

Brady Creek 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 Brady Creek Reservoir were surveyed in 2018 using electrofishing, trap netting and in 2019 using tandem hoop 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: Brady Creek Reservoir is a 2,021-acre impoundment on Brady Creek located in the Colorado River basin. It was constructed in 1963 to provide water for municipal, recreational, and flood control purposes. From 2000 to 2018, water level ranged from 2 to 16 feet below conservation pool elevation before filling in October 2018. Boat and angler access is adequate, however launching larger boats becomes restricted at water levels $\leq 1,733$ feet above mean sea level (10 feet below conservation pool). Primary habitat was submersed terrestrial vegetation and limited areas of standing timber. In winter 2012 and 2014, the reservoir was impacted by toxic golden alga bloom that severely impacted fish populations.

Management History: Important sport fishes have included Largemouth Bass, White Bass, White Crappie, and Blue and Channel Catfishes. Smallmouth Bass were stocked in 1984 and 1986, but a self-sustaining population failed to develop. Bluegill and Largemouth Bass were stocked in 2016 and 2017 to help these populations recover from the golden alga fish kill. Angler harvest of sportfishes has been managed under statewide length and daily bag limits. Management of the reservoir was transferred from the San Antonio district office to the San Angelo district office in 2011.

Fish Community

- **Prey species:** Gizzard Shad catch rates were higher than previous surveys and 77% of the Gizzard Shad were available to most predators. Electrofishing catch rate of Bluegill was similar to past surveys.
- **Catfishes:** Channel Catfish continued to be present in the reservoir with fish up to 18 inches observed during sampling.
- **White Bass:** White Bass continued to be present in the reservoir.
- **Largemouth Bass:** Largemouth Bass abundance remained low with few legal size fish. Largemouth Bass up to 20 inches were observed. Florida strain genetics were high (81% FLMB alleles) owing to successful stockings in 2016, 2017, and 2018.
- **White Crappie:** White Crappie were low in abundance and still recovering from a golden alga fish kill in 2014. Crappie up to 12 inches were observed in the survey.

Management Strategies: Stock Largemouth Bass at 1000/km shoreline in 2020. Stock fingerling Channel Catfish in 2020. Conduct additional electrofishing and trap netting surveys in 2020, additional hoop netting in 2021, and general monitoring surveys with trap nets, hoop nets, and electrofishing surveys in 2022-2023. Access and vegetation surveys will be conducted in 2022/2023.

Introduction

This document is a summary of fisheries data collected from Brady Creek 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

Brady Creek Reservoir is a 2,021-acre impoundment on Brady Creek located in the Colorado River basin about 5 miles west of Brady, Texas. It was constructed in 1963 to provide water for municipal, recreational, and flood control purposes. Severe water level fluctuations of 15+ feet are common (Figure 1). In 2018, habitat consisted primarily of submerged terrestrial vegetation and limited areas of standing timber. Sparse hydrilla stands have been present historically but have not been documented since 2010 (Table 6). Golden alga impacted the reservoir in 2012 and 2014, and reduced abundance of fish populations. Other descriptive characteristics for Brady Creek Reservoir are contained in Table 1.

Angler Access

Brady Creek Reservoir has three public boat ramps and no private boat ramps. Two public ramps, Lakeside Marina and Kinkaid Park, were unavailable to anglers in 2012 because the end of the boat ramp was above the waterline. Extension of the ramp at Lakeside Marina is feasible. Additional boat ramp characteristics are in Table 2. Shoreline access is limited to the public boat ramp areas and the fishing dock located at Kinkaid Park.

Management History

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

1. Monitor golden alga twice a year from November-March and re-establish prey and game species through stockings.

Action: Brady Creek has been monitored for golden alga annually. Bluegill were stocked in 2016, Florida Largemouth Bass were stocked in 2016, 2017, and 2018.
2. Cooperate with the City of Brady to post signage, educate the public about invasive species, and track existing and future inter-basin water transfers to facilitate potential invasive species responses.

Action: The San Angelo District continued to work with the City of Brady to post signage and to educate the public on invasive species threats through media outlets.

Harvest regulation history: All sport fishes have been and are currently managed with statewide regulations Current regulations are found in Table 3.

Stocking history: Florida Largemouth Bass, Blue and Channel Catfishes, Smallmouth Bass, and Threadfin Shad have been stocked into the reservoir. Blue Catfish were last stocked in 1981. Smallmouth Bass stockings were conducted in the mid-1980s; however, a fishery did not result. Recently, Florida Largemouth Bass and Bluegill were stocked following golden alga fish kills in 2012 and 2014. The complete stocking history is in Table 4.

Vegetation/habitat management history: There has been no significant vegetation or habitat management on this reservoir.

Water transfer: Brady Creek Reservoir is primarily used for municipal water supply, recreation, and to a lesser extent, flood control. No interbasin transfers are known to exist.

Methods

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Brady Creek 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 2015).

Electrofishing – Largemouth Bass, sunfishes, and Gizzard Shad were collected by electrofishing (1 hour at 12, 5-min stations). Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Ages for Largemouth Bass were determined using otoliths from 13 randomly-selected fish (range 13.0 to 14.9 inches).

