

Bonham City 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 Bonham City Reservoir were surveyed in 2024 using electrofishing and trap netting and in 2025 using gill netting and bass-only electrofishing. Aquatic vegetation and access were surveyed in 2024. 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: Bonham City Reservoir is a 1,020-acre impoundment on Timber Creek, a tributary to Bois d'Arc Creek, which is a tributary to the Red River in Fannin County Texas. Water level has been within three feet of conservation elevation since 2015 with periodic high-water events. The reservoir has high productivity. Habitat features consisted of natural shoreline, bulkhead and boat docks, riprap, and native submerged and emergent aquatic vegetation.

Management History: Important sport fish include Blue and Channel Catfish, Largemouth Bass, and White Crappie. Blue Catfish were last stocked in 2018. Lone Star Bass were stocked in 2022. The reservoir has always been managed with statewide fishing regulations. The controlling authority has hired a contractor in recent years to treat alligator weed in some areas of the reservoir.

Fish Community

- **Prey species:** Gizzard Shad were abundant and fewer Threadfin Shad were collected with electrofishing. Most Gizzard Shad were available as prey to sport fish. Electrofishing catch of Bluegill was below the long-term average with most available as forage.
- **Catfishes:** Channel Catfish abundance has increased. The gill net catch of Blue Catfish was near the long-term average and some natural recruitment was evident, and many large individuals are available for anglers.
- **Largemouth Bass:** The fall electrofishing catch of Largemouth Bass has generally declined since 2004, likely influenced by lower water levels in the fall. A spring bass-only electrofishing survey collected larger bass up to 23-inches.
- **White Crappie:** Trap net catch rate reflected an increase in legal-length White Crappie. Most crappie reached legal length in about two years.

Management Strategies: Bonham City Reservoir should continue to be managed with existing fish harvest regulations. Request Lone Star Bass fingerlings in 2026 and evaluate genetics in 2028. Continue to inform the public about the negative impacts of aquatic invasive species. General monitoring with electrofishing, trap netting, and gill netting will be conducted in 2028-2029. Access and vegetation surveys will be conducted in 2028.

Introduction

This document is a summary of fisheries data collected from Bonham City Reservoir from 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

Bonham City Reservoir, a 1,020-acre impoundment on Timber Creek, is located northeast of Bonham in Fannin County. It was constructed in 1969 by the City of Bonham for municipal and industrial uses. The reservoir drains approximately 29 square miles and has a shoreline of 18 miles. Reservoir water level has fluctuated about 3 feet above and below conservation level since 2014, with periodic high-water events (Figure 1). The average depth is 13 feet with a maximum depth of 30 feet. Bonham City Reservoir was eutrophic with a mean TSI chl-a of 67.8 (Texas Commission on Environmental Quality 2024). Habitat features consisted mainly of natural shoreline, bulkhead and boat docks, riprap, and native submersed and emergent aquatic vegetation. Other descriptive characteristics for Bonham City Reservoir are in Table 1.

Angler Access

Bonham City Reservoir has two public boat ramps with lighted parking. The south ramp has a fishing dock and boarding pier. The City of Bonham requires an annual boat-use fee for the reservoir available at nearby stores. Most of the perimeter of Bonham City Reservoir is privately owned, occupied by homes with boat docks. Shoreline access is available adjacent to the public boat ramps and around bridge crossings on the north side of the reservoir. Additional boat ramp characteristics are in Table 2.

Management History

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

1. Stock Florida Largemouth Bass fingerlings in 2022 to enhance trophy potential of Largemouth Bass fishery. Monitor tournament results and promote ShareLunker program
Action: Lone Star Bass fingerlings, which are 2nd generation offspring of pure Florida strain ShareLunker Largemouth Bass that have proven to be able to grow to ≥ 13 pounds, were stocked in 2022. Tournament results were compiled for small club tournaments.
2. Discontinue routine Blue Catfish stockings and monitor the population in 2025.
Action: Blue Catfish were collected in spring 2025 gill nets and some natural recruitment may be occurring. Many memorable and trophy-size individuals were observed.
3. Inform the public about the threats of invasive species and how to prevent their spread.
Action: Signage has been maintained and invasive species talking points have been presented on social media and in presentations to North Texas Municipal Water District.

Harvest regulation history: Sport fishes in Bonham City Reservoir have always been managed with statewide regulations (Table 3).

Stocking history: Lone Star Bass fingerlings were stocked in 2022 (28,170). The complete stocking history is in Table 4.

Vegetation/habitat management history: Alligator weed is present in the littoral zone in isolated areas, and some property owners and the city have contracted annual treatments by a private contractor.

Water transfer: No inter-basin transfers are known to exist. The City of Bonham has transferred the water rights of Bonham City Reservoir to the North Texas Municipal Water District which now owns and operates the local water plant.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Bonham City Reservoir (Cummings and Bennett 2021). Primary components of the OBS plan are listed in Table 5. A spring bass-only electrofishing survey was conducted in 2025 at biologist-selected locations. All standard survey sites were randomly selected, and all standard 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 nighttime 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 using otoliths from 5 randomly selected fish (range 13.0 to 14.9 inches).

Bass-only electrofishing – Largemouth Bass were collected by electrofishing (1 hour at 12, 5-min stations) during daylight in spring. Sites were selected to target spring habitat suitable for Largemouth Bass. Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing.

Trap netting – Crappie were collected using trap nets (8 net nights at 8 stations). CPUE for trap netting was recorded as the number of fish caught per net night (fish/nn). Ages for crappie were determined using otoliths from 12 randomly selected fish (range 9.0 to 10.9 inches).

Gill netting – Channel Catfish and Blue Catfish were collected by gill netting (5 net nights at 5 stations). CPUE for gill netting was recorded as the number of fish caught per net night (fish/nn).

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). 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 ($RSE = 100 \times SE \text{ of the estimate/estimate}$) was calculated for all CPUE and creel statistics.

Habitat – A structural habitat survey was conducted in 2024. A vegetation survey was conducted in summer 2024. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2022).

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

Results and Discussion

Habitat: Littoral zone habitat consisted primarily of natural shoreline and emergent vegetation, bulkhead and boat docks, and some rocky shoreline (Table 6). Native emergent vegetation expanded slightly but only covered approximately 1% of the reservoir's surface area and included cattails, bulrush, water willow, smartweed, and buttonbush (Table 7). Alligator weed distribution remained stable and was primarily confined to the upper, undeveloped portions of the reservoir.

Prey species: Electrofishing catch rates of Gizzard Shad was a record catch (1,216/h) dominated by small individuals; the Index of Vulnerability (IOV) for Gizzard Shad was high (Figure 2). Only thirteen Threadfin Shad were observed, which was well below their historical average abundance (Appendix B); however, many Threadfin Shad were observed during the spring bass-only survey. Total CPUE of Bluegill (456.0/h) in 2024 indicated a decline from the two prior surveys in 2016 (909.4/h) and 2020 (779/h) following high water levels with increased recruitment (Figure 3). Bluegill PSD was poor in Fall 2024 (7), likely reflective of low water levels at the time of sampling, similar to 2020. Longear Sunfish (55.0/h) and Redear Sunfish (25.0/h) were also present in moderate abundance and added to the prey base.

