

# Jacksboro Reservoir

## 2022 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

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INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

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## Survey and Management Summary

Fish populations in Jacksboro Reservoir were surveyed in 2022 using electrofishing and trap netting and in 2023 using gill netting. Historical data are presented with the 2022-2023 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:** Jacksboro Reservoir is a 116-acre impoundment constructed in 1951. It is located in Jack County approximately 60 miles southeast of Wichita Falls and is controlled by the City of Jacksboro. The primary use is for municipal water supply and recreation. Maximum depth is 30 feet. Habitat consists of rocks and emergent vegetation. Boat access consists of a single, one-lane public boat ramp and an undeveloped gravel launching area. Shoreline fishing access is available along most of the lower half of the reservoir and includes a city park and two fishing docks. Jacksboro Reservoir's spillway flows directly into 385-acre Lost Creek Reservoir. Despite their proximity, characteristics between the two reservoirs differ considerably.

**Management History:** Historically important sport fish include Channel Catfish, White Bass, Largemouth Bass, and White Crappie. Stocking of advanced fingerling size Channel Catfish occurred in 2021 and fingerling size northern Largemouth Bass in 2022. Jacksboro reservoir has always been managed under state-wide regulations. Brush was placed around the two fishing docks and two brush piles were constructed in the reservoir in 2023. The location for these brush piles can be found online at the Texas Parks and Wildlife Department (TPWD) website.

### Fish Community

- **Prey species:** Threadfin Shad were present in the reservoir. Electrofishing catch rate of Gizzard Shad was near the historical average, and few Gizzard Shad were available as prey to most sport fish. Electrofishing catch rate of Bluegill was high. Bluegill reached 7-inches in length. Redear Sunfish were sampled up to 9-inches in length.
- **Catfishes:** Channel Catfish relative abundance increased from previous surveys. Flathead Catfish are present in low abundance with fish sampled up to 35-inches in length.
- **White Bass:** White Bass relative abundance declined slightly from the previous survey. Most of the fish sampled would be preferred by anglers.
- **Largemouth Bass:** Largemouth Bass were abundant. More legal-length fish were available to anglers than previous surveys. Largemouth Bass had average body condition.
- **White Crappie:** White Crappie relative abundance increased from the last survey but remains below the historical average. Legal fish are available to the anglers.

**Management Strategies:** Conduct general monitoring with electrofishing and trap nets in 2026 and gill nets in 2027. Stock nine-inch Channel Catfish in 2024 and 2026 at a reduced rate. Promote the White Bass fishery via verbal communication and the internet. Continue to educate anglers and constituents on invasive species.

## Introduction

This document is a summary of fisheries data collected from Jacksboro Reservoir from 2022-2023. 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 2022-2023 data for comparison.

## Reservoir Description

Jacksboro Reservoir is a 116-acre impoundment constructed in 1951. It is in Jack County approximately 60 miles southeast of Wichita Falls and is controlled by the City of Jacksboro. Its primary use is water supply. Maximum depth is 30 feet. Habitat consists of rocks and emergent vegetation. Boat access consists of a single, one-lane public boat ramp and an undeveloped gravel launching area. Bank fishing is available around much of the lower half of the reservoir and includes a city park with two fishing docks. Water clarity was four feet as measured by secchi disc. Other characteristics are found in Table 1. Jacksboro Reservoir's spillway flows directly into 385-acre Lost Creek Reservoir. Despite their proximity, characteristics between the two reservoirs differ considerably, with Jacksboro Reservoir having a mean depth of 16 feet, mud and silt bottom, and water clarity of 2-4 feet typically compared to Lost Creek having a mean depth of 30 feet, rock substrate, and water clarity typically exceeding seven feet.

## Angler Access

Jacksboro Reservoir has two boat ramps available (Table 2), a paved single lane ramp and a two-lane gravel ramp. The reservoir shoreline is primarily undeveloped, and a city park provides plenty of shoreline access with two fishing docks.

## Management History

**Previous management strategies and actions:** Management strategies and actions from the previous survey report (Lang and Mauk 2019) included:

1. The Channel Catfish population needs occasional stockings to maintain a fishery. This reservoir historically has had a high density of legal length and better Largemouth Bass with the ability to prey on stocked Channel Catfish. A previous management strategy was to biennially stock nine-inch Channel Catfish to support the fishery, which is no longer considered feasible because of the abundant predators.
 

**Action:** Nine-inch Channel Catfish were stocked at a rate of 8.6 fish/acre. An increase in relative abundance was documented in the 2023 gill netting survey.
2. White Bass were abundant, but only 4.7% of anglers were targeting them at the time of the 2014-2015 creel survey. The abundance of White Bass was much higher currently than it was at the time of the creel survey and the future looks promising for the species with many sub-legal length fish available in the reservoir.
 

**Action:** Promoted the fishery using the district Facebook page and in communication with anglers when talking about the reservoir. Conducted a gill netting survey in 2023 to assess the White Bass population.
3. The potential spread of zebra mussels and other invasive species exists. Informing the public and reservoir authorities of what to do to prevent the spread and what to do if they suddenly appear in the reservoir, are prudent actions.
 

**Action:** Signage was maintained at the boat ramp to make boaters aware of invasive species. Invasive species are a talking point while communicating with the public and discussed/published in various media outlets.

**Harvest regulation history:** Sport fish species in Jacksboro Reservoir have always been managed under statewide regulations. Blue and Channel Catfish statewide regulation changed to no minimum length-limit but only 10 fish can be over 20 inches in length as part of the combined 25 fish bag limit on September 1, 2021 (Table 3).

**Stocking history:** Advanced fingerling Channel Catfish were stocked in 2021. Northern strain Largemouth Bass fingerlings were stocked in 2022. The complete stocking history is presented in Table 4.

**Vegetation/habitat management history:** Noxious aquatic vegetation has not been observed at the reservoir. Historically the reservoir is ringed by water willow with patches of pondweed. In 2023 brush was placed under the two fishing docks and two brush piles were planted in the reservoir. Locations can be found on the Texas Fish Habitat Structures website.

**Water transfer:** There are no inter-basin transfers involving Jacksboro Reservoir.

## Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Jacksboro Reservoir (Lang and Mauk 2019). Primary components of the OBS plan are listed in Table 5. Surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2022) except for electrofishing was conducted during the daytime.

**Electrofishing** – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by daytime electrofishing (nine 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. The 2014 and 2018 electrofishing surveys were conducted during the daytime. During the 2022 survey, an APEX Smith Root electrofishing system was used with a 7000 kW generator. Previously a 7.5 GPP Smith Root electrofishing system was used.

**Trap netting** – Crappie were collected using trap nets (5 net nights at 5 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, Flathead Catfish and White Bass were collected 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).