Trap netting – Crappie were collected using trap nets (20 net nights at 20 stations). CPUE for trap netting was recorded as the number of fish caught per net night (fish/nn). Ages for crappie were determined using otoliths from 13 randomly-selected fish (range 9.0 to 10.9 inches).

Tandem hoop nets – Channel Catfish were collected using 10 tandem hoop-net series at 10 stations. Nets were baited with soap and deployed for 2-night soak durations. CPUE 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 2015). Micro-satellite DNA analysis was used to determine genetic composition of individual fish since 2005 and by electrophoresis for previous years.

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 2010, and a standard vegetation survey was conducted in 2018. Additional vegetation surveys were conducted from 2006-2018 to monitor expansion of hydrilla. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2015).

Water level – Source for water level data was the United States Geological Survey (USGS 2019).

Results and Discussion

Habitat: The last structural habitat survey was conducted in 2010 which showed 85% of the littoral area consisted of natural and rocky shoreline (Dennis and Myers 2011). Trace amounts of emergent vegetation (bulrush) were observed in 2018, while no floating or submerged vegetation was present. Historically, Brady Creek Reservoir supported emergent and submerged native vegetation (Table 7). Fluctuating water levels have limited native vegetation in recent years. The reservoir filled in fall 2018 resulting in abundant flooded terrestrial habitat.

Prey species: Electrofishing catch rates of Gizzard Shad were 495.0/h and 453.0/h, in 2018 and 2016, respectively. Index of Vulnerability (IOV) for Gizzard Shad was adequate in 2018 at 77, but was excellent in 2016 at 97 (Figure 2). Total CPUE of Bluegill in 2018 was 66.0/h in 2018, similar to 72.0/h in 2016 (Figure 3). Other sunfish species observed include Green Sunfish, Warmouth, and Longear Sunfish (appendix A). Catch rate of Bluegill and Gizzard Shad from 2014 was very low for both species which was due to a golden alga kill in 2014 (Figures 2 and 3).

Channel Catfish: The total hoop net catch rate of Channel Catfish were 5.7/series in 2019. Channel Catfish ranged from 8 to 18 inches. Channel Catfish were in good condition as relative weights ranged from 96 to 110 among inch groups.

Largemouth Bass: The total electrofishing catch rate of Largemouth Bass was 30.0/h in 2018, which was very similar to 29.0/h in 2016 (Figure 5). Electrofishing catch rates in 2018 were negatively impacted by high water levels that flooded extensive areas of terrestrial habitat and made sampling shoreline areas difficult. Size structure was not estimated due to inadequate numbers of fish collected. However, we observed greater numbers of legal size fish in 2018 compared to 2016 indicating an expanding population. Largemouth Bass up to 20 inches were observed in 2018. Body condition in 2018 was below average for sub-legal bass, but was adequate for legal size bass (Figure 5). Florida Largemouth Bass influence was highest on record in 2018 with 81% Florida alleles in the population (Table 7). Successful bass stockings in 2016 and 2017 following the golden alga fish kill in 2014 were significant in increasing Florida genetics in the population. Since 2003, Florida alleles have ranged from 63 to 81% and Florida genotype has ranged from 0 to 23% (Table 7).

White Crappie: The total trap net catch rate of White Crappie was 0.8/nn in 2018, which was much lower than pre-golden alga fish kill catch rates in 2010 and 2006 (Figure 6). Crappie up to 12 inches were collected in 2018 and catch of small crappie indicated natural reproduction had occurred. The crappie population is still recovering from the 2014 golden alga kill, but with increased water levels and habitat, continued improvement is expected.

Fisheries Management Plan for Brady Creek Reservoir, Texas

Prepared – July 2019

ISSUE 1: Sportfish abundance is still far below historical levels following golden alga fish kill in 2014. Largemouth Bass, White Crappie, Channel Catfish are all present at low density. The reservoir filled in fall 2018 and flooded habitat is abundant. Continued stocking is necessary to expedite population recovery and additional sampling is needed to monitor for improvements in the sportfish populations.

MANAGEMENT STRATEGY

1. Stock Florida Largemouth Bass at 1000/km shoreline in 2020.
2. Asses Largemouth Bass genetics in fall 2022.
3. Stock Channel Catfish fingerlings in 2020.
4. Stock Threadfin Shad in 2020.
5. Monitor sportfish populations with fall electrofishing and trap netting in 2020 and 2022 and with tandem baited hoop nets in spring 2021 and 2023.
6. Conduct a spring quarter only access creel survey in 2022.

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 controlling authority to post appropriate signage at access points around the reservoir.
2. Contact and educate marina owners about invasive species, and provide them with posters, literature, etc... so that they can in turn educate their customers.
3. Educate the public about invasive species through the use of 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 (2019–2023)

Sport fish, forage fish, and other important fishes

Primary sport fishes in Brady Creek Reservoir include Largemouth Bass, White Crappie, and Channel Catfish. Known important forage species include Bluegill and Gizzard and Threadfin Shad.

Low-density fisheries

Blue Catfish: Blue Catfish are present in Brady Creek Reservoir, but abundance has historically been low. Catch rates of stock size fish have ranged from 0.4 to 3.8 fish/nn from 1999 to 2011. It is not necessary to sample for Blue Catfish from 2019-2023.

