

Jacksboro Reservoir

2018 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-3

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

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Survey and Management Summary

Fish populations in Jacksboro Reservoir were surveyed in 2018 using electrofishing, trap netting and in 2019 using gill netting. Historical data are presented with the 2018-2019 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. 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 lake and includes a city park and a fishing pier. 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 2016.

Fish Community

- **Prey species:** Threadfin Shad were present in the reservoir. Electrofishing catch of Gizzard Shad was similar to the previous survey in 2014 but size structure was different with most of the Gizzard Shad exceeding 10 inches in length, thus not available as prey to most predators because of their large size. Electrofishing catch of Bluegill was well below previous surveys catch rates which was influenced by reservoir levels being above spillway, which lowered sampling efficiency.
- **Catfishes:** Channel Catfish relative abundance was similar to previous surveys with few fish available to anglers. A good population of Flathead Catfish was documented in the reservoir.
- **White Bass:** White Bass were present in the reservoir in higher relative abundance than previous surveys.
- **Largemouth Bass:** Largemouth Bass relative abundance was good, though it was lower than previous electrofishing surveys. The lower catch rate was likely influenced by reservoir elevation being above spillway at time of sampling. There was also evidence from Lost Creek Reservoir sampling that suggested that Largemouth Bass escaped from Jacksboro Reservoir by the emergency spillway that feeds into Lost Creek Reservoir. However, despite the possible escapement, legal-length fish were readily available to anglers.
- **White Crappie:** White Crappie abundance was very low compared to previous surveys. This was probably a result of reduced sampling efficiency due to reservoir conditions at the time of sampling. It is also possible that White Crappie escapement via the spillway into Lost Creek Reservoir could have occurred and contributed to the low abundance.

Management Strategies: Inform the public about the negative impacts of aquatic invasive species. Promote the White Bass angling opportunities at the reservoir. Conduct a general monitoring survey with electrofishing and trap net surveys in 2022. Access and vegetation surveys will be conducted in 2022.

Introduction

This document is a summary of fisheries data collected from Jacksboro Reservoir in 2018-2019. 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 2018-2019 data for comparison.

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. 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 and a fishing pier. 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. Many anglers don't realize they are two separate reservoirs, and bass tournaments allow participants to fish both reservoirs, despite having to trailer a boat from one reservoir to the other. 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 8 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 and a fishing pier provides plentiful shoreline access.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Lang and Mauk 2015) included:

1. Launching boats at the reservoir can be tough during periods of low water, especially for a lone boater. Discuss possible solutions to the problem with the City of Jacksboro.

Action: The reservoir filled in 2015 and low water has not been an issue since. Before the reservoir filled, the City of Jacksboro created a low water gravel ramp (though it is recommended to use a four-wheel drive vehicle).
2. Channel Catfish were the second most targeted species in the reservoir, but abundance was considered poor so stockings of nine-inch catfish were to be requested for in 2016 and 2018. To monitor abundance and the success of the stockings, a gill net survey was to be completed in 2019.

Action: Nine-inch Channel Catfish were stocked in 2016. Surplus Channel Catfish were requested in 2018 but production issues at Possum Kingdom Hatchery meant that no fish were available for stocking. A gill net survey was completed in 2019.
3. An abundant White Crappie population was present in the reservoir with many legal-length individuals present. Publicize the angling opportunity to the public in various media formats and add reservoir webpage to the Texas Parks and Wildlife website.

Action: The White Crappie population at Jacksboro Reservoir was publicized as one of the better reservoirs in the district to target crappie. The reservoir was added to the TPWD website with a web page describing fishing opportunities at the reservoir.

4. The potential spread of zebra mussels and other invasive species exists. Informing the public and reservoir authorities of this potential problem and what to do to prevent their spread if they suddenly appear in the reservoir are prudent actions.

Action: Signage was posted at the boat ramp to make boaters aware of invasive species. Articles about invasive species were written and warnings about invasive species were provided as talking points in most presentations.

Harvest regulation history: Sport fish species in Jacksboro Reservoir have always been managed under statewide regulations (Table 3).

Stocking history: Jacksboro Reservoir was last stocked with advanced fingerling Channel Catfish in 2016. A complete stocking history is described 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.

Water transfer: There are no inter-basin transfers involving Jacksboro Reservoir, but an intra-basin transfer occurs during high water events when water will flow directly into Lost Creek Reservoir via the Jacksboro Reservoir spillway.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Jacksboro Reservoir (TPWD unpublished). Primary components of the OBS plan are listed in Table 5. All survey sites were randomly selected, and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2017), except electrofishing was performed during the daytime due to safety concerns.

Electrofishing – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by daytime electrofishing (0.75 hour at 9, 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.

Trap netting – Crappie were collected using trap nets (5 net nights at 5 stations). CPUE for trap netting was recorded as the number of fish caught per net night (fish/nn).

Gill netting – Channel Catfish and White Bass, 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 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.

Habitat – A structural habitat survey was conducted in 2014. Vegetation surveys were conducted in 2018 to monitor vegetation. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2017).

Water level – No source for water level data exists for Jacksboro Reservoir, though it usually remains within two feet of full pool.

Results and Discussion

Habitat: Jacksboro Reservoir consists of primarily rocky shoreline with some emergent vegetation (water willow) present most of the year (Tables 6 and 7). At time of sampling, flooded terrestrial vegetation was prevalent throughout the reservoir.

