

Arlington Reservoir

2022 Fisheries Management Survey Report

PERFORMANCE REPORT

As Required by

FEDERAL AID IN SPORT FISH RESTORATION ACT

TEXAS

FEDERAL AID PROJECT F-221-M-4

INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

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Survey and Management Summary

Fish populations in Arlington Reservoir were surveyed in 2021 using hoop nets, 2022 using electrofishing and trap nets, and in 2023 using gill nets and hoop nets. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

Reservoir Description: Arlington Reservoir is a 1,939-acre impoundment constructed on Village Creek (a tributary of West Fork Trinity River) by the City of Arlington in 1957 to provide flood control, water for municipal and industrial purposes, and recreation. Arlington Reservoir is surrounded by urban development and is almost directly in the center of the Dallas-Fort Worth metroplex. It is approximately 3.8 miles long, 1.6 miles wide (widest point), and has a 20-mile shoreline at 550 feet above mean-sea-level. In addition to run-off from the 143 square-mile watershed, an average of 30,426 acre-feet of water, purchased annually from the Tarrant Regional Water District (TRWD), is pumped from Cedar Creek and Richland-Chambers Reservoirs. Exelon operates a natural gas power plant on the reservoir, discharging hot water on the west side of the reservoir. It is classified as Eutrophic by the Texas Commission of Environmental Quality (Texas Commission on Environmental Quality 2022). Angler and boat access were adequate. There are three handicap specific facilities and three boat ramps. Most bank access is at the parks associated with the boat ramps. Fishery habitat is primarily native emergent vegetation in the form of American Water-Willow (*Justicia americana*) and Button Bush (*Cephalanthus occidentalis*) along with riprap and rocky shorelines.

Management History: Important sport fishes include Largemouth Bass, Channel Catfish, and White Crappie. All species have been managed with statewide regulations.

Fish Community

- **Prey species:** Gizzard and Threadfin Shad were present in the reservoir. Catch rates of these species were lower than in previous samples but these species are of high enough abundance to support predators in the reservoir.
- **Catfishes:** Gill netting catch rate of Channel Catfish in 2023 was a record high with quality fish available for anglers. Flathead catfish are present in the reservoir. For the first time on record, two Blue Catfish were collected in Arlington Reservoir.
- **White Bass:** White Bass catch rates remained low. This could be the result of spawning activity during sampling or competitive interaction with yellow bass.
- **Largemouth Bass:** The Largemouth Bass catch rates decreased from the two previous surveys. Fewer fish ≥ 14 inches were collected. The fish were in good condition.
- **White Crappie:** White Crappie catch rates were lower than the previous survey but the catch rate of White Crappie ≥ 10 inches remained the same. Total catch rates were higher than the reservoir average.

Management Strategies: An additional electrofishing survey will be conducted in fall 2024. General monitoring with trap netting, hoop netting, and electrofishing will occur in 2026-2027. Lone Star Bass will be requested for stocking in 2025 at a rate of 1,000/km of shoreline.

Introduction

This document is a summary of fisheries data collected from Arlington Reservoir in 2021-2023. 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 2021-2023 data for comparison.

Reservoir Description

Arlington Reservoir is a 1,939-acre impoundment constructed on Village Creek (a tributary of West Fork Trinity River) by the City of Arlington in 1957 to provide flood control, water for municipal and industrial purposes, and recreation. Arlington Reservoir is surrounded by urban development and is almost directly in the center of the Dallas-Fort Worth metroplex. It is approximately 3.8 miles long, 1.6 miles wide (widest point), and has a 20-mile shoreline at 550 feet above mean-sea-level. In addition to run-off from the 143 square-mile watershed, an average of 30,426 acre-feet of water, purchased annually from the Tarrant Regional Water District (TRWD), is pumped from Cedar Creek and Richland-Chambers Reservoirs. Exelon operates a natural gas power plant on the reservoir, discharging hot water on the west side of the reservoir. It is classified as eutrophic by the Texas Commission of Environmental Quality (TCEQ; Texas Commission on Environmental Quality 2022). Fishery habitat is primarily native emergent vegetation in the form of American Water-Willow (*Justicia Americana*) and Button Bush (*Cephalanthus occidentalis*) along with riprap and rocky shorelines. Fish habitat can be limited by water level fluctuations (Figure 1). Other descriptive characteristics of Arlington Reservoir are in Table 1.

Angler Access

Angler and boat access on Arlington Reservoir were adequate. There are three handicap specific facilities and three boat ramps. Additional boat ramp characteristics are in Table 2. Shoreline access for bank anglers is limited to three parks that are associated with boat ramps around the reservoir.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Brock et al. 2019) included:

1. Adequate fish habitat is limited in Arlington Reservoir during periods of low water levels. The City of Arlington is willing to help improve the fish populations in the reservoir. The addition of offshore habitat could be beneficial to sport fish during periods of low water.

Action: A graduate student at the University of Texas at Arlington attempted a project involving floating wetlands, however, the floating structures were vandalized and/or damaged to the point of failure within 6 months. Each floating wetland was tethered to an additional Georgia structure so 4 additional structures were deployed and remain in the reservoir.

2. Cooperate with and contact the City of Arlington and the boating and fishing public about invasive species.

Action: Any additional information regarding Zebra Mussels in Texas was shared with the City of Arlington. Water samples were also taken from the Reservoir and were analyzed for the presence of zebra mussels.

Harvest regulation history: Sport fish populations in Arlington Reservoir have been managed with statewide regulations (Table 3).

Stocking history: Arlington Reservoir was stocked in 2023 with Lone Star Bass. The complete stocking history is in Table 4.

Vegetation/habitat management history: The last habitat survey was conducted in 2010 (Brock and Hungerford 2011). During sampling, littoral zone habitat consisted primarily of native emergent vegetation (water willow and button bush) along with riprap and rocky shorelines.

Zebra mussels: Zebra mussels have not been found in Arlington Reservoir.

Water transfer: An average of 30,426 acre-feet of water, purchased annually from the Tarrant Regional Water District (TRWD), is pumped from Cedar Creek and Richland-Chambers Reservoirs. Water transferred from Cedar Creek and Richland Chambers Reservoirs enters Arlington Reservoir via Village Creek.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Arlington Reservoir (Brock et al. 2019). 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 2022).

Electrofishing – Largemouth Bass, sunfishes, Gizzard Shad, and Threadfin Shad were collected by electrofishing (1.0 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.

Trap netting – Crappie were collected using trap netting (5 net nights at 5 stations). Catch per unit of effort 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 (10 net nights at 10 stations). Catch per unit effort for gill netting was recorded as the number of fish caught per net night (fish/nn).

Tandem hoop nets – Channel Catfish were collected using 6 tandem hoop-net series at 6 stations. Nets were not baited and deployed for 2-night soak durations. Catch per unit effort for tandem hoop netting was recorded as the number of fish caught per tandem hoop net series (fish/series).

Genetics – Genetic analysis of Largemouth Bass was conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2022). Micro-satellite DNA analysis was used to determine genetic composition of individual fish.

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 CPUEs.

Habitat – A structural habitat survey was last conducted in 2010.

Water level – Source for water level data was the United States Geological Survey (USGS 2023).