**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 Anderson and Neumann (1996). 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 and creel statistics.

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

**Water level** – – No source for water level data exists for Jacksboro Reservoir, though it usually remains close to full pool.

## Results and Discussion

**Habitat:** A structural habitat survey was conducted in August 2022 and no changes were observed from the 2018 survey (Table 6). Water Willow, Button Bush and cattails provide habitat in 2.3% of the reservoir (Table 7). Jacksboro Reservoir was approximately one foot below conservation level which left a lot of the emergent vegetation out of the water during the survey. Pondweed covered 2.6 acres and increased from 0.1 acres in 2014 (Table 7).

**Prey species:** Electrofishing catch rates of Gizzard Shad and Bluegill were 62.7/h and 436.0/h, respectively in 2023. Index of Vulnerability (IOV) for Gizzard Shad was poor, indicating that only 13% of Gizzard Shad were available to existing predators; this was similar to IOV estimates in 2018 (14%) but well below the 92% in 2014 (Figure 1). The relative abundance of Gizzard Shad was lower in 2022 compared to the 2018 (84.0/h) and 2014 (88.0/h) surveys (Figure 1). Historical average of Gizzard Shad total CPUE is 62.7/h (Appendix C). Bluegill relative abundance in 2022 was much higher than the 2018 (66.7/h) and 2014 (281.0/h) surveys (Figure 2). Bluegill size structure continues to be dominated by small individuals (Figure 2). The total CPUE of Bluegill was the second highest catch rate on record and higher than the historical average (Appendix C). Electrofishing catch rate of Redear Sunfish was 17.3/h in 2022 (Figure 3). This is second highest catch rate on record (Appendix C). The size structure shown by PSD of 69 favors larger size fish with Redear Sunfish up to nine-inches in length. The catch rate of Redear Sunfish increased from the 2018 survey (10.8/h) but was not as high as the 47.0/h in 2014 (Figure 3). Threadfin Shad are present in the reservoir and the total catch rate was the highest ever recorded at 112.0/h which was almost twice the historical average (Appendix A and C).

**Channel Catfish:** The gill net catch rate of Channel Catfish was 4.0/nn in 2023 (Figure 4) and historically the highest catch rate (Appendix C). The Channel Catfish relative abundance increased from 1.2/nn in both 2015 and 2019. Quality sized fish ( $\geq 16$ -inches in length) made up 38% of the sample of stock-sized fish. Body condition was good trending to great with an increase in length of fish in 2023. Channel Catfish ranged in length from 7-inches to 24-inches (Figure 4). Although a gill netting survey was not part of the objective based sampling plan from Lang 2019, a 2014 creel survey showed that 14% of the anglers were fishing for catfishes and 5.2% were targeting Channel Catfish. Catfishes were the second most targeted species during the 2014 creel (Lang 2015).

**Flathead Catfish:** The gill net catch rate for 2023 was the same as the 2019 survey at 1.0/nn (Appendix C). Size structure was more balanced in 2023 (PSD 40) than in 2019 (PSD 100). Fish were captured up to 35-inches in length.

**White Bass:** The gill net catch rate of White Bass was 7.6/nn in 2023. Relative abundance has declined slightly from the 2019 catch rate of 11.2/nn but was higher than the 2015 survey of 2.2/nn (Figure 5). Catch rates indicated that White Bass continue to be present in the reservoir. Size structure has changed from a more balanced population in 2019 (PSD 43, PSD-P 36) to a population dominated by preferred length fish ( $\geq 12$ -inches in length) with a PSD of 100 and a PSD-P of 97. Body condition is good for all sizes (Figure 5).

**Largemouth Bass:** Electrofishing catch rate of total CPUE for the 2022 survey was the highest on record for Jacksboro Reservoir at 146.7/h (Appendix C). Stock CPUE catch rates improved from 58.0/h in 2014 to 62.7/h in 2018 and 86.7/h in 2022. Catch rates of CPUE-14 increased from 13.0/h to 17.3/h and 34.7/h over the last three surveys. The PSD has increased from 34 in 2014 to 55 in 2018 and to 68 in 2022. Relative weight was fair to good for most size categories and similar to previous surveys (Figure 6).

**White Crappie:** The trap net catch rate of White Crappie was 7.6/nn in 2022, almost three times higher than in 2018 (2.6/nn) and about four times lower than 33.4/nn in 2014 (Figure 7). The total CPUE is trending up but remains below the historical average of 16.4/nn (Appendix C). The PSD of 100 was the same as the PSD in 2018 but does not represent a balanced size structure of White Crappie like the 2014 PSD of 54. Mean relative weight was good for all size classes in 2022 and was generally better than those from 2018 and 2014 (Figure 7).

# Fisheries Management Plan for Jacksboro Reservoir, Texas

Prepared – July 2023

**ISSUE 1:** During the 2014 creel survey, catfishes were the second most targeted species. Channel Catfish abundance is considered low. Stockings are required to maintain the population.

## MANAGEMENT STRATEGIES

1. Stock nine-inch Channel Catfish in 2024 and 2026 at 8.6 fish/acre.
2. Monitor relative abundance of Channel Catfish with a gill netting survey in 2027.
3. Conduct an age and growth survey of all the Channel Catfish sampled during the 2027 gill netting survey to determine the impact of supplemental stockings.

**ISSUE 2:** White Bass were abundant and are in the preferred size range for anglers to target, but only 4.7% of anglers were targeting them at the time of the 2014-2015 creel survey. The reservoir offers plenty of bank access with two fishing docks and a quality boat ramp.

## MANAGEMENT STRATEGIES

1. Promote this fishery through conversations with anglers and social media.
2. Conduct a gill net survey in 2027 to monitor general trends in the population.

**ISSUE 3:** 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 maintain 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 inter-basin water transfers to facilitate potential invasive species responses.



## Objective-Based Sampling Plan and Schedule (2023–2027)

Sport fish, forage fish, and other important fishes

Sport fishes in Jacksboro Reservoir include Channel Catfish, Flathead Catfish, White Crappie, White Bass and Largemouth Bass. Known important forage species include Bluegill, Redear Sunfish, Threadfin and Gizzard Shad.

Survey objectives, fisheries metrics, and sampling objectives

**Gizzard and Threadfin Shad:** Gizzard Shad and Threadfin Shad provide a forage base in Jacksboro Reservoir. Gizzard Shad will be sampled in 2026 by electrofishing at 9 randomly selected 5-minute stations for general monitoring with objectives of CPUE-total RSE  $\leq 25$  and a sample of 50 or more Gizzard Shad for size structure and prey availability. Threadfin Shad will also be sampled during the electrofishing survey for general trend data of CPUE total to compare to previous surveys. No extra sampling will be conducted to achieve these goals.