Prey species: Electrofishing catch rates of Gizzard Shad and Bluegill were 84.0/h and 66.7/h, respectively. Index of Vulnerability (IOV) for Gizzard Shad was poor, indicating that only 14% of Gizzard Shad were available to Largemouth Bass; this was lower than IOV estimate in the previous 2016 survey (92: Figure 1). Total CPUE of Gizzard Shad was nearly identical to the 2014 survey of 88.0/h and well above the 2011 survey (16.0/h). Total CPUE of Bluegill in 2018 was lower than total CPUE from the previous surveys in 2011 and 2014, and size structure continued to be dominated by small individuals (Figure 2). The reservoir at time of sampling was high (over the spillway) and dense inundated terrestrial vegetation hindered collecting sunfish. Actual abundance is believed to be much higher. Threadfin Shad were also sampled (49.3/h; Appendix A) but were small and most went through the netting and were not enumerated making this an inaccurate and low estimate. Overall, there is an adequate prey base for this reservoir.

Channel Catfish: The gill net catch rate of Channel Catfish was 1.2/nn in 2019, identical to the 2015 CPUE but lower than the 2012 catch rate of 2.8/nn (Figure 3). The Channel Catfish population continued to have low relative abundance with most fish being under 15 inches in length. The previous management plan called for biennial stockings of nine-inch fish. However, possible predation of stocked fish by Largemouth Bass and Flathead Catfish, coupled with only 5.2% of the anglers targeting them (Lang and Mauk 2015), continued stocking may be an imprudent use of hatchery fish. Instead we should be promoting Flathead Catfish angling at the reservoir.

Flathead Catfish: The gill net catch rate of Flathead Catfish was 1.0/nn (Appendix A) in 2019, which is considered quite high within the district. Length range of fish sampled was 24 to 28 inches in length. Body condition as measured by W_r was excellent ranging from 99 to 107.

White Bass: The gill net catch rate of White Bass was 11.2/nn in 2019, considerably higher than the two previous surveys in 2015 (2.2/nn) and 2012 (4.8/nn; Figure 4). Many sub-legal length fish were sampled that will soon be recruited to the fishery to bolster the good numbers of legal length fish already present. Body condition as measured by W_r was considered good.

Largemouth Bass: The electrofishing catch rate of Largemouth Bass was 72.0/h in 2018, (daytime electrofishing) lower than the 132.0/h in 2014 (nighttime electrofishing) and 92.0/h in 2011 (daytime electrofishing). Size structure was adequate, and PSD was 55 in 2018 (Figure 5). CPUE-14 was 17.3/h so abundance of legal length bass is good. Body condition in 2018 was adequate (W_r ranged from 81 to 94) for all inch classes of fish and was similar to body condition in the 2014 survey but improved from 2011 (Figure 5). The low catch rate may be attributable to the reservoir being above the spillway elevation potentially resulting in escapement from the reservoir. CPUE was negatively affected by inundation of terrestrial vegetation by increased water level which made collection of Largemouth Bass difficult. A 2014-2015 creel survey determined that Largemouth Bass were by far the most sought-after species in the reservoir (Lang and Mauk 2015).

White Crappie: The trap net catch rate of White Crappie was 2.6/nn in 2018, significantly lower than in 2014 (33.4/nn) and 2011 (25.3/nn) (Figure 6). The low catch rate may be attributable to the reservoir being above the spillway elevation potentially resulting in escapement from the reservoir and an abundance of submerged terrestrial vegetation that affected the placement and likely the efficiency of the nets during sampling.

Fisheries Management Plan for Jacksboro Reservoir, Texas

Prepared – July 2019

ISSUE 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.

MANAGEMENT STRATEGY

1. Cease requesting stockings of nine-inch Channel Catfish.

ISSUE 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.

MANAGEMENT STRATEGY

1. Promote the fishery through verbal, print, and electronic media.

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 (*Dreissena polymorpha*) 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 (*Salvinia molesta*) 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. Appropriate signage has been located at the boat ramp but should be maintained if need arises.
2. Continue education efforts about invasive species through the use of media and the internet.
3. Continue speaking 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 (2019–2023)

Sport fish, forage fish, and other important fishes

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

Negligible fisheries

Channel Catfish, Flathead Catfish, and White Bass are considered negligible because of low population abundance or little angling effort targeting the species.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Largemouth Bass are the most popular sport fish in Jacksboro Reservoir with 66.2% of anglers targeting them in a nine-month long creel survey conducted 2014-2015. Angling effort is high (38.0 h/acre) and catch is good (0.7/h). The popularity for Largemouth Bass fishing at this reservoir warrant sampling time and effort. Daytime electrofishing will be continued since most of the historical data was collected with this technique. Being a rather small impoundment (116.4 acres), the objective will be general monitoring collecting ≥ 50 stock-length Largemouth Bass for CPUE-S with an RSE < 25 . Past surveys indicate this should be achieved around nine, 5-minute stations. No extra electrofishing will be conducted because of the small size of the reservoir, extra sites would probably overlap ones previously completed. This effort should result in sufficient numbers of Largemouth Bass to be sampled for body condition and size structure.