Results and Discussion

Habitat: The last habitat survey was conducted in 2010 (Brock and Hungerford 2011). Fishery habitat at time of sampling was primarily native emergent vegetation in the form of American Water-Willow (*Justicia americana*) and Button Bush (*Cephalanthus occidentalis*) along with riprap and rocky shorelines.

Prey species: The 2022 electrofishing catch rate of Threadfin Shad (159.0/hr) was much lower than the previous sample (Appendices A and C). The Gizzard Shad electrofishing catch rate in 2022 (158.0/hr) was also lower than the previous sample (Figure 2). Index of vulnerability for Gizzard Shad (46) was lower than the previous two samples. This indicated that 46% of the Gizzard Shad population captured in 2022 was available as forage. The electrofishing catch rate of Bluegill in 2022 (79.0/hr) was much lower than the previous two samples (Figure 3; Appendix C). Past surveys have revealed some larger sunfish available for anglers, but the catch rate of Bluegill > 6 inches was substantially lower than the previous samples. The Longear Sunfish catch rate observed in 2022 (21.0/hr) was also much lower than previous surveys (Appendix A and C). The OBS sampling objectives were achieved for Bluegill ($N \geq 50$ stock length fish).

Catfishes: The gill net catch rate of Channel Catfish continues to be very high. The catch rate of 55.4/nn observed in 2023 was more than double the previous record high catch rate (Figure 4; Appendices A and C). The 2023 catch rate was above the reservoir average and size structure remained

excellent as indicated by a PSD value of 53. The gill netting OBS objectives for Channel Catfish were achieved ($RSE\text{-Stock} \leq 25$ and $N \geq 50$ stock length fish). Supplemental hoop netting was conducted in spring of 2021 and 2023 to aid in determining if it could be used instead of gill netting surveys to improve district sampling efficiency. The catch rate for hoop netting was 20.2/nn in 2021 and 16.0/nn in 2023 (Figure 5). Hoop netting again appeared to be very effective at collecting Channel Catfish although precision was not as good ($RSE=40$ in 2023) when compared to gill netting; the hoop netting objectives were not met (Figure 5; Appendix A). Two Blue Catfish were collected for the first time in the history of gill netting surveys on Arlington Reservoir.

Temperate Basses: The gill netting catch rates of White Bass in Arlington have remained low during the past several surveys; the 2023 gill net catch rate (0.4/nn) was no exception (Figure 6). It is possible the fish were in the upper portions of the reservoir spawning. Another complicating factor that could be affecting the population is the presence of Yellow Bass (Appendix C). No OBS objectives were set for sampling the White Bass population.

Largemouth Bass: The total electrofishing catch rate in 2022 (72.0/hr) was lower than the previous two samples and below the reservoir average (Figure 7; Appendices A and C). The catch per unit effort of Largemouth Bass over 14 inches was 6.0/hr, which is much lower than the 2018 and 2020 surveys. The PSD (39) was lower than the values observed in the previous samples indicating a greater proportion of smaller individuals. Body condition in 2022 ranged from about 90 to 110 for most size classes of fish. The survey objectives for Largemouth Bass were not achieved as only 33 stock length fish were collected and the RSE for stock length fish was 26 (objective was ≤ 25). Since 2018, a total of 14 Largemouth Bass have been entered including 13 "lunker" class (8.00-9.99 pounds) and 1 "elite" class (10.00-12.99 pounds) into the Toyota ShareLunker Program.

White Crappie: The trap net catch rate of White Crappie was 11.8/nn in 2022 which was lower than 2018 but similar to the catch rate in 2014 survey (Figure 8). The body condition of White Crappie was good with most size classes at or above 95. The size structure of the population is biased towards larger fish as indicated by a PSD value of 89. The catch rate of fish over 10 inches (8.2/nn) was identical to the previous survey.

Fisheries Management Plan for Arlington Reservoir, Texas

Prepared – July 2023

ISSUE 1: Arlington Reservoir contains a good Largemouth Bass fishery. The reservoir has a history of producing trophy Largemouth Bass, with 13 lunker (8.00-9.99 pounds) entries and one elite (10.00-12.99 pounds) entry in the Toyota ShareLunker Program since 2018. The current waterbody record is 13.38 pounds.

MANAGEMENT STRATEGIES

1. Continue to manage the Largemouth Bass population with the statewide 14-inch minimum length limit.
2. Stock Lone Star Bass fingerlings, which are 2nd generation offspring of pure (13lb or larger) Florida strain ShareLunker Largemouth Bass, at a rate of 1,000/km shoreline in 2025.
3. Collect fin clips from 30 Largemouth Bass in fall of 2026 to assess genetic composition in Arlington Reservoir.

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

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

Sport fish, forage fish, and other important fishes

Important sport fishes in Arlington Reservoir include Largemouth Bass, Channel Catfish, and White Crappie. Known important forage species include Bluegill, Longear Sunfish, Threadfin and Gizzard Shad.

Low-density fisheries

Flathead Catfish: Flathead Catfish are present in Arlington Reservoir, however, they are rarely captured in gill nets.

White Bass: Previous creel survey data (Brock and Hungerford 2015) indicated only 1.0% of anglers targeted White Bass in Arlington Reservoir. No sampling objectives will be set for White Bass because of the low popularity of the species and variability in year class strength of the population.

Survey objectives, fisheries metrics, and sampling objectives

Channel Catfish: Channel Catfish are the second most sought-after sport fish in Arlington Reservoir (24.5 % of total angling effort; Brock and Hungerford 2015). Although gill net surveys provide good data on the Channel Catfish population, we will use 6 hoop net arrays to sample the Channel Catfish population in 2027. Based on past catch rates, this will not be adequate to obtain an RSE of CPUE-S \leq 25 but should provide good estimates of size structure (PSD; 50 fish minimum at 6 stations with 80% confidence). No effort will be expended to achieve any RSE objectives.

Largemouth Bass: According to the most recent creel survey conducted on Arlington Reservoir (2014-2015), 29% of anglers target Largemouth Bass and they are the most popular sport fish in the reservoir (Brock and Hungerford 2015). The popularity of Largemouth Bass fishing at this reservoir warrants sampling time and effort. Trend data on CPUE, size structure, and body condition have been collected for years with fall nighttime electrofishing. To continue the monitoring of Largemouth Bass, fall nighttime electrofishing will be conducted. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in fall of 2024 and 2026. Based on past catch rates, this should be adequate to obtain an RSE of CPUE-S \leq 25 and size structure estimates (the anticipated effort to meet both sampling objectives is 12 stations with 80% confidence). If the RSE objective is not met, additional electrofishing sampling will only continue if 50 stocked sized or larger fish are not captured in the 12 sample sites. A genetic sample will be collected in fall of 2026 to assess Lone Star Bass stockings.

Bluegill, Longear Sunfish, Threadfin and Gizzard Shad: Bluegill, Longear Sunfish, and Threadfin and Gizzard Shad are the primary forage in Arlington Reservoir. Like Largemouth Bass, trend data on CPUE and size structure have been collected with fall nighttime electrofishing. The electrofishing for Largemouth Bass will allow for monitoring of large-scale changes in Bluegill, Longear Sunfish, and Threadfin and Gizzard Shad relative abundance and size structure. Sampling effort for Largemouth Bass should result in sufficient numbers of Bluegill, Longear Sunfish, and Threadfin and Gizzard Shad for size structure estimation (PSD and IOV).