**Bluegill and Redear Sunfish:** Bluegill are one of the primary forage species in Jacksboro Reservoir. Trend data on CPUE and size structure has been collected during every electrofishing survey since 2011. The Redear Sunfish population is improving with some quality length fish available. General monitoring will allow for monitoring of large-scale changes in both the Bluegill and Redear Sunfish relative abundance and size structure. A sample precision of RSE $<25$  for CPUE and a sample of 50 or more stock-length fish for size structure and body condition will be the target of the electrofishing survey at 9 randomly selected 5-minute stations for both Bluegill and Redear Sunfish in 2026. No additional effort will be expended to achieve an RSE  $<25$  for CPUE or a sample of 50 or more stock-length fish for both Bluegill and Redear Sunfish.

**Channel Catfish and catfish (spp.):** During the 2023 gill netting survey the catch rate (4.0/nn) increased from the 2019 survey of 1.2/nn (Figure 4). This followed a stocking of nine-inch Channel Catfish at 8.6 fish/acre in 2021. A management strategy is to continue a biennial stocking of nine-inch Channel Catfish at a reduced rate of 8.6 fish/acre. To determine the success of the stockings, a gill net survey will be performed in 2027 with 5 randomly selected gill nets to gather general trend data to monitor changes to the Channel Catfish relative abundance. The target will be to sample 50 stock-length fish for size structure and body condition with a precision of RSE $<25$  for CPUE. Otoliths will be extracted from collected Channel Catfish to help determine the impact of supplemental stockings. Flathead Catfish will be sampled for presence/absence with no set targets during the gill net survey for Channel Catfish. No extra sampling will be conducted to achieve these goals due to historically low catch rates and the small waterbody.

**White Bass:** White Bass are present in Jacksboro Reservoir with a high relative abundance and preferred sized fish. A gill net survey with 5 randomly selected sites will be conducted in 2027 for general trend data to assess the White Bass population changes. A sample precision of RSE $<25$  for CPUE and a sample of 50 or more stock-length fish for size structure and body condition will be the target. No extra sampling will be conducted to achieve these goals due to the small size of Jacksboro Reservoir.

**Largemouth Bass:** Largemouth Bass are the most popular sport fish in Jacksboro Reservoir. Trend data on CPUE, size structure, and body condition have been collected about every four years since 2011 with fall daytime electrofishing. General monitoring will be the objective to monitor large-scale changes in the Largemouth Bass population in 2026. Fall daytime electrofishing at nine randomly selected 5-minute stations has been proven to provide a precision of RSE $<25$  for CPUE-stock and a sample of 50 or more stock-length fish for size structure and body condition analysis.

**White Crappie:** General monitoring with sampling objectives for size structure, body condition, and abundance will be attained using trap nets at six randomly selected stations to target a CPUE-stock  $\geq 50$

fish and a CPUE-total RSE  $\leq 25$  in 2026. No additional sampling will be conducted to achieve these goals.

Sampling schedule is in table 8.

## Literature Cited

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- DiCenzo, V. J., M. J. Maceina, and M. R. Stimpert. 1996. Relations between reservoir trophic state and Gizzard Shad population characteristics in Alabama reservoirs. North American Journal of Fisheries Management 16:888-895.
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- Lang, T., and R. Mauk. 2019. Jacksboro Reservoir, 2018 fisheries management survey report. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-3, Austin.
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## Tables and Figures

Table 1. Characteristics of Jacksboro Reservoir, Texas.

Characteristic	Description
Year constructed	1951
Controlling authority	City of Jacksboro
County	Jack
Reservoir type	Tributary
Shoreline Development Index	3.51
Conductivity	486 $\mu$ S/cm

Table 2. Boat ramp characteristics for Jacksboro Reservoir, Texas, August 2022.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
Jacksboro City Lake- Developed	33.23170 -98.15076	Y	10	7 feet below full	Good
City Park- Undeveloped	33.23523 -98.14749	Y	50	Unknown	Fair

Table 3. Harvest regulations for Jacksboro 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, 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 Jacksboro Reservoir, Texas. FGL = fingerling; AFGL = advanced fingerling; ADL = adults.

<b>Species</b>	<b>Year</b>	<b>Number</b>	<b>Life Stage</b>
Channel catfish	1969	6,000	AFGL
	1991	3,000	AFGL
	1992	3,007	AFGL
	1994	3,003	AFGL
	1997	4,375	AFGL
	1998	3,015	AFGL
	2011	12,323	FGL
	2013	2,908	AFGL
	2016	2,915	AFGL
	2021	1,011	AFGL
Total	<u>41,557</u>		
Coppernose bluegill x green sunfish	1984	<u>6,200</u>	
	Total	6,200	
Florida largemouth bass	1988	12,000	FRY
	1990	12,336	FRY
	1991	<u>12,200</u>	FGL
	Total	36,536	
Largemouth bass	2022	<u>12,423</u>	FGL
	Total	12,423	
Northern pike	1974	<u>2,369</u>	
	Total	2,369	

Table 4. Objective-based sampling plan components for Jacksboro Reservoir, Texas 2022.

Gear/target species	Survey objective	Metrics	Sampling objective
<i>Electrofishing</i>			
Largemouth Bass	Abundance	CPUE–Stock	RSE-Stock $\leq 25$
	Size structure	PSD, length frequency	$N \geq 50$ stock
	Body condition	$W_r$	10 fish/inch group (max)
Bluegill <sup>a</sup>	Abundance	CPUE–Total	RSE $\leq 25$
	Size structure	PSD, length frequency	$N \geq 50$
Gizzard Shad <sup>a</sup>	Abundance	CPUE–Total	RSE $\leq 25$
	Size structure	PSD, length frequency	$N \geq 50$
	Prey availability	IOV	$N \geq 50$
<i>Trap netting</i>			
White Crappie	Abundance	CPUE–Stock	RSE-Stock $\leq 25$
	Size structure	PSD, length frequency	$N \geq 50$ stock

<sup>a</sup> No additional effort will be expended to achieve an RSE  $\leq 25$  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 5. Survey of structural habitat types, Jacksboro Reservoir, Texas, 2022. Shoreline habitat type units are in miles.