Bluegill: Bluegill are perceived as one of the primary forage species at Jacksboro Reservoir. Jacksboro Reservoir has had a high abundance of Bluegill with CPUE of 484.0/h and 281.0/h in 2011 and 2014 respectively. The CPUE was only 66.7/h in 2018 but sampling was greatly influenced by high reservoir elevations. Sampling effort based on achieving sampling objectives for Largemouth Bass should result in sufficient numbers of Bluegill for size structure estimation. No additional effort will be expended to achieve an RSE ≤ 25 for CPUE-S of Bluegill. Instead, Largemouth Bass body condition can provide information on forage abundance, vulnerability, or both relative to predator density.

Gizzard Shad: Gizzard Shad were present in Jacksboro Reservoir, but population abundance was low. In 2011 and 2014, CPUE of Gizzard Shad was 16.0/h and 88.0 fish/h, respectively. In 2018, CPUE was 84.0/h but IOV was only 14 so available Gizzard Shad as prey was quite low. Gizzard Shad will be collected along with Largemouth Bass and Bluegill but there are no objective-based sampling goals associated with this species besides monitoring presence/absence.

White Crappie: While White Crappie numbers were substantially depressed in the most recent survey, sampling issues weakened the strength of the sample. The crappie fishery has traditionally been good and utilized by anglers. Additional sampling associated with this population is warranted. In 2022, general population monitoring will be conducted utilizing trap nets (5 net nights at 5 locations). Sampling effort should result in an RSE ≤ 25 and no additional sampling will be conducted because of the small size of the reservoir.

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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.
- Guy, C. S., R. M. Neumann, D. W. Willis, and R. O. Anderson. 2007. Proportional size distribution (PSD): a further refinement of population size structure index terminology. *Fisheries* 32(7): 348.
- Lang, T., and R. Mauk. 2015. Jacksboro Reservoir, 2014 fisheries management survey report. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-5, Austin.

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	400 μ S/cm

Table 2. Boat ramp characteristics for Jacksboro Reservoir, Texas, June, 2018. Reservoir elevation at time of survey was near full.

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	Good

Table 3. Harvest regulations for Jacksboro Reservoir, Texas.

Species	Bag limit	Length limit
Catfish: Channel and Blue Catfish, their hybrids and subspecies	25 (in any combination)	12-inch minimum
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 for Jacksboro Reservoir, Texas. Life stages are fry (FRY), fingerlings (FGL), advanced fingerlings (AFGL), and unknown (UNK). Life stages for each species are defined as having a mean length that falls within the given length range. For each year and life stage the species mean total length (Mean TL; in) is given. For years where there were multiple stocking events for a particular species and life stage the mean TL is an average for all stocking events combined.

Species	Year	Number	Life Stage	Mean TL (in)
Channel Catfish	1969	6,000	AFGL	7.9
	1991	3,000	AFGL	5.9
	1992	3,007	AFGL	5.1
	1994	3,003	AFGL	7.2
	1997	4,375	AFGL	5.9
	1998	3,015	AFGL	7.4
	2011	12,323	FGL	3.1
	2013	2,908	AFGL	9.5
	2016	2,915	AFGL	8.4
	Total	40,546		
Coppernose Bluegill x Green Sunfish	1984	6,200	FGL	2.0
	Total	6,200		
Florida Largemouth Bass	1988	12,000	FRY	1.0
	1990	12,336	FRY	0.7
	1991	12,200	FGL	1.2
	Total	36,536		
Northern Pike	1974	2,369	UNK	UNK
	Total	2,369		

Table 5. Objective-based sampling plan components for Jacksboro Reservoir, Texas 2015–2019.

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
	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
<i>Trap netting</i>			
Crappie	Abundance	CPUE–Stock	RSE ≤ 25
	Size structure	PSD, length frequency	$N = 50$
	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, Jacksboro Reservoir, Texas, 2014. 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 7. Survey of aquatic vegetation, Jacksboro Reservoir, Texas, 2014 and 2018. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