White Bass: White Bass are present in Brady Creek Reservoir, but abundance has historically been low. Catch rates of stock size fish have ranged from 0.0 to 2.8 fish/nn from 2003 to 2011. It is not necessary to sample for White Bass from 2019-2023.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Largemouth Bass are a primary sport fish in Brady Creek Reservoir. Largemouth bass are managed with the statewide 14-in MLL regulation. All fish populations were negatively affected by golden alga fish kills in 2012 and 2014. Subsequent electrofishing surveys have shown low abundance; CPUE-Stock ranged from 6.0 to 18.0 fish/h from 2014 to 2018. Although catch has been low, we have recently had much improved water levels and abundant flooded habitat, we expect the population to show continued improvement. Objectives will be to collect data on abundance, size structure, condition, and growth. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in fall 2020 and 2022 (Table 8), but sampling will continue at random sites until we achieve a CPUE-Stock RSE ≤ 25 and 50 stock-size fish are collected. Exclusive of the original 12 random stations, another 6 random stations will be determined in the event extra sampling is necessary. A maximum of 18 stations will be sampled. Otoliths from 13 fish between 13.0 and 14.9 inches will be collected in 2020 and 2022 to determine mean age at 14 inches to monitor large-scale changes in growth. Relative weight of Largemouth Bass ≥ 8 inches (total length) will be determined from their length/weight data. A genetic sample of 30 fish will be collected during electrofishing in 2022.

White Crappie: Catch rates of White Crappie have historically been high prior to golden alga fish kills. From 2003 to 2010 total catch rates ranged from 12.4 to 21.8 fish/nn. However, low trap net catch rates (0.8/nn) were observed in fall 2018, though it may have been negatively affected by high water levels. We will sample 10 trap net sets in fall 2020 and 2022 (Table 8) to assess the recovery of the population, but sampling will be exploratory in nature and no sampling objectives will be set.

Channel Catfish: Channel Catfish were moderately abundant prior to the golden alga fish kill, but catch rates have since been less than 1.0 fish/nn. Even during good years, gill nets were ineffective at capturing adequate numbers of Channel Catfish for size structure estimation. Instead of gill nets, we will sample with 10 baited hoop net series in spring 2021 and 2023 (Table 8) to monitor Channel Catfish in Brady Creek Reservoir. Survey objectives will be to estimate size structure (PSD; 50 fish minimum) and relative abundance (RSE ≤ 25 of CPUE-Total). No additional effort will be expended if objectives are not met beyond the original 10 net sets.

Sunfish and Shad: Sunfish and Gizzard Shad are important forage fish in Brady Creek Reservoir. From 2003 to 2018 total catch rates of Bluegill have ranged from 4.0 fish/h to 291.0 fish/h while Gizzard Shad have ranged from 8.0 fish/h to 801.0 fish/h. Threadfin Shad have historically been present in lower abundance, but none were collected in 2016 or 2018. Continuation of sampling, as per Largemouth Bass above, will allow for monitoring of large-scale changes in Bluegill and Gizzard Shad relative abundance and size structure. Sampling effort based on achieving sampling objectives for Largemouth Bass should result in sufficient numbers of Gizzard Shad and Bluegill for size structure estimation (PSD and IOV; 50

fish minimum) and relative abundance estimates ($RSE \leq 25$ of CPUE-Total). No additional effort will be expended if objectives are not met beyond the effort for Largemouth Bass.

Literature Cited

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Tables and Figures

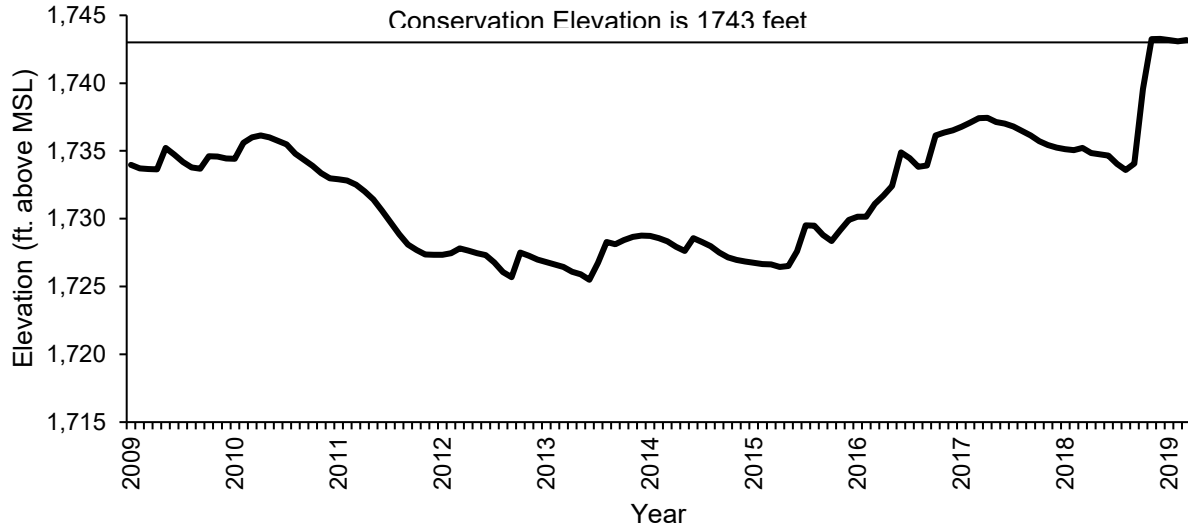


Figure 1. Quarterly water level elevations in feet above mean sea level (MSL) recorded for Brady Creek Reservoir, Texas.