Habitat type	Estimate	% of total
Natural	1.3 miles	27.7
Rocky	3.4 miles	72.3

Table 6. Survey of aquatic vegetation, Jacksboro Reservoir, Texas, 2018–2022. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2014	2018	2022
Native submersed	0.1 (<0.1)	1.3 (1.1)	2.6 (2.3)
Native emergent	2.0 (1.7)	6.4 (5.5)	2.7 (2.3)

## Gizzard Shad

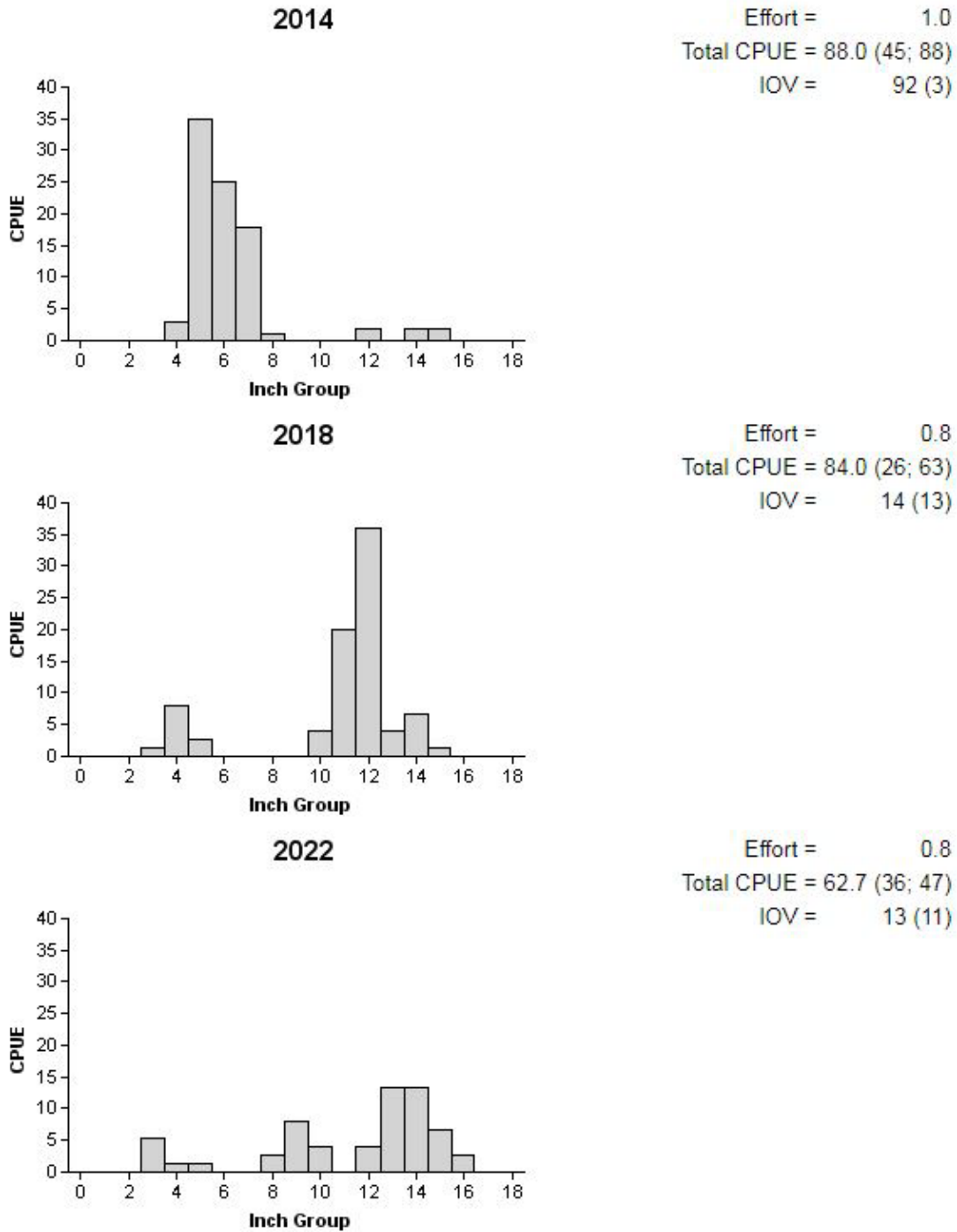


Figure 1. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2014, 2018, and 2022.



## Bluegill

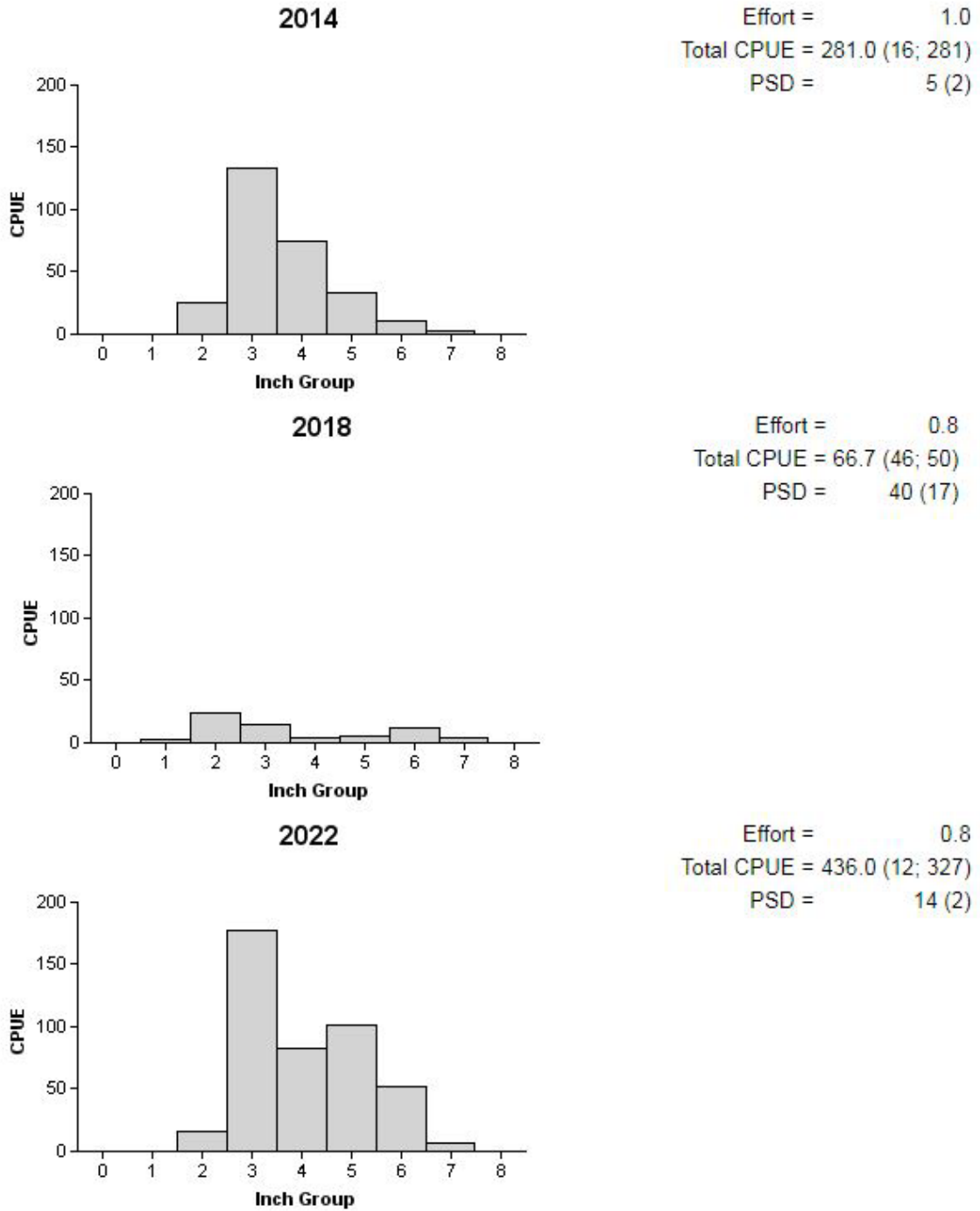


Figure 2. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2014, 2018, and 2022.