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

Gizzard Shad

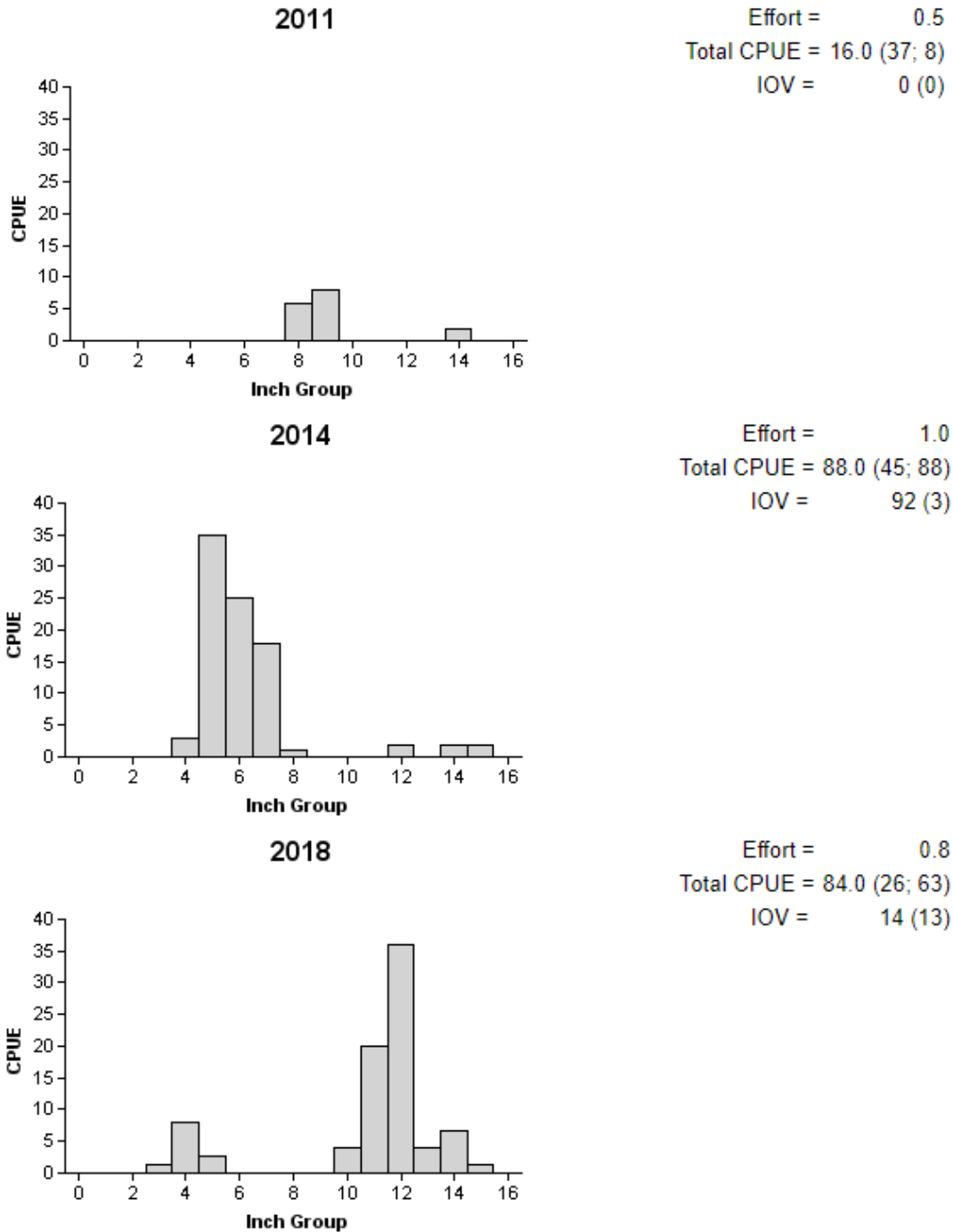


Figure 1. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2011, 2014, and 2018. 2011 and 2018 were daytime electrofishing and 2014 was nighttime electrofishing.