Catfishes: The gill net catch rate of Blue Catfish was 7.2/nn in 2025 and similar to the previous catch rate in 2021 (8.8/nn). Relative abundance of larger Blue Catfish has increased (CPUE-20 = 5.4/nn) since 2017 (Figure 4) with trophy-size fish available to anglers. Mean relative weights were excellent (≥ 95) for most size classes.

The gill net catch rate of Channel Catfish was nearly double the long-term average (20.4/nn) in 2025 (Appendix B). The Channel Catfish population was dominated by a cohort between 10 and 14 inches, reflecting good recruitment in the last five years. Most Channel Catfish were of a harvestable size, and most size classes had good body condition (relative weight above 95). Age analysis was not conducted in 2025; however, Channel Catfish growth is historically above average reaching 12-inches in as little as three years (Cummings and Bennett 2021).

Black basses: The electrofishing catch rate of stock-length Largemouth Bass was low in Fall 2024; only 15 stock length bass were collected (Figure 6). Catch rate of stock length bass declined from 28.0/h in 2020 and 42.9/h in 2016; however, the water-level was approximately three feet below the conservation elevation and a lack of littoral habitat is believed to be the primary cause of low catch rates. Additional sampling was not conducted due to the poor conditions. Despite the poor sample, bass up to 21-inches were observed at sites located along riprap at the dam, and PSD was 80. Although we only collected five Largemouth Bass (range = 2 – 3 years) between 13 and 14.9 inches for age analysis, the average age of Largemouth Bass at 14 inches was the same (2.2 years) as the previous sample in 2021 reflecting adequate growth (Cumming and Bennett 2021). Body condition in 2024 was excellent (relative weight over 100) for all size classes of bass (Figure 6).

A bass-only electrofishing survey was conducted in spring 2021 and 2025. The purpose of the survey was to supplement the lower catch rate in fall surveys and monitor potential trends in the catch rate of larger bass. The electrofishing catch rate for stock-length Largemouth Bass was 44.0/h in 2025 compared to 50.0/h in 2021; however, the catch rate of legal length fish was greater in 2025 (38/h) than in 2021 (30/h; Figure 7). The PSD, PSD-P, and PSD-M were also greater in 2025. Low recruitment was evident in 2024, likely due to declining lake levels; however, the number of preferred sized bass collected in spring 2025 was greater with fish up to 23 inches collected. Tournament results posted online by a local bass club indicate the typical big-bass weighed during seasonal tournaments is between four and six pounds in recent years; trophy-size bass have not been documented in recent years.

Crappies: The trap net catch rate of crappie was 12.1/nn in 2024, lower than in 2020 (18.0/nn) and 2016 (27.6/nn, Figure 8), and lower than the long-term average (Appendix B); however, the relative abundance of legal length crappie has generally increased from 4.0/nn in 2016 to 7.4/nn in 2024. The abundance of Black Crappie has generally declined over time. PSD increased between 2016 (PSD=50) and 2024

(PSD=92), reflecting an increase in size distribution. Mean relative weight was over 95 for legal-length crappie in 2024. The average age of White Crappie at 10 inches (9.0 to 10.9 inches) was 2.4 years.

Fisheries Management Plan for Bonham City Reservoir, Texas

Prepared – July 2025

ISSUE 1: Tournament results and angler reports of trophy bass reflect a potential decline in abundance of larger bass in the reservoir. The perceived decline could be associated with routine tournaments and/or a lack of Florida Bass stockings between 1998 and 2018. The shallow gradient along the reservoir's shoreline contributes to substantially reduced electrofishing catch rate of bass at lake levels just two to three feet below the conservation elevation.

MANAGEMENT STRATEGIES

1. Stock Lone Star Bass fingerlings at the rate of 1,000/shoreline km (28,800) in 2026 and conduct a genetic sample of 30 randomly collected bass in 2028. Stocking Lonestar Bass every 3 to 5 years should help maintain the trophy potential of Largemouth Bass.
2. If water levels are ≥ 3 ft below the conservation elevation in Fall 2028, postpone sampling until spring 2029.
3. Monitor tournament results to get more information about catches of larger bass in the reservoir and promote the ShareLunker program to increase angler-volunteered reporting of bass over 8 pounds.
4. Seek partners for habitat enhancement initiatives.

ISSUE 2: 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 City of Bonham to post appropriate signage at access points around the reservoir.
2. Educate the public about invasive species through the use of media and the internet.
3. Make a speaking point about invasive species when presenting to constituent and user groups.
4. Keep track of (i.e. map) existing and future interbasin water transfers to facilitate potential invasive species responses.

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

Sport fish, forage fish, and other important fishes

Important sport fish in Bonham City Reservoir include Largemouth Bass, White Crappie, Blue Catfish, and Channel Catfish. Important forage species include Bluegill Sunfish, and Gizzard and Threadfin Shad. A complete sampling schedule is listed in Table 8.

Low-density fisheries

White Bass: Three White Bass were collected once in gill nets in 2013. White Bass are not expected to have established a population in Bonham City Reservoir. Any natural recruitment or increase in abundance of White Bass will be documented during sampling for catfish.

Spotted Bass: Spotted Bass are present in Bonham City Reservoir; however, average CPUE=4.4/h. Data on Spotted Bass will be recorded during sampling for Largemouth Bass; however, additional effort will not be expended to sample Spotted Bass.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Trend data for Largemouth Bass will be collected with nighttime electrofishing in the fall once every four years unless the reservoir is within three feet of the conservation elevation. Long-term monitoring trend data will allow for determination of any large-scale changes in the Largemouth Bass population that may spur further investigation. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in 2028, but sampling will continue at random sites until 50 stock-size fish are collected or the RSE of CPUE-S is ≤ 25 . Exclusive of the original 12 random stations, up to 6 additional random stations will be sampled if we estimate 50 stock-sized bass can be collected. Thirteen Largemouth Bass between 13.0 and 14.9 inches will be collected to estimate age at the minimum length limit (14 inches), and a genetic sample of 30 randomly collected bass will be conducted to evaluate the contribution of Florida Bass genetics. Relative weight of Largemouth Bass ≥ 8 " TL will be determined from their length/weight data (maximum of 10 fish weighed and measured per inch class). A daytime, spring, bass-only electrofishing survey will be conducted in 2029 at a minimum of 12 biologist-selected stations. Sampling will continue until 50 stock-size fish are collected and the RSE of CPUE-S is ≤ 25 for relative abundance and size structure data.

Catfish: Catfish are the second most sought-after sport fish at Bonham City Reservoir (Robinson and Bennett 2017). Blue and Channel Catfish have been stocked at Bonham City Reservoir, and currently both species provide a fishery. Gill net catch rates suggest that trend data for monitoring Channel Catfish relative abundance, size structure, and body condition can be obtained with reasonable effort. A minimum of five randomly selected gill net stations will be sampled in 2029 (Table 8). If a minimum of 50 stock-size Channel Catfish and an RSE of CPUE-S ≤ 25 is not obtained in the five gill-net nights, additional sampling may be conducted up to 10 gill net nights if objectives are likely to be met with reasonable effort. The relative abundance of Blue Catfish and evidence of natural reproduction will be documented; however, no additional sampling effort will be conducted beyond that necessary to achieve objectives for Channel Catfish.