White Crappie: Previous creel survey data indicate White Crappie angling comprised 9% of total angling effort (Brock and Hungerford 2015). A trap-netting survey consisting of 5 single-cod shoreline nets will be conducted in fall of 2026. This sampling effort should result in sufficient numbers of White Crappie to provide sufficient information for monitoring of large-scale changes of the population. No OBS objectives will be set for White Crappie.

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Tables and Figures

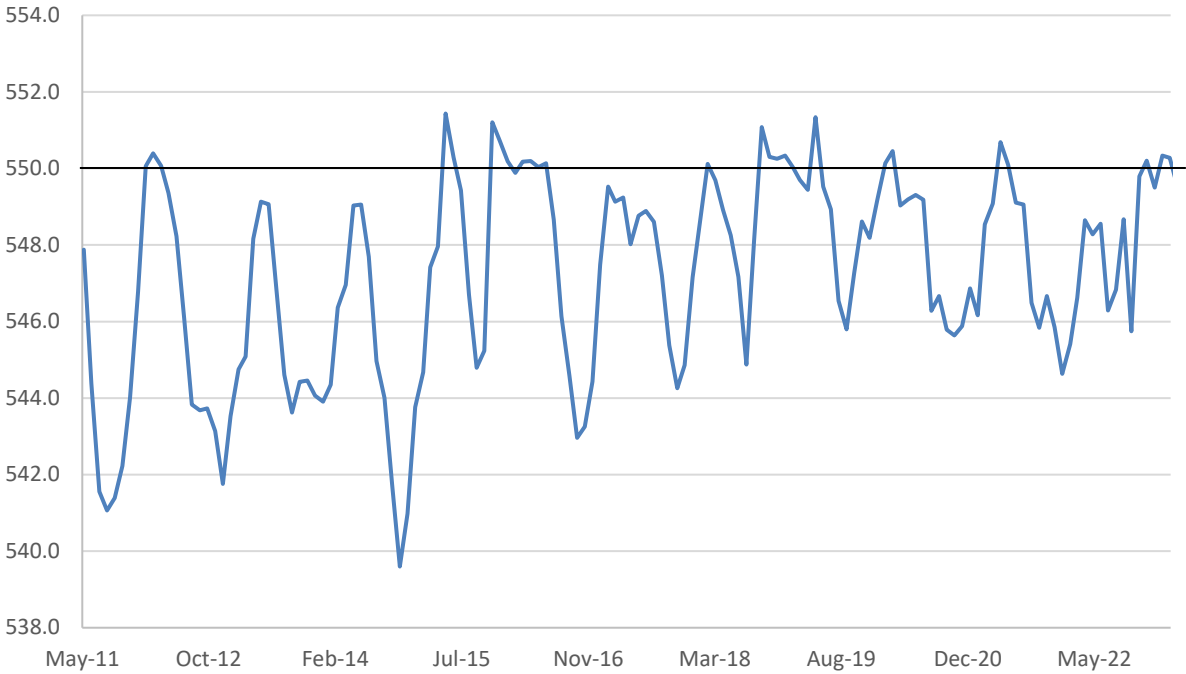


Figure 1. Water level elevations in feet above mean sea level (MSL) recorded for Arlington Reservoir, Texas, January 2011- May 2023. Conservation pool (550 MSL) is noted with solid black line.

Table 1. Characteristics of Arlington Reservoir, Texas.

Characteristic	Description
Year constructed	1957
Controlling authority	City of Arlington
County	Tarrant
Reservoir type	Tributary of Trinity River
Conductivity	253 μ mhos/cm

Table 2. Boat ramp characteristics for Arlington Reservoir, Texas, August 2022. Reservoir elevation at time of survey was 522 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
	32.6897				
Bowman Springs Park	-97.2178	Y	40	540.0	Good
	32.6271				
Simpson Park	-96.9823	Y	250	538.0	Good
	32.7129				
Eugene McCray Park	-97.2119	Y	50	540.0	Good

Table 3. Harvest regulations for Arlington 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 Arlington Reservoir, Texas. FRY= fry, FGL = fingerling; AFGL = advanced fingerling; ADL = adults. UNK=unknown.

Year	Number	Size
Channel Catfish		
1970	13,450	AFGL
1972	5,026	AFGL
1997	1,000	AFGL
1998	1,500	AFGL
Species Total	20,976	
Florida Largemouth Bass		
1978	9,900	FGL
1992	114,075	FGL
1997	115,321	FGL
2002	115,750	FGL
2016	196,197	FGL
2017	197,880	FGL
Species Total	749,123	
Lone Star Bass ^a		
2023	38,421	FGL
Species Total	38,421	
Largemouth Bass		
1967	10,000	UNK
1971	75,000	UNK
Species Total	85,000	
Palmetto Bass (Striped x White Bass hybrid)		
1978	11,947	UNK
1980	22,500	UNK
1982	21,000	UNK
1984	46,605	FGL
1985	45,000	FGL
1986	44,000	FRY
1987	45,450	FRY
1989	49,700	FGL
1991	41,200	FRY
1992	21,800	FGL
1994	34,506	FGL
1995	38,400	FGL
1996	35,800	FGL
1997	30,000	FGL
1998	35,218	FGL
1999	11,526	FGL
2002	11,379	FGL
2003	19,390	FGL
Species Total	616,721	

Table 4. Stocking history continued.

Year	Number	Size
Walleye		
1975	50,000	FRY
1976	500,000	FRY
Species Total	550,000	

^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 Arlington Reservoir, Texas 2019-2023.

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 ≥ 50 stock
	Condition	W_r	N ≥ 50 stock
Bluegill ^a	Abundance	CPUE–Total	None
	Size structure	PSD, length frequency	N ≥ 50 stock
Gizzard Shad ^a	Abundance	CPUE–Total	None
	Size structure	PSD, length frequency	None
	Prey availability	IOV	None
<i>Trap netting</i>			
Crappie	Abundance	CPUE–Stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	None
	Condition	W_r	N ≥ 50 stock
<i>Gill netting</i>			
Channel Catfish	Abundance	CPUE–Stock	RSE-Stock ≤ 25
	Size structure	PSD, length frequency	None
	Condition	W_r	N ≥ 50 stock
<i>Hoop netting</i>			
Channel Catfish	Abundance	CPUE–Stock	RSE-Stock ≤ 25

^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.