Bluegill

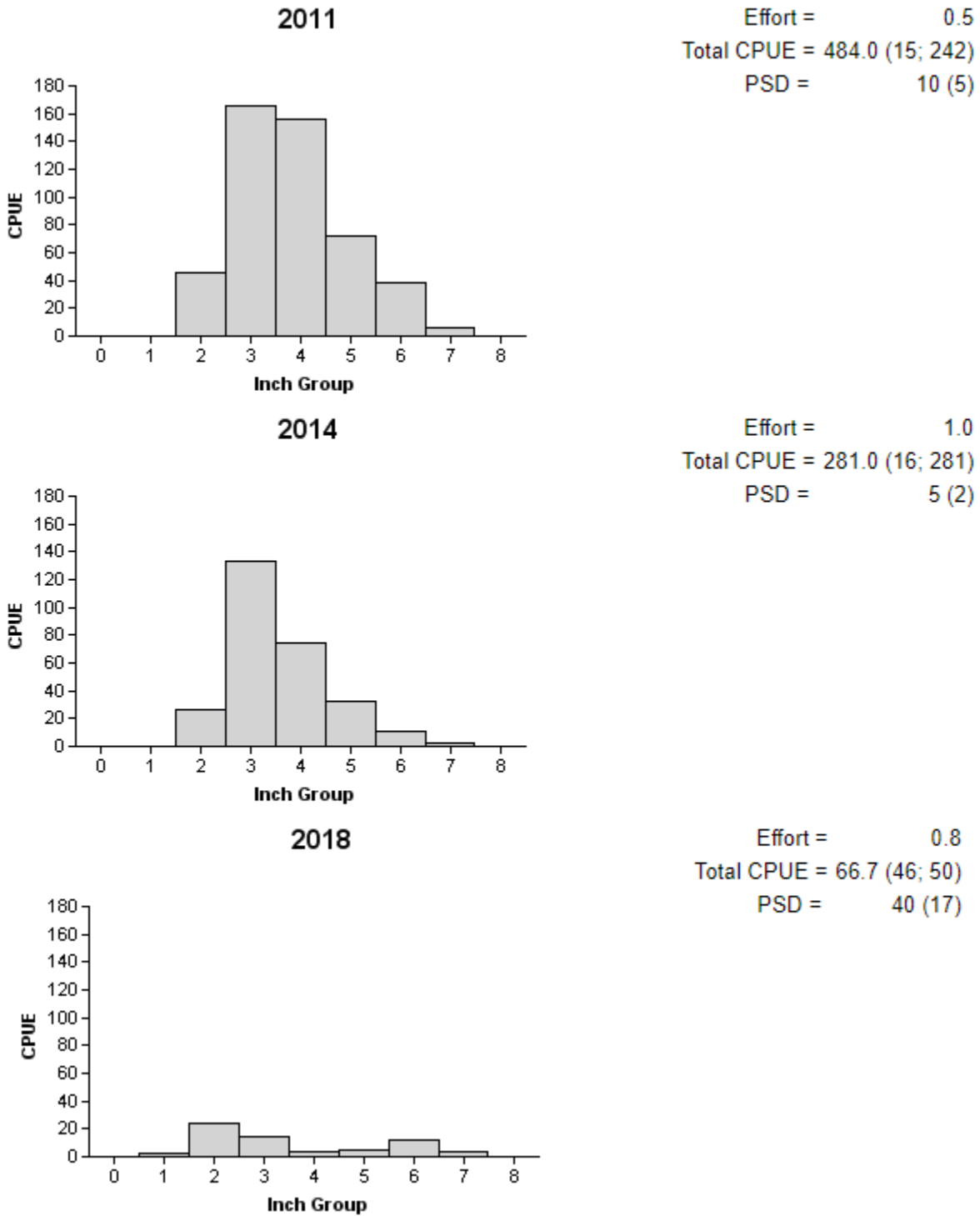


Figure 2. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Jacksboro Reservoir, Texas, 2011, 2014, and 2018. 2011 and 2018 were daytime electrofishing and 2014 was nighttime electrofishing.

Channel Catfish

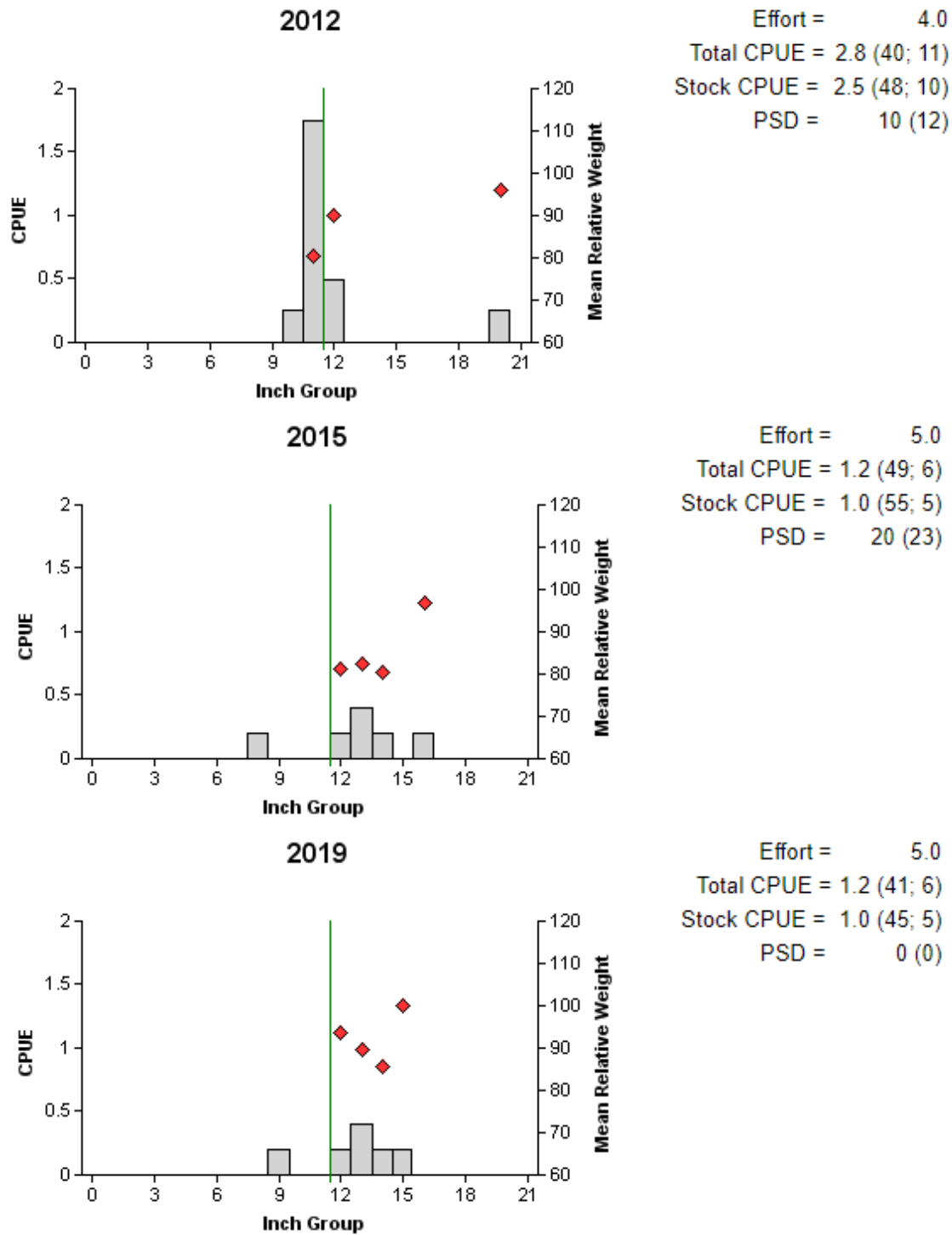


Figure 3. Number of Channel Catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Jacksboro Reservoir, Texas, 2012, 2015, and 2019.