## Redear Sunfish

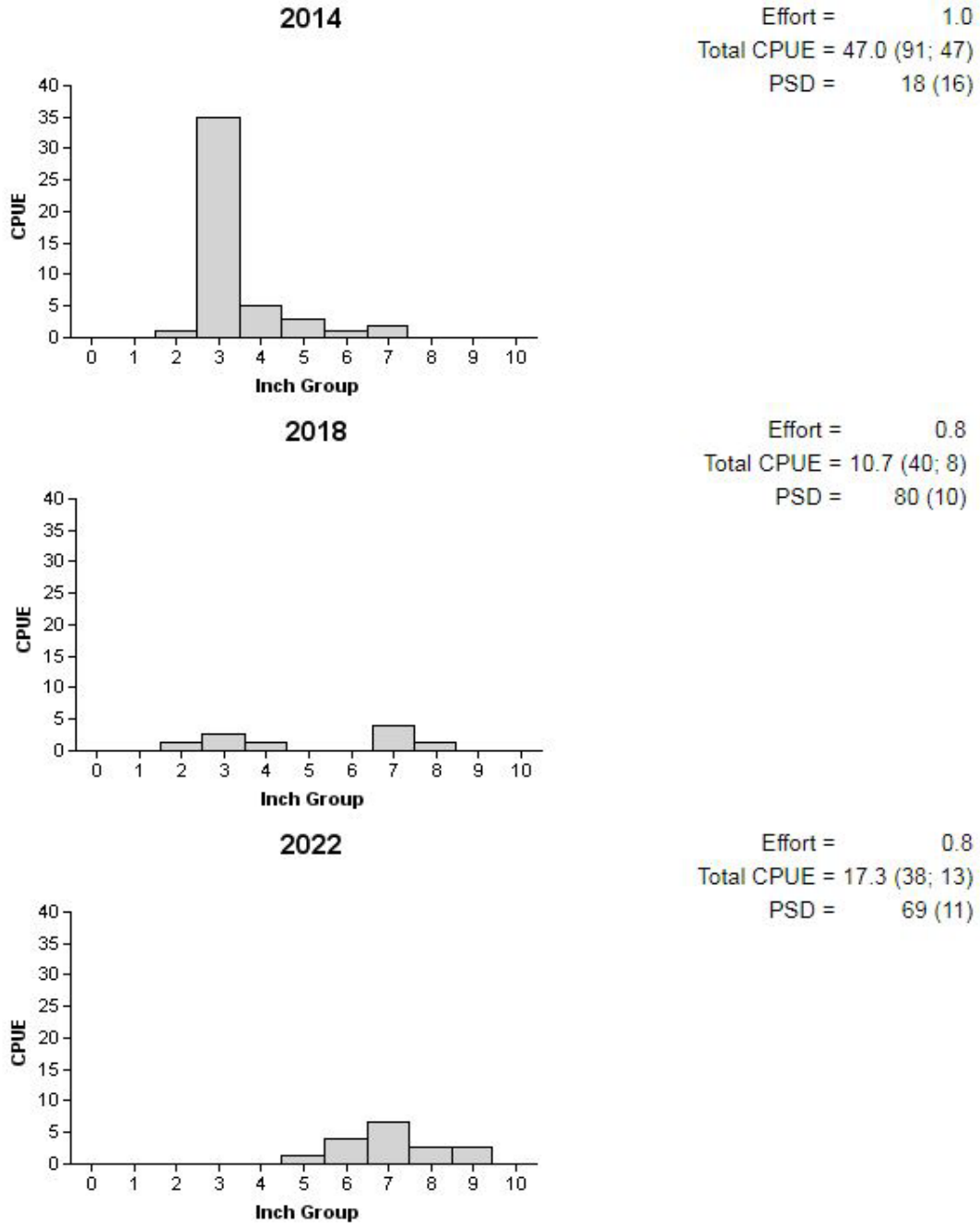


Figure 3. Number of Redear Sunfish caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2014, 2018, and 2022.

