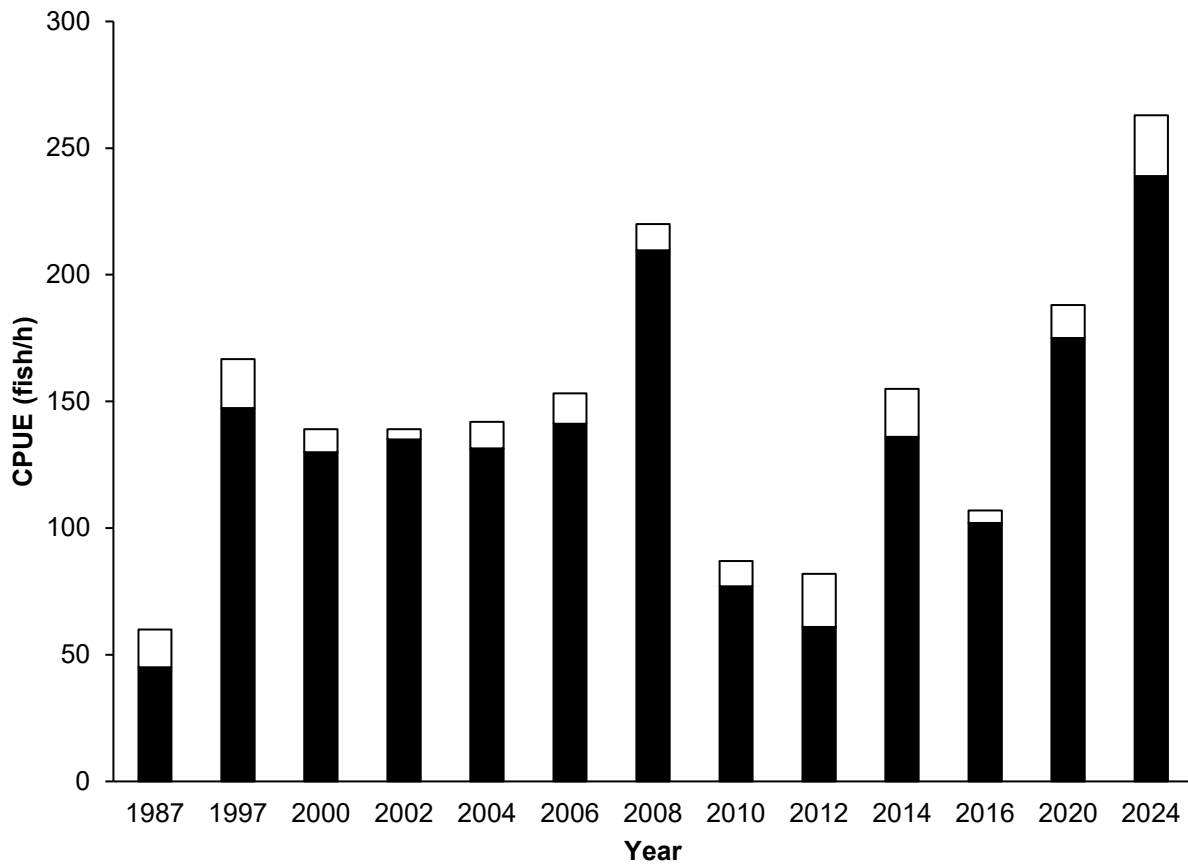
Location of 2024 electrofishing (E) and gill netting (G) sites, Coleman Reservoir, Texas, 2024-2025. Water level was nearly 100% for both the electrofishing and gill net surveys.

APPENDIX C – Trends in catch per unit effort for commonly sampled prey species



Total catch per unit effort for commonly sampled prey species in Coleman Reservoir, Texas, 1997-2024.

APPENDIX D – Trends in catch per unit effort of sub-legal and legal-length Largemouth Bass



Cumulative catch rates of sub-legal (<14 inches TL; black bars) and legal (≥14 inches TL; white bars) Largemouth Bass caught per hour during fall electrofishing surveys, Coleman Reservoir 1987-2024.



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