Crappie: Crappie are the most sought-after sport fish in Bonham City Reservoir. Both White Crappie and Black Crappie are present in Bonham City Reservoir; however, White Crappie are in greater abundance. We will collect data on relative abundance, size structure, age and growth, and body condition of White Crappie with trap nets every four years to monitor trends in the population. Trap net catch rate is variable at Bonham City Lake and has ranged from 2.8/nn to 51.6/nn for White Crappie in the past two decades. However, we estimate that the effort required to meet sampling objectives (RSE of CPUE-S ≤ 25 and collect at least 50 stock-size fish) for White Crappie to be between 7 and 10 net nights. This level of sampling should provide 13 White Crappie between 9.0 and 10.9 inches to estimate age at legal length (10 inches). We plan to sample a minimum of five random shoreline trap net stations; however, an

additional five net nights may be sampled if objectives can be met with reasonable effort. Data on Black Crappie will be collected along with White Crappie; however, no additional effort will be expended beyond that which is necessary to achieve sampling objectives for White Crappie.

Sunfish and Shad: Sunfish, along with Gizzard and Threadfin Shad are the primary forage at Bonham City Reservoir. We intend to collect trend data on relative abundance, size structure, and prey availability for forage species once every four years. No additional effort beyond that necessary to achieve our desired number of Largemouth Bass will be expended to achieve an $RSE \leq 25$ for CPUE of Bluegill and Gizzard Shad. Instead, predator body condition can provide information on forage abundance, vulnerability, or both relative to predator density.

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Tables and Figures

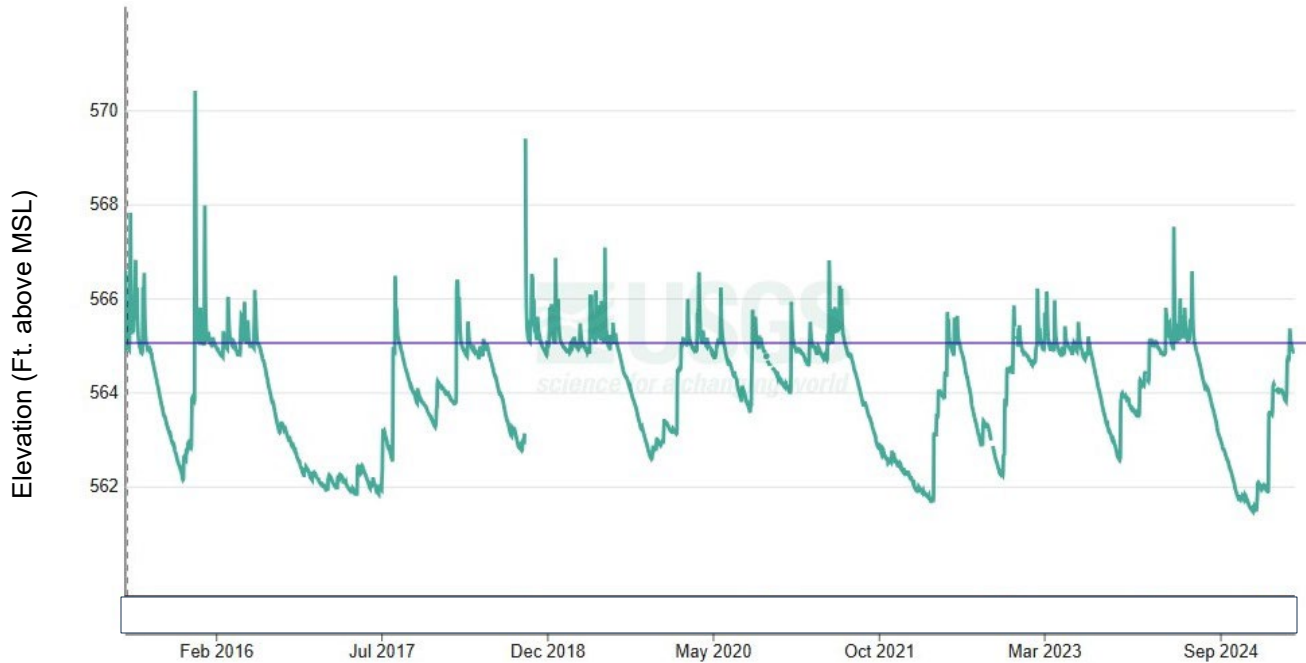


Figure 1. Daily water level elevations in feet above National Geodetic Vertical Datum (NGVD) recorded for Bonham City Reservoir, Texas, 2015-2025. Purple line indicates conservation elevation.

Table 1. Characteristics of Bonham City Reservoir, Texas.

Characteristic	Description
Year constructed	1969
Controlling authority	City of Bonham
County	Fannin
Reservoir type	Tributary
Shoreline development index	4.1
Conductivity	142 μ mhos/cm

Table 2. Boat ramp characteristics for Bonham City Reservoir, Texas, August 2024. Reservoir elevation at time of survey was 562.7 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
South ramp	33.6461 -96.1394	Y	30	557	Excellent
North ramp	33.6573 -96.1482	Y	10	555	Adequate; extension feasible

Table 3. Harvest regulations for Bonham City Reservoir, Texas.

Species	Bag Limit	Length Limit
Catfish: Channel and Blue Catfish, their hybrids and subspecies	25 (only 10 $\geq$ 20 inches)	None
Catfish, Flathead	5	18-inch minimum
Bass, White	25	10-inch minimum
Bass, Spotted	5 ^a	None
Bass, Largemouth	5 ^a	14-inch minimum
Crappie: White and Black Crappie, their hybrids and subspecies.	25 (in any combination)	10-inch minimum

^a Daily bag for Largemouth Bass and Spotted Bass = 5 fish in any combination.

Table 4. Stocking history of Bonham City Reservoir, Texas. FGL = fingerling; AFGL = advanced fingerling; UNK = unknown.

Species	Year	Number	Size
Blue Catfish	1978	25,486	UNK
	2009	50,685	FGL
	2010	103,128	FGL
	2011	110,440	FGL
	2018	102,318	FGL
	Total	392,057	
Channel Catfish	1969	50,000	AFGL
	1994	1,634	AFGL
	Total	51,634	
Florida Largemouth Bass	1996	101,900	FGL
	1997	104,206	FGL
	1998	103,324	FGL
	2018	106,443	FGL
	2019	36,399	FGL
	Total	452,272	
Largemouth Bass	1969	200,000	UNK
	Total	200,000	
Lone Star Bass ^a	2022	28,170	FGL
	Total	28,170	
Palmetto Bass (Striped X White Bass hybrid)	1978	26,313	UNK
	Total	26,313	

^a Lone Star Bass are 2nd generation offspring of pure Florida strain ShareLunker Largemouth Bass that have proven to be able to grow to ≥ 13 pounds.

Table 5. Objective-based sampling plan components for Bonham City Reservoir, Texas 2024–2025.