## Channel Catfish

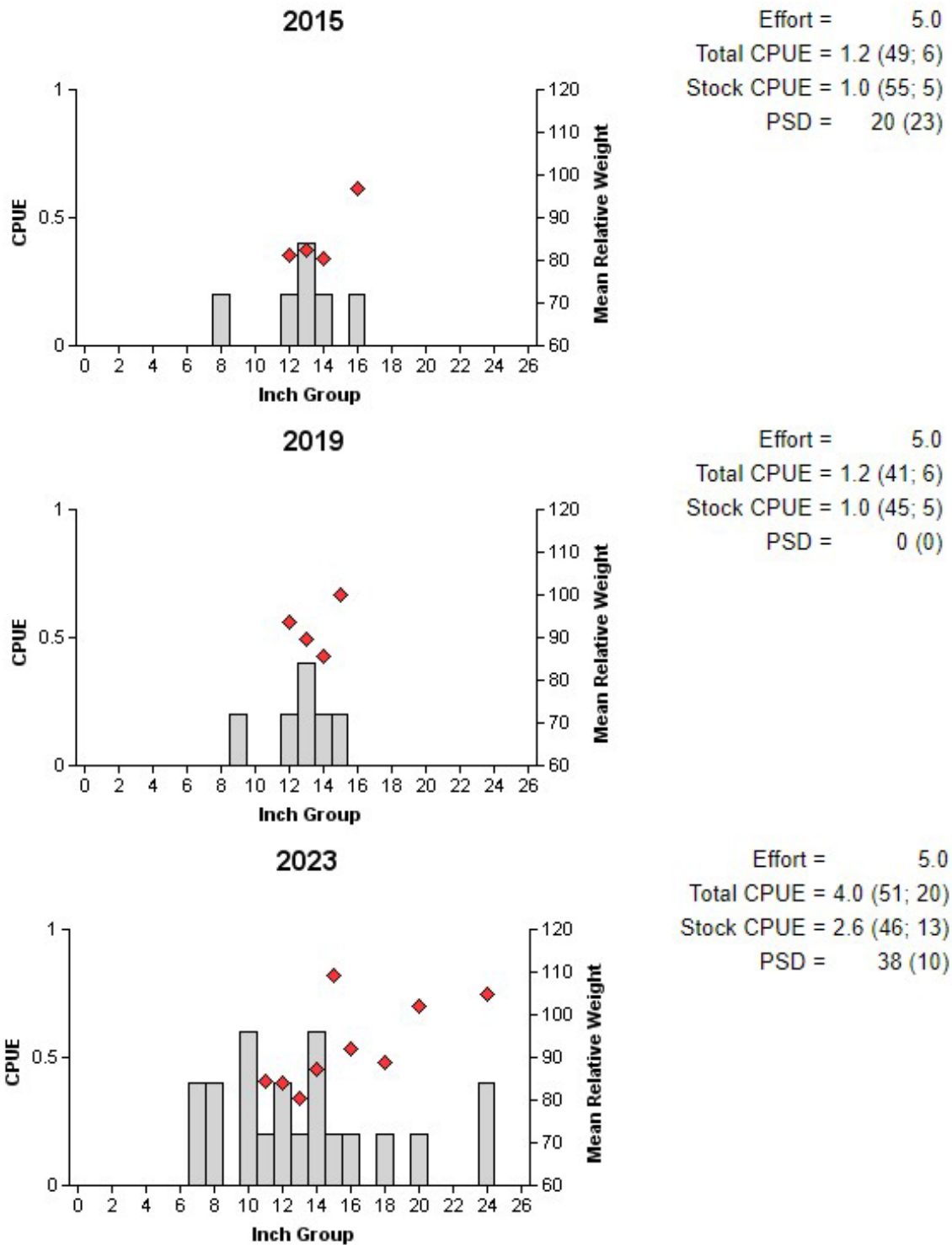


Figure 4. Number of Channel Catfish caught per net night (CPUE), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill netting surveys, Jacksboro Reservoir, Texas, 2015, 2019, and 2023.

## White Bass

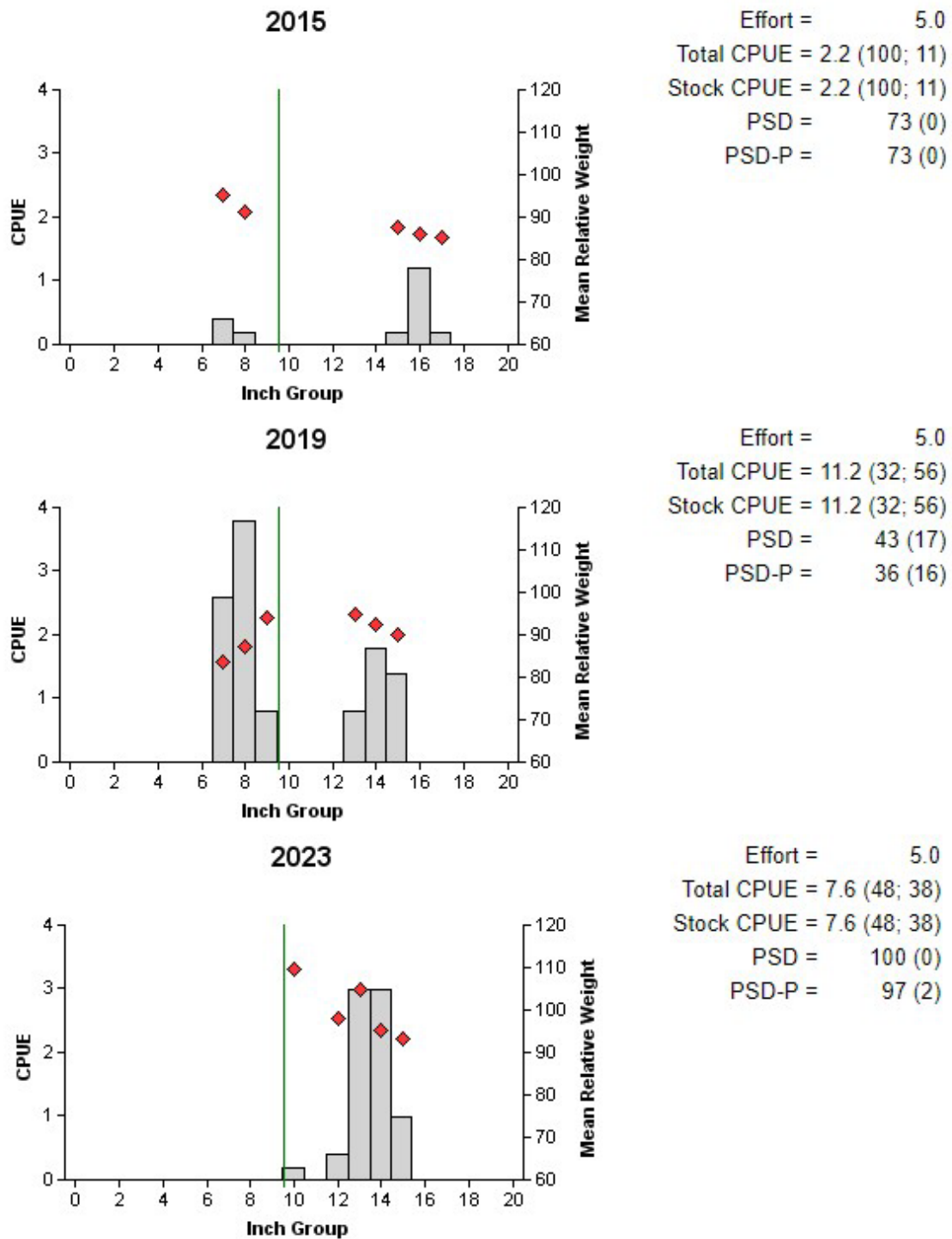


Figure 5. Number of White Bass caught per net night (CPUE), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill netting surveys, Jacksboro Reservoir, Texas, 2015, 2019, and 2023. Vertical line represents minimum length limit.