Gizzard Shad

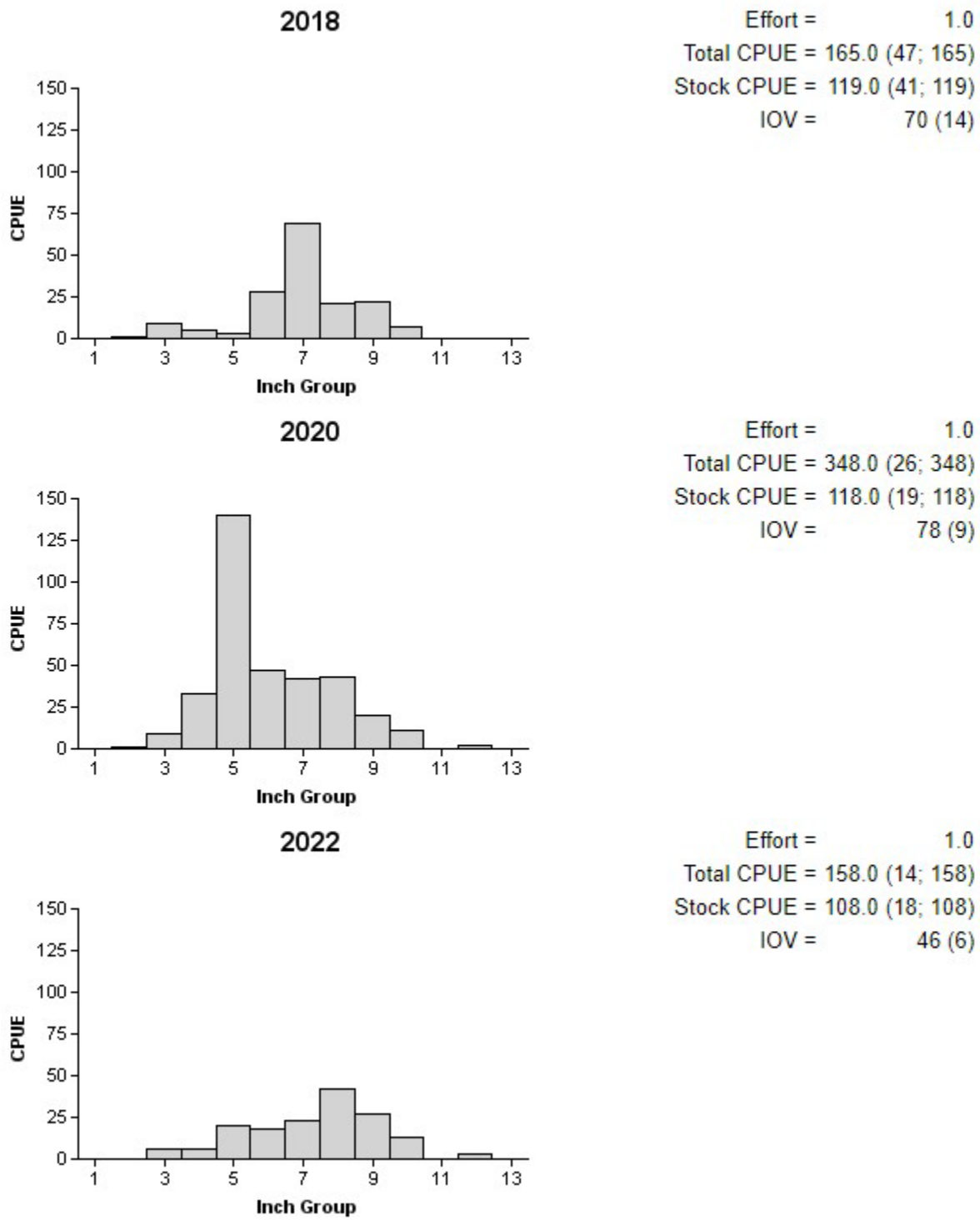


Figure 2. Number of Gizzard Shad caught per hour (CPUE; bars) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Arlington Reservoir, Texas, 2018, 2020, and 2022.

Bluegill

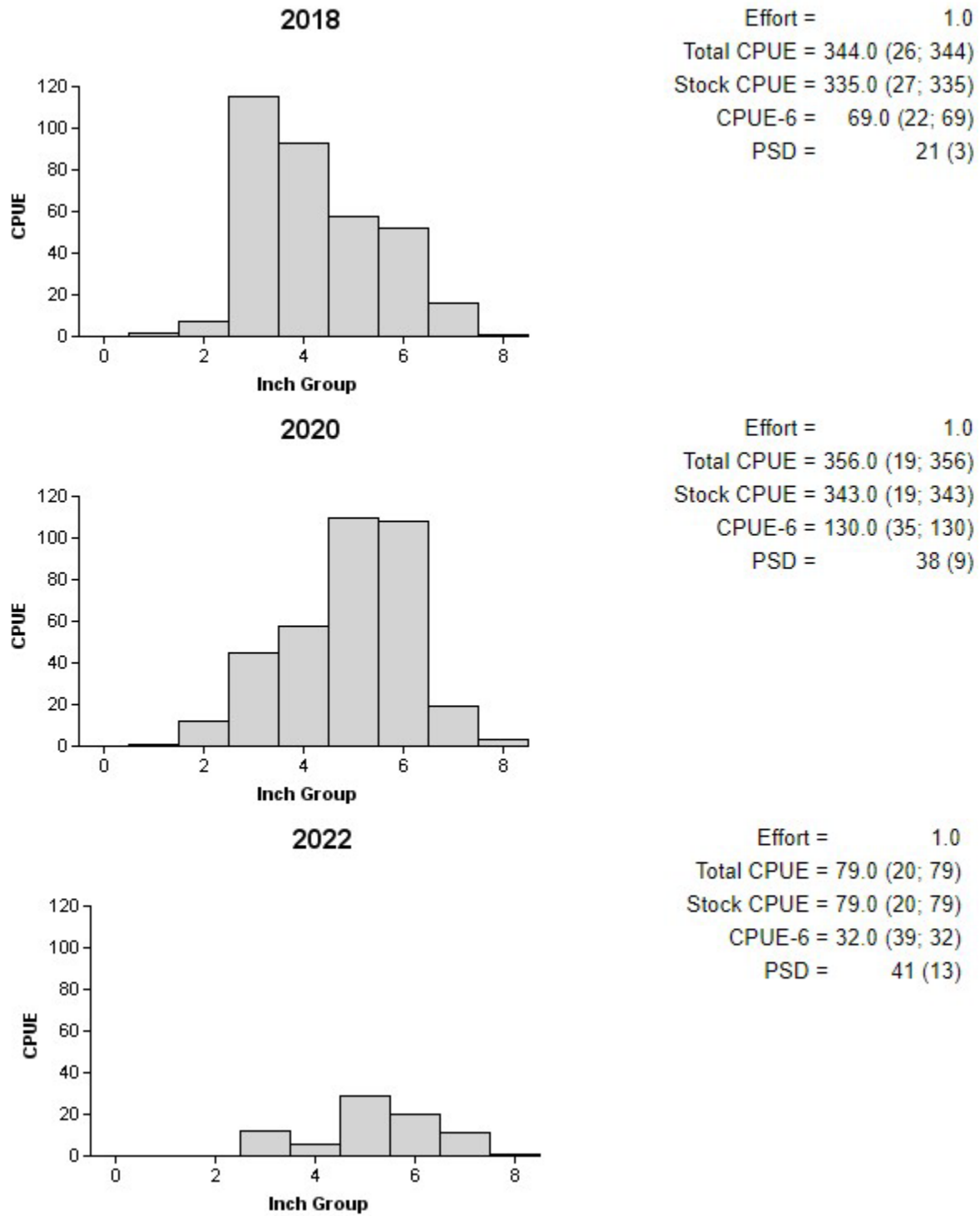


Figure 3. Number of Bluegill caught per hour (CPUE; bars) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Arlington Reservoir, Texas, 2018, 2020, and 2022.