Table 1. Characteristics of Brady Creek Reservoir, Texas.

Characteristic	Description
Year constructed	1963
Controlling authority	City of Brady, Texas
County	McCulloch
Reservoir type	Tributary in the Colorado River basin
Shoreline Development Index	4.0
Conductivity	1,216 $\mu\text{S}/\text{cm}$

Table 2. Boat ramp characteristics for Brady Creek Reservoir, Texas, August, 2018. Reservoir elevation at time of survey was 1,743 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
Brady Lake Park South	31.13658 -99.3845	Y	15	1726	Fair
Brady Lake Park North	31.14183 -99.39067	Y	10	1735	Fair
North Shore Ramp	31.13067 -99.38293	Y	30	1733	Excellent
FM 2028 Ramp	31.119433 -99.39693	Y	30	1730	Excellent

Table 3. Harvest regulations for Brady Creek 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 of Brady Creek Reservoir, Texas. FGL = fingerling; AFGL = advanced fingerling; ADL = adults; UNK = unknown.

Species	Year(s) Stocked	Number of Years	Number Stocked	Size
Threadfin Shad	1984	1	500	ADL
Blue Catfish	1978-1981	4	110,661	UNK
Channel Catfish	1980	1	35,000	UNK
	1999	1	400	ADL
	1987-2013	2	282,791	FGL
Bluegill	2013	1	2,316	FGL
	2016	1	50,772	FGL
Smallmouth Bass	1984-1986	2	76,240	FGL
Florida Largemouth Bass	1982-2013	4	392,267	FGL
	2016	1	101,816	FGL
	2017	1	157,955	FGL
	2018	1	39,745	FGL
	2019	1	39,633	FGL

Table 5. Objective-based sampling plan components for Brady Creek Reservoir, Texas 2018–2019.

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
	Age-and-growth	Age at 14 inches	$N = 13, 13.0 - 14.9$ inches
	Condition	W_r	10 fish/inch group (max)
	Genetics	% FLMB	$N = 30$, any age
Bluegill ^a	Abundance	CPUE–Total	RSE ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$
Gizzard Shad ^a	Abundance	CPUE–Total	RSE ≤ 25
	Size structure	PSD, length frequency	$N \geq 50$
	Prey availability	IOV	$N \geq 50$
<i>Trap netting</i>			
Crappie	Abundance	CPUE–Total	Exploratory
	Size structure	PSD, length frequency	Exploratory
<i>Tandem hoop netting</i>			
Channel Catfish	Abundance	CPUE–stock	Exploratory
	Size structure	PSD, length frequency	Exploratory

^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 aquatic vegetation, Brady Creek Reservoir, Texas, 2006–2018. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2006	2010	2011	2014	2018
Native submersed ^a	12.0 (0.9)	374.2 (27.6)	251.0 (19.0)	103.0 (12.6)	0.0 (0.0)
Native floating-leaved	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Native emergent ^b	0.0 (0.0)	40.5 (3.0)	13.0 (1.0)	13.0 (1.6)	Trace
Hydrilla	Trace	Trace	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Reservoir Surface Area (acres)	1290	1356	1322	820	1313

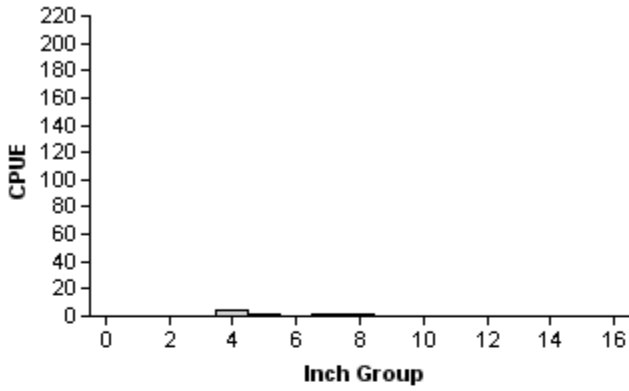
^a chara, sago pondweed, marine naiad, bladderwort, water stargrass, Illinois pondweed

^b bulrush, cattail

Gizzard Shad

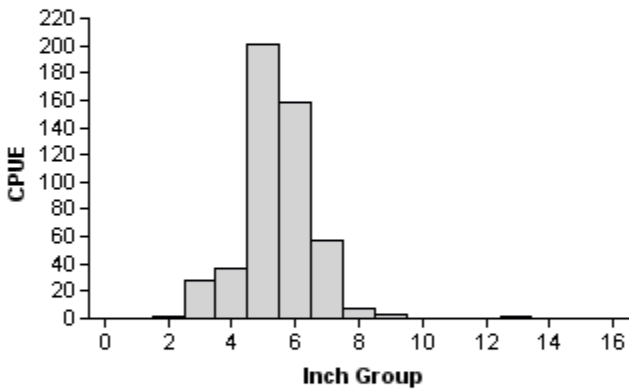
2014

Effort = 1.0
 Total CPUE = 8.0 (100; 8)
 IOV = 88 (1)