White Bass

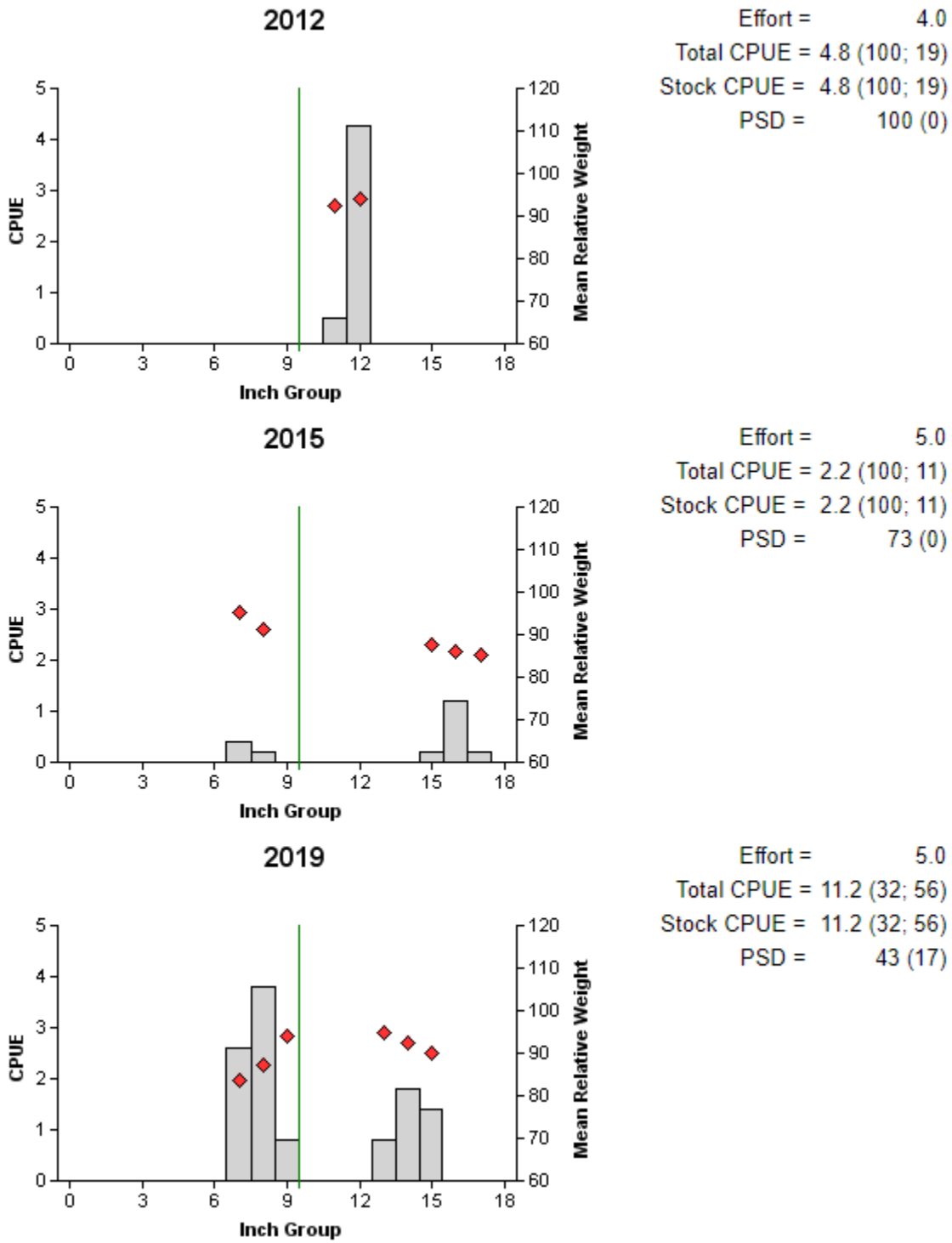
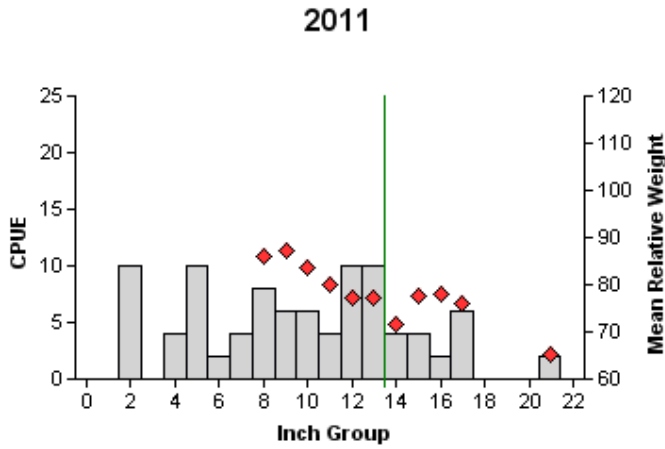
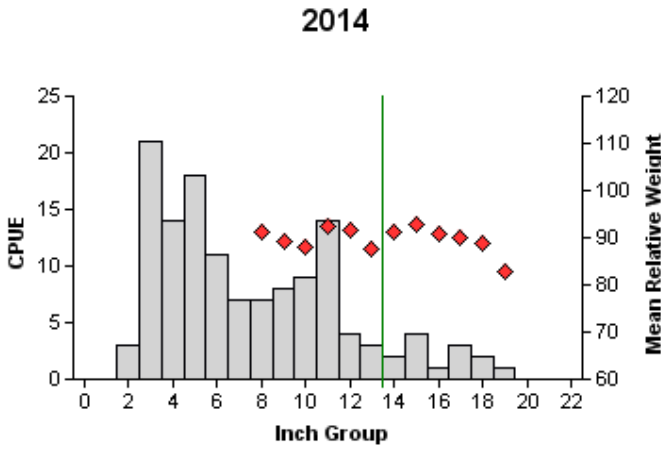