Channel Catfish

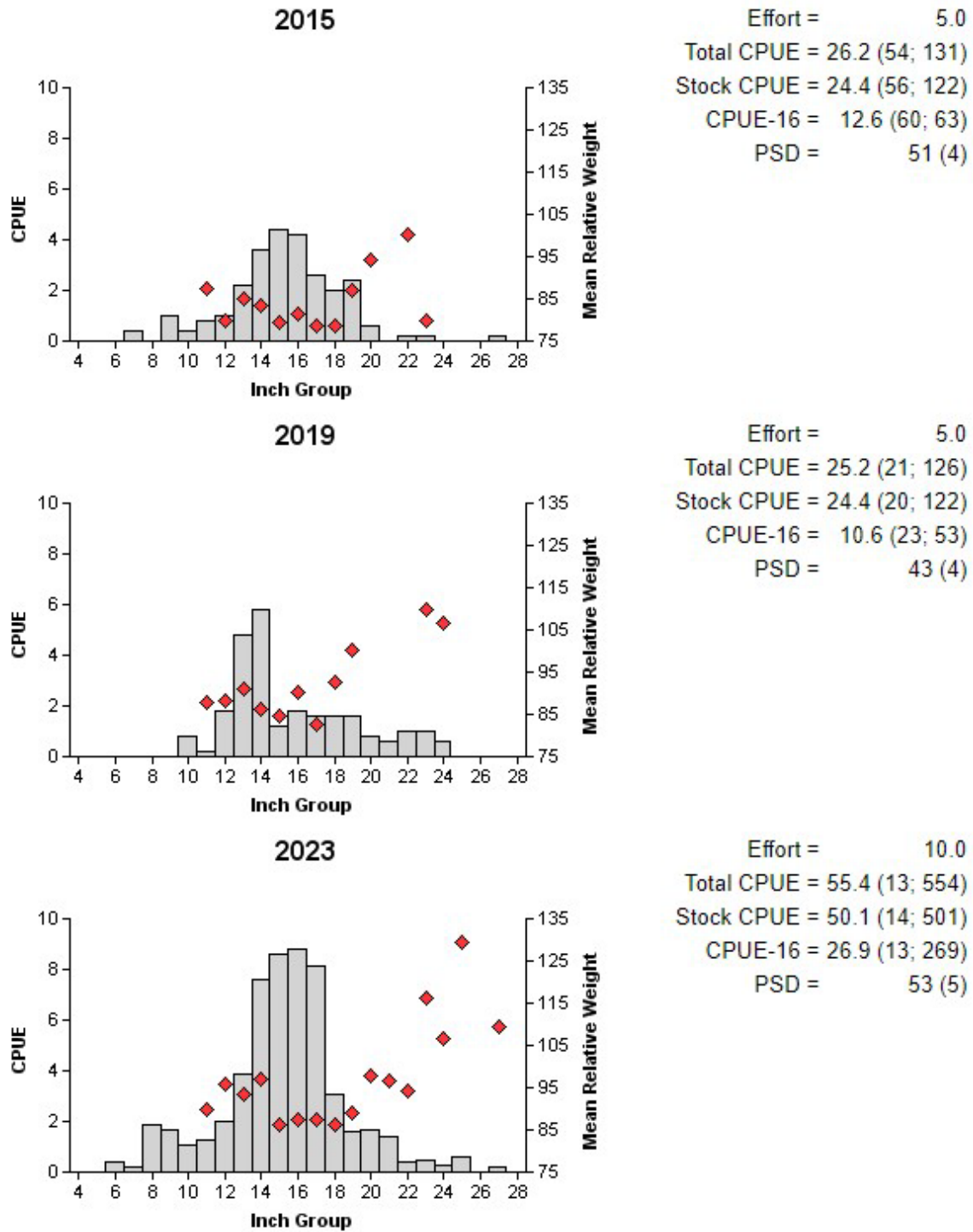


Figure 4. Number of Channel Catfish caught per net night (CPUE; bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Arlington Reservoir, Texas, 2015, 2019, and 2023.