2016

Effort = 1.0
 Total CPUE = 495.0 (18; 495)
 IOV = 97 (1)



2018

Effort = 1.0
 Total CPUE = 453.0 (17; 453)
 IOV = 77 (1)

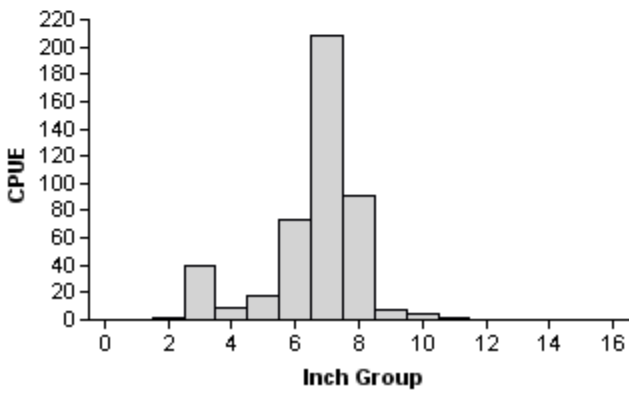


Figure 2. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Brady Creek Reservoir, Texas, 2014, 2016, and 2018.

Bluegill

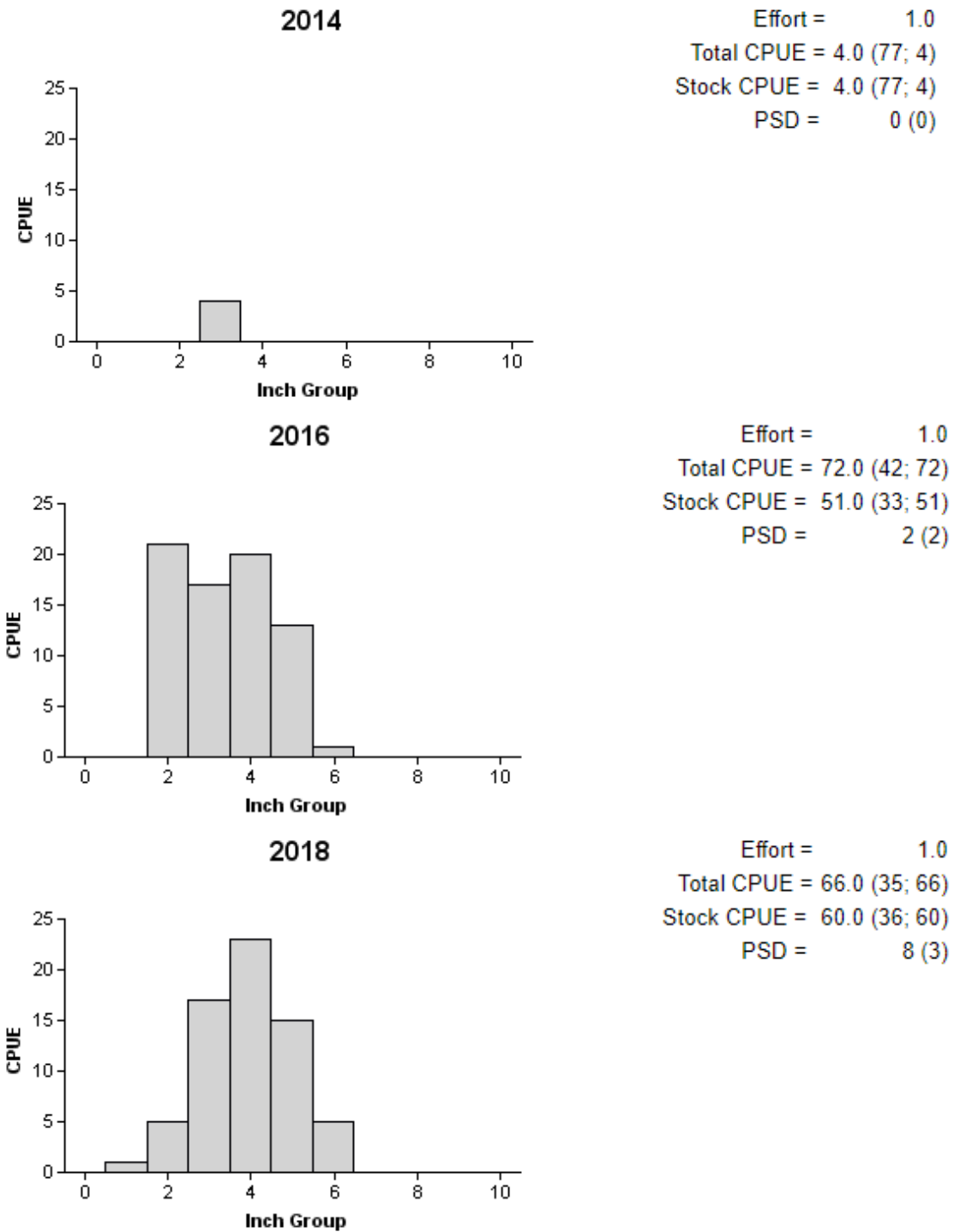


Figure 3. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Brady Creek Reservoir, Texas, 2014, 2016, and 2018.