Gear/target species	Survey objective	Metrics	Sampling objective
<i>Electrofishing</i>			
Largemouth Bass	Abundance	CPUE – stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$ stock
	Age-and-growth	Age at 14 inches	$N = 13, 13.0 - 14.9$ inches
	Condition	W_r	10 fish/inch group (max)
Bluegill ^a	Abundance	CPUE – Total	RSE ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$
Gizzard Shad ^a	Abundance	CPUE – Total	RSE ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$
	Prey availability	IOV	$N \geq 50$
<i>Bass-only Electrofishing</i>			
Largemouth Bass	Abundance	CPUE – stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$ stock
<i>Trap netting</i>			
White Crappie	Abundance	CPUE-stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$
	Age-and-growth	Age at 10 inches	$N = 13, 9.0 - 10.9$ inches
	Condition	W_r	10 fish/inch group (max)
<i>Gill netting</i>			
Blue Catfish	Abundance	CPUE-Stock	No target
	Size Structure	PSD, length frequency	No target
	Condition	W_r	10 fish/inch group (max)
Channel Catfish	Abundance	CPUE– stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$ stock
	Condition	W_r	10 fish/inch group (max)

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

Table 6. Survey of structural habitat types, Bonham City Reservoir, Texas, 2024. Shoreline habitat type units are in miles and open water is in acres

Habitat type	Estimate	% of total
Bulkhead and boat docks	3.1 miles	17.2
Gravel	0.9 miles	5.0
Natural shoreline	12.5 miles	69.4
Rocky shoreline	1.5 miles	8.4
Open water	819.7 acres	80.4

Table 7. Survey of aquatic vegetation, Bonham City Reservoir, Texas, 2016–2024. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2016	2020	2024
Native submersed ^a	<1 (<1)	trace	3 (<1)
Native emergent ^b	11.3 (1)	5.5 (<1)	8.7 (~1)
Non-native			
Alligator weed (Tier III)	-	3.5 (<1)	3.4 (<1)

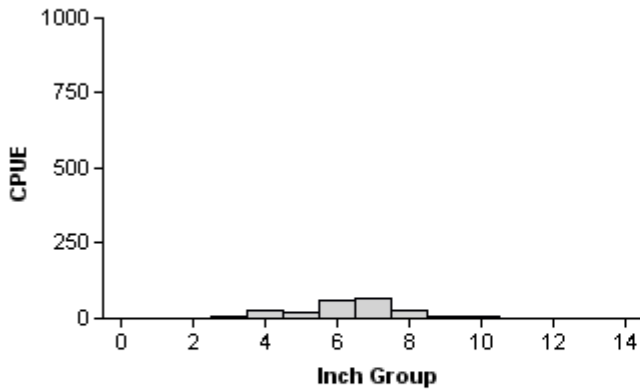
^a Muskgrass

^b Cattail, bulrush, water willow, smartweed, buttonbush

Gizzard Shad

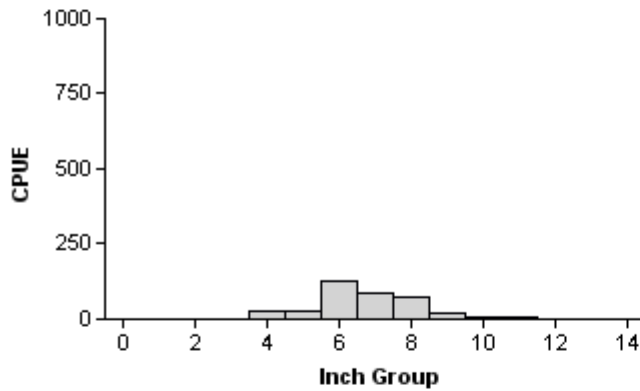
2016

Effort = 1.2
 Total CPUE = 218.6 (25; 255)
 IOV = 83 (4)



2020

Effort = 1.0
 Total CPUE = 374.0 (11; 374)
 IOV = 71 (4)



2024

Effort = 1.0
 Total CPUE = 1,216.0 (22; 1216)
 IOV = 96 (1)

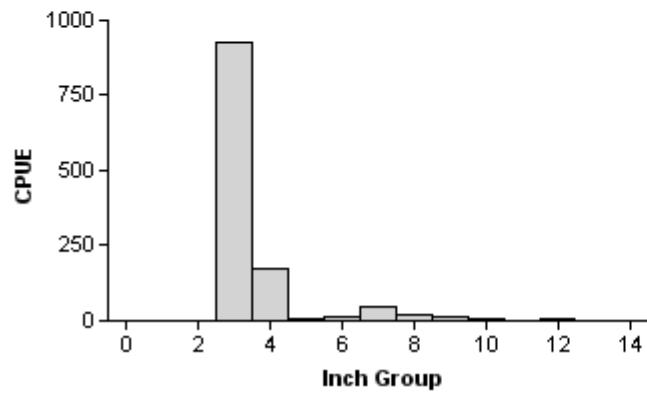


Figure 2. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Bonham City Reservoir, Texas, 2016, 2020, and 2024.

Bluegill

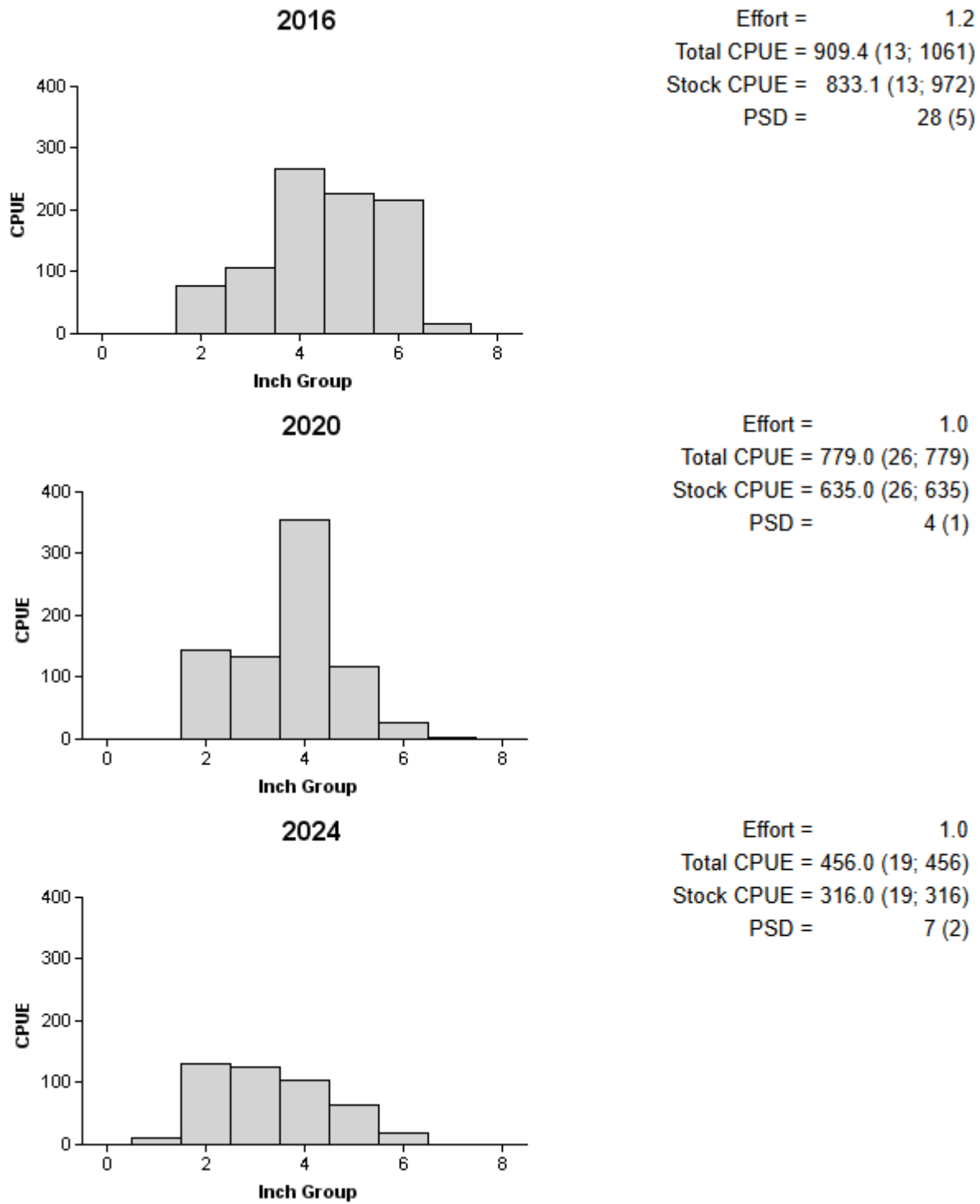


Figure 3. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Bonham City Reservoir, Texas, 2016, 2020, and 2024.