Figure 4. Number of White Bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Jacksboro Reservoir, Texas, 2012, 2015, and 2019.

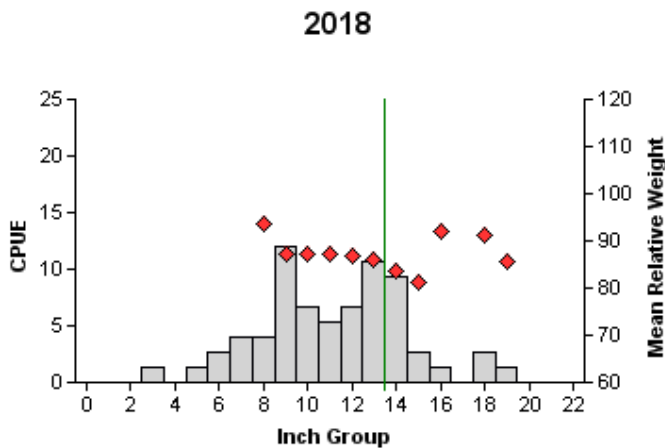
Largemouth Bass



Effort = 0.5
 Total CPUE = 92.0 (18; 46)
 Stock CPUE = 62.0 (29; 31)
 PSD = 61 (8)



Effort = 1.0
 Total CPUE = 132.0 (13; 132)
 Stock CPUE = 58.0 (21; 58)
 PSD = 34 (4)



Effort = 0.8
 Total CPUE = 72.0 (18; 54)
 Stock CPUE = 62.7 (17; 47)
 PSD = 55 (11)

Figure 5. 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, 2011, 2014, and 2018. 2011 and 2018 were daytime electrofishing and 2014 was nighttime electrofishing.