Channel Catfish

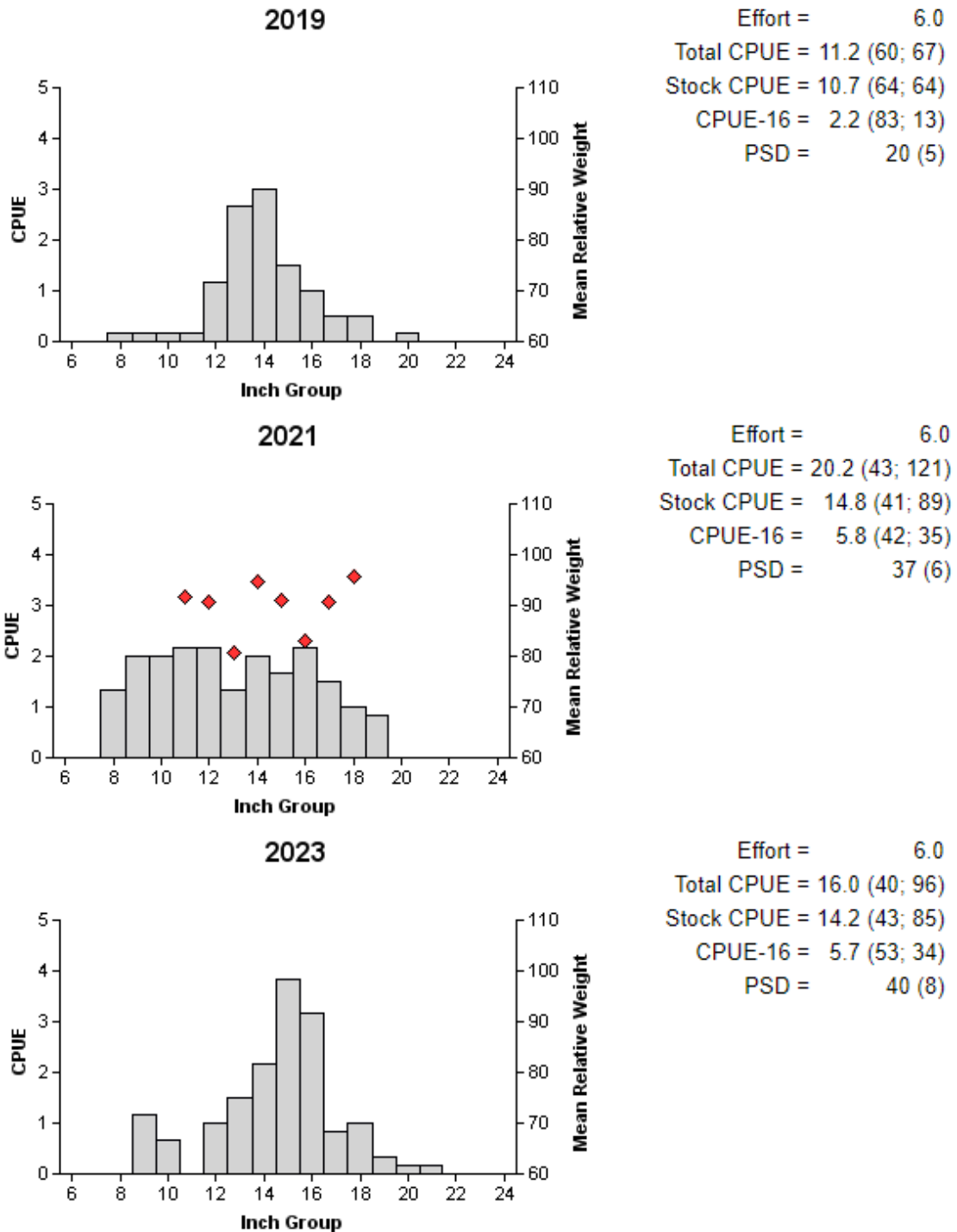


Figure 5. Number of Channel Catfish caught per net night (CPUE; bars), mean relative weight (squares), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring hoop net surveys, Arlington Reservoir, Texas, 2019, 2021, and 2023. Fish collected in 2019 and 2023 were not weighed because of high wind conditions; thus no mean relative weights were calculated.

White Bass

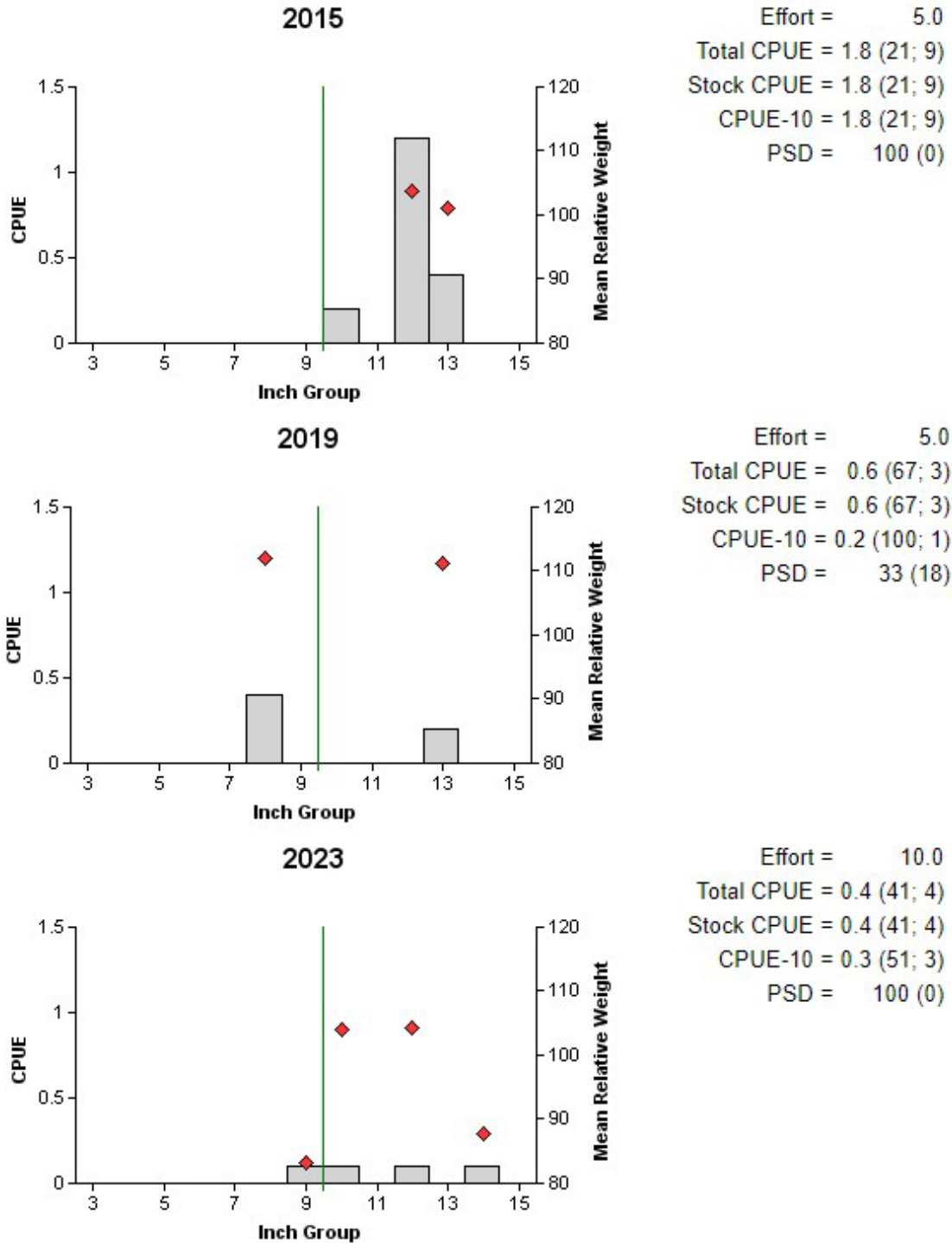


Figure 6. Number of White Bass caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Arlington Reservoir, Texas, 2015, 2019, and 2023. Vertical line represents length limit at time of sampling.