Blue Catfish

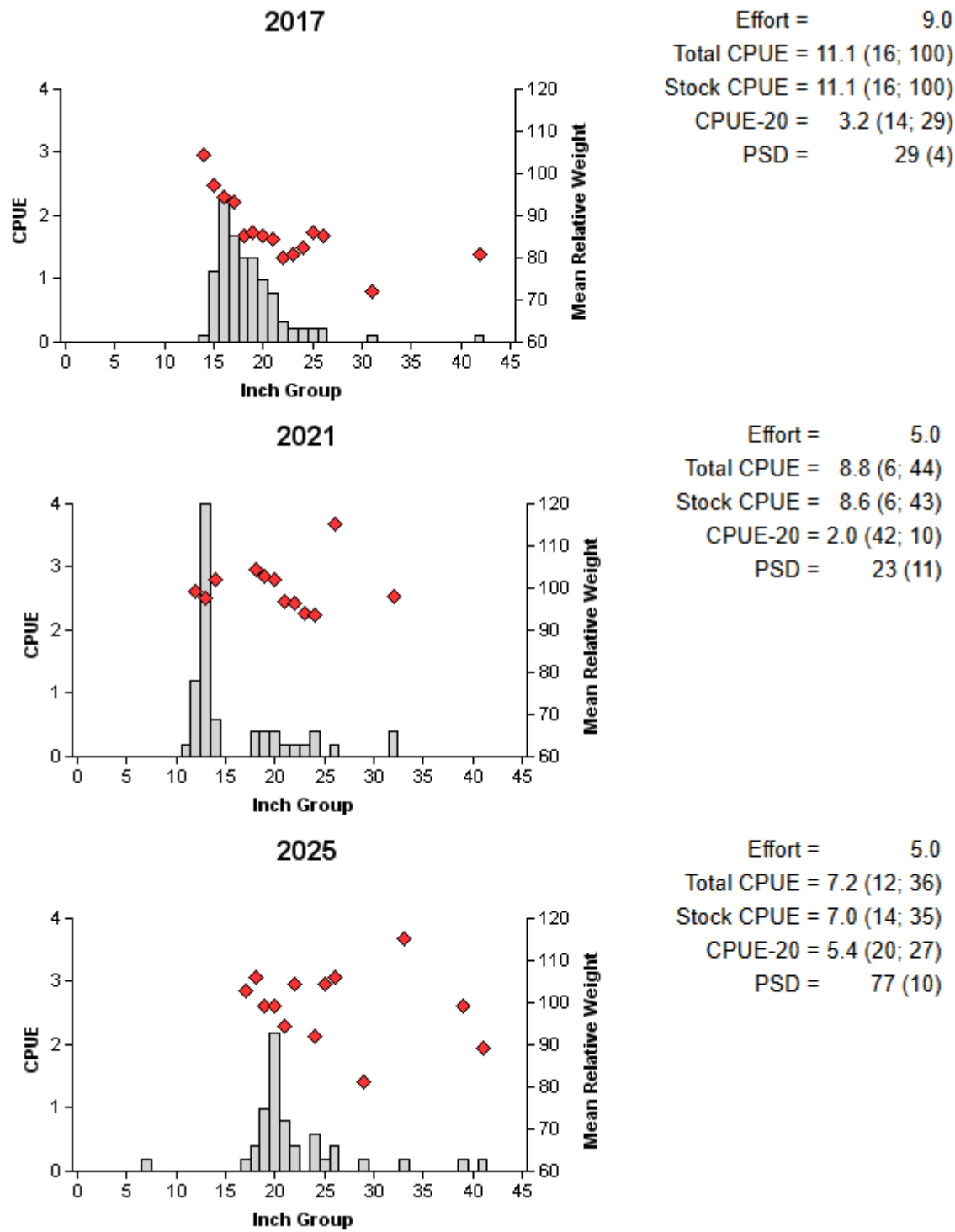


Figure 4. Number of Blue Catfish caught per net night (CPUE), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Bonham City Reservoir, Texas, 2017, 2021, and 2025.