## Largemouth Bass

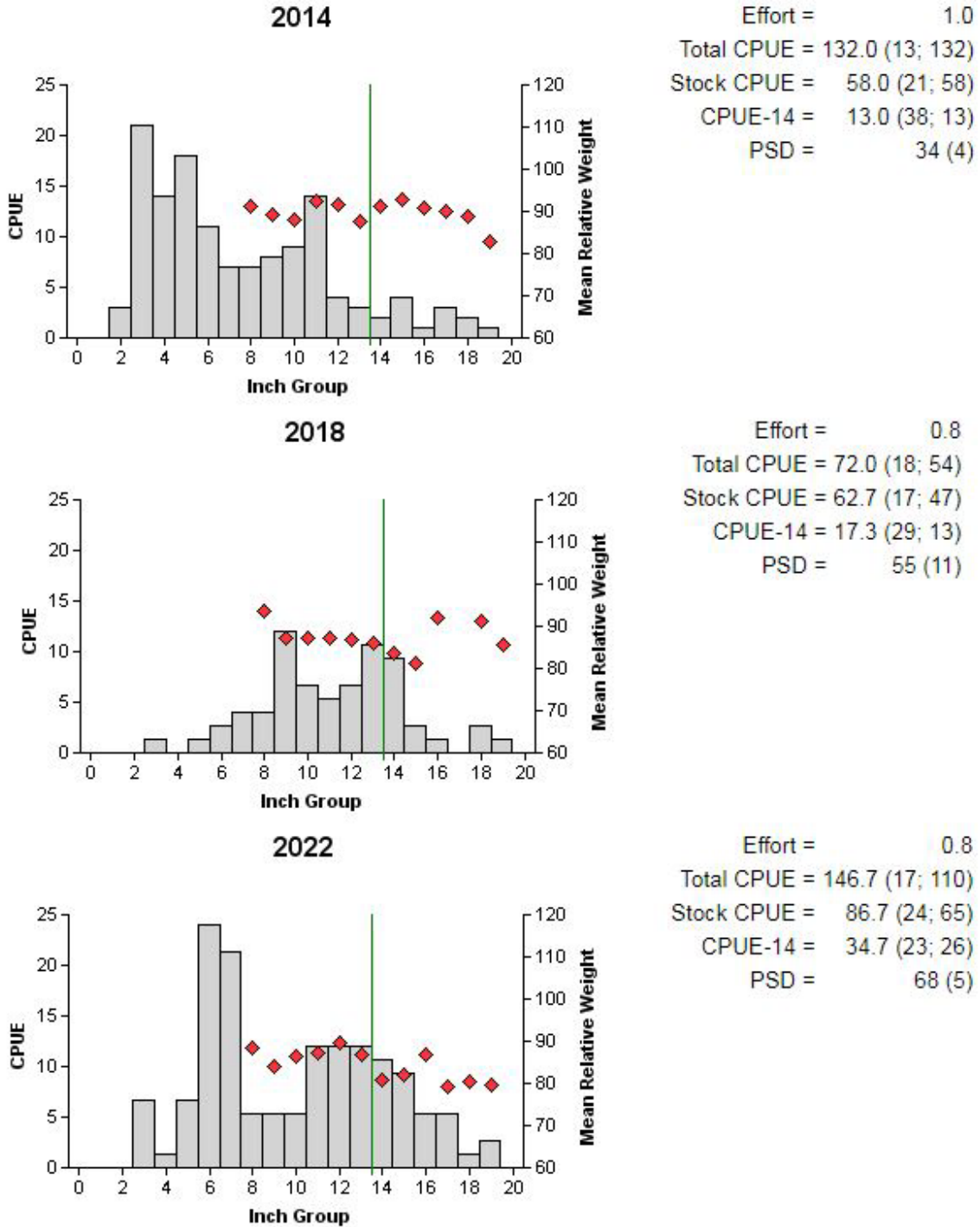


Figure 6. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2014, 2018, and 2022. Vertical line represents the minimum length limit.

## White Crappie

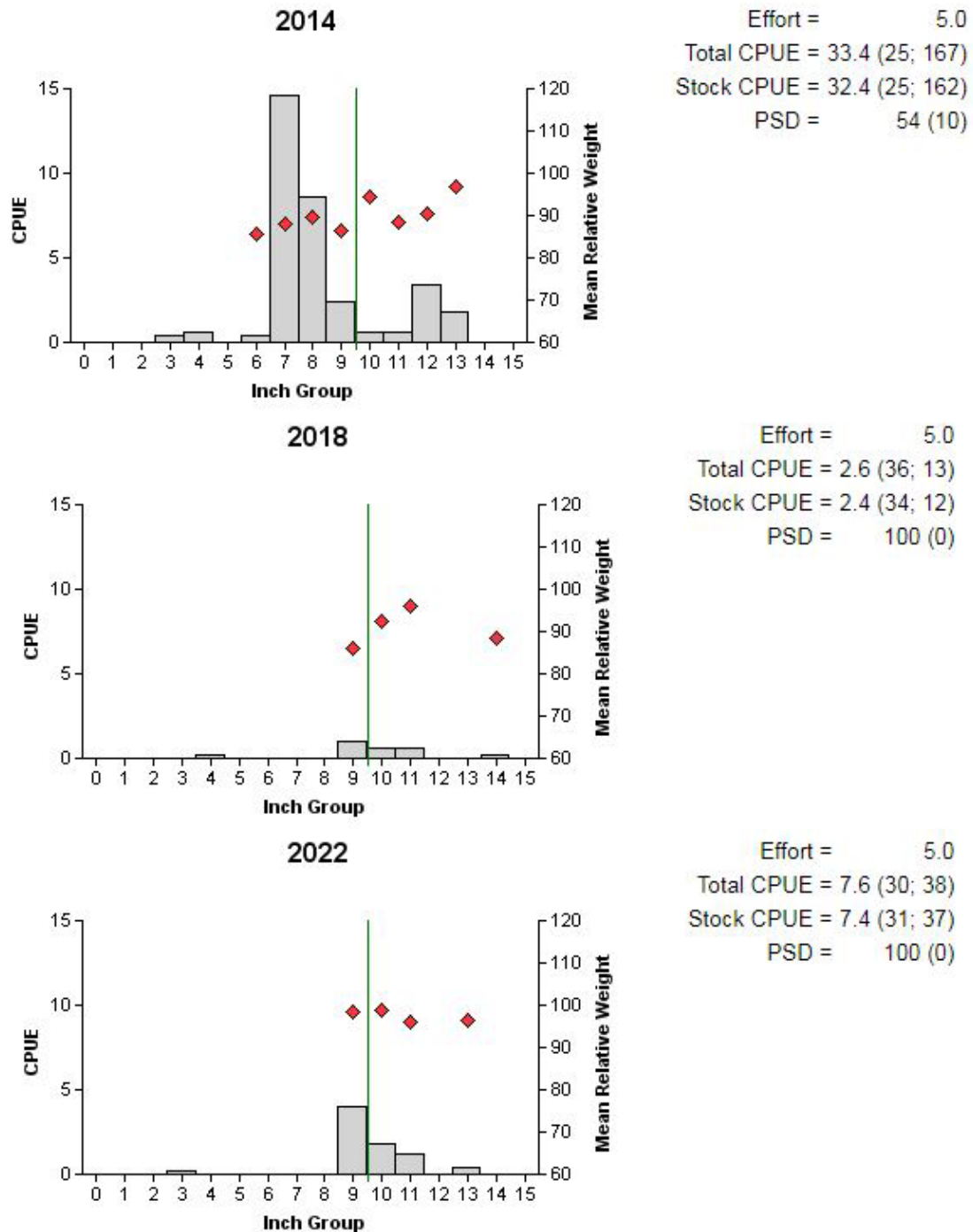


Figure 7. Number of White Crappie caught per net night (CPUE), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, Jacksboro Reservoir, Texas, 2014, 2018, and 2022. Vertical line represents the minimum length limit.