Largemouth Bass

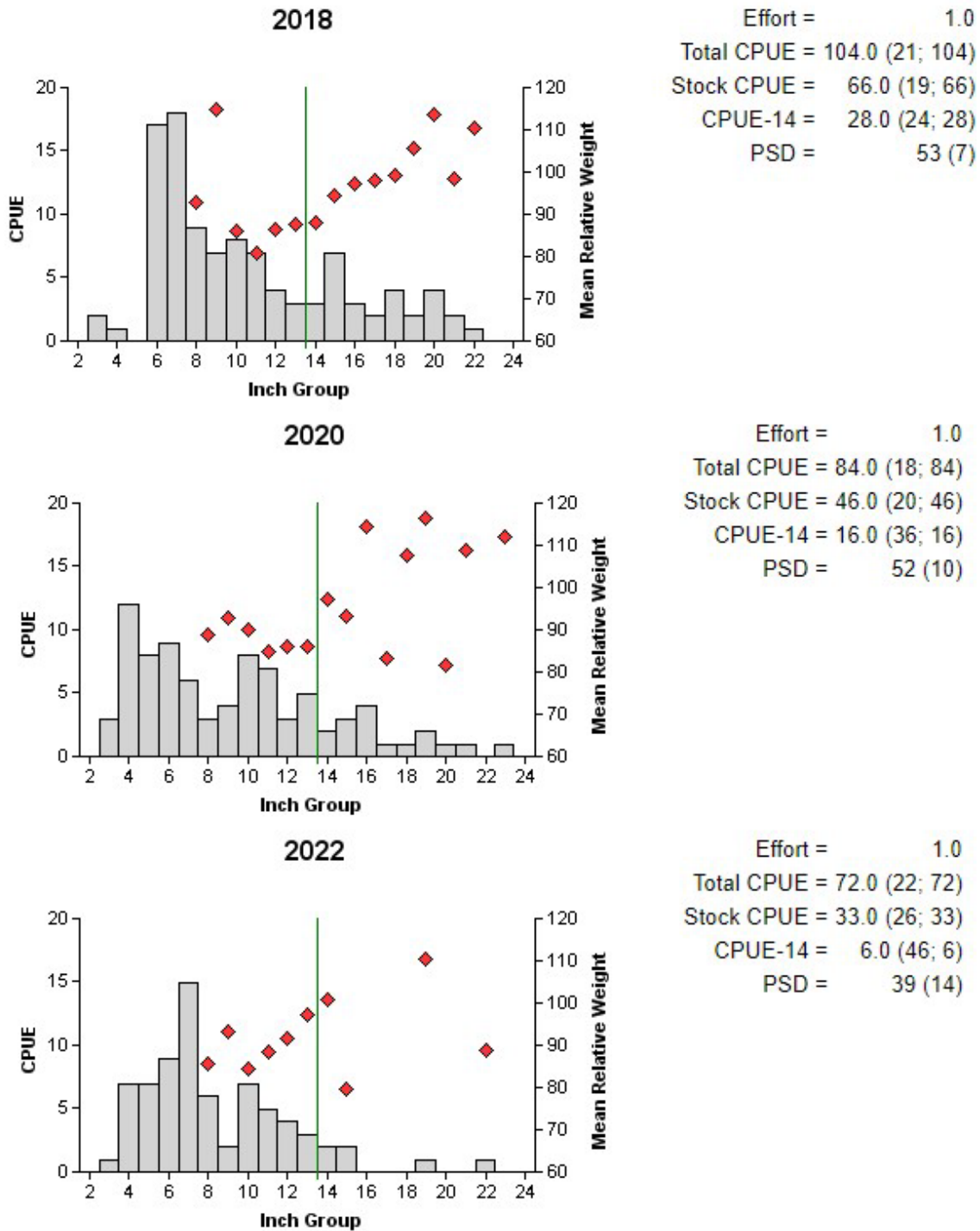


Figure 7. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Arlington Reservoir, Texas, 2018, 2020, and 2022. Vertical line represents length limit at time of sampling.

Table 6. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Arlington Reservoir, Texas, 2010, 2014, and 2018. FLMB = Florida Largemouth Bass, NLMB = Northern Largemouth Bass, Intergrade = hybrid between a FLMB and a NLMB. Micro-satellite DNA analysis was used to determine genetic composition of individual fish.

Year	Sample size	Number of fish			% FLMB alleles	% FLMB
		FLMB	Intergrade	NLMB		
2010	30	0	30	0	58	0
2014	30	0	29	1	45	0
2018	30	0	20	10	34	0

White Crappie

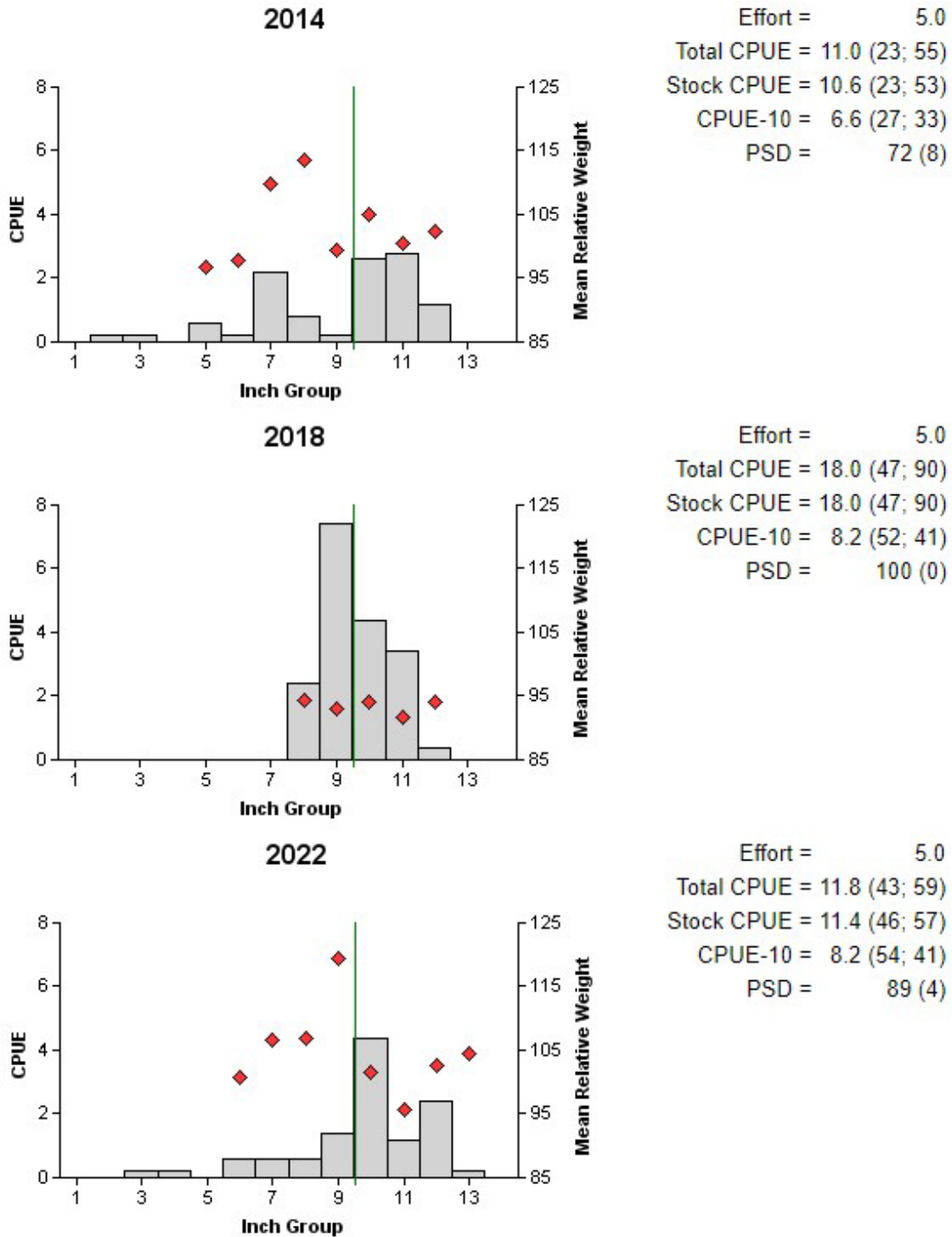


Figure 8. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap netting surveys, Arlington Reservoir, Texas, 2014, 2018, and 2022. Vertical line indicates minimum length limit.

Proposed Sampling Schedule

Table 7. Proposed sampling schedule for Arlington Reservoir, Texas. Survey period is June through May. Hoop netting surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall.