Channel Catfish

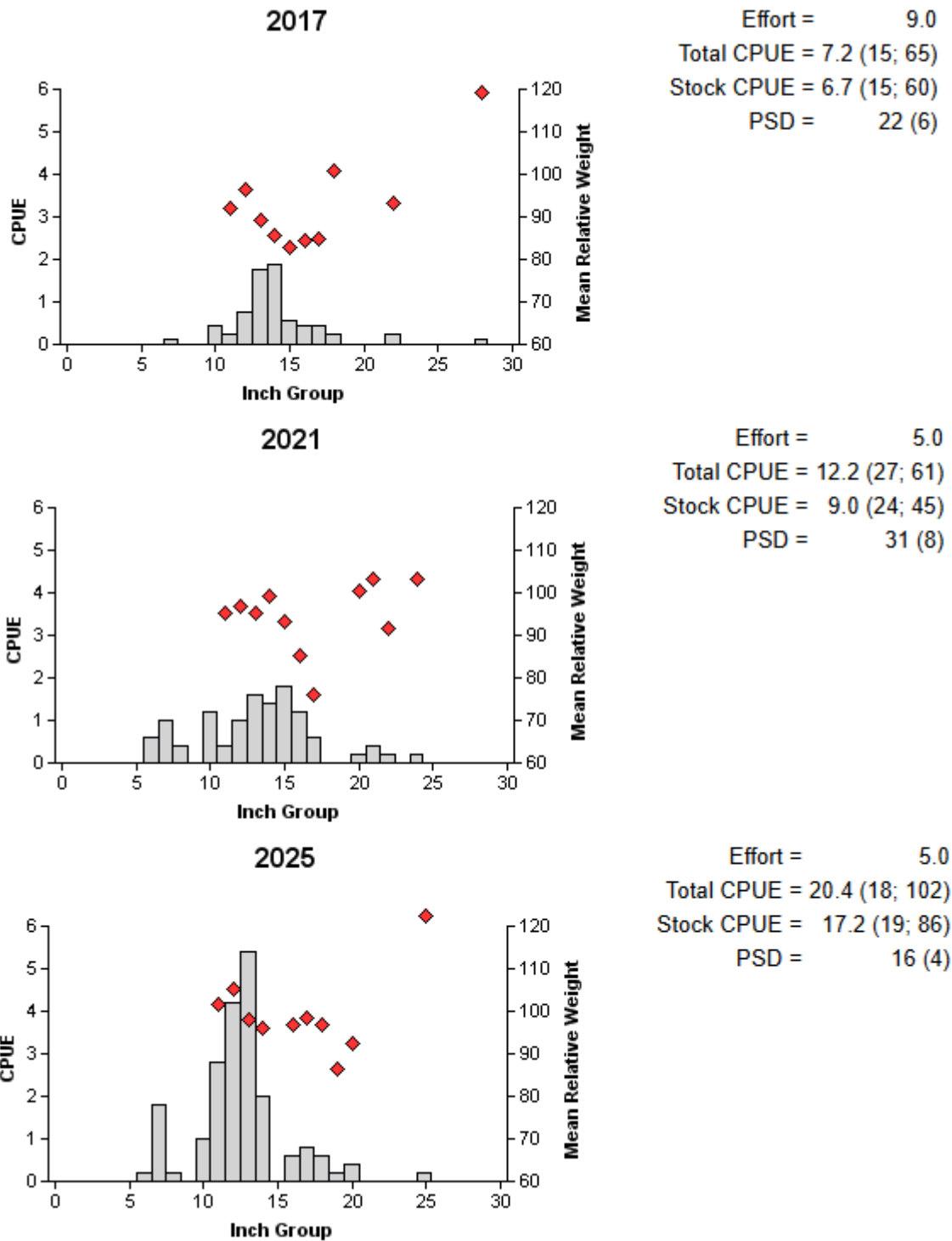


Figure 5. Number of Channel Catfish caught per net night (CPUE), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Bonham City Reservoir, Texas, 2017, 2021, and 2025.

Largemouth Bass

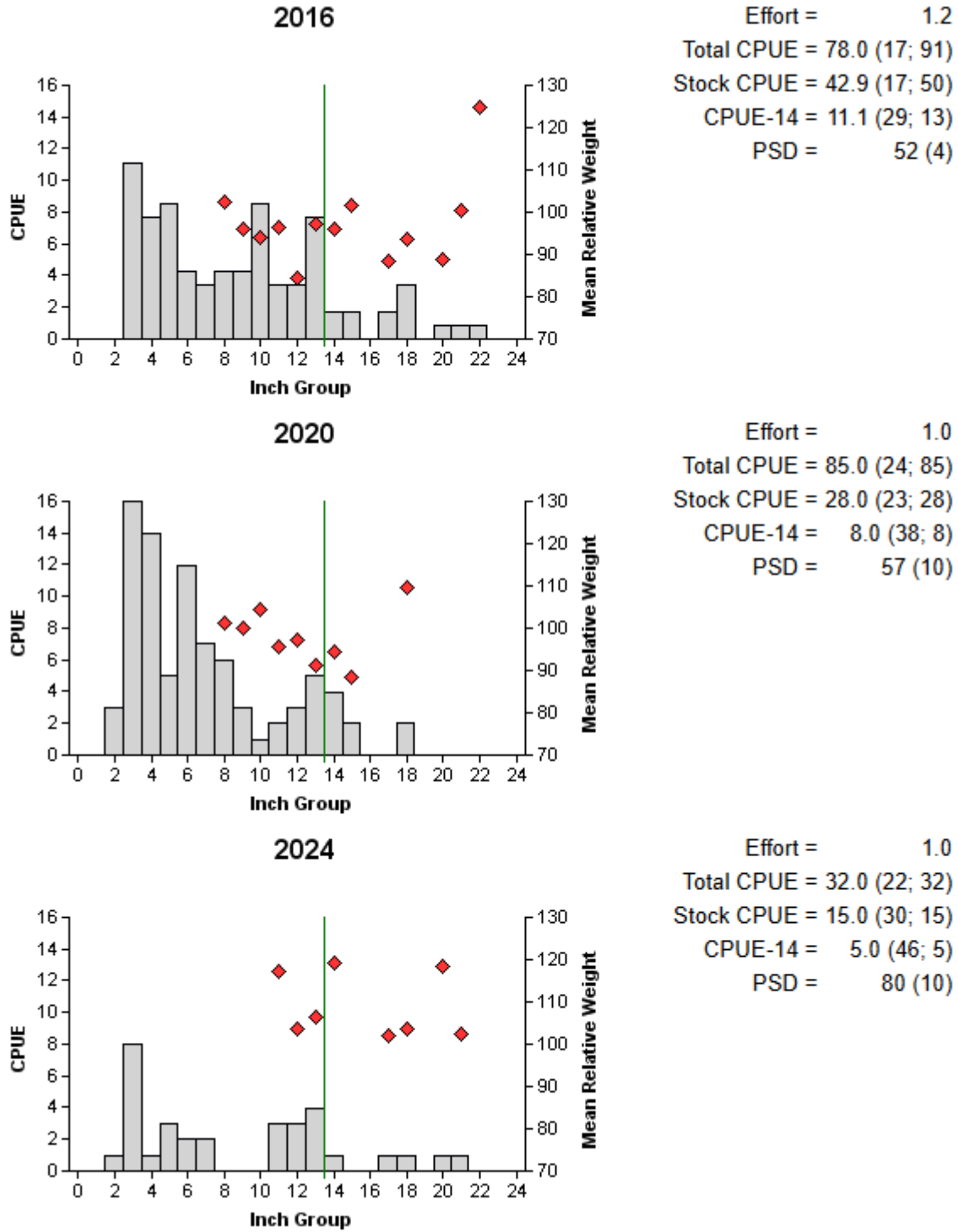


Figure 6. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Bonham City Reservoir, Texas, 2016, 2020, and 2024. Vertical line indicates minimum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