Channel Catfish

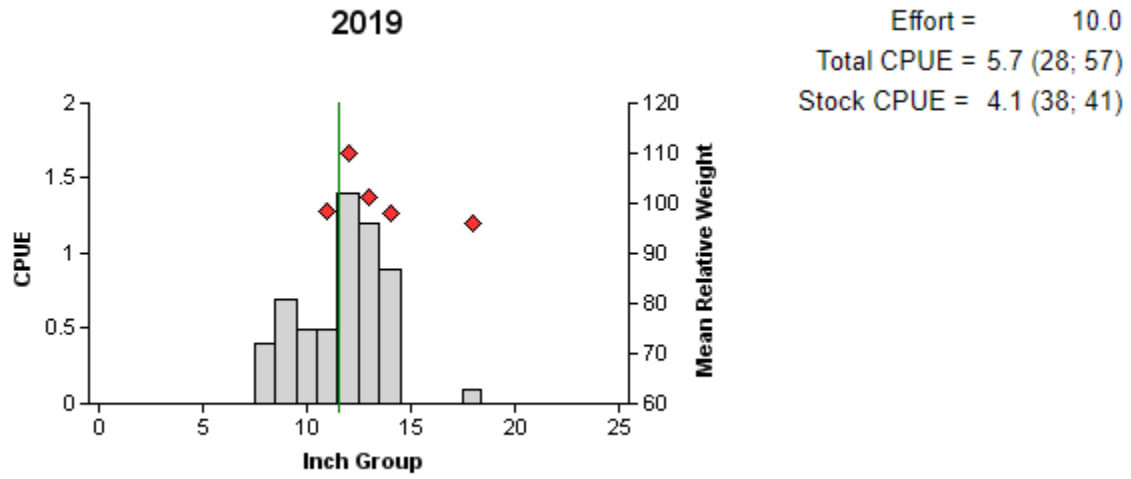


Figure 4. Number of Channel Catfish caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring baited tandem hoop net surveys, Brady Creek Reservoir, Texas, 2019.

Largemouth Bass

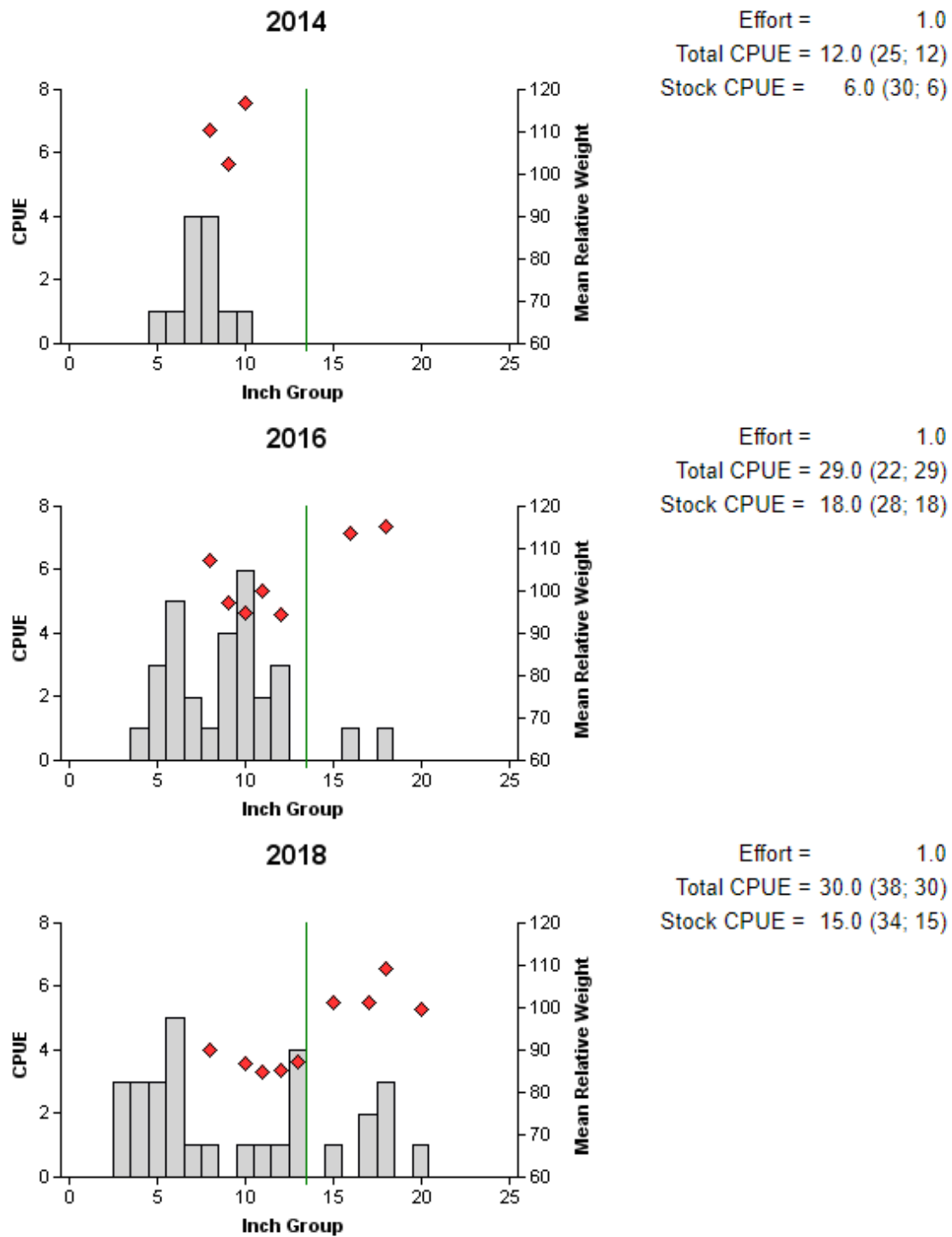


Figure 5. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE is in parentheses) for fall electrofishing surveys, Brady Creek Reservoir, Texas, 2014, 2016, and 2018. Vertical line indicates the minimum length limit.