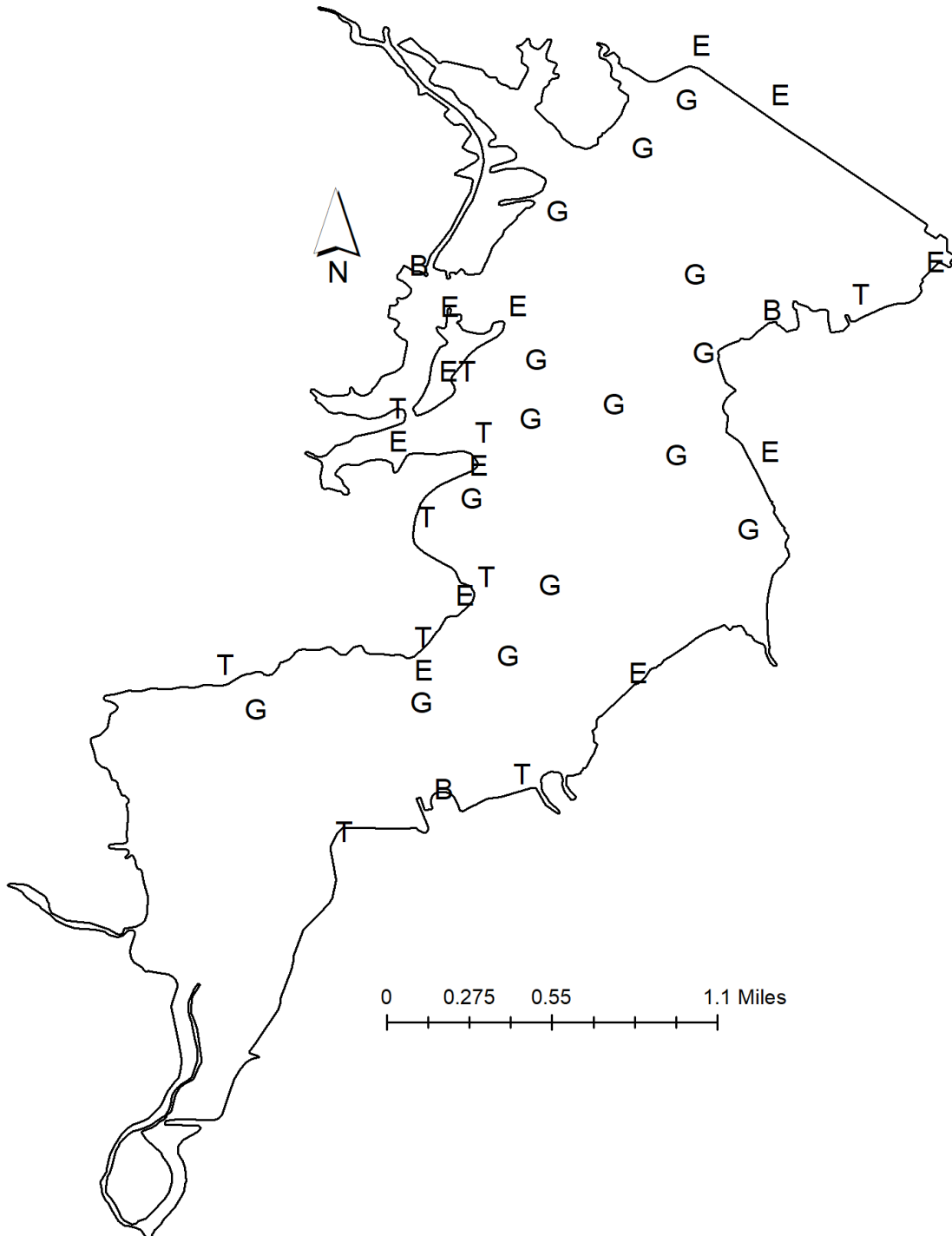
	Survey year			
	2023-2024	2024-2025	2025-2026	2026-2027
Angler Access				X
Vegetation				
Electrofishing – Fall		X		X
Trap netting				X
Gill netting				
Hoop netting				X
Report				X

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

Number (N) and catch rate (CPUE; RSE in parentheses) of species collected from all gear types from Arlington Reservoir, Texas, 2022-2023. Sampling effort was 10 net nights for gill netting, 5 nights for trap netting, 6 series for hoop netting, and 1.0 hours for electrofishing.

Species	Gill Netting		Trap Netting		Electrofishing		Hoop Netting	
	N	CPUE	N	CPUE	N	CPUE	N	CPUE
Gizzard Shad	223	22.3 (28)			158	158.0 (14)		
Threadfin Shad					159	159.0 (52)		
Common Carp	12	1.2 (24)						
Blue Catfish	2	0.2 (67)						
Channel Catfish	554	55.4 (13)					96	16.0 (40)
White Bass	4	0.4 (41)						
Yellow Bass	107	10.7 (15)						
Bluegill					79	79.0 (20)		
Longear Sunfish					21	21.0 (22)		
Redear Sunfish					2	2.0 (67)		
Largemouth Bass					72	72.0 (22)		
White Crappie			59	11.8 (43)				

APPENDIX B – Map of sampling locations



Location of sampling sites, Arlington Reservoir, Texas, 2022-2023. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively. Boat ramps are indicated by B. Water level was near full pool (550 MSL) at time of all surveys.

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

Gear	Species	Year														
		1992	1995	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Gill Netting (fish/net night)	Channel Catfish	17.0	9.4	7.8		17.4		8.6				15.0				23.6
	White Bass	2.4	11.6	9.2		4.8		19.0				5.2				1.2
	Yellow Bass					0.2		18.8				26.0				23.8
Electrofishing (fish/hour)	Gizzard Shad	211.3	339.3	194.0	275.0		96.0		208.0	264.0	303.0		328.0	221.0	276.0	340.0
	Threadfin Shad	12.7	164.0	195.0	476.0		416.0		154.0	1085.0	528.0		992.0	334.0	60.0	2342.0
	Bluegill	199.3	212.0	236.0	188.0		390.0		295.0	210.0	353.0		295.0	335.0	483.0	145.0
	Longear Sunfish		36.0	59.0	108.0		132.0		96.0	72.0	94.0		88.0	145.0	92.0	48.0
	Redear sunfish	2.7	2.7	1.0	6.0		1.0		0.0	0.0	0.0		9.0	3.0	0.0	0.0
	Largemouth Bass	164.0	174.7	144.0	126.0		81.0		86.0	147.0	94.0		159.0	121.0	122.0	85.0
Hoop Netting (fish/net night)	Channel Catfish															
Trap Netting (fish/net night)	White Crappie	8.6	2.8	4.0			15.6				19.0				19.2	

APPENDIX C – Continued

Gear	Species	Year									Ave.
		2014	2015	2017	2018	2019	2020	2021	2022	2023	
Gill Netting (fish/net night)	Channel Catfish	22.6	26.2			25.2				55.4	20.7
	White Bass	0.0	1.8			0.6				0.4	5.1
	Yellow Bass	49.0	29.6			50.8				10.7	26.1
Electrofishing (fish/hour)	Gizzard Shad	1075.0		282.0	165.0		348.0		158.0		299.0
	Threadfin Shad	514.0		345.0	74.0		242.0		159.0		476.0
	Bluegill	165.0		114.0	344.0		356.0		79.0		258.8
	Longear Sunfish	80.0		35.0	80.0		115.0		21.0		81.3
	Redear sunfish	0.0		1.0	9.0		1.0		2.0		2.3
	Largemouth Bass	134.0		89.0	104.0		84.0		72.0		116.9
Hoop Netting (fish/net night)	Channel Catfish	27.2				11.2		20.2		16.0	18.7
Trap Netting (fish/net night)	White Crappie	11.0			3.0				11.8		10.6



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