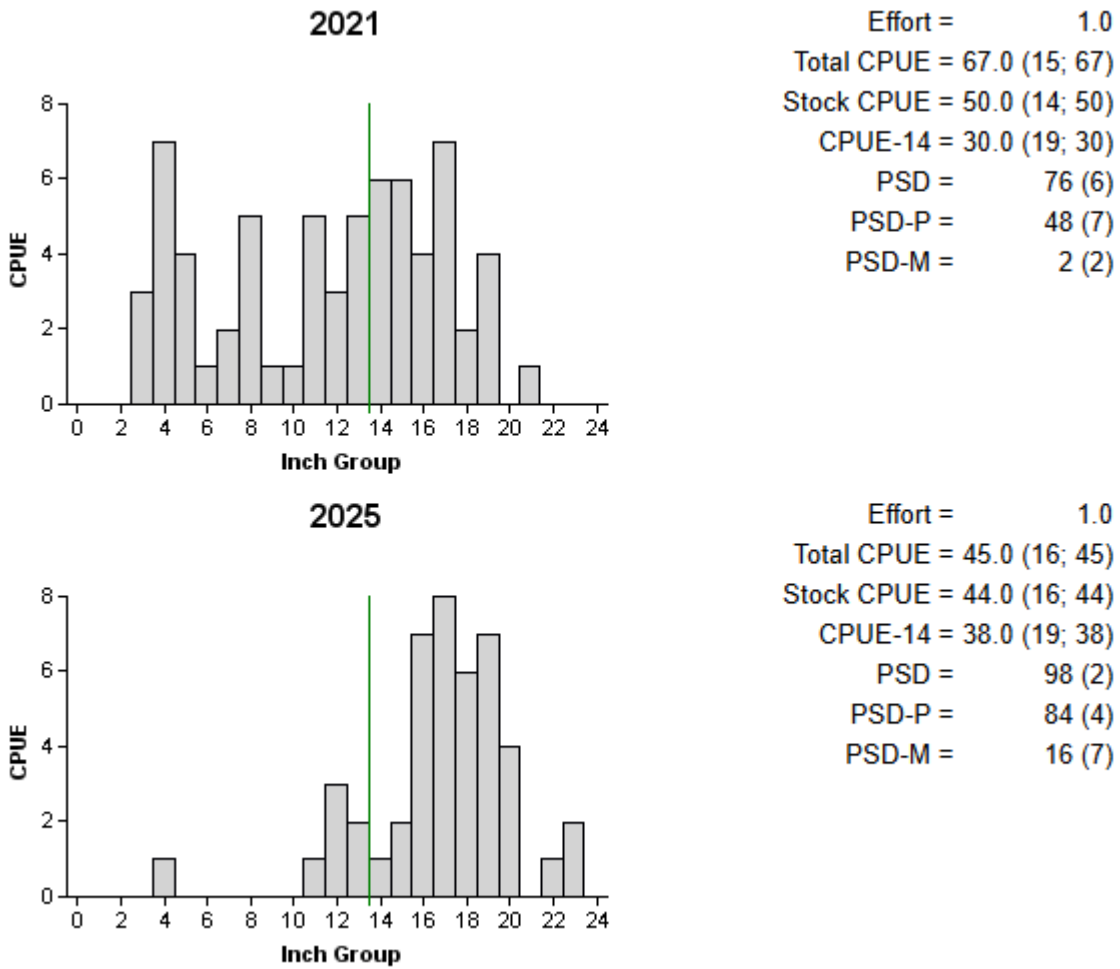


Figure 7. Number of Largemouth Bass caught per hour (CPUE, bars) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring bass-only electrofishing surveys, Bonham City Reservoir, Texas, 29 March 2021, and 9 April 2025. Vertical line indicates minimum length limit.

Crappie

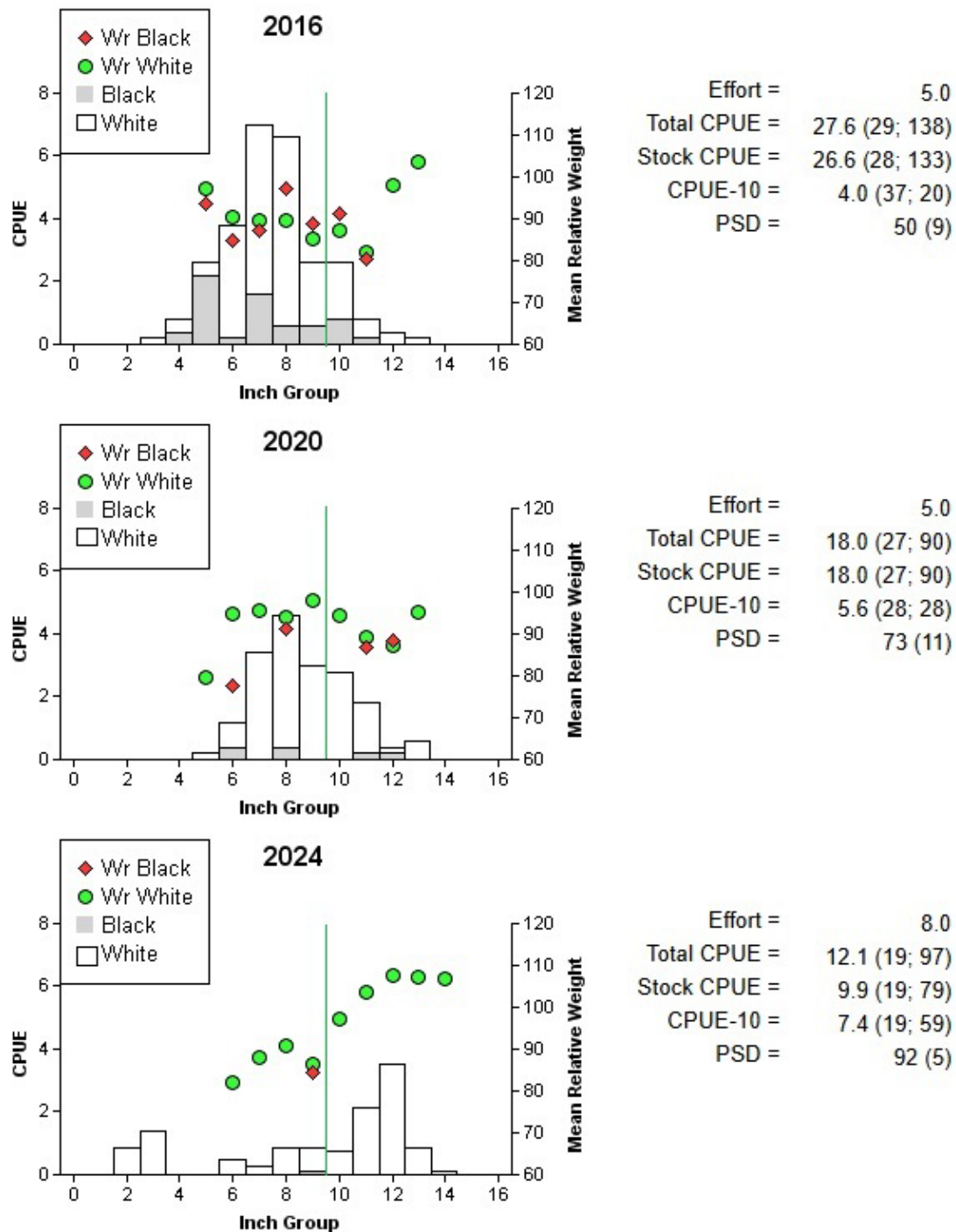


Figure 8. Number of White Crappie and Black Crappie caught per net night (CPUE, bars), mean relative weight for White Crappie (circles) and mean relative weight for Black Crappie (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, Bonham City Reservoir, Texas, 2016, 2020, and 2024. Vertical line indicates minimum length limit.

Proposed Sampling Schedule

Table 8. Proposed sampling schedule for Bonham City Reservoir, Texas. Survey period is June through May. Gill netting surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall.

	Survey year			
	2025-2026	2026-2027	2027-2028	2028-2029
Angler Access				X
Vegetation				X
Electrofishing - Fall				X
Electrofishing - Spring				X
Trap netting				X
Gill netting				X
Report				X

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

Number (N) and catch rate (CPUE) (RSE in parentheses) of all target species collected from all standard gear types from Bonham City Reservoir, Texas, 2024-2025. Sampling effort was 5 net nights for gill netting, 8 net nights for trap netting, and 1 hour for fall electrofishing and 1 hour for spring electrofishing.

Species	Gill Netting		Trap Netting		Electrofishing		Spring Electrofishing	
	N	CPUE	N	CPUE	N	CPUE	N	CPUE
Gizzard Shad					1216	1216.0 (22)		
Threadfin Shad					13	13.0 (33)		
Blue Catfish	36	7.2 (12)						
Channel Catfish	102	20.4 (18)						
Warmouth					9	9.0 (52)		
Bluegill					456	456.0 (19)		
Longear Sunfish					55	55.0 (46)		
Redear Sunfish					25	25.0 (44)		
Largemouth Bass					32	32.0 (22)	45	45.0 (16)
White Crappie			96	12.0 (20)				
Black Crappie			1	0.1 (100)				

APPENDIX B – Long-term catch rates

Catch rates (CPUE) of targeted species by standard gear type for Bonham City Reservoir, Texas, 1997 – 2025.