Table 7. Results of genetic analysis of Largemouth Bass collected by fall electrofishing, Brady Creek Reservoir, Texas, 2003, 2004, 2006, 2010 and 2018. FLMB = Florida Largemouth Bass, NLMB = Northern Largemouth Bass, Intergrade = hybrid between a FLMB and a NLMB. Genetic composition was determined by electrophoresis prior to 2005 and with micro-satellite DNA analysis since 2005.

Year	Sample size	Number of fish			% FLMB alleles	% FLMB
		FLMB	Intergrade	NLMB		
2003	28	3	25	0	67.0	10.7
2004	30	7	23	0	68.0	23.3
2006	30	2	28	0	63.0	6.7
2010	30	0	30	0	65.0	0.0
2018	29	3	26	0	81.0	10.3

White Crappie

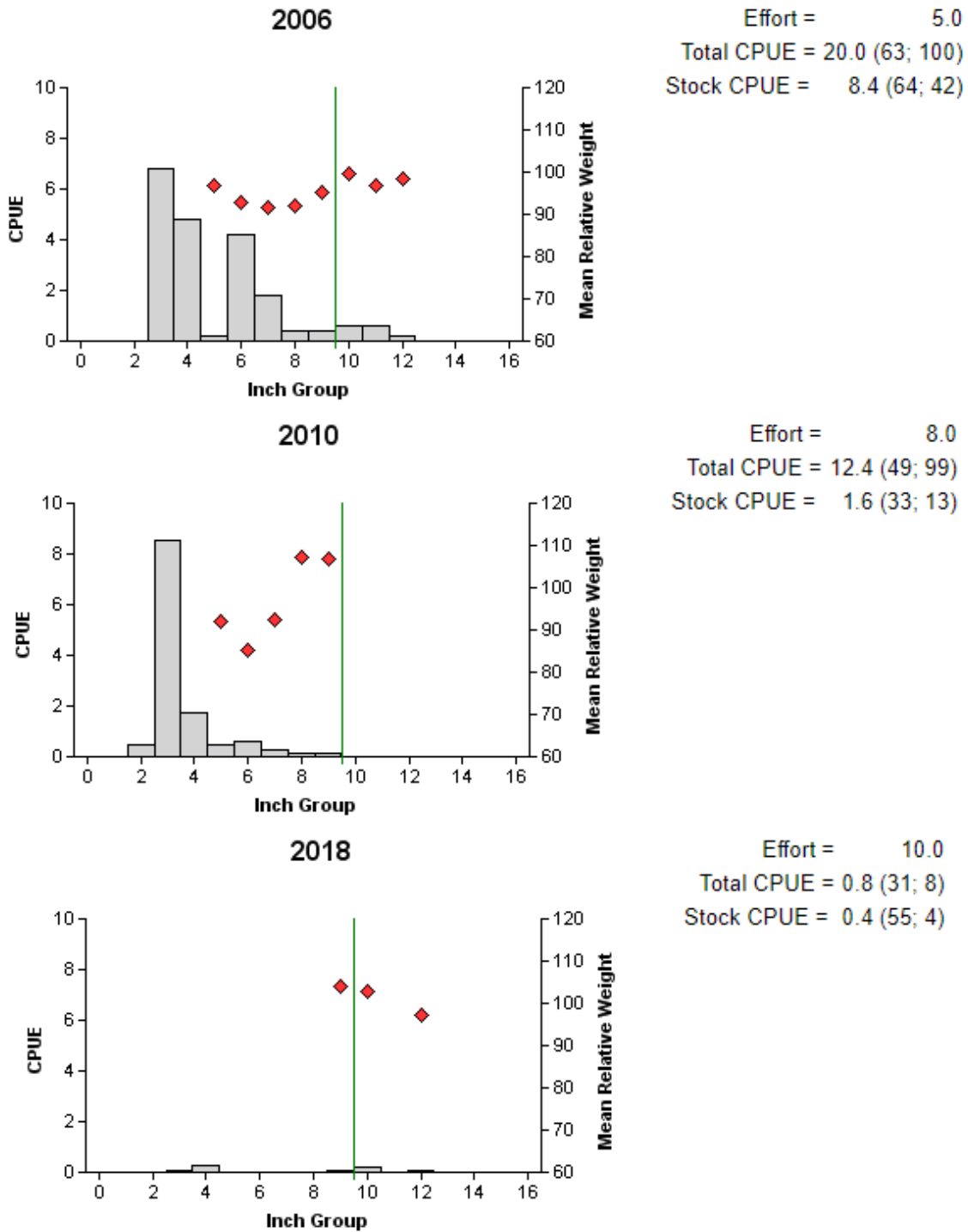


Figure 6. Number of White Crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE is in parentheses) for fall trap netting surveys, Brady Creek Reservoir, Texas, 2006, 2010, and 2018. Vertical line indicates minimum length limit.