White Crappie

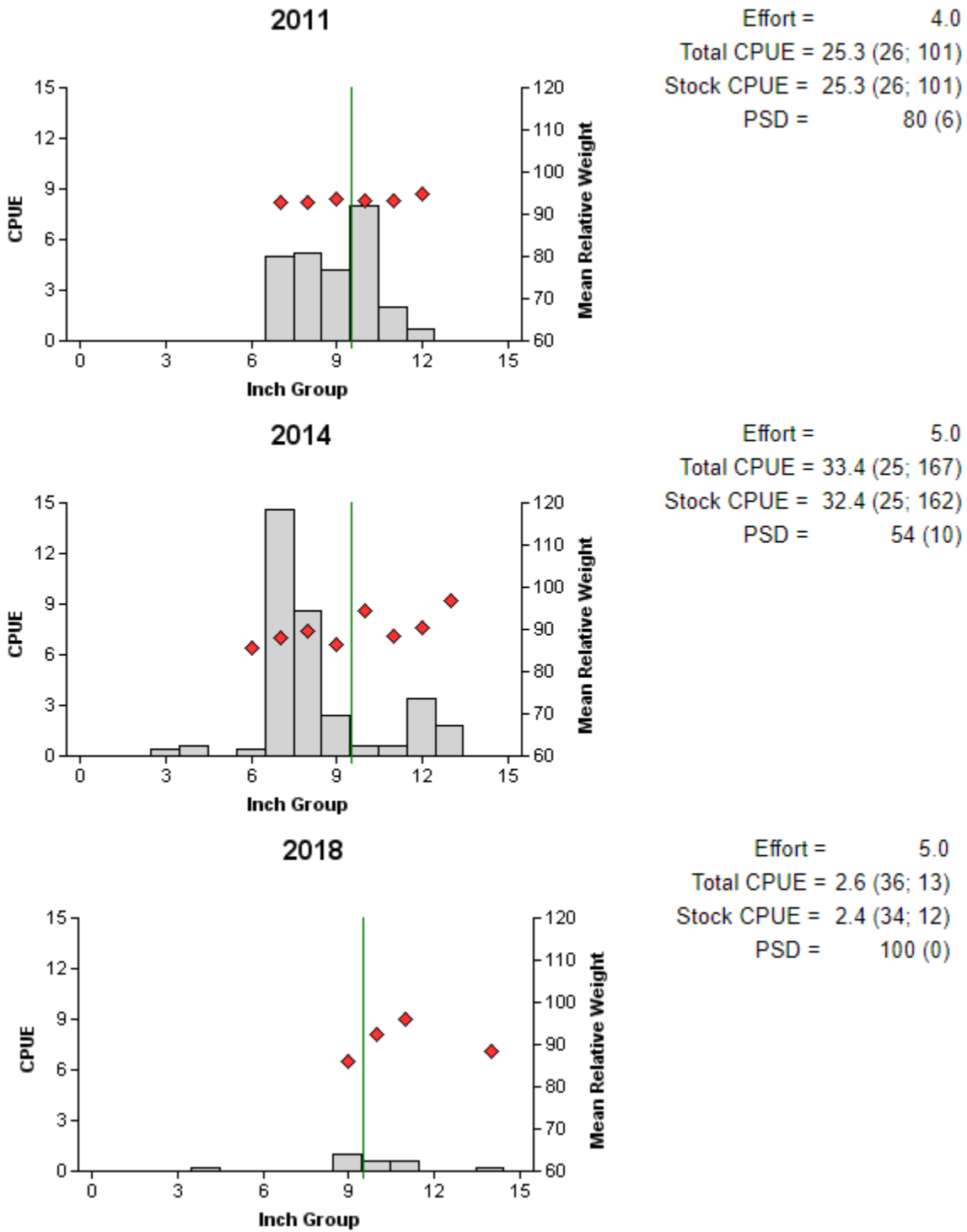


Figure 6. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, Jacksboro Reservoir, Texas, 2011, 2014, and 2018. Vertical line indicates minimum length limit.

Proposed Sampling Schedule

Table 8. Proposed sampling schedule for Jacksboro Reservoir, Texas. Survey period is June through May. Electrofishing and trap netting surveys are conducted in the fall. Standard survey denoted by S.

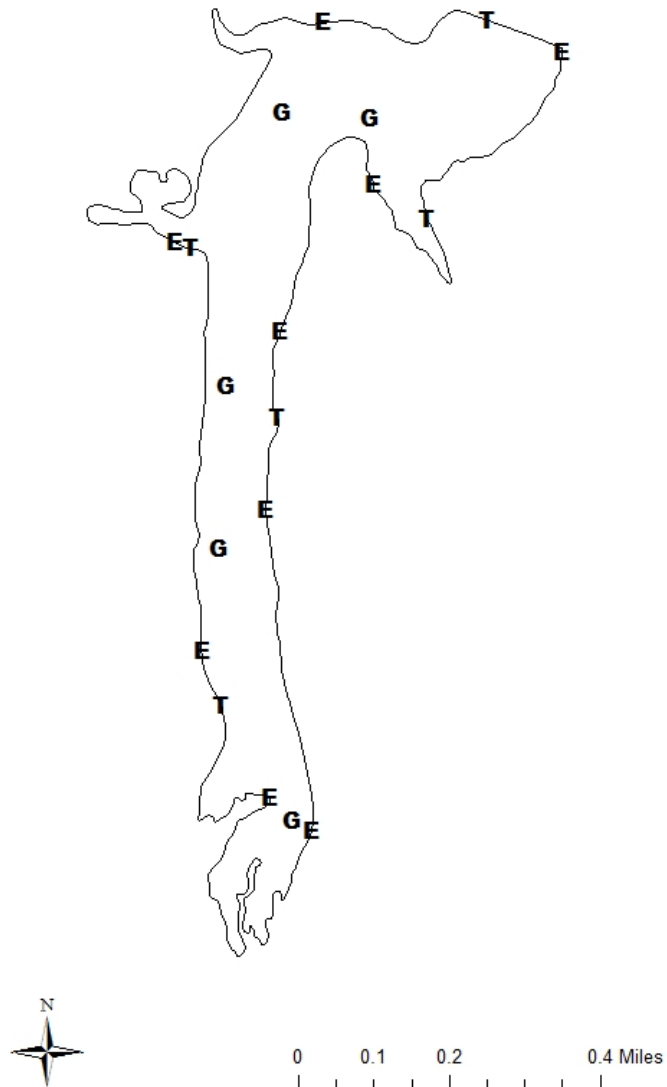
	Survey year			
	2019-2020	2020-2021	2021-2022	2022-2023
Angler Access				S
Vegetation				S
Electrofishing – Fall				S
Trap netting				S
Report				S

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 Reservoir, Texas, 2018-2019. Sampling effort was 5 net nights for gill netting, 5 net nights for trap netting, and 0.75 hour for electrofishing.

Species	Gill Netting		Trap Netting		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Gizzard Shad	22	4.4 (89)			63	84.0 (26)
Threadfin Shad					37	49.3 (71)
Common Carp	3	0.6 (41)				
River Carpsucker	3	0.6 (100)				
Channel Catfish	6	1.2 (41)				
Flathead Catfish	5	1.0 (77)				
White Bass	56	11.2 (32)				
Green Sunfish			2	0.4 (100)	38	50.7 (91)
Warmouth			1	0.2 (100)	3	4.0 (100)
Orangespotted Sunfish					2	2.7 (100)
Bluegill	1	0.2 (100)	98	19.6 (79)	50	66.7 (46)
Longear Sunfish			20	4.0 (65)	20	26.7 (61)
Redear Sunfish			1	0.2 (100)	8	10.7 (40)
Largemouth Bass	1	0.2 (100)			54	72.0 (18)
White Crappie	9	1.8 (41)	13	2.6 (36)		

APPENDIX B – Map of sampling locations



Location of sampling sites, Jacksboro Reservoir, Texas, 2018-2019. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively. Water level was near full pool at time of sampling.



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