Gear	Species	Year								Avg.
		1997	2000	2004	2008	2012	2016	2020	2024	
Gill Netting (fish/net night)	Blue Catfish	9.0	5.0	3.4	4.2	22.6	11.1	8.8	7.2	8.9
	Channel Catfish	16.0	9.2	9.2	6.8	10.2	7.2	12.2	20.4	11.4
	White Bass					0.6	0.0	0.0	0.0	0.2
Electrofishing (fish/hour)	Gizzard Shad	123.3	409.0	163.0	108.0	400.0	218.6	374.0	1216.0	376.5
	Threadfin Shad	392.7	777.0	3,486.0	1,962.0	2,442.0	259.7	1,967.0	13	1,412.4
	Green Sunfish	0.7	0.0	2.0	2.0	0.0	7.7	0.0	0.0	1.6
	Warmouth	12.0	28.0	35.0	0.0	2.0	6.0	2.0	9.0	11.8
	Orangespotted Sunfish	0.0	0.0	0.0	0.0	0.0	0.9	4.0	0.0	0.6
	Bluegill	364.0	1,207.0	1,178.0	776.0	373.0	909.4	779.0	456	755.3
	Longear Sunfish	137.3	197.0	589.0	112.0	73.0	217.7	123.0	55.0	188.0
	Redear Sunfish	13.3	131.0	154.0	109.0	46.0	6.0	47.0	25.0	66.4
	Spotted Bass	6.7	12.0	7.0	2.0	1.0	2.6	4.0	0.0	4.4
	Largemouth Bass	124.0	79.0	172.0	119.0	85.0	78.0	85.0	32.0	96.8
Trap Netting (fish/net night)	White Crappie	28.8	6.8	51.6	2.8	15.0	21.0	16.8	12.0	19.4
	Black Crappie	0.6	3.2	10.6	3.0	1.2	6.6	1.2	0.13	3.3

*Electrofishing surveys prior to 2007 were conducted using a Smith-Root 5.0 GPP (Gas powered pulsator). Since 2007, surveys have been conducted using a Smith-Root 7.5 GPP.

*Except for 1997, gill netting surveys were conducted in the spring following the posted year.

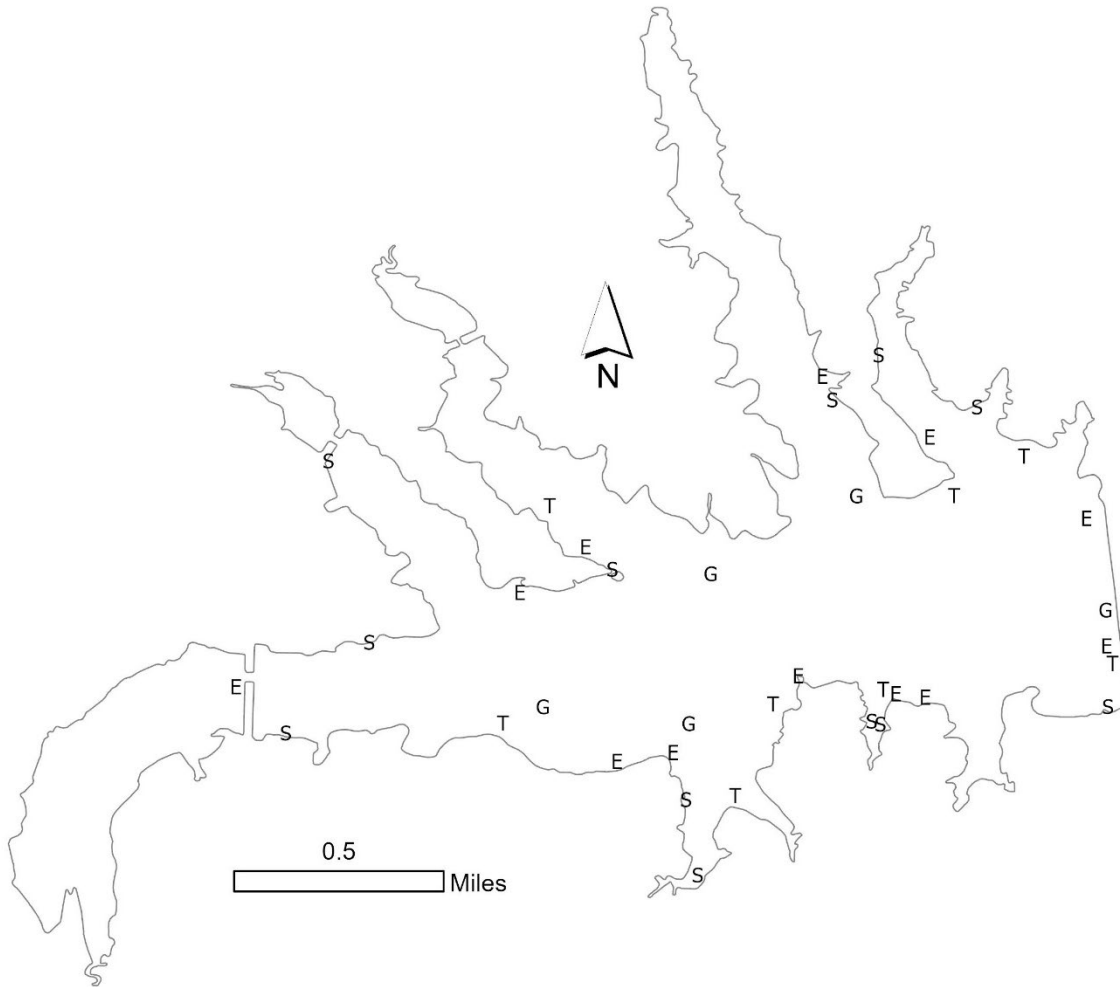
*Objective based sampling started in 2016.

APPENDIX C – Tournament Results

Results of select local club tournaments at Bonham City Reservoir 2016-2025. The number of fish per bag is in parenthesis. Weights are in pounds.

Date	1st Place Weight (of fish)	Big Bass Weight
5/29/2025	21.45 (5)	6.0
3/27/2025	10.2(3)	5.75
3/13/2025	8.49(2)	5.29
11/14/2024	17.4 (5)	5.21
10/31/2024	12.8 (5)	5.08
10/24/2024	14.04 (5)	4.9
10/12/2024	12.63 (4)	6
10/10/2024	9.35 (4)	6.75
3/20/2023	8.61 (3)	4.3
3/29/2021	10.62 (3)	6.4
9/30/2019	17.75 (5)	6.19
6/10/2019	31.9 (5)	7.83
5/20/2019	17.5 (5)	8.3
5/7/2019	12.28 (5)	4.8
4/8/2019	16.01 (5)	6.37
3/11/2019	5.07 (2)	3.07
10/22/2018	6.07 (2)	3.38
3/12/2018	23.9 (5)	6.3
6/29/2017	30.1 (5)	8
6/22/2017	18.3 (NA)	NA
6/15/2017	19.8 (NA)	9.8
5/4/2017	20 (NA)	8
4/13/2017	14.1 (5)	6.9
4/6/2017	18.2 (5)	10.2
3/31/2017	8.8 (3)	4.8
3/27/2017	28.7 (5)	8.4
5/14/2016	17.45 (5)	7.69

APPENDIX D – Map of sampling locations



Location of sampling sites, Bonham City Reservoir, Texas, 2024-2025. Trap net, gill net, spring electrofishing, and fall electrofishing stations are indicated by T, G, S and E, respectively. Water level was within three feet of conservation pool at time of sampling.



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