Proposed Sampling Schedule

Table 8. Proposed sampling schedule for Brady Creek Reservoir, Texas. Survey period is June through May. Baited tandem hoop net surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall. Standard survey denoted by S and additional survey denoted by A.

	Survey year			
	2019-2020	2020-2021	2021-2022	2022-2023
Angler Access				S
Structural Habitat				
Vegetation				S
Electrofishing – Fall		A		S
Trap netting		A		S
Gill netting				
Baited tandem hoop netting		A		S
Creel survey			A ¹	
Report				S

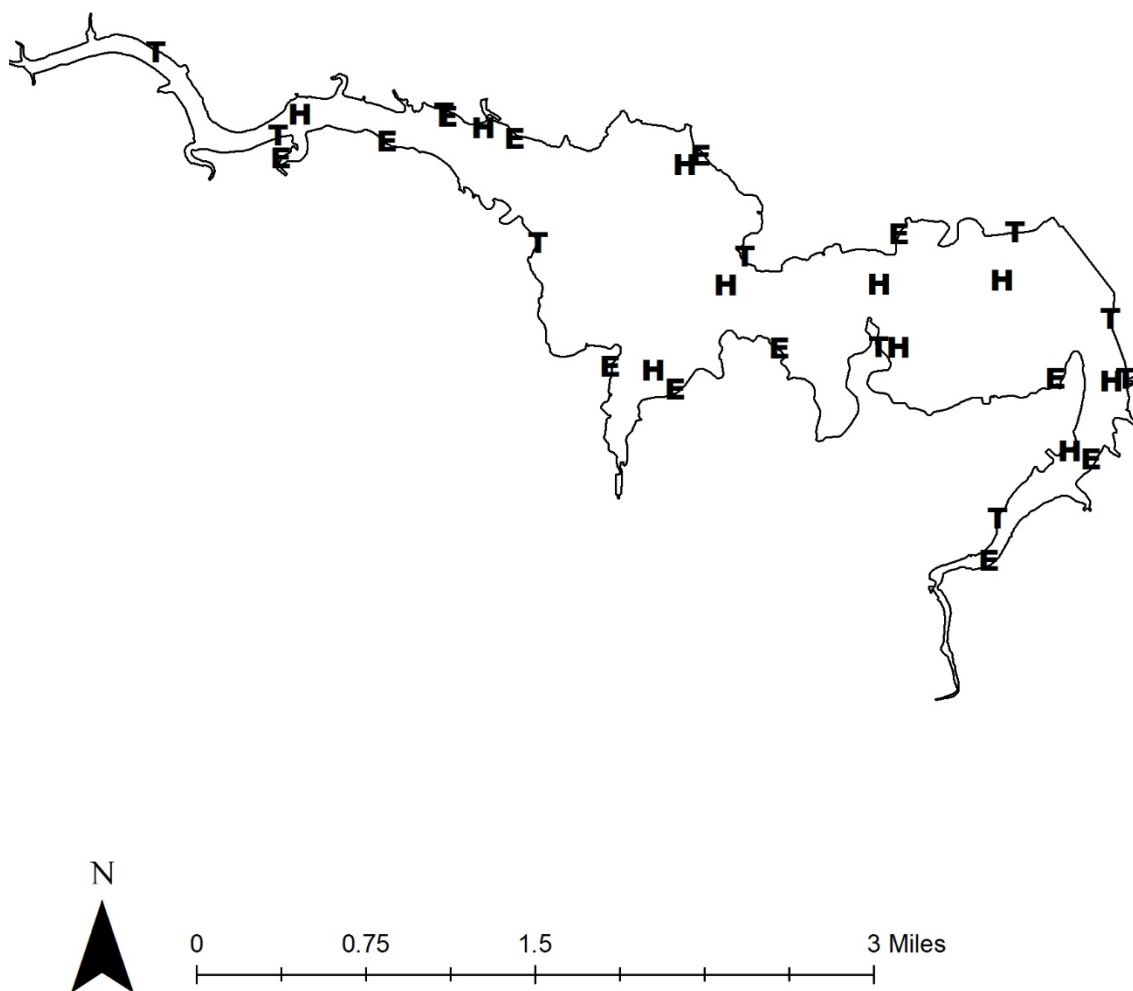
¹ spring quarter only access creel

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 Brady Creek Reservoir, Texas, 2018-2019. Sampling effort was 10 net nights for trap netting, 1 hour for electrofishing, and 10 net series for hoop netting.

Species	Trap Netting		Electrofishing		Hoop Netting	
	N	CPUE	N	CPUE	N	CPUE
Gizzard Shad			453	453.0 (17)		
Channel Catfish					57	5.7 (28)
Green Sunfish			14	14.0 (53)		
Warmouth			2	2.0 (67)		
Bluegill			66	66.0 (35)		
Longear Sunfish			3	3.0 (52)		
Largemouth Bass			30	30.0 (38)		
White Crappie	8	0.8 (31)				

APPENDIX B – Map of sampling locations



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



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