## Proposed Sampling Schedule

Table 7. Proposed sampling schedule for Jacksboro Reservoir, Texas. Survey period is June 2023 through May 2027. Gill netting surveys are conducted during the spring. Electrofishing and trap netting surveys are conducted in the fall.

	Survey year			
	2023-2024	2024-2025	2025-2026	2026-2027
Angler Access				X
Structural Habitat				X
Vegetation				X
Electrofishing – Fall				X
Trap netting				X
Gill netting				X
Report				X

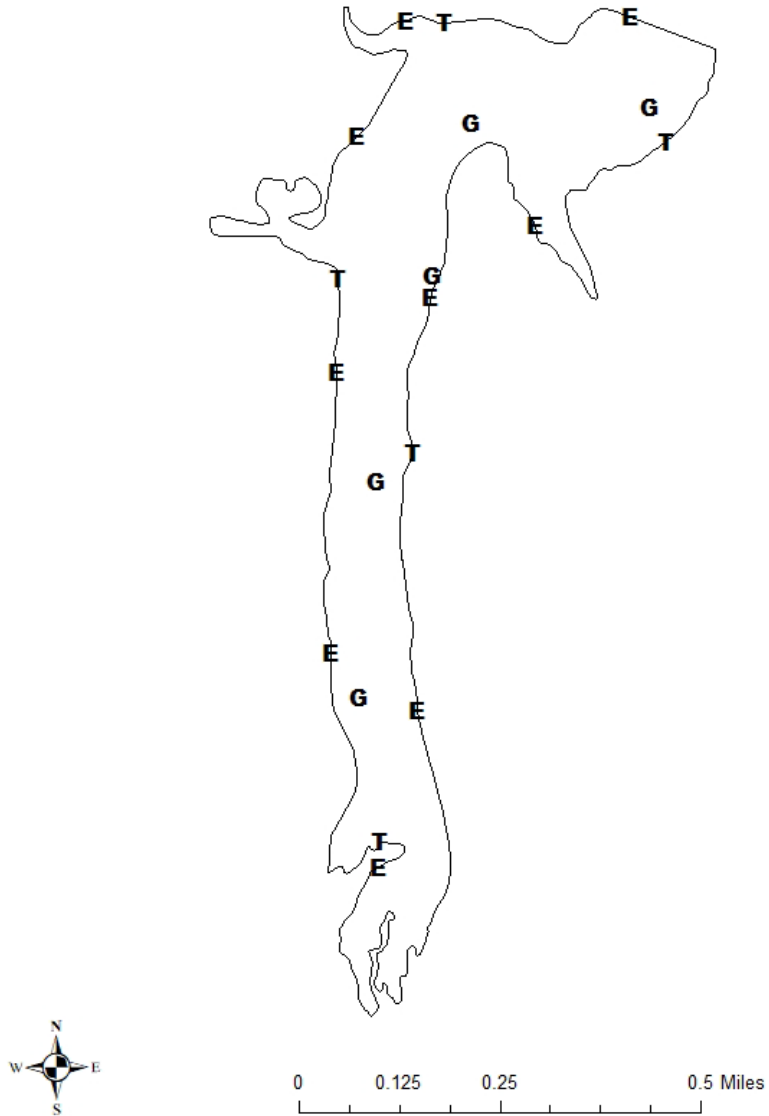
## APPENDIX A – Catch rates for all species from all gear types

Number (N) and catch rate (CPUE) (RSE in parentheses) of all target species collected from all gear types from Jacksboro, Texas, 2022 and 2023. Sampling effort was 0.8 hours for electrofishing, 5 net nights for trap netting and 5 net nights for gill netting.

Species	Electrofishing		Trap Net		Gill Net	
	N	CPUE	N	CPUE	N	CPUE
Longnose Gar					1	0.2 (100)
Gizzard Shad	47	62.7 (36)			30	3.00 (52)
Threadfin Shad	84	112.0 (77)				
Common Carp					8	1.6 (32)
Channel Catfish					20	4.0 (51)
Flathead Catfish			1	0.2(100)	5	1.0 (77)
White Bass					38	7.6 (48)
Green Sunfish	17	22.7 (39)	2	0.4(100)		
Warmouth	5	6.7 (53)				
Bluegill	327	436.0 (12)	172	34.4(52)	3	0.6 (67)
Longear Sunfish	33	44.0 (33)	10	2.0(55)	1	0.2 (100)
Redear Sunfish	13	17.3 (38)	5	1.0(77)	1	0.2 (100)
Largemouth Bass	110	146.7 (17)			13	2.6 (26)
White Crappie			38	7.6(30)	16	3.2 (41)
Freshwater Drum					5	1.0 (77)



## APPENDIX B – Map of sampling locations



Location of sampling sites, Jacksboro Reservoir, Texas, 2022-2023. Trap net, gill net and electrofishing stations are indicated by T, G, and E. Water level was near full pool at time of sampling.

## APPENDIX C – Historical catch rates of targeted species by gear type for Jacksboro Reservoir, Texas.

Gear	Species	Year										Mean
		2001	2004	2011	2012	2014	2015	2018	2019	2022	2023	
Gill Netting (fish/net night)	Blue Catfish		1.2		0.0		0.4		0.0		0.0	0.3
	Channel Catfish		2.0		2.8		1.2		1.2		4.0	2.2
	Flathead Catfish		0.2		0.3		0.0		1.0		1.0	0.5
	White Bass		4.6		4.8		2.2		11.2		7.6	6.1
Electrofishing (fish/hour)	Gizzard Shad			16.0		88.0		84.0		62.7		62.7
	Threadfin Shad			96.0		0.0		49.3		112.0		64.3
	Green Sunfish			94.0		50.0		50.7		22.7		54.4
	Bluegill			484.0		281.0		66.7		436.0		316.9
	Longear Sunfish			230.0		136.0		26.7		44.0		109.2
	Redear Sunfish			10.0		47.0		10.7		17.3		21.3
	Largemouth Bass			92.0		132.0		72.0		146.7		110.7
Trap Netting (fish/net night)	White Crappie	13.2		25.3		33.4		2.6		7.6		